

Chapter 17

Scholarly Writing



Helen J. Forgasz

Abstract In this chapter, the basic elements associated with scholarly writing in English are presented. In some sections, exercises (with answers) are provided. With respect to writing theses as well as scholarly journal papers and book chapters, the abstract and the literature review are the main sections focused on in this chapter.

Keywords Abstract • Literature review • APA referencing style • Grammar • Tense and voice • Clarity of writing • Support for writing

17.1 Introduction

The structure of many scholarly pieces of writing (e.g., thesis, conference paper, journal paper) is similar. Reports of empirical studies should include all of the following:

- An introduction, including the rationale for the study (the ‘why’ the study is needed), and an outline of the context and setting (e.g., country, level of schooling, etc.) of the study.
- The aims/objectives of the study and the research questions.
- A literature review—a synthesis of what is already known in fields pertinent to the study.
- A clear description of the research design and the research approaches adopted.
- The results and findings of the research undertaken.
- A discussion of the findings and how they compare with relevant previous research.
- Conclusions that can be drawn, directions for further research, and implications of the results as they may apply to pertinent contexts or settings.

H. J. Forgasz (✉)
Monash University, Melbourne, VIC, Australia
e-mail: Helen.Forgasz@monash.edu

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Scholarly books and book chapters usually contain the same structural elements, but there is greater flexibility. Some of the differences in the structure of the writing for a thesis, journal paper, conference paper, book, and book chapter include the following:

- target audience;
- word or character or page limits;
- amount of detail required;
- content focus;
- writing style;
- formatting and referencing styles.

In this chapter, the focus is on some of the common elements for any form of scholarly writing. In general, trustworthiness is critical, that is, the reader must trust what has been written; the written language must be clear and grammatically correct; and expectations for length and formatting must be met.

17.2 Aspects of Scholarly Writing

Three elements critical for most scholarly writing are examined first: the abstract; the literature review; and referencing style (in-text and in reference lists), with a focus on the American Psychological Association [APA]¹ publication style.

17.2.1 *Writing an Abstract*

An abstract is a short summary of the research reported. Well written abstracts are informative, entice the reader to want to learn more about the research reported, and include the following basic components:

1. A statement of the research problem/focus—what is the problem? What “gap” is your research filling or why are you replicating a study, and what is new in the study?
2. Methods/procedure/approach—what you did to get your results (e.g., interviewed 17 12-year old students, surveyed 750 grade 10 students).
3. Results/findings—report the results, highlighting the critical findings (i.e., what you learnt from your research).
4. Conclusion/implications: Describe the main implications of your findings, especially in light of the research questions or problem that you identified.

¹Editorial note: The book in which this chapter appears uses a modified (‘lean’) version of APA style, which is also the Springer in-house style. Except where the author is specifically referring to APA style (6th edition of the APA Manual), the chapter conforms to the Springer in-house style.

5. The word limit of an abstract can vary; whatever the allowance, you must adhere to it. The number of key words, if requested, should be supplied.

Exercise 1

Here is an abstract from an article published in a highly ranked journal (*Educational Studies in Mathematics* [ESM]), authored by Jiang et al. (2014, p. 27). ESM has a requirement that the abstract be 150–250 words.

For this abstract, can you identify the elements of the well-written abstract described above?

This study examined 361 Chinese and 345 Singaporean sixth-grade students' performance and problem-solving strategies for solving 14 problems about speed. By focusing on students from two distinct high-performing countries in East Asia, we provide a useful perspective on the differences that exist in the preparation and problem-solving strategies of these groups of students. The strategy analysis indicates that the Chinese sample used algebraic strategies more frequently and more successfully than the Singaporean sample, although the Chinese sample used a limited variety of strategies. The Singaporean sample's use of model-drawing produced a performance advantage on one problem by converting multiplication/division of fractions into multiplication/division of whole numbers. Several suggestions regarding teaching and learning of mathematical problem solving, algebra, and problems about speed and its related concepts of ratio and proportion are made.

