# STUDY OF
# ENGLISH FOR ACADEMIC PURPOSES (EAP) RESEARCH PAPER TITLES IN INTERNATIONAL JOURNALS

**YUGIANINGRUM**

**NIK 410014**
**NIP 19471025198603002**

**ENGLISH DEPARTMENT-FACULTY OF LETTERS**

**MARANATHA CHRISTIAN UNIVERSITY**

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# STUDY OF ENGLISH FOR ACADEMIC PURPOSES

# (EAP) RESEARCH PAPER TITLES IN INTERNATIONAL JOURNALS

Yugianingrum

Universitas Kristen Maranatha

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**Abstract**

This paper aims to review the titles in a selection of English for academic purposes (EAP) research papers concerning their word numbers, formats and the relation between the formats and the information contents as well as the communicative effects of the formats. For this purpose, forty EAP research paper titles containing the word "title" or "titles" are collected from several international journals and analyzed. The research findings show that some expert authors have created titles with a variety of word numbers and formats, whereas the analysis of the formats reveals their relations to the title information contents and communicative effects of the formats. The study concludes that most of the expert authors have followed the academic conventions that a title should clearly reflect the message of the whole research paper and should be informative, attractive and concise, with the most important information placed at the beginning.

**Keywords**: word numbers, formats, information contents, communicative effects, EAP research paper titles

**Introduction**

*Background of the study*

Among the main parts of a research paper, the title shows the use of the smallest number of words; however, it does not mean that writing an effective research paper title is easy. In this connection, Swales (1990, p. 222) asserts that "composing a few words of a title can take up an inordinate amount of time, discussion and mental effort." To show that ideas behind the writing of a good title are not simple, the author (p. 233) presents a set of examples and lets the reader find the effects of the different word strings of similar titles:

1.  On the structure of scientific text;

2.  The structure of scientific texts;

3.  Aspects of the structure of scientific text;

4.  A preliminary analysis of aspects of scientific text structure.

The idea that writing research paper titles is not simple has been confirmed in some studies, such as Fischer & Zigmond, 2004; Haggan, 2004; Langdon-Neuner, 2007; Micic, 2007; Soler, 2007; Hartley, 2007; Gesuato, 2008; Katkuviene, 2008; and Cianflone, 2010. These studies help the reader realize that "an excellent research work may unjustly get lost simply because its title is faulty" (Soler, 2007, p. 152) and show that a research paper title possesses an important role in communicating the research topic and in attracting readers interested in the field of study. It is even stated that "titles are like advertisements where the writer of the article tries to secure 'customers' through an attractive presentation of his 'products' " (Haggan, 2004, p. 312). This statement points out that the theory of writing research paper titles is getting more complicated.

In relation with all the important information previously mentioned, it seems that novice writers have problems in writing an effective title for their research paper and accordingly, they may be inclined to imitate the ways previous writers presented their research paper titles in relevant journals. Problems will increase if firstly, the writers have not learned the academic writing conventions in their own fields, which standardize the format, structure, language and typography of research paper titles, and secondly, if the research article titles they imitate are not standard.

*Research questions*

To help solve the problems, the present study analyzes a number of English for Academic Purposes (EAP) research paper titles selected from various international journals in order to answer the following research questions:

(a) What are the word numbers in EAP research paper titles?

(b) What are the formats of the titles?

(c) How do the title formats relate to the title information contents and the communicative effects of the formats?

The answers to the research questions are expected to provide novice writers with necessary knowledge of writing research paper titles sifted from an analysis of some EAP experts' writing.

*Conceptual framework*

Numerous studies on research paper titles have been published in international academic journals (see the list of data sources). Yet, this present study chooses to highlight only four of them, namely those by Haggan (2004), Hartley (2007), Micic (2007) and

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Cianflone (2010), to be used as the research conceptual framework because they are most relevant to the topic of this paper.

