

Abstract

The thesis focuses on the distributional phraseology of mathematical research papers with the aim of providing a phraseological profile of this discourse through the description of its characteristic building blocks. It relies on inductive corpus-driven methodology, which is in accord with the exploratory character of the research. Specifically, the thesis makes use of the methodology promoted by Gledhill (2000) and Groom (e.g. 2010, 2019), which uses grammatical keywords as starting points for qualitative concordance analysis. The target discourse is represented by a corpus of mathematical research papers across three subfields which was designed and compiled for the purposes of the present study. A corpus of academic journal papers from a wide range of disciplines is used as the reference corpus. The detected keywords are used as pointers to potentially interesting phraseological units of the texts. Grounded in the framework of construction grammar, the thesis provides a detailed description of around fifty such units, i.e. the individual constructions the keywords appear in. Going one step further, the constructions are positioned in a network which represents their mutual relationships. Through the detailed descriptions on the one hand, and the relational networks on the other hand, the thesis captures a portrait of the discourse of mathematics. It reveals four central functions mathematicians perform in the texts, i.e. constructing a setup, formulating propositions, deductive reasoning, and navigating the reader, and the ways in which they interact. The findings point to the centrality of deductive reasoning, interlinked with the prominence of proofs. The role of the readers in the texts is very active, contrasting with the description of a still-life landscape of objects and their properties, through which the author guides them.

Key words: distributional phraseology, disciplinary discourses, mathematics, keyword analysis, construction grammar