

Prescriptive-descriptive disjuncture: Rhetorical organisation of research abstracts in information science

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1 Introduction

Writing for publication in English is an onerous task for novice researchers. A key difficulty in drafting scientific abstracts is the necessity to adhere to the generic integrity of the discourse community. This difficulty is exacerbated for writers of English as an additional language who need to not only master the relevant lexicogrammar, but also acquire the academic literacy of their particular scientific community.

Scientific research abstracts are particularly noted for their high information density (Holtz, 2009). The high frequency of nominalization (Biber & Gray, 2013) and the markedly long grammatical subjects contribute to their high lexical density (Halliday and Martin, 1993).

2 Prescriptive advice

Ethnographic advice was extracted from guidelines for journals in information science, English-language publications housed in the resource center of a scientific research institute, and the top ten hits generated in Google using various search terms. General advice on writing scientific research abstracts focusses on ensuring that abstracts show the originality, substance and importance of the work. Specific advice is often provided on the prescribed rhetorical structure of abstracts. Many sources advocated writing abstracts using a four-step Introduction, Method, Results and Discussion (IMRaD) model. A number of sources also recommended including the aim, purpose or goal of the research.

3 Aim

The aim of this study is to identify whether the advice proffered reflects the reality of the abstracts published in top-tier journals in the field of information science in terms of composition and sequence of rhetorical moves.

4 Method

A corpus of 500 scientific research abstracts drawn from five IEEE journals in different subdomains of information science was created. All the journals were highly rated with a mean 5-year impact factor of 3.8 and were considered by specialist informants as top-tier journals. The first 100 research abstracts published in 2012 were selected from each journal. This small balanced corpus consists of 84,652 tokens and 3047 sentences.

Each sentence was tagged with one or more rhetorical moves, namely Introduction, Purpose, Method, Results or Discussion (Hyland, 2004, p.67). The tagging was completed manually using UAM Corpus Tool version 3.0. Five specialist informants were consulted to verify the accuracy of the annotation.

5 Results

The advice proffered in the vast majority of sources advocated writing abstracts in a linear format with clear demarcations between moves, which is not reflected in the corpus.

The advice also advocated sequencing moves starting from Introduction or Purpose and finishing with Discussion. The corpus, however, shows an extremely wide variation in the sequencing of moves.

A surprising result was the extent to which recursivity was harnessed with frequent cycling through moves (e.g. IMRMRD). This may be explained by the complexity of the research.

Another unexpected result was the fronting of the Discussion or Result and omission of Introduction (e.g. RM). Regarding this, specialist informants noted that for known unsolved problems, Introduction and Discussion moves are unnecessary and more typical of graduate student work than that of researchers.

6 Discussion

Generally, the IMRaD model may serve as a useful pedagogic tool to help scaffold novice writers draft abstracts. The cyclic nature of more complex experimental abstracts and fronting of important information, however, deserve more emphasis in guidelines.

By reading and analyzing abstracts, possibly through a data-driven learning approach using corpus tools to investigate abstracts in their own domain, researchers could discover the various rhetorical structures used. This might provoke some eye-opening eureka moments that could help novice writers more rapidly join the discourse community and realise that prescriptive rules are, at times, open to interpretation.

References

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