Academic writing: Good writers wanting to be better

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Abstract

The demand for highly skilled teachers, writers and researchers in PNG universities is growing. Academic writing is an important component of the university requirement of research as it both focuses the intentions of the researcher and enables wider dissemination of results. Well established practices and protocols for academic writing are discussed with particular relevance to the PNG context, and to the DWU Research Journal. These can be used by aspiring and also experienced writers to produce well-structured papers and provide a self-evaluation before submission. Writers are encouraged to develop, by writing, their passionate interest as they prepare for and develop their higher degree theses.

Key words: academic writing, structure, abstract, introduction, rationale, objectives, metacognitive tools, epistemological V, concept mapping

Introduction

Universities in Papua New Guinea (PNG) are institutions of relatively recent origins with the system requiring a rapid growth in capacity of graduates to sustain a growing need for highly qualified academics. Many young academics are still on the way to reaching their full potential to support the university system to meet a growing demand for undergraduate places. Academic writing and research skills are important components in enabling young academics to meet university requirements.

The Divine Word University is involved in changing the higher education landscape in PNG by fostering a research culture as a way to contribute to the development of the country. One of the first steps in this direction was establishment of the *Contemporary PNG Studies: DWU Research Journal.* From its beginning in 2004, the journal has served as a platform for "the academic community of DWU and those associate with it" (Norman, Stollenwerk, Papoutsaki, Morris, 2004, p. v) to publish in a variety of areas relevant to the mission of universities in PNG. As such it is also the journal for aspiring academics to publish with the editorial support which is available.

This paper is designed to assist beginning writers, "Good writers wanting to be better" as the title suggests, who have something to write about but who might find it difficult to make a start ("writer's cramp"). It also seeks to allow prospective writers to do a "self-check" or proof reading of their writing prior to submission to allow editors to focus on deeper issues rather than simply the

mechanics of structuring and writing a paper. Thus the paper will focus on well-established principles and protocols for structuring a paper, particularly research papers with a view to ensuring academics integrity and persuasive argument. Finally, the paper will seek to encourage those aspiring to higher degree studies to focus on and develop a passionate interest in a particular area of research. It will also be noted that practice in writing well-structured papers will provide essential practice for preparing a well-structured thesis, arguably the way to successful presentation.

Preparing to publish

Choice of journal
When selecting a journal consideration is given to matching the nature of the paper to the stated mission of the journal. Even though clearly not the only PNG journal available, the *Contemporary PNG Studies: DWU Research Journal* provides a readily available place to publish on PNG related topics. Its stated intention is to provide "the means for DWU staff, students and associated academics to publish research findings, personal perspectives, reports of projects or developments and reviews of recent books on Papua New Guinea" (*PNG Studies DWU Research Journal,* p. ii).

Choice of topic
Some possible and suitable topics for the DWU Journal include: PNG innovations in a relevant discipline area (e.g. Daniel, 2016a; Narlusi, 2015), social, cultural and economic development and changes in PNG society (e.g. Gesch & Matbob, 2016, Gibbs, Aiwe, Tia & Wangihama, 2016, Watson, 2015, innovations in teaching (e.g. Woktop, 2016), student reactions and responses to teaching, small scale research projects arising from teaching (e.g. Alua, 2016, Epri, 2016, Namun, 2015), review of available teaching resources (e.g. Airi, in-press) and their use. Papers showing successive development of knowledge in an area can foster a developing interest in a topic suitable for research by higher degree.

