

Scientific titles in Veterinary Medicine research papers

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The research paper conveys scientific results in its different sections (title, abstract, introduction, materials and methods, results, discussion and conclusions). Within the research papers' economy, titles have a wide communicative share because, by summarising content in a concise way, they attract readers' attention. This article wants to discuss the format of titles (nominal structure, full-sentence structure, compound structure and question structure) in a small corpus of veterinary medicine research papers as the result of a seminar offered to PhD students of one Italian faculty of Veterinary Medicine.

Key-words: research paper, titles, veterinary medicine, English for academic purposes.

Introduction

State of the art in applied linguistics reckons the function of English as the international medium of scientific communication among speakers of different nationalities and the role of the research paper (RP) as the top means to spread scientific results within a given community (Hyland, 2009). Publishing RPs in English journals is, thus, mandatory for those English as a foreign language (EFL) scholars willing to gain worldwide visibility (Hyland, 2009; Swales, 2004). The implication for language teachers working in EFL academic contexts is the necessity to develop writing skills focused on the RP and on its different sections, in their English for academic purposes (EAP) syllabi.

RP is used here as a wide-spectrum term referred to different scientific sub-genres, such as research articles, review articles, case reports or case series, that convey the message following the IMRAD format (introduction, materials and methods, results and discussion) (Swales, 1990, 2004; Hyland, 2009).

The aim of this paper is to share insights on titles and their different formats contextualised within a specific academic community, that of veterinary doctors, as part of the EAP seminar offered in 2010 to veterinary medicine (VM) PhD

students from the faculty of Veterinary Medicine at the University of Messina (Italy).

This paper's aim is not to offer quantitative data analyses on titles and their use in VM since it originates from a practical educational objective: to provide perspective EFL authors glimpses on the possibilities offered by the different formats and to give reasoned specimens of titles to develop communicative written skills.

For this educational scope, a corpus of 63 RPs from four VM international journals was selected (see Appendix). The small corpus was considered consistent for the educational objectives of the seminar, pivoted on the RP as a whole and on its different sections, namely title, abstract, introduction, materials and methods, results and discussion.

The present work will briefly introduce the general functions of titles; it will, then, review the different medical titles formats with examples from international veterinary journals.

What is the use of titles?

In literature, the interactional function of titles has been illustrated by different metaphors. Researchers have called titles “descriptive labels of texts” (Soler, in press), “the handle to the remaining of [a] paper” (Watson, 2010), or “condensed frames to the article” (Bush-Lauer, 2000).

These similes aptly introduce the role of titles as the first point of contact with readers (Haggan, 2004). By capturing readers' attention, titles should communicate information on the research and on the findings, with a mean word count that in the medical field does not exceed 16 words (Haggan, 2004; Soler, 2007; in press). The message should, therefore, be as complete as possible by offering input on the methodology, findings or conclusions, on the subjects of study or on implications for everyday practice (Goodman et al., 2001). Titles should also aid storage and retrieval in specific indexes (e.g. *PubMed*, *Index Medicus*) and to facilitate access through internet search engines (Bush-Lauer, 2000; Moore, 2010).

Titles and their general format in VM

The last decade has witnessed a growing interest in titles (see Soler, in press, for a review of literature) and attention has been paid to their construction in different disciplines (see Hartley, 2007, for a synopsis). This consistent research in the medical field has brought to light that titles conform to four different formats:

nominal structure, full-sentence structure, compound structure and question structure (Soler, 2007; in press; Haggan, 2004; Wang and Bai, 2007).

Titles meet the principles of informativity and economy (Bush-Lauer, 2000) with a pattern where the topic, the subjects of the study and other relevant information are displayed.

The topic and subjects of the study serve to set the scene and to attract readers' attention on the issue/s that will be discussed in the RP; the section defined as "other" offers extra information by further specifying the content.

Two examples, a short title and a long one, from the VM corpus will clarify this peculiar trait.