Solution to Exercise 1

This study examined 361 Chinese and 345 Singaporean sixth-grade students' performance and problem-solving strategies for solving 14 problems about speed. By focusing on students from two distinct high-performing countries in East Asia, we provide a useful perspective on the differences that exist in the preparation and problem-solving strategies of these groups of students. The strategy analysis indicates that the Chinese sample used algebraic strategies more frequently and more successfully than the Singaporean sample, although the Chinese sample used a limited variety of strategies. The Singaporean sample's use of model-drawing produced a performance advantage on one problem by converting multiplication/division of fractions into multiplication/division of whole numbers. Several suggestions regarding teaching and learning of mathematical problem solving, algebra, and problems about speed and its related concepts of ratio and proportion are made.

In Green: Point 1

In Purple: Point 2

In Blue: Point 3

In Red: Point 4

Point 5 has not been met; the abstract has fewer than 150 words.

[Sometimes editors do not fuss as much over fewer words, particularly if the elements of an abstract are present, as they do if the abstract is too long.]

17.2.2 *Writing a Literature Review*

A literature review is needed to demonstrate appropriate knowledge of previous research in the relevant field/s in which your research is situated. The research to be reported may have been designed to address a gap in the literature, to repeat previous research in a new context or setting or to confirm earlier findings, or it may be that an alternative methodological approach has been adopted to verify or to challenge previous results. Whichever the case, your literature review should provide the needed evidence to justify the research undertaken.

The sources you cite in your literature review should be reputable. Refereed research reported in scholarly academic journal papers, professional journals (when relevant), book chapters, and books are the most appropriate sources; official reports (e.g., PISA reports, OECD reports, and government sources) can also be included. Information from websites and the popular media should be included sparingly only if the sources are dependable; these references need to be appropriately cited in the reference list.

When you are ready to commence the literature review, you should keep your research question/s in mind; the literature review must be relevant to the topic/s at hand. Using headings or dot points, a draft structure for the literature review (for your own use) should be outlined. As you read the literature, you should keep good records including full citations and summaries of the content, that is, an annotated bibliography of your sources; there are various software packages that can assist in the task (e.g., EndNote). You will then be in a good position to commence synthesising what you have read under the headings you have developed.

It is expected that the structure of the literature review will be described in the opening section. When writing the literature review, you should keep the following points in mind:

- The literature review must be a synthesis of what you have read. You should not write summaries of one research study after the other; a critical synthesis is expected.
- Do not selectively “cherry pick” findings from research studies that support your arguments and omit findings that do not; conflicting findings should be included and evaluated. It is important that you point out the shortcomings of particular studies (e.g., methodological issues) and/or the gaps in what is known.
- Include an overall summary of each section of the literature review, taking into account the weight of evidence.
- Whenever possible, use primary sources. Secondary sources can be used if there is some difficulty in accessing the original writing. If authors have critiqued or summarised previous research (e.g., literature surveys in particular fields), such secondary sources can be invaluable and must be acknowledged appropriately.
- If a direct quotation is used, make sure that it is accurately reproduced; in the citation, the page number must be included.
- Avoid too many direct quotations and avoid very long quotations. Instead, you can paraphrase the text of interest, but it must be accurate. Paraphrasing

demonstrates that you understand the literature. Never omit the citation when paraphrasing; this constitutes plagiarism (the most heinous crime in academia).

- Do not use direct quotations as substitutes for text; relevant comments or words should introduce or accompany the direct quotations you use.
- Know how to cite references accurately, both in-text and in the reference list. APA (or slight variations of it) is a common referencing style used in the field of education.
- If you are citing or quoting from trustworthy web-based documents, you must cite the sources appropriately; if using the APA style, you may need to consult the latest APA manual; the method for citing web-based sources has changed over the years.

Why Use References?

The main purposes for using references include the following:

- to provide evidential support and/or develop the points you are trying to make in the text;
- to demonstrate your breadth of reading and knowledge of the topics discussed;
- to establish your trustworthiness as an author;
- to enable readers to trace citations to the original source if they are interested in doing so;
- to give due credit for the previous research of the authors of the cited work; in so doing, plagiarism is avoided.

As well as appropriate coverage of earlier research in the field, there are other important issues to consider when writing a literature review. In the next sections, various aspects of appropriate writing and grammatically correct writing are examined.

Writing Style for the Literature Review

Writing style is important to ensure that what is written is appropriate and does not convey inaccuracies.

Consider the two sentences below. Both are less than adequate. Why?