Arresting title
An arresting title could be "the first piece bait that could lure a potential reader to notice and explore your research" (Kotze, 2007, p. 3). Thus choosing a title is important to attract reader attention and alert the reader to the topic. Note the often used practice of using two parts in the title as with this paper: "Academic Writing: Good writers wanting to be better". Firstly, a general discipline area is identified followed by a more specific identifier. Feldman (2004, as cited in Kotze, 2007) postulates that a title should accurately reflect the presented topic or the author's position on a certain matter so it will not create false expectations. Therefore, if the paper reports the completed study, the title should indicate what was researched, how the topic was approached, with whom, where or in what context the study was conducted (Kotze, 2007).
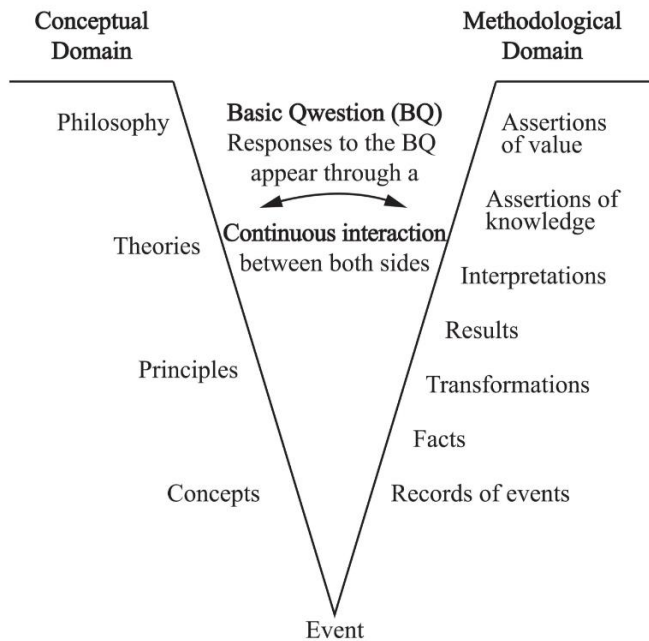
Structuring a paper

Metacognitive tools such as Concept Maps and the Epistemological Vee (Godwin & Alvarez, 2005) can be used to facilitate analysis of meaningful relationships between concepts (concept map) and structuring of research studies and papers (Epistemological Vee).
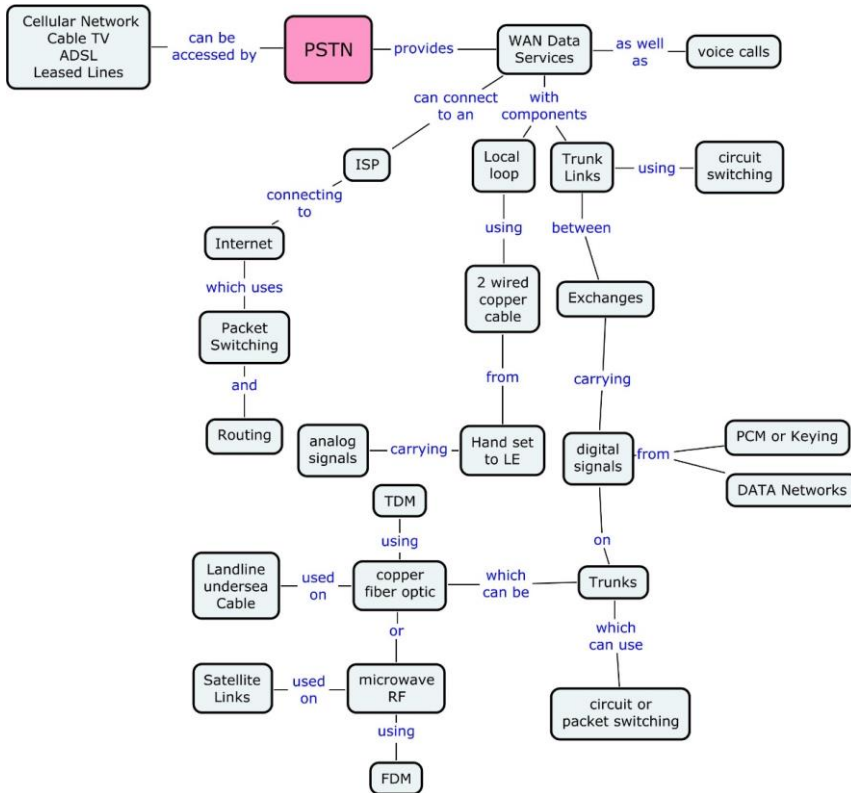
Figure 1. An unpublished example of a concept map, used by one of the authors, showing hierarchical structure of concepts and meaningful relationships constructed using CTools software (ctools.umich.edu/gateway/).
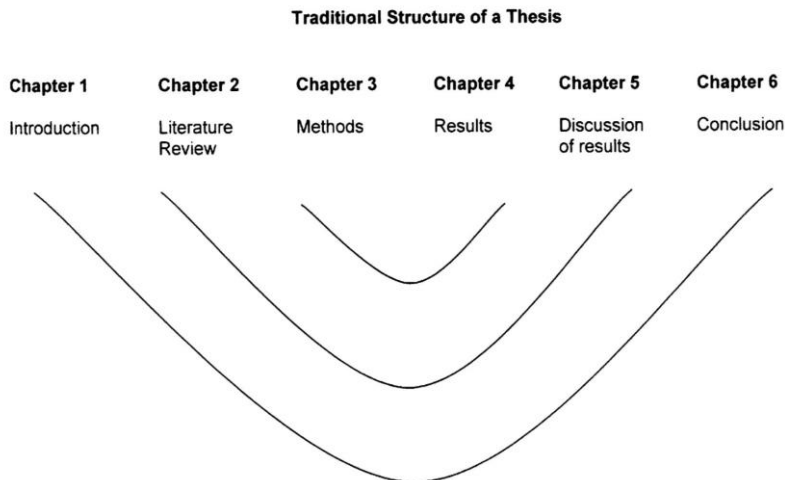
Concept maps show hierarchical relationships (Figure 1) between concepts with more inclusive concepts sub-tending component concepts via meaningful relationships shown with linking words. Concept maps can be fruitfully used to analyse other research papers preliminary to understanding the theoretical components of a discipline area.

