



Evaluation of Hard/Soft Sciences and Disciplinary/Interdisciplinary Divides in Light of Titles in Persian and English Research Articles

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Extended Abstract

The hard/soft as well as disciplinary/interdisciplinary divides have been interesting topics in the history and philosophy of science. In this study, these two divides will be revisited in the light of the sub-genre, "article title". The article title is the initial section of any article that readers encounter and decide whether they continue to follow the text. To conduct the study, 6000 article titles (3000 Persian and 3000 English titles) published in peer-reviewed and ISI journals in 12 disciplines and interdisciplinaries have been collected and their length as well as the frequency of three punctuation marks, i.e. colon (:), comma (,) and question mark (?) are counted. It is revealed that 72281 words make the whole corpus with 12 words as average for each title. The Persian titles are reported longer than English ones, whereas the frequency of three punctuation marks is higher in English corpus. The results indicate that the research article titles have become longer during years and decades both in Persian and English. In sum, the findings confirm that the previous scholars' position on the rigidity of hard/soft as well as disciplinary/interdisciplinary divides are also acceptable in sub-genres such as article titles.

Keywords: title length, hard science, soft science, discipline, interdisciplinary

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INTRODUCTION

The hard/soft as well as disciplinary/interdisciplinary divides have been challenging topics in the history and philosophy of science. Traditionally, scientists in hard sciences have tried to discover the world through objective tools and methods, while, scholars involved in soft sciences have mainly relied on subjective approaches. The differences in these two scientific camps has become so substantial that sometimes the term 'two cultures' is employed to refer to the divide (Snow, 1959/1998, 2). The second divide, i.e. disciplinary versus interdisciplinary refers to two the demand imposed on scientists to find novel areas of scientific research areas to solve complicated, multi-dimensional problems (Porter & Rafols, 2009, 741). A considerable number of scholars have compared the (non)linguistic aspects of academic output made by scientists with an eye to the above-mentioned divides.

Title of a research article mirrors what is inside an academic contribution. Metaphorically, it is a door towards the writer's hypotheses, description, observation, methodology, findings, etc. A good title is supposed to introduce the main topic or message of an article in an accurate and complete manner. In addition, title is most likely the first section of an article which encourages (or sometimes discourages) a potential reader to stop and read or skip an article. As such, scholars tend to apply a number of linguistic, rhetorical devices to make their titles more informative and attractive.

PURPOSE

The principal aim of the present study is to revisit the afore-mentioned divides, i.e. hard/soft sciences and disciplinary/interdisciplinary by analyzing four variables in titles of research articles including title length, colon (:), comma (,), and question mark (?).

METHODOLOGY

The corpus of study includes 6000 titles of RAs (3000 Persian and 3000 English titles), published in a number of peer-reviewed journals published in 6 scientific fields; (computational) mathematics, (astro)physics, (computational)biology, and 6 fields of humanities; (anthropological)linguistics, (rural)history, (simulated) sociology. The study addresses the following four questions:

1. How Persian and English writers encode titles of RAs as far as the four linguistic variables are concerned?
2. How hard and soft science writers encode titles of RAs as far as the four linguistic variables are concerned?
3. How disciplinary and interdisciplinary writers encode titles of RAs as far as the four linguistic variables are concerned?
4. Have the afore-mentioned variables changed over the time?

RESULT

It is revealed that 72281 words make the whole corpus with 12 words as average for each title. To address the first study question, it is revealed that Persian titles are longer than English ones, whereas the frequency of three punctuation marks is higher in English corpus.

CONCLUSION

To interpret the longer title length in English articles, it can be argued that the date of publication of English articles go back to 1990 when most research areas were quite new and thereby many topics had not become detailed. On the contrary, the Persian corpus has been delimited to more recent years when sciences (both hard and soft ones) have passed the initial steps and have entered the more specific, detailed areas. Naturally, such level of specification involves more detailed and therefore longer titles.

Another finding of the present study is that writers of English articles are more familiar with syntactic, and discourse functions of punctuation symbols and hence the frequency of the studied four variables is higher among them. To answer the second question, it should be stated that the length of titles in RAs is longer in hard sciences, but the frequency of four variables is higher in soft sciences. The difference is especially considerable in colon and question mark. To address the third research question, it could be mentioned that in interdisciplinary sciences, the length of RAs is a little longer than disciplinary ones. According to findings, the frequency of comma and question mark is higher in RAs of disciplines. And finally, the results concerned with the time indicates that across all sub-corpus, except Persian and English RAs in biology, the length of RAs has increased over the time giving more detailed information to the potential readers.

In sum, the findings confirm that the previous scholars' position on the rigidity of hard/soft as well as disciplinary/interdisciplinary divides are also acceptable in sub-genres such as article titles. Comparing the results of the present study with the previous ones, it is argued that the emphasis on the hard/soft sciences divide seems reasonable in title of RAs. Higher number of comma in soft sciences is parallel with results reported by Hartley (2007) as both imply that development in sciences involve more specification and thereby longer titles in research articles. Likewise, it is confirmed that the difference between hard versus soft and disciplinary versus interdisciplinary sciences is not limited just to objectives, tools and methodology of the sciences as they are even different in micro level of scientific output, i.e. titles of RAs (Buxton & Meadows, 1977) (Tauber, 2009).

It should be mentioned that this study concerned titles of RAs. Other scientific genres such as books, research projects, and dissertations can be analyzed



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too. Furthermore, using questionnaires and interviews with writers of RAs is also conceivable. Through such practical approaches, the tendency of writers in each scientific community would be revealed.

NOVELTY

The significant contribution of the present study is that it has revisited the classical, macro divides, i.e. hard-soft sciences and disciplinary-interdisciplinary fields through a micro section of a research article, i.e. article title.



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