1. Girls outperform boys at high school.
2. Data reveal that for many years girls have outperformed boys at the secondary school level overall; for example, from 1990–1999, females’ mean university ranking scores were found to be 15 points higher than males’ (XX, date).

Sentence 1 demonstrates unsubstantiated opinion. Sentence 2 provides a cautious, supported, but quite limited view of the field.

Here is an example of how the writing associated with the two sentences might have been shaped to provide evidence for the claims made:

There is extensive research evidence that girls outperform boys overall at the end of high school in (e.g., country X)... Author A (date), for example, has reported that... Other reports on performance at the end of schooling (Author B, date; government

document; date) in (same country) reveal that this pattern has persisted over a number of years (date range).... In several other studies, similar findings have been reported (e.g., Author C, date; Author D, date; etc.] in (same country) and elsewhere in the world, although the same pattern is not universal (e.g., in country Y, Author E, date). At other grade levels in (country X), however, girls are also generally found to outperform boys in schooling overall (e.g., Author E, date; Author F, date). Yet, when performance within mathematics is considered in (country X), the gender difference is frequently found to be in the opposite direction, that is, boys generally outperform girls at all grade levels (e.g., multiple citations) ... This gender difference favouring boys is also commonly found internationally (e.g., PISA report). In summary, it would appear that....

Direct Quotations (in APA Style) in the Literature Review

The formatting associated with direct quotations varies according to the number of words being quoted. The APA citation style also varies.

1. If the quotation has fewer than 40 words, include the quotation in the text. Double quotations marks should be used around the direct quotation (“...”). The citation can take the following forms:
 - “...” followed by (Author, date, p. xx) OR
 - Author (date) noted that “...” (p. xx) or Author (date, p. xx) noted that “...”.
2. For direct quotations of 40 words or more, use a new line, indented from the margins and do not use quotation marks. The citation can take the following forms. An example is shown in the box below:

Forgasz, Tan, Leder, and McLeod (2017) presented arguments in favour of using Facebook advertising to recruit survey participants, claiming that:

... depending on funding availability and desired sample sizes, Facebook advertising has much potential as a viable recruitment method to extend conventional methods of data collection in educational research studies, particularly if faced with difficult to access participants, the need to supplement low response rates, and budget limitations in obtaining national or international data. (p. 12)

[Note that the page number appears after the full stop.]

Alternatively, the page number for the same quote could have been provided as follows:

Forgasz, Tan, Leder, and McLeod (2017, p. 12)....

APA Referencing Style

The APA [American Psychological Association] citation style is commonly used in mathematics education research; sometimes slight modifications are required (e.g., the Springer in-house style used in this book and in some Springer journals, such as *ZDM Mathematics Education*). I have recommended to all my doctoral (and masters) students that in their dissertations they use APA style. As well as citation guidelines, formatting guidelines are provided in the APA manual (e.g., for data tables, etc.). In this chapter, the focus is only on APA referencing styles (in-text and reference list).

At the time of writing, the APA manual (6th ed.) is the most accurate source to consult regarding the APA referencing style (see the APA style homepage: <http://www.apastyle.org/>). There is also a vast array of online resources to assist. Examples include:

- APA style blog: <http://blog.apastyle.org/apastyle/>.
- <http://www.library.kent.edu/files/APACheatSheet.pdf>.
- <http://library.calu.edu/citation/apa> (also includes other style guides)
- <https://guides.lib.monash.edu/citing-referencing/apa> <https://library.unimelb.edu.au/recite/apa>.

Try Exercise 2 below to see how well you know the APA referencing style (the answers are provided). If you have any difficulties with the items, or cannot understand the solution, you should consult the APA manual or the various online resources.

Exercise 2

There are APA referencing style errors, some in-text, others in the reference list, in what follows. Identify the errors and provide the corrections.

According to Smith (2005), the best approaches to teaching mathematics include.... Williams (2009) conducted a study based on Smith's work, and found that... *Worth et al* (2010) present an alternative perspective, claiming that...

Reference list

Smith, P. R. (2005). Mathematics teaching. In: Boyd, G., & Gordon, K. (Eds.), *Good teaching*, 46–70. Glasgow: School Book press.