The left hand side of the Vee (Figure 2) indicates the theoretical perspective leading to the research or focus question and the research action whereas the right hand side indicates how data from that action is processed leading to knowledge claims to enhance or modify the theory.

Conceptual Domain

Philosophy

Theories

Principles

Concepts

Basic Qwestion (BQ)
Responses to the BQ appear through a

Continuous interaction between both sides

Methodological Domain

Assertions of value

Assertions of knowledge

Interpretations

Results

Transformations

Facts

Records of events

Event

Figure 2. Epistemological Vee shows the interaction between the conceptual and methodological domains in the research process; the same model could be successfully used for structuring a paper or thesis.
Source: Cavalcanti da Silva, C., Sousa de Oliveira, A.K., Egry, E.Y., Eufrasio de Andrade, L.N., Umbelino dos Anjos, U., & Cavalcanti da Silva, A.T.M. (2013, p. 703)

Traditional Structure of a Thesis

Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6
Introduction	Literature Review	Methods	Results	Discussion of results	Conclusion

Figure 3. The traditional structure of a thesis (Buns 1997, Chp 28) shows a similar symmetry to the Epistemological Vee and is also useful for structuring a paper.

It is interesting to note similarity between the traditional structure and symmetry of a thesis (Figure 3, Buns 1997) and that of the Epistemological Vee. Such a symmetrical structure is also useful for structuring a paper as the writer proceeds from present knowledge, describes the nature of the research, records and transforms results, and then makes knowledge claims to add to available present knowledge in the area.

Components of a paper

Abstract

The abstract is meant to be a terse summary of what is contained in the paper and as such is written in the present tense. It refers, very briefly, to major findings of the paper and should not be confused with the objectives of the paper. One guide as to what to include could be to consider that if this were all a reader had time to read, what would they want the reader to know about what has been written. The abstract, of course, can also be used to motivate the reader to read the whole paper.

