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Abstract

As a prime step in the empirical research cycle, we rely on language to define the constituted concepts. In the plethora of scholarly output, we often find a wide range of discrepant definitions of a given concept manifested by varied linguistic expressions. Capturing the linguistic variability of de facto conceptual definitions helps researchers assess how convergent our understanding of a concept has become across different contexts. To estimate the informativeness of conceptual definitions, we proposed and validated proxy measures of conceptual definition variability using natural language processing (NLP) techniques. As a use case study, we quantified the variability of conceptual definitions of 216 subordinate concepts associated with "open scholarship". We aggregated 2212 conceptual definitions from online dictionaries and scientific texts and explored the validity of the proposed proxies of definition variability. Our study brings new perspectives on reappraising the role of language in constructing knowledge and scientific theories.