Worth, A., Hammer, J., Lyle, J M, and Corbin, A. (2010). What's new in mathematics education? *Mathematics Learning Journal*, 41(7), pp. 6–20.

Williams, M. (2009). *A New Approach to Teaching Mathematics*. Melbourne, Australia: Bridges Press.

Answers to Exercise 2

In text:

- Smith (2005) ✓
- Williams (2009) ✓
- Smith's work ✓

Written this way means that reference is being made to the same Smith (2005) reference. Because it is cited again in the same paragraph, omitting the date is allowed. Using “Smith’s (2005) work” would also be correct.

- Worth et al. (2010) X

If this is NOT the first time that the reference is cited in the text, it should have been written as “Worth et al. (2010)”. Italics should not have been used, and a full stop was needed for “et al.” If this is the first time the reference is being cited, it should have been written as “Worth, Hammer, Lyle, and Corbin (2010)”.

In the reference list, each entry has one or more errors. Also, the list itself is out of alphabetical order; the Williams reference should have come before the Worth et al. reference. The corrections for each reference are shown below:

Smith, P. R. (2005). Mathematics teaching. In G. Boyd & K. Gordon (Eds.), *Good teaching* (pp. 46–70). Glasgow, Scotland: School Book Press.

Williams, M. (2009). *A new approach to teaching mathematics*. Melbourne, Australia: Bridges Press.

Worth, A., Hammer, J., Lyle, J. M., & Corbin, A. (2010). What’s new in mathematics education? *Mathematics Learning Journal*, 41(7), 6–20.

Additional Resources Related to the Writing of Literature Reviews

There are many resources online that you can use to assist in the writing of the literature review. Here are a few:

University of Toronto: <http://advice.writing.utoronto.ca/types-of-writing/literature-review/>

Cornell University: <http://guides.library.cornell.edu/ilrlitreview>

Monash University: <https://guides.lib.monash.edu/researching-for-your-literature-review/home>

In summary, a well referenced literature review demonstrates the writer’s integrity and skill as a responsible and knowledgeable participant in the scholarly enterprise. As noted earlier, it is also important to use clearly written and grammatically correct language in all scholarly writing. In the next sections, other relevant issues are explored.

Table 17.1 Examples of author prominent and information prominent sentences

Author prominent	Brie (1988)* showed that the moon is made out of cheese	The moon's cheesy composition was established by Brie (1988)	According to Brie (1988), the moon is made of cheese	Brie's (1988) perspective on the moon's composition is that it is made of cheese
Information prominent	In previous research it has been established that the moon is of cheese (Brie 1988)	It has been shown that the moon is made of cheese (Brie 1988)	It has been argued that the moon is made of cheese (Brie 1988)	The moon may be made of cheese (Brie 1988), but in later research the moon was found to have a composition similar to Earth (Rock 1989)

17.3 Clear and Grammatically Correct Writing

There are two ways to refer to the research of others: author-prominent and information-prominent citations. The focus of author-prominent citations is on the work of the author. For information-prominent citations the focus is on the information, with the author/s acknowledged as the source of that information. The examples in Table 17.1 have been drawn from *Writing about the ideas of others* (n.d.); some sentences have been modified slightly. The authors and content are fictitious and are only meant to illustrate the two types of citations.

Here is an exercise for you to think about.

Exercise 3

Supervisors and reviewers sometimes read statements written in the same style as the following: “The moon is made of cheese (Brie 1988).” What is wrong with the statement?

Answer to Exercise 3

As written, the sentence reads as a statement of fact, a fact that is inaccurate. Using the information from Table 17.1, it can be seen that the work of another (fictitious) researcher, Rock (1989), challenged Brie's (1988) finding.

Care needs to be taken when writing a literature review not to make generalised statements of fact that can be easily challenged. [There is a similar example, “Girls outperform boys at high school”, that was discussed earlier in the chapter.]

Although each sentence in Table 1 is grammatically correct, some of the sentences could be considered preferable to others with respect to how the information is conveyed. In the next section, the different ways of paraphrasing the words of others are examined.

17.3.1 *Different Ways of Paraphrasing Others' Words*

Look at the following two sentences. While superficially they appear to convey the same information, there are variations in the meanings conveyed.