The following example of an abstract (Daniel, 2016b) can be considered where the following structure can be identified: it begins by identifying the main purpose of the article and then states the problem or question that the work addresses, suggests why it is important, how the investigation was undertaken, what was found and what it means.

> Electronic government (e-government) involves government agencies using information and communications technology and the various Internet technologies to transform the way they provide their services. It includes aiding agencies to improve their processes in order to achieve internal operational efficiency and effective service delivery. This technology is being used to provide services online, but the development made so far in Papua New Guinea (PNG) is yet to be researched. Thus, this paper examines the status of e-government development in PNG and discusses the research context, an e-government model and content analysis methodology. By using content analysis and an e-government progress model, websites of government agencies are assessed to evaluate their level of development. The paper also discusses the instrument for the analysis and reports on the findings on current development. Finally, the paper provides an understanding that could aid further planning, development and evaluation of e-government progress. (p. 24)

It should be noted that the expected content of different types of papers may differ (American Psychological Association [APA], 2013, pp. 26-27), However, despite the differences in expected content, a good abstract should always be accurate, non-evaluative, coherent and readable, and concise.

Keywords

Keywords are important words used in a paper. They can provide a motivation to read by those who might be searching for a reference for topics represented by these keywords, or those who might be searching for papers related to a particular topic. In the contemporary technology age, the proper set of

keywords is especially important as these are also used to locate papers in electronic databases (Kotze, 2007). Thus, the keywords should preferably reflect the discipline within which the study was done, theme which the paper presents, the research design and approach, and the study context.

Introduction (rationale and objectives)

Swales (1990, as cited in Corbett, 2007) delineates introduction to the scholarly paper as "creating a research space" (p. 25) and a platform to communicate to the reader the body of knowledge in the field in which the paper is situated and the author's stance with respect to it. This is a fundamentally important part of the paper as it establishes the need for, and a structure for the paper. Here the rationale, motivation or focus question of the paper is presented. This includes the present state of research in the particular area which is the focus of the paper. It identifies some long term problem to which this paper seeks to propose a resolution or indicates the existing gaps, variations or controversies existing in literature that the paper addresses. The importance of the paper is established by accentuating to readers the benefits of the study reported and its main contribution to knowledge. The following example of a rationale from Daniel (2016b) can be considered where the issue is identified (e-government in PNG), motivation provided (present inadequate research) and importance of the paper established (some current evidence).

> Government agencies aim to attain internal operational efficiency in their processes and thereby achieve effective service delivery (Huang, 2006). They seek to do this by leveraging the advances in information and communications technology (ICT) and the Internet technologies (Daniel, 2015), a phenomenon known as electronic government (e-government). By adopting e-government technology, agencies in Papua New Guinea (PNG) are striving for process efficiency and service delivery effectiveness (PNG Government, 2010), however, the progress made so far is yet to be adequately researched, a situation this paper seeks to address. Whilst need for services is usually high, there is some evidence indicating that their delivery and quality are unsatisfactory (Singh et al., 2011) due to various challenges in implementation (PNG Government, 2010). (p. 24)

The final part of the Introduction outlines the structure of the rest of the paper. Properly worded it serves as objectives of the paper.

They could take a form such as: "Given present state of research/ particular problems encountered, this paper will seek to ……. It will further go on to explain…. Finally, it will……". Because it declares what the reader is yet to find, it will normally be written in the future tense. Objectives serve to structure the paper with major subheadings related to each objective.

The following example of the final part of an Introduction section (Daniel, 2016b) can be considered where four objectives are identified with suitable introductory phrases ("will examine", "will discuss", "will describe", "will provide"). The use of future tense throughout can also be noted.

