

# THE CHALLENGE OF PUBLICATION FOR ENGLISH NON-DOMINANT-LANGUAGE AUTHORS IN MATHEMATICS EDUCATION

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This article developed out of a request for assistance by a German mathematics educator, Rudolf (second author), to an Australian colleague, Vince (first author), for a language check of a paper he was about to present at a major international research conference. Rudolf had asked Vince for help because he was aware of the difficulties linked to the translation of his (German based) ideas into a foreign language, which in this case had to be English. Because of a long history of cooperation with Vince, he trusted him and started from the assumption that Vince would not obscure the messages he wanted to deliver. The role of trust in the English-speaking colleague was important for Rudolf and a necessity for such an international cooperation. Vince was more than happy to provide the requested advice but had two reservations: first, he did not wish to edit the text so heavily that it no longer conveyed Rudolf's personality; and second, he was concerned that this translation of constructs, from the German educational context to parallel but not equivalent terms in English, might diminish the richness of the message Rudolf was attempting to communicate.

The subsequent conversation, as we worked on the manuscript, generated a number of specific points about English language usage, but also raised the bigger question of the challenges faced by English non-dominant-language (EnDL) authors when they attempt to engage with a publication landscape that is dominated by English language journals.

There is general acknowledgement that the use of "dominant" [1] languages in multilingual mathematics classrooms, where children are not yet fully fluent in the language of instruction, limits students' access to, and acquisition of, mathematical concepts (see, for example, Setati & Planas, 2012). Further, it has been argued that language policies and dominant language ideologies affect students' learning of mathematics through the dynamics of power in bilingual classrooms, as well as the bilingual students' views of access to mathematics (Civil & Planas, 2012; Planas & Civil, 2015). Despite the recognition that the use of "dominant" languages limits non-multilingual students' access to mathematical ideas and their participation in learning communities defined by mathematics classrooms, there appears to be limited recognition that access to new knowledge in mathematics education and participation in forums in which the acceptance of these new ideas are debated is more difficult for EnDL mathematics educators because of the dominance of English language journals in this field. This

issue was raised in the Education Research forum hosted by the web-based research social network *Researchgate* where a participant, Professor Attila Szabo of Eötvös Loránd University, asked the question:

Does language-mastery barrier trim scientific knowledge and the chance of publication? What is your experience in your field? (19 October 2013)

Aligned with this question is an issue identified by McKay (2002):

The increasing number of bilingual speakers of English means that many speakers of English will be using English alongside one or more other languages that they speak, and hence their uses of English may be more specific and limited than monolingual speakers of English [thus there is a] need to avoid comparing bilingual speakers of English to native speakers, and rather to recognise the many strengths of bilingual users of English who have a rich linguistic repertoire to serve their communication needs. (p. 139)

Following Barwell (2015), this comment recognises bilingualism as a source of cultural capital rather than viewing the need for non-dominant English speakers working within English dominant settings from a deficit perspective. Barwell (2015) and McKay (2002) position non-dominant English bilingualism as a resource that can be used as a strength rather than a weakness. There are, however, clearly additional challenges for EnDL authors when attempting to publish in English language international journals than is the case for native English speakers.

In this article, we critically reflect on practice within the field of mathematics education in relation to the issues raised by Szabo and by McKay (2002) by responding to the question:

What challenges do English non-dominant-language (EnDL) authors face when attempting to publish in internationally recognised English language outlets?

In addressing this question we: provide a review of relevant literature; examine the countries of origin of internationally recognised research publication outlets in mathematics education; analyse our exchanges related to the initial text proposed by Rudolf in order to categorise the types and forms of language divergence, inconsistency and opaque-

ness between German and Australian English; and offer suggestions that will support effective research publication collaborations between English and EnDL researchers in the future.

### Landscaping the issue

While a considerable corpus of research literature exists on teaching and learning mathematics in classrooms where students and teachers do not have English as first and/or dominant language, and an awareness of the dominance of English language in the research literature within many countries (Adler *et al.*, 2005; Bartolini Bussi & Martignone, 2013), there is a paucity of research, or even commentary, on the challenges faced by EnDL academics when attempting to engage with the broader community of mathematics educators via publication. In attempting to outline and describe this issue as it is represented in research literature we conducted two different searches.

Firstly, we conducted a search of the publications produced by the Mathematics Education Research Group of Australasia (MERGA, the peak body for mathematics education research in Australasia). These publications included: *Mathematics Education Research Journal*, *Mathematics Teacher Education and Development*, and the *Proceedings of the Annual Conference of MERGA*. We searched using ESL (*i.e.*, English as a Second Language) as a keyword. This search produced only seven results, all of which were concerned with the teaching and learning of students in mathematics classrooms.