1. Byron (2007) has expressed concern that university students are not taught presentation skills using electronic technology and this disadvantages them in their business and professional careers.
2. There is concern that university students are not taught presentation skills using electronic technology and this disadvantages them in their business and professional careers (Byron 2007).

Sentence 1 is author-centred and, in my view, is the better one in this context. Here Byron's (2007) view is shared with the reader. The second is information-centred but could be interpreted as a statement of fact that the reader may know is contestable. Sentence 2 could have been improved by using "(e.g., Byron 2007)" possibly accompanied by other citations. A slight modification such as "Researchers have expressed concern that.... (e.g., Byron 2007)" would also improve the sentence.

To avoid the possibility of writing a statement that might be interpreted as fact, there are certain verbs that can be used when constructing the sentence, for example, "X (date) claimed/maintained/proposed/considered/found/suggested/argued that...".

The exercise below includes a pair of paragraphs for you to consider.

Exercise 4

Which paragraph is the better one? Why?

1. Inclusion is the fairest and most productive approach to educating children with special needs (Smith 1999; Tollington 2000). The visually impaired achieve high levels of social interaction and intellectual development in mainstream schools (Johnstone 2001).
2. Smith (1999), writing about schooling in Victoria, Australia, argued that inclusion is the fairest and most productive approach to educating children with special needs (see also Tollington 2000). In a study of 10 young adolescent students with visual impairment, Johnstone (2001) found that all participants achieved high levels of intellectual development for their

year level and that they also reported improved wellbeing in social interaction.

Suggested answer to Exercise 4

In my view, paragraph 2 is written more convincingly. Evidence and context are provided, and no sentences are written to suggest that the claims represent fact. In paragraph 1, although references are provided, the message conveyed by the content is that the claims are factual.

17.3.2 Tense and Voice to Use in Scholarly Writing

For the literature review, there is inconsistency among researchers whether to use the present tense or the past tense. In the APA (2010) guidelines it is recommended that the past tense be used “to express an action or a condition that occurred at a specific time in the past, as when discussing another researcher’s work and when reporting your results” (p. 78). Whichever tense is used, consistency is paramount. In line with APA (2010) guidelines, my preference has always been to use the past tense. In my view, every research study cited in a literature review was published before what is now being written. That is, the research reported in the articles and the claims made by the authors are from the past. However, when writing up the research approaches adopted in a study and the results/findings from the study, the past tense must be used. After all, the work that you are reporting has been completed.

It would appear that there is now general consensus that the *voice* used in scholarly writing—*active* (emphasising the performer) or *passive* (emphasising the product of the action)—should be dependent on what is being emphasised. Even researchers in science who have traditionally written in the passive voice are now encouraged to use active voice when appropriate (e.g., Biomedical Editor 2015). Active rather than passive voice is the preferred style advocated in the 6th edition of the APA publication manual (APA 2010), although “passive voice is acceptable in expository writing when you want to focus on the object... of the action rather than on the actor” (APA 2010, p. 77).

Relevant writing advice on the use of active or passive voice can be found on various websites. Examples include:

- The University of Toronto: <http://advice.writing.utoronto.ca/revising/passive-voice/>
- Purdue online writing lab: https://owl.purdue.edu/owl/general_writing/academic_writing/active_and_passive_voice/active_and_passive_voice.html
- American journal experts: <https://www.aje.com/en/arc/writing-with-active-or-passive-voice/>

17.3.3 *Issues of English Grammar*

The English language can be grammatically challenging. It is important in scholarly writing that the English language used is of a high standard. How English is spoken and how it is written can be very different. Even people for whom English is their first language can have difficulties in writing good, clear, grammatically correct, English.

Long sentences, with many phrases, can be confusing for a reader. Short, sharp sentences are often preferable. Remember that a sentence must contain a verb.