> This paper will examine the status of e-government progress (online service development) in PNG. An online service refers to information (e.g. contact details, services provided, plans and policies), transactional (e.g. e-passport) and connected service (e.g. e-polling and online feedbacks) which can be provided through e-government websites (UN, 2014). The paper will discuss the research context, United Nations (UN) e-government model and content analysis methodology. By using content analysis (GAO, 1989) and the UN model (UN, 2014), the paper will describe how e-government websites were assessed to evaluate current development and also the instrument (coding categories) used for the analysis. The paper will provide an understanding of the progress made so far in order to guide further planning, development and evaluation. The research context will now be discussed. (pp. 24-25)

A clear set of objectives constitutes a very important part of the paper as it will guide all further writing in a logical sequence and prevent the paper from becoming overly long and disorganised**.** Clear objectives also help prevent the ubiquitous and annoying (to the reader) problems of: lack of structure, repetition, and rambling wring without clear direction. With regard to repetition, however, it should be noted that if, in the body of the paper, attention needs to be drawn to something written earlier, reader annoyance can be reduced if the repetition is acknowledged using expressions such as "as previously noted". An often quoted rule of thumb is: "Keep your objectives simple and achieve those". It should also be noted that clear objectives will also assist structuring the Conclusion which will map to the objectives and show how they have been achieved.

Finally, it should be noted that although the Introduction appears at the start of a paper, it could be written only once the rest of the paper is completed and the author has a clear idea of its content and structure.

Presenting information with figures & tables
Briscoe (1996, as cited in Day & Gastel, 2012) ascertains that "good illustrations can help the scientists to be heard when speaking, to be read when writing" (p. 97). Therefore, the information that will be presented with figures and tables should be carefully thought out and prepared in advance so it can guide the writing of the text. Figures and tables are used in papers to support academic argument. They should be as clear and illustrative as possible (Harley, Hixon, & Levin, 2004) and thus as much consideration as possible should be given to their content. There are different considerations to be taken into account when deciding on using either table or figure.

Tables are especially useful in presenting variation in data and showing categories of information. While their strength lies in precision, their weakness is that they tend to become too complex (Keene & Adams, 2001). Thus, they should be used with care and should not contain the same information that appears in the text nor present irrelevant data (*Scientific Reports, 2015)*.

Figures come in different forms, such as graphs, diagrams or drawings. The most important consideration when deciding on the figure is communication. Keene and Adams (2001) explain the use of different graphs, for example: line

graphs are excellent ways to present how one variable relates to another and for showing and comparing trends; the bar graph are especially good to show relationships between numbers or sets of numbers, including change over time; finally, pie charts are used when there is a need to display the relative proportions of parts to a whole.

When deciding on number of graphical elements for the paper the author should be selective and avoid disproportionately large number of tables and figures to small amount of text as the text that is constantly broken up with tables or figures could be hard to follow by the reader (APA, 2013).

An important element for the clarity of presentation of figures and tables is an appropriate description. Thus, captions for figures and tables should be self-explanatory. Figures have captions *below* the figure whilst tables have captions *above* the table as shown in the two excerpts below. All tables and figures need to be sequentially numbered and referred to in the text.
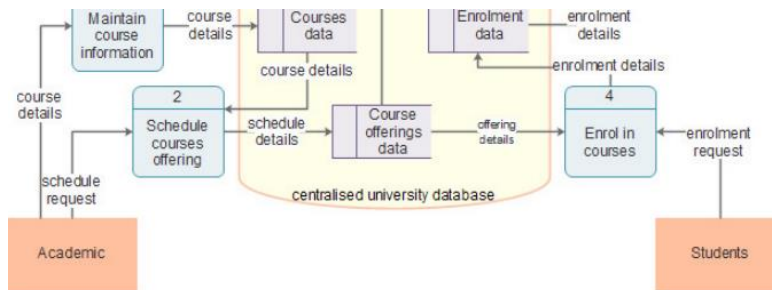
Figure 10: Simplified enterprise system model that illustrates the integration of individual processes from functional areas into university-wide enrolment process using a single shared database. Input from one area immediately becomes available to others. When students enrol in the scheduled course offerings, the enrolment information is used to produce class lists by academic staff.