Secondly, the search was extended to relevant literature from international journals, including the publications *For the Learning of Mathematics*, *International Journal of Science and Mathematics Education*, *International Journal of Mathematics and Mathematical Sciences* and *Journal for Research in Mathematics Education*. This search revealed substantial literature related to mathematics and English Language Learners (ELLs) but little relevant to the challenges faced by EnDL academics. Consensus on what is known about ELLs in mathematics is that mastery of content, the principles of literacy, and language acquisition go hand-in-hand (*e.g.*, Roberson & Summerlin, 2006). However, it is unclear how such findings translate to the challenges faced by EnDL academics aiming to publish in English language research outlets.

In addition, we considered the broader international perspective. Phakeng, Bose and Planas (2015) conducted a search for research reports on language diversity within the conference proceedings of the International Group for the Psychology of Mathematics Education (PME). Despite the fact that at the beginning of the PME movement, presentations in both English and French were accepted, Phakeng, Bose and Planas (2015) found only 36 contributions related to language diversity in the 38 conferences conducted before 2015.

Next, we expanded our search to include non-research publications via a Google Scholar search. This approach resulted in the identification of a number of handbooks developed specifically for the purpose of providing advice to EnDL academics (*e.g.*, Glasman-Deal, 2009; Burnham & Hutson [2]) as well as other material available on the internet (*e.g.*, an ebook from Nature Education, 2010). An

example of this type of literature is *Science research writing for non-native speakers of English: a guide for non-native speakers of English* (Glasman-Deal, 2009). This handbook provides advice on a limited range of publication types, such as journal articles, and offers only a single structure for writing empirical articles, that is: introduction, methodology, results, discussion, and conclusion. There is no advice on how to structure and write other forms of research publications, such as theoretical or discussion articles. The handbook also offers suggestions for appropriate vocabulary and use of grammar as these relate to different sections of an article. For example, advice is provided about grammar and writing skills within a discussion/conclusion section (see pp. 154-159), where there is a discussion on the use of modal verbs like “should, must, can, ought to, may, could”.

A different approach is offered in *Scientific English as a foreign language* [2]. This publication provides advice on avoiding predictable mistakes in English. Based on the experience of consulting with non-English speaking colleagues, the authors offer 59 comments on mistakes to avoid, such as common mistakes associated with punctuation (see pp. 34-38). Other examples include discussion of pairs of words with overlapping semantics, such as: locate and localise; borrow and loan; teach and learn; make and do; and, experience and experiment (see pp. 7-14).

Additional advice is available from online collaborative learning spaces such as Scitable by Nature Education [3] or Unlearning [4] which house self-education modules like *English communication for scientists* [5]. This particular module identifies potential difficulties related to spelling and grammar and also flags challenges associated with: choosing words in a native language where a related concept may not exist in English; expressing the subtleties associated with concepts that are similar but not the same in a native language and English; clarifying the meaning of words that have similar forms but different meanings (so-called false friends) in a native language and English; and using two different words in English for two meanings rendered by the same word in the native language.

Each of these problems, and associated advice, connects with broader questions related to the use of English as an international language for the communication of ideas and new knowledge among scientific communities. The issue is a complex one and a matter of debate among academics from non-dominant-English countries. Ammon (2001) questions whether English should be accepted as the international language of science or if it should be a general means of communication within scientific communication. He argues that accepting English as the universal language is problematic as there are doubts about whether English can mirror the subtleties of research originally completed in other languages. It has also been noted (*e.g.*, Baldauf, 2001) that there are differences between the way English speakers from different countries use their language, contributing to a lack of clarity for EnDL academics about the expectation of language uses in different research outlets.

In summary, while there is general advice available to EnDL academics on publishing in English language journals, there appears to be no specific advice to those

academics whose dominant tongue is not English about publishing in English language journals devoted to mathematics education. Further, while publication advice is available in handbooks and online forums with a focus on assisting EnDL academics in publishing their work, there appears to be limited research literature available on this topic.

### English language journals in mathematics education

To gain a sense of the proportion of internationally recognised English-language mathematics education journals in relation to non-English-language journals, we conducted a search using the SCImago journal rankings. SCImago is an internationally recognised source of publication metrics which indexes only those journals from the Scopus database that meet a quality benchmark. While other journal citation databases exist, space does not permit a comparison between different journal listings. SCImago has been selected in this instance because of its currently unsurpassed capture of journals in the social sciences, including mathematics education.

The search was initiated by using *mathematics (miscellaneous)* as a key word. From the resulting 386 journals, we conducted a manual search in order to identify journals related to mathematics education/didactics of mathematics. This search resulted in the 20 journals listed in Table 1.

Examination of this list shows that the country of the publishing house, as reported by SCImago, of these journals stands at 11 English language countries (55%), four journals residing in the Netherlands (25%), three in Germany (15%), and one each in Spain, and France (5% each). Further scrutiny reveals that the four journals listed as emanating from the Netherlands are English language journals (*e.g.*, MERJ). One journal (ZDM), from Germany, only publishes English texts. Consequently, 16 out of the 20 listed journals are English language (80%), demonstrating a dominance of English language journals in the field of mathematics education.