The first study (Haggan, 2004) claimed that in literature, linguistics and science fields, titles in the form of single information units were especially found in linguistics and science, whereas those in the form of compound units were more commonly used in literature. Furthermore, the titles in science were mostly formulated as complete sentences using present tense, whereas the phrasal titles in all the three fields were mainly nominal. Some other important findings in her study indicated that (a) the science paper titles displayed straightforward information on the findings or topics of the papers, (b) the literature paper titles presented "a kind of verbal flirtation" to attract the reader, and (c) the linguistics paper titles showed a combination of the science and literature paper titles, although they corresponded more to the science pattern (Haggan, 2004, p. 313).

The second study (Hartley, 2007) exposed that colonic titles were preferred by authors in the Arts and Social Sciences and that the number of titles with colon had been increasing over time. The study described that titles with colons were longer and more informative than those without. Hartley also suggested that a colon be "used [in a title] to precede or follow an expansion or explanation, a list of items, or a quotation" (p. 149).

Micic (2007) presented her findings concerning the research paper titles' structure, length, important words and necessary information. She stated that a good title should "accurately, completely and specifically identif[y] the main topic or message of the paper, and [be] also unambiguous, concise, and beg[in] with the most important point" (p. 154).

Finally, Cianflone (2010) classified the formats of titles in a small corpus of veterinary medicine research papers into nominal structure, full-sentence structure, compound structure and question structure. She concluded that personal taste had played an important role in the lay-out choice of titles although disciplinary conventions were essentially still taken into account. She agreed that titles should communicate information on the research and on the findings as concisely as possible to meet "the principles of informativity and economy with a pattern where the topic, the subjects of the study and other relevant information [were] displayed" (Bush-Lauer, 2000, cited in Cianflone, 2010, p.3).

From the selected theories above, a conceptual framework to give direction to this present study is formulated as can be seen in Figure 1.

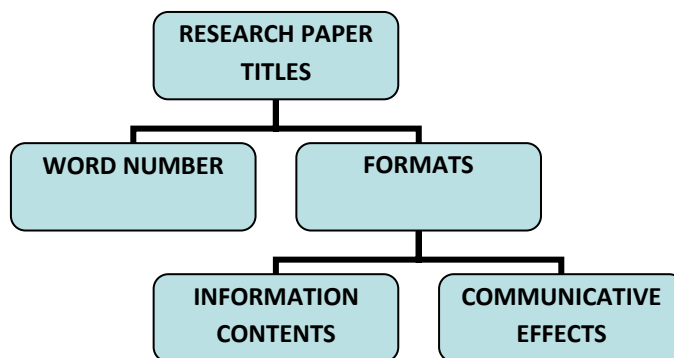**Figure 1: Conceptual framework of the study**



Figure 1 displays the conceptual framework that is used to analyze the data of this study. In the next part of this report, the analysis findings of the research article titles show a) the word number and b) the formats of the titles along with the ways the formats refer to the information contents and the communicative effects of the titles.

*Methodology*

To conduct the present study, forty titles containing the keyword "title" or "titles" were selected and collected from the bibliographies of several EAP research papers in international journals. The keyword is necessary to ensure that to discuss research paper titles academically, the research paper authors must have produced their particular titles with care. The way this present study selected the data was following Bhatia (1993, cited in Hyland, 2007, p. 196), who suggests that in a genre analysis, the researcher should use texts that are viewed as being representative.

After the selection, the analysis was performed. The word number of each title was counted and the titles were classified into their formats: full sentence, compound, phrase and question. Different analyses were presented to relate each title format to its information content and the communicative effects the format may offer to the reader. Afterwards, the analysis findings were discussed and finally, a conclusion was drawn.

**Findings and Discussion**

*Word Number*

The word numbers of the analyzed titles have a significant range (2-18 words per title) and the frequency of each word number per title in the data is variable. Although this finding does not follow the recommendation that a research paper title should contain 5-10 words (Fischer and Zigmond , 2004), the most frequent word number in the data, nine words per title, suits the ideal word number of a title, and has occurred six times in the forty titles (15.0%).

Table 1 demonstrates the complete word number findings of the analysis: 60% of the data (24 titles) contain 8-12 words, leaving the rest to have 2-7 words (22.5%) and 13-18 words (17.5%).