Source: Daniel, M. 2016, Enterprise systems: An emerging technology for Papua New Guinea universities, Contemporary PNG Studies: DWU Research Journal, 24, p. 31.

Table 1 Overview of the sampling design in the quantitative strand of the study

Selected institutions of higher education	
Universities Pacific Adventist University, Port Moresby University of Goroka Divine Word University, Madang	
Other institutions of higher education Holy Trinity Teachers College, Mt. Hagen	

Source: Kolodziejczyk, I. 2015, Mixed methods for study of gender issues in access, application, and attitudes toward ICT in higher education institutions

in Papua New Guinea, Sage Open, April-June, p. 3. DOI: 10.1177/2158244015581017.

Academic integrity and referencing style

When writing and publishing, authors enter an ongoing scholarly conversation within the area of their interest. To do it within the framework of academic integrity one is expected to give appropriate credit to those who preceded them in the process of building the knowledge in the field and to whose work they refer to (Carter & Aulette, 2016). Using someone else's words or ideas without acknowledging it is a serious breach of the rules of scholarship and honesty (Stoilescu & McDougall, 2010). To avoid plagiarism and yet to embed one's own work within the context of the present state of knowledge in the field of interest, one cites related work within the text (in-text citation) and lists all cited references at the end of the paper (Derntl, 2014). Accurate and meticulous citations "is part of being a rigorous researcher" (Day & Gastel, 2012).

A chosen journal will have a policy governing style which needs to be complied with before a paper is submitted for publication. For example, the DWU Research Journal uses APA referencing style and prefers no footnotes. Examples of APA references are seen at the end of this paper.

It should be noted that regardless of the references style used in the paper, there are two basic rules regarding the list of references which should always be followed: (1) every cited source must be listed in References and (2) every listed source must be cited in the text (Derntl, 2014).

Summary and Conclusion

As previously noted these sections will provide a mapping to objectives stated in the Introduction and show how these have been achieved. Because reference is now made to what has already been provided in the body of the paper, *past* tense will be used. Basic findings are summarised and no new data, information or argument is introduced at this stage.

The following example of a conclusion (Daniel, 2016b) can be considered where the author maps conclusions to objectives (referred to above). Thus we can note that, using past tense, the paper "examined", "discussed", "provided an understanding", and "demonstrated". Finally, the main findings of the paper are identified.

> Evaluating the websites of agencies can effectively help us to understand the status e-government adoption (Huang, 2006). Thus, the paper examined the status of e-government progress by analysing the content of 31 e-government websites. It discussed the research context, the steps involved in performing content analysis of written communication, the four stages of the UN model, how they were applied in published studies, and how they were used in the paper. By using content analysis and the UN model, it discussed how e-government websites were assessed to evaluate the status of e-government progress in PNG, including the instrument used for the analysis. Moreover, the paper provided an understanding to guide further planning, development and evaluation. The paper demonstrated that most websites are functioning

only at an elementary level, providing only one-way and simple two-way information services. Fewer sites are providing financial and non-financial transactional and connected services, however, it is believed that there is great potential for advancement to more sophisticated levels of services provided that resources are economically managed and challenges are carefully addressed. (p. 37)

Writing style issues

Spelling and grammar

A number of common problems arise in academic and other writing which are best resolved by proof reading and peer review. Matching *singular* and *plural* forms of nouns and verbs can be easily overlooked. If there is an "and" in the subject of a sentence, a plural form of the verb is probably needed. Note that the word "none" can be singular or plural. Thus "none of the staff were present" because the word "staff" is plural. Word processors can now detect spelling and even some grammatical errors but may not detect misused words. Thus if the expression "*cooperate* structure" was used when "*corporate* structure" was intended, the error would not be detected as no spelling error is involved.