In what follows, common grammatical errors are discussed. Many books are available and many websites can be accessed for more comprehensive overviews of the rules of English grammar. A few recommended websites include the following:

Strunk, W. Jr., & White, E. B. (2000). *The elements of style* (4th Ed.). Allyn & Bacon. [Retrieved from <http://www.jlakes.org/ch/web/The-elements-of-style.pdf>]

The Oxford dictionary website: <https://en.oxforddictionaries.com/grammar/grammar-tips>
 OWL Purdue online writing lab: <https://owl.english.purdue.edu/owl/section/1/5/>

Some common errors that I have encountered with students' writing or when reviewing include:

- Subject-verb disagreements. There are many situations in which this error can be found. It is important to be able to identify the subject and the verb in a sentence and make sure that they are in agreement, that is, either both are singular or both in plural. Two incorrect and correct sentence pairs are shown below:

Incorrect: Each of Mary's answers are wrong.

Correct: Each of Mary's answers is wrong.

Incorrect: The majority of students believe what lecturers say.

Correct: The majority of students believes what lecturers say.

Further examples, with explanations for the types of errors being made, can be found at http://bethune.yorku.ca/writing/s_v/

- Omitted or incorrect use of apostrophes. Often apostrophes are omitted when they should be included, for example, "...the students voices..." should be written "...the students' voices...". In other cases the apostrophe is wrongly placed, for example, "Johns' classmates..." should be written "John's classmates..."
- Incorrect use of "there/their/they're", "which/that", "who/whom", "fewer/less", "affect/effect", etc.
- Missing or incorrect punctuation including, for example, missing commas, and misuse of colons and semi-colons.
- Confusing "i.e.," and "e.g.,".
 "i.e.," means "that is" and "e.g.," means "for example".

Both abbreviations should be used only in parentheses; "that is" and "for example" should be used in-text.

- Anthropomorphisms, defined as “[T]he attribution of human characteristics or behaviour to a god, animal, or object” (English Oxford living dictionaries, n. d.). The use of anthropomorphisms has become widespread, and authors seem unaware that human characteristics are being conferred upon chapters, text, manuscripts/papers/articles etc. Unfortunately, when there is a word limit (e.g., for abstracts) sentences with anthropomorphisms are often used, resulting in reduced word usage (e.g., avoiding the anthropomorphism found in the opening sentence of the abstract in Exercise 1 above would have increased the number of words in the abstract).

Examples such as the following illustrate the incorrect use of anthropomorphisms in academic writing:

This chapter summarises the literature in the field.

As written, the author has given the “chapter” the capability of doing something that only humans can do. This sentence is better written as, “In this chapter, the literature in the field is summarised”.

The study found that students enjoy algebra more than trigonometry.

Better versions of this sentence would be, “The researchers found that...” or “In the study, it was found that...”.

Although technically incorrect, I agree that some anthropomorphisms are acceptable in academic writing, particularly when it would be clumsy to convey the intended messages. Here is an example:

The data/findings/results/responses reveal/indicate that....

Avoiding anthropomorphisms can be challenging. The Walden University (Writing Center) website, <https://academicguides.waldenu.edu/writingcenter/apa/other/anthropomorphism>, is an excellent resource. Appropriate and inappropriate uses of anthropomorphisms in writing, consistent with APA style guidelines, are illustrated.

Resources

Here is a selection of other web resources where you will learn about the most common grammatical errors in the English language and how to avoid them:

Oxford Royale Academy: <https://www.oxford-royale.co.uk/articles/15-common-grammar-gripes-avoid.html>

Authority Pub: <https://authority.pub/common-grammar-mistakes/>

Your Dictionary: <http://grammar.yourdictionary.com/grammar-rules-and-tips/5-most-common.html>

Grammar Monster: http://www.grammar-monster.com/common_grammar_errors.htm

In the final exercise below, your task is to identify the grammatical and/or APA referencing style errors and fix them.

Exercise 5

Identify the Grammatical and/or APA Referencing Style Errors (and Others) in Each of the Following in-Text Statements.

1. Coyle measured childrens levels of hostility before and after exposure to violent videogames (2012, p. 15).
2. Neither group showed any significant difference (Frame and Bills 2010).
3. One study (Jones 2015) explored elementary teacher’s use of manipulatives.
4. In three separate studies, Lefty (2004a, 2004b, 2004c) found that rats had higher levels of stress hormone after exposure to bright light.
5. Badger (2013) found that there was “no significant difference between the treatment group and the control group”.
6. 12 students improved and twelve students did not improve.
7. There were less mathematical errors made by students in Class A than in Class B.
8. The mathematical content areas examined included; algebra, geometry, and statistics.
9. Each of the following students - James, John, Sally, and Jane – were absent on the day of testing.