**Table 1: Quantitative information about 40 titles in EAP research papers**

| Words per title | No. of data | Frequency | % |
|---|---|---|---|
| 2 | 14 | 1 | 2.5 |
| 3 | 25 | 1 | 2.5 |
| 4 | 6 | 1 | 2.5 |
| 5 | 22, 30 | 2 | 5.0 |
| 6 | 21, 24 | 2 | 5.0 |
| 7 | 5, 33 | 2 | 5.0 |
| 8 | 2, 7, 31, 36 | 4 | 10.0 |
| 9 | 1, 3, 12, 27, 34, 38 | 6 | 15.0 |
| 10 | 17, 18, 36, 37 | 4 | 10.0 |
| 11 | 8, 11, 29, 32, 39 | 5 | 12.5 |
| 12 | 15, 20, 23, 28, 35 | 5 | 12.5 |
| 13 | 13, 26 | 2 | 5.0 |
| 14 | 10, 16 | 2 | 5.0 |
| 15 | 4, 40 | 2 | 5.0 |
| 18 | 9 | 1 | 2.5 |
| Total | 40 data | 40 x | 100% |

Counts show that the average length of EAP research paper titles is 9.7 words per title, which is almost the same as Haggan's (2004) finding in literature (9.4 words per title), longer than that in linguistics (8.8 word per title) but much shorter than that in science (13.8 words per title). Evidently, the average title length of the research papers in EAP, as well as in literature and linguistics, is shorter than that in science. Despite the statement that shorter titles have strong impact on the reader (Micic, 2007), it is claimed that titles of research papers in science over the 45 years period have shown some growth in the information content (Berkenkotter & Huckin, 1995, cited in Haggan, 2004), and, evidently, also in the title length.

*Formats and their relations to their information contents and communicative effects*

　　　　Compared to the finding of word numbers, the finding concerning title formats needs longer discussion. The dominant format in the data is compound structure (47.5%), followed by phrase (42.5%), full sentence (5%) and elliptical sentence (5%). Question structure does not occur as a single unit and is only found as a part of compound structure. The complete finding is displayed in Table 2.

**Table 2: Formats of the 40 EAP research paper titles**

| Formats | Frequency | % |
|---|---|---|
| Full sentence | 2 | 5 |
| Elliptical sentence | 2 | 5 |
| Compound: | | |
| -with a question unit | 5 | 12.5% |
| -without a question unit | 14 | 35% |
| Phrase | 17 | 42.5 |
| Total | 40 titles | 100% |

*1) Full-sentence structure*

　　　　Table 2 shows that 5% of the analyzed titles in this present study have full sentence structure. Findings of previous research (Haggan, 2004) revealed that 8.5%, 4.2% and 4.3% titles in respectively science, literature and linguistics research papers were in the form of full sentence. Therefore, it can be confirmed that the formats of EAP research paper titles in this present study are similar to the formats of research paper titles in literature and linguistics but significantly different from those in science. The communicative effect of this format is found in the use of the full-sentence title to present the result of the related study. In this present

study, the titles with full-sentence structure have past tense verbs, different from the full-sentence titles in science, which use present tense (Haggan, 2004). The two full-sentence titles in the data (no. 5 and 6) can be seen in the following:

*Informative titles described article content* (data 5)

*Title did not reflect author's views* (data 6)

Data 5 and 6 show that the information content in each title presents the result of a study that refers to one-off occurrence, not to habitual events; therefore the titles use past tense.

*2) Elliptical sentence structure*

Besides full-sentence titles, there are two elliptical-sentence titles (5%) in the data:

*Colonic titles!* (data 14)

*Alas, poor title* (data 25)

Haggan (2004) claimed that elliptical sentences were specially common in literature paper titles. She contended that research paper titles of this kind were to be aimed "at the aesthetic sensibilities of the reader" (p. 301) rather than at facts presentation. The format of data 14 relates to the information content that shows the author's exciting idea about colonic titles, as the author's whole research paper informs that colonic titles provide an easy way of attracting and informing the reader. The communicative effect of this unusual format is obtained from the use of a nominal construction with an exclamation mark, which is stronger than the use of a full declarative sentence, such as *Colonic titles provide an easy way of attracting and informing the reader.*

Data 25 presents a sentence adverbial *Alas* followed by a nominal phrase (*poor title*) expressing an evaluation on a title. This format relates to the information content presenting a

regretful expression about a good research paper that is not acceptable just because of its poor title. The elliptical sentence has provided a stronger communicative effect than if the title were presented in full-sentence construction, e.g. *A good research paper fails because of its poor title*.