The use of *pronouns* (words standing for a noun: it, they, them, their etc.) requires that it should be clear to which noun the pronoun refers and should not be too far removed from that noun in a series of sentences in order to avoid confusion. *Colons* are used to mark major sentence breaks, whilst and *semi-colons* mark minor breaks.

An important requirement of academic writing is that it should be accurate and exact and use terminology and definitions specific to the discipline involved. Thus the more *specific* word to convey a meaning should be used. A battery of alternative and more specific words is required to replace such hackneyed words as 'said', 'shows', 'got', or 'put. For example, a user enters' (rather than 'puts') data into a spreadsheet.

Colloquialisms defined as "belonging to spoken language" or "Words or expressions not used in *formal* or **elevate***d* language" (OED) are best avoided (e.g. words like mad, cool, bit of a crook, thug, sick of, etc.). Similarly, care is needed in use of words or phrases that have suddenly become popular (e.g. 'on the same page'). Use the more formal word or expression. Be careful with the use of metaphors in formal writing; rather say what the word means.

Acronyms

Frequently used phrases are well replaced by acronyms where these exist or are suitable. The acronym is introduced the first time the phrase is used, probably early in the paper. From then on the acronym is used. Thus for first occurrence "Papua New Guinea (PNG)" would be used and from then on the acronym "PNG" alone would be sufficient. If there are many acronyms used in a paper a glossary could be included for reader convenience.

References

In all academic writing, all statements that are not the author's original contribution must be referenced. Thus statements must come from somewhere and their validity must be verifiable against the acknowledged source. When quoting a source in a paper, expressions like: "Jones (2014) *has shown*" can become very monotonous if used repeatedly. Variations such "New data (Loes , 2014) leads to the conclusion …" can be considered.

Smoothing section transitions

It is important for free flow of a paper that it have a narrative structure rather than a series of loosely joined or separated topics under each sub-heading. Thus, towards the end of one section, one or more lead in sentences can smooth the transition to the next section. The following five sentences which seek to provide smooth transitions are used to anticipate a new sub-topic and can now be considered as illustrative examples:

> This leads now to the discussion of possible adoption of this type of system in PNG universities. It is now necessary to discuss the functioning of enterprise systems, which could be implemented to deal with these problems.
>
> (Daniel, 2016a)

> We now discuss the UN model, which is used in this paper. Content analysis has been successfully used in published studies (discussed above). Thus, it is used in this paper to assess PNG government websites, which now leads to the discussion of how this methodology was used in this paper. It would be necessary to provide awareness so that users can use the sites effectively, which leads us to the conclusion of this paper.
>
> (Daniel, 2016b)

Smooth flow of sentences

Sentences which are too short provide a disruptive effect and make reading difficult as shown in the following example (Source unknown):

> The spy discovered that he had been betrayed. He was furious. Never-the-less be acted coolly. He destroyed all the stolen papers. Then he set off for the airport. (You may wish to begin: 'Furious to discover that he had been betrayed, the spy …)

Sentences which are too long lose meaning and make understanding difficult as shown in the following example (Source unknown):

> As she was walking down the mountain, her eye was attracted by the singing birds which were on display in little cages that were clearly too small for the poor creatures to take even a short flight, and her heart was touched with pity for the helpless captives still chirping forth their tiny melodies.

Conclusion

This paper has attempted to aid writers in their task of structuring academic papers, using the paradigm known as the 'Epistemological "V" ' which relates research findings to theory both before and after a research project. Good structure was shown to be essential to both the writing of papers and the developing of theses for higher degrees. As well as structuring, writing enhancement can be accomplished clearly stated objectives grammatical exactness, verbal specificity, and free flowing sentence structure. Common grammatical errors and infelicities of expression are discussed. Guidelines are provided for meeting the intended functions of such important components as introductions with rationale and objectives, abstracts, summaries and conclusions and acknowledgements.

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