Answers to Exercise 5

1. Coyle (2012) measured children’s levels of hostility before and after exposure to violent videogames.
2. No statistically significant difference was found by group (Frame & Bills, 2010).
3. Jones (2015) explored elementary teachers’ use of manipulatives.
4. In three separate studies, Lefty (2004a, 2004b, 2004c) found that rats had higher levels of stress hormone after exposure to bright light.
5. Badger (2013) found that there was “no significant difference between the treatment group and the control group” (p. xx).
6. Twelve students improved and 12 students did not improve.
7. There were fewer mathematical errors made by students in Class A than in Class B.
8. The mathematical content areas examined included: algebra, geometry, and statistics.
9. Each of the following students—James, John, Sally, and Jane—was absent on the day of testing.

17.4 Support for Your Writing Efforts

When writing your masters or doctoral dissertation, you should receive regular feedback from your supervisor(s) and/or supervising panel members. Before submitting your writing for comment and critique, you should proof-read and edit the work as best you can. Sloppy writing draws attention away from focusing on the contents of the writing. Examiners and reviewers get very irritated when grammatical, spelling, and/or referencing errors are found in the abstract or in the first few pages of a manuscript/dissertation.

Whatever type of scholarly writing you are doing, at an appropriate time, you should do the following:

- Ask a colleague or mentor to read your work. Ask for constructive feedback, and then act on the feedback (if relevant) before submitting.
- Native English speakers, as well as those for whom English is not their first language, must have the final version of the article/dissertation proof-read for grammatical and various typographical errors, including spelling and punctuation. Authors (and supervisors) can become so familiar with the writing that they are no longer alert to errors. Someone who is less familiar with the writing can often spot overlooked mistakes.

Following submission of the manuscript, journal article, or conference paper, reviewers will provide feedback. If you are requested to make changes, do so in a timely manner and with humility. If something asked for is inappropriate, you should explain to the editor why you have decided not to make the particular change. Sometimes reviewers appear to have read a ‘different’ article from the one you wrote and submitted. Some have argued that the outcomes of reviewing processes for journal articles or conference papers can be a ‘lottery’. Chin up! Smile! Things could be worse. Even experienced, widely published ‘experts’ are rejected from journals and conference presentations!

Dissertation examiners are usually carefully selected for their expertise, and most theses will pass, even if some changes are needed. Occasionally errors are made in the choice of an examiner, and a report comes in that is not what was expected. Your supervisors will provide appropriate advice on what you need to do and/or how to respond. In most cases, reviewers for journal articles are also selected with care. Nevertheless, there are times when a reviewer’s comments may be inappropriate, irrelevant, or unfair; at times a review may seem to be about an article different from the one written. At times like these, you should seek the advice of an experienced colleague on how to proceed. There are various responses possible depending on the nature of the review. At times, it may be appropriate to write to the journal editor; at other times, the criticisms can be addressed when documenting the changes that have been made in response to reviewers.

17.5 Final Words

It needs to be recognised that good scholarly writing is a challenge. Whether a novice or a more experienced researcher, care and attention are needed to write well. Poor writing—content or writing style—is not acceptable. Help should be sought in editing and proof-reading before submission of the final version of the writing. Expect, and do not be put off, by constructive criticism; most supervisors, reviewers, and examiners are critiquing your work with the aim of providing advice that will improve it further. Work hard at your writing; persistence and diligence pay off.

References

- American Psychological Association [APA]. (2010). *Publication manual* (6th ed.). Washington, DC: Author.
- Biomedical Editor. (2015). *Clear science writing: Active voice or passive voice?* <http://www.biomedicaleditor.com/active-voice.html>.
- English Oxford living dictionaries. (n.d.). <https://en.oxforddictionaries.com/definition/anthropomorphism>.
- Jiang, C., Hwang, S., & Cai, J. (2014). Chinese and Singaporean sixth-grade students' strategies for solving problems about speed. *Educational Studies in Mathematics*, 87(1), 27–50.
- Writing about the ideas of others. (n.d.). Retrieved from <http://artsonline.monash.edu.au/apw/files/2013/03/writing-about-the-ideas-of-others.pdf>.

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