Histopathological lesions in 15 cats with Leishmaniosis (J. Comp. Pat., 143/4)

Prevalence of Yersinia Enterocolica shedding and bioserotype distribution in Ontario finister pig herd in 2001, 2002 and 2004 (Prev. Vet. Med. 93/2-3)

These examples fulfil their communicative aim with a different word count, 7 and 18 respectively, but both conform to the tripartite model (topic/ subjects/ other) discussed above, as the following chart will show:

Topic	Subject	Other
Histopathological lesions	in 15 cats	with Leishmaniosis
Prevalence of Yersinia Enterocolica shedding + bioserotype distribution	in Ontario finister pig herd	in 2001, 2002 and 2004

Tab. 1 tripartite template

In the first example readers are informed on the disorder that is going to be discussed (histopathological lesions), then on the examined subjects (a cohort of 15 cats); extra information is added in by referring to the specific disease (Leishmaniosis).

In the second example readers are informed that the RP will consider a double topic, (shedding and distribution of *Yersinia Enterocolica*), the subjects (pigs) and the time span.

Once ascertained the basic communicative venues, authors can choose stylistic variations in the form of the following four different title constructions.

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Title different structures

The question structure

The main trait of this structure is the question mark. The format follows two different models, that I define type A and type B.

In type A, the title is a compound construction with a main sentence and a secondary clause in the interrogative form (Soler, 2007), well illustrated by the following example:

Hepatitis E virus and pigs: a zoonotic risk in Europe? (The Vet. J. 186/2)

The first part sets the scene by calling attention on a specific the topic (Hepatitis virus) and on the subjects (pigs); the string after the colon specifies the setting and the medical implications.

Type B specimens, on the other hand, are simply shaped as a sentence in the interrogative form:

How do features of dressage arenas influence training surface properties which are potentially associated with lameness? (The Vet. J. 186/2)

In this example, readers' attention is focused on the topic (training surface properties). The subjects are not specified by breed but by reference to a condition (lameness), whereas further specification deals with dressage arenas.

Although this structure has a low occurrence in medical literature (Soler, 2007; Bush-Lauer, 2000), question-titles meet three communicative objectives (Soler, in press). They can, first of all, be intended to stress the fact that despite the research results brought out by the RP, the addressed topic needs further study. The second communicative goal may be referred to a rhetorical choice that allows writers to put a question and to offer one answer. Lastly, the question format can serve the purpose of awakening readers' curiosity.

The full-sentence structure

The main peculiarity of the full-sentence structure is that titles take the form of a statement related to the research results. Findings are neatly presented by the implicit use of a main verb in the present tense, either in the affirmative or the interrogative form (Haggan, 2004; Soler), as the following examples show:

Dual-subtype feline immunodeficiency virus vaccine provides 12 months of protective immunity against heterologous challenge (J of fel. Med. & Surg. 12/6)

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*Microcytosis does not predict serum iron concentrations
in anaemic dogs (The Vet. J. 185/3)*

The first example conforms to the “topic/subject/other” model since authors stress the topic (the value of the inoculated vaccine) and refer to the subjects of study by the use of an adjective (feline). The second example highlights the topic (*Microcytosis*), the subjects (anaemic dogs), and adds extra information (serum iron concentrations).

This format allows researchers to present findings as statements of fact in one single string (Haggan, 2004; Soler, in press). The communicative effect is granted by the use of declarative verbs such as provide, abolish, eliminate, reduce, improve, increase, decrease (see Goodman, 2000 for a list).

The compound structure

The main peculiarity of titles in this group is that they consist of two parts, generally divided by a colon (Hartley, 2007). The main section intends to set the scene, whereas the second clause offers more specific information on the topic (Haggan, 2004; Soler, 2007).

As concerns the interrelationship between the two sections, the main part can be pivoted on the disease, on the symptoms, on the subjects of the study or on procedures (Bush-Lauer, 2000). The second part can offer specific information on the methodology, on the type of study or on the various implications highlighted by the findings (Bush-Lauer, 2000)

*Aorto-septal angle in Boxer dogs with subaortic stenosis:
an echocardiographic study (The Vet. J. 185/3)*

this title sets the scene by introducing the disease and the subjects; it then, offers hints on the type of study.