3) *Compound structure*

Compound structure is found in 19 titles, or 47.5% of the data. Of these 19 titles, 5 titles (12.5%) have the structure of one question and one non-question units, whereas each of the remaining 14 titles (35%) contains two non-question units only. The 19 data show that the number of the formats having a question unit has been outnumbered by the number of the formats without. From this finding it can be inferred that question structure is not commonly used in EAP research paper titles although this structure can raise the reader's curiosity about the topic of the paper. The following two examples are selected to show the different locations of the question unit:

*To attract and to inform: What are titles for?* (data 12)

*What's in a title? Number of words and the presence of colons* (data 20)

The format of data 12, with a question structure in the second unit of the title, also occurs in data 19, whereas the format of data 20 is found in two other data (no. 10 and 26). The format of data 12 relates to the information content presenting the answer (*To attract and to inform*) to the question (*What are titles for?*) whereas the communicative effect of the format is just to attract the reader through the use of the unusual construction of the title. The colon separates the two units to show that the first unit presents the result of the study and the second represents the research question.

Data 20 appears to be more customary, starting with a question (*What's in a title?*) followed by an answer (*Number of words and the presence of colons*), thus presenting a pattern of regular conversational communication. The question format serves the function of raising the reader's curiosity. In addition, the reader can find that the question unit *What's in a title?* is alluding to the famous quotation from Shakespeare's *Romeo and Juliet*: "What's in a name?" and thus produces an entertaining effect for the reader.

Besides a question mark, a colon and a comma are used to divide the compound structure in the data. The first unit is usually the main section containing a general topic, whereas the second unit presents more specific information on the topic (Haggan, 2004). The following are examples of titles with two units divided by different punctuation marks:

*Titles, A treatise on* (data 6)

*Titles of research articles: Serbian experience* (data 24)

Data 6 uses compound structure that is divided by a comma to present the information content of the paper: the first unit (*Titles*) is the general topic, whereas the second (*A treatise)* provides information about the sub-genre of the paper. It seems that the paper is not reporting an empirical study but provides a theoretical discussion. The communicative effect of the format is obtained from the unusual use of the fronted complement (*Titles*) of the preposition *on*, which results in the more important meaning of the word *Titles*, compared to the meaning of this word when the paper title is written in a usual structure: *A treatise on titles*.

Finally, data 24, which uses a colon to divide the units, has information content concerning the general information of the topic in the first unit (*Titles of research articles*)

and the specific information of the topic in the second (*Serbian experience*). This format also provides the reader with strong communicative effect but not as strong as that in data 6.

4) *Phrase structure*

Of the 40 data, there are 17 titles (42.5%) that have the phrase structure format: 16 NPs  and one PP. The following are three examples of the 16 NPs, showing the use of different prepositional phrases and articles in the phrases:

*Scientific titles in Veterinary Medicine research papers* (data 5)

*The information content of titles of Arabic periodicals* (data 2)

*A further exploration of title size and author number* (data 38)

Data 5 presents a nominal phrase with the pattern "NP + in NP."  In this data, the format relates to the information content in the head of the NP that has the Adjective + Noun pattern (*Scientific titles*) referring to the topic of the paper, whereas the PP post-modifier of the head (*in Veterinary Medicine research papers*) serves as the setting of the topic. The communication effect of this format is available in the placement of the topic at the beginning of the title, thus fulfilling the requirement that the more important element should be presented first.

The format of data 2, which uses the pattern "The NP of NP + of NP," is related to the information content about something specific (*The information content of titles*) and its possessor (*of Arabic periodicals*). The special communicative effect is found in the use of *The*, which indicates the specific trait of the topic. However, titles with initial *The* will present a problem for indexers and so authors are advised to avoid using it (Langdon-Neuner, 2007, p. 160).

