

The language barrier in written communication among scholars in the field of theoretical mathematics: a bibliometrical analysis / Anat Tzionit

Abstract:

As is well known, the language barrier in written communication among scholars and scientists speaking different languages has an adverse effect on the free flow of information. The terminology used in research literature is: “The language barrier” or “The foreign language barrier”. A great deal of research has been devoted to this problem, which is as an obstacle to the free flow of information amongst scholars speaking in different languages. There has been no consent, however, concerning the scope and the dimensions of the language barrier in different disciplines, as well as the extent of the growing tendency to cite studies published in English.

The purpose of this study was to determine the extent and the dimensions of the language barrier, in the field of Theoretical Mathematics, throughout the past 40 years (1953-1993) among different nationalities. Two leading Journals, publishing original research, were selected from each of the following countries: Britain, The United States, Germany, France, Italy, and Russia. From each Journal, only articles written by scholars, citizens of the same country, were selected, from each of the target years: 1953, 1973, 1993. Data were collected at the Libraries of: Bar-Ilan University, Tel-Aviv University and The Weizmann Institute of Science. The main method of research was “citation analysis”, a known technique in the field of Bibliometrics. In each article, the list of references was checked in order to determine the proportion (percentage) of each language cited.

Findings show that the use of English has constantly increased, among all nationalities, throughout the long period checked. In the fifties the English language was not dominant, and scholars from different nationalities preferred to cite sources in their own language. This is true for the Germans, French, Italians and also the Russians. But, In the seventies the pattern changes, and the English language becomes dominant among the Germans and the

Italians, while the French and the Russians still cite sources in their own language, more than in any other language.

The dominance of the English language increases even more in the nineties, except for the Russians, who still have a high ratio of language self citation, since they prefer citing publications translated from Russian (Russian journals that are translated cover to cover to English) to sources in the English language.

However, even in the nineties, there still is a certain ratio of language self-citation among the different nationalities, other than American and British.

It should be noticed that among the British and the Americans, the dominant language in all periods is, of course, English, and this tendency increased with time.

To sum up, one may say that in the fifties, the language barrier did exist, with all writers preferring to cite sources in their own language. In the seventies, however, there was more of a tendency to cite also sources published in other languages, and in the nineties the barriers almost disappear, with the English language becoming the dominant language, except for the Russians, who still cite mostly sources that were originally published in Russian and then translated into English.

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