*Canine alveolar Echinococcosis: morphology and inflammatory
response (J. of Comp. Pat. 143/4)*

in this example attention is paid to the disease first and to the implications in the secondary clause.

Compound titles can also set the scene by pivoting the first part on two topics, operation and patients, and then on the type of study

*Diagnostic and prognostic value of serum creatine-kinase activity in ill cats:
A retrospective study of 601 cases (J. of Fel. Med. & Surg. 12/6)*

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The two-fold partition of compound titles acts as a rhetorical device (Soler, 2007) where the area of enquiry and the results overlap. This peculiarity makes them the second best choice in title writing by medical researchers

The nominal format

The main peculiarity of this model is the basic arrangement around one *nomen*, or head, followed by other structures, or prepositional group.

Along this simple layout, or uni-head title format (Wang and Bai, 2007), more complex title designs can be devised: bi-head and multi-head (Wang and Bai, 2007).

Head/s serve to set the scene by introducing the topic/s, the type of work or the results. The prepositional group adds information on the subjects of the study or on other specific issues.

*Insulin receptor gene expression in normal and diseased
bovine liver (J. of Comp. Pat. 143/4)*

*Evidence for material transmission of scrapie
in naturally affected flocks (Prev. Vet. Med. 93/2-3)*

*Serum haptoglobin concentrations in dairy cattle
With lameness due to claw disorders (The Vet. J. 186/2)*

In the first two examples the head refers to the result (expression and evidence, respectively), followed by the topic (the insulin receptor gene and the disease transmission, in that order) and by the subject of the study (cattle and flocks, respectively). In the third exemplar, on the other hand, the head with two pre-modifiers (serum and haptoglobin concentrations) introduces the subjects of the study (dairy cattle) and adds on the medical condition (claw lameness) .

In bi- or multi-head formats, heads serve the purpose of establishing two or more research topics by putting them on the same level, as is the case of the following example, where immunodeficiency, leukemia and *Bartonella* infection provide the research topic. The rest of the sentence offers hints on the subjects and on the place where the disease was observed

*Feline immunodeficiency virus, feline leukemia and Bartonella species
in stray cats on St Kitts, West Indies (J. of Fel. Med & Surg. 12/6)*

Titles in this category have a complex syntactic format that allows researchers to present their results synoptically and with an impersonal tone that is in line with the Scientific titles in Veterinary Medicine research papers

unemotional style of RPs in the medical domain (Bush-Lauer, 2000; Soler, in press). It is the possibility of spreading results in such a detached way that makes this layout a highly preferred model among medical researchers.

Conclusion

Perspective authors should bear in mind that layout choice originates from personal taste. They should not, nevertheless, forget that there are disciplinary conventions that ask titles to be concise and informative. To reach this goal, authors should avoid imprecision between what is stated in the title and what is said in the RP proper. As concerns this last issue, common mistakes refer to (Singh and Chaudhary, 2009):

1. Minimization, that is the omission of important information.
2. Wrong message, due to overgeneralization.
3. Unclear message.

This paper aimed at stressing the added value titles have in the VM research field to PhD students in one EFL learning environment. Present results are shared in the hope to encourage research in Veterinary Medicine, a field rarely addressed in EAP literature.

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Appendix

Corpus of Veterinary Medicine Research Articles:

Journal	Volume /issue/year	Number of RAs
<i>Preventive Veterinary Medicine</i>	93/2-3 2010	16
<i>The Veterinary Journal</i>	186/2 2010	14
	185/3 2010	11
<i>Journal of Feline Medicine & Surgery</i>	12/6 2010	9
<i>Journal of Comparative Pathology</i>	143/4 2010	13
		TOTAL: 63

Acknowledgement

The author wants to thank Prof. G. Mazzullo of the Faculty of Veterinary Medicine, University of Messina, for his support and for field-specific hints on medical terms, and Prof. Antonina Zanghì, of the Faculty of Veterinary Medicine, University of Messina, Director of the PhD Board “*Sanità Pubblica, Igiene Veterinaria e delle Produzioni Animali*”, for encouraging EAP activities within the same Faculty.

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