Data 38 has the pattern "A NP of NP and NP", the head of which presents the information content about something indefinite (*A further exploration*) that refers to the method of the study, whereas the post modifying PP (*of title size and author number*) contains a compound NP that shows the subjects of the study. The significant communicative effect of the format is in the use of the word *a*, signifying that the topic is just one of several possible explorations of the subjects of the study. Again, the use of an article in a title is not recommended in order not to make a problem in the indexing practice.

Finally, this study presents the analysis of the only data that has the Prepositional Phrase format:

*On the informativeness of titles* (data 30)

Data 30 has the pattern "Preposition + the NP", in which the preposition *on* means "upon" or "about", whereas "the NP" contains the information about the topic of the study.  The format relates to the communicative effect of the use of *on*, indicating that the researcher presents "non-categoric" findings and in an "unassuming manner", so that s/he can be regarded as "reliable and honest" (Katkuviene, 2008, p. 149).

**Conclusion**

Academic writing experts are expected to exhibit ideal titles of their research papers. The findings of the present study reveal that some expert authors have created titles with a variety of word number, formats and therefore also the information contents and communicative effects related to the formats.  Although the lay-out choice of the titles cannot be generalized, the research findings indicate that most of the expert authors have followed

the academic conventions that titles should clearly reflect the message of the whole research paper and should be informative, attractive and concise, with the most important information placed at the beginning. Moreover, novice writers may learn from this study that a title should be created on the basis of careful consideration with orientation to the language use. Finally, this study suggests that a research paper should not use any article (a/an/the) at its title's beginning because articles are not suitable for the practice of indexing academic research papers, which is necessary for the documentation and information retrieval.

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**APPENDIX**

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CLASSIFICATION

**Full Sentence (2)**

Title did not reflect author's views
Informative titles described article content

**Elliptical (2)**
Alas, poor title
Colonic titles!

**Compound (19)**
Titles. A treatise on (1)

There's more to the title than meets the eye: Exploring the possibilities (1)

What's in a title? A descriptive study of article titles in peer-reviewed medical journals.
What's in a title? Number of words and the presence of colons.
What's in a title? A two-step approach to optimisation for man and machine. (3)

From Shakespeare to Star Trek and beyond: A Medline search for literary and other allusions in biomedical titles. (1)

Research paper titles in literature, linguistics and science: Dimensions of attraction.
Titles of LIS textbooks and research articles: A bibliometric study.
Titles in medical articles: What do we know about them?
Titles of research articles: Serbian experience.
Metaphors among titles of medical publications: An observational study.
Text-functions in translation: Titles and headings as a case in point.(6)

Medicine and linguistics: A necessary symbiosis in medical titles.(1)

To Attract or to inform: What are titles for? (1)

Planning that title: Practices and preferences for titles with colons in academic articles.
Bringing in the reader: Addressee features in academic articles.
Writing titles in science: An exploratory study.
Teaching the analysis of titles: Dependent and independent variables in research articles.
Writing titles in science: An exploratory study.(5)


**Nominal (16)**
    A.   NP of/in NP
Characteristic Features of Research Article Titles in Computer Science.
Word count statistics of the titles of scientific papers.
Amusing titles in scientific journals and article citation.
Scientific titles in Veterinary Medical research paper.(4)


    B.   A + NP of NP
A discourse analysis of temporality in journal titles.
A corpus-based syntactic study of medical article titles.
A further exploration of title size and author number. *(3)*


    C.   The+ NP of /in NP
The information content of titles of Arabic periodicals.
The variation in the information content of titles of research papers with time and discipline.
The effects of spacing and titles on judgments of the effectiveness of structured abstracts.(3)


    D.   NP of NP in (the) NP
Survey of active verbs in the titles of clinical trial reports.
Linguistic complexity of abstracts and titles in highly cited journals.
Syntactic and semantic structure analysis of article titles in analytical chemistry.
Use of Colons in Titles and Journal Status in Industrial Relations Journals.
Relation of title length of journal articles to number of authors.
Relation of the title length of a journal article to the length of the article. (6)


PREPOSITIONAL (1)
 On the informativeness of titles.