### Heteroglossia, and centripetal and centrifugal forces at work within language

The concept of heteroglossia, coined by translators of Bakhtin [6], provides a perspective relevant to learning a language different from a dominant language. Heteroglossia refers to the diverse, multiple layers of meaning and understanding embedded within speech and speech types (Barwell, 2014). We follow Busch (2014) in distinguishing “between the notions of *raznorečie*, meaning the multiplicity of (social-ideological) speech types or discourses, *raznogolosie*, meaning the diversity of (individual) voices, and *raznojazyčie*, meaning linguistic variation or the diversity of languages” (translations and explanations borrowed from Todorov, 1984). As Busch (2014) explains:

- *Multidiscursivity* [*raznorečie*] refers to the co-presence of specific speech types or discourses that are related to time (particular epochs, periods, days *etc.*) and to social worlds or spaces (nations, professions, age groups, families, circles *etc.*)—to a “multitude of concrete worlds, a multitude of bounded verbal-ideological and social belief systems” (Bakhtin, 1981, p. 288).

Title	Country of Publishing House
Educational Studies in Mathematics	Netherlands
For the Learning of Mathematics	Canada
International Journal of Computational and Mathematical Sciences	France
International Journal of Mathematical Education in Science and Technology	United Kingdom
International Journal of Mathematics and Mathematical Sciences	United States
International Journal of Science and Mathematics Education	Netherlands
Journal for Research in Mathematics Education	United States
Journal für Mathematik-Didaktik	Germany
Journal of Mathematics Teacher Education	Netherlands
Mathematical Intelligencer	United States
Mathematics Education Research Journal	Netherlands
Mathematische Semesterberichte	Germany
Notices of the American Mathematical Society	United States
PRIMUS	United Kingdom
Pythagoras	South Africa
Research in Mathematics Education	United States
Revista Matemática Iberoamericana	Spain
Teaching Mathematics and its Applications	United Kingdom
Technology, Knowledge and Learning	United States
ZDM - International Journal on Mathematics Education	Germany

Table 1. Ranked journals listed in SCImago under mathematics education.

- *Multivoicedness* [*raznogolosie*] specifies that multidiscursivity is “expressed [...] by the differing individual voices that flourish under such conditions” (Bakhtin, 1981, p. 263). For the individual speaker the word “lies on the borderline between oneself and the other. The word in language is half someone else’s. It becomes ‘one’s own’ only when the speaker populates it with his own intention, his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention” (Bakhtin, 1981, p. 293).
- *Linguistic diversity* [*raznojazyčie*], finally, points to the traces to be found in language as a result of social differentiation (Bakhtin, 1981, p. 293). The intentional diversity of speech [*raznorečivost*] “is transformed into diversity of language [*raznojazyčie*]; what results is not a single language but a dialog of languages” (Bakhtin 1981, p. 294). Thereby, Bakhtin (1981, p. 295) makes no funda-

mental distinction between linguistic diversity within what he calls a “national” language or between several “languages” that have established contact and mutual recognition with each other.

Bakhtin also put forward the concepts of “centripetal” and “centrifugal” forces to account for the tension that exists between a variety of languages or language types co-existing in communication (Barwell, 2014). Centripetal forces are those which place pressure on speakers or authors to adopt a single standardised linguistic code—an “official” language which must be adopted to gain full acceptance into a professional community or other social system. We argue that this is the case for authors within the mathematics education community where English is the dominant language. Working against this influence are centrifugal forces which push the language used by speakers and authors towards more diverse expression. Centrifugal forces arise because of differences between people, for example, in relation to geography, culture or membership of specific social groups. Such forces are seen at work within mathematics education through the diversity of its focuses and endeavours. This diversity is often defined by geography and culture, for example, the ethno-mathematics movement emanating from Brazil, and/or specific interest groups, such as those concerned with “situated” conceptualisations of learning.

The concepts of heteroglossia, and centripetal and centrifugal forces at work in languages, lead to the question of how to cope with these contradictory forces in international, English language publications. Further, it gives rise to the question of what standards are applied by editors in the context of localized or indigenized varieties of English or *World Englishes* (Seidlhofer, 2009).

The use of one standardised language (in this case English) introduces an additional challenge for EnDL authors and research publication editors: the way different languages describe the same situation. Linguists define this issue through the concept of semantic field. Semantic fields vary from culture to culture but can overlap, resulting in problems with translation. These problems include, for example, attempts to transpose a word or a sentence and, with it, a description of certain aspects of a perceived reality, into a different language, such as English. Such transpositions can be problematic because a specific word in the original language (different from English) is situated in a semantic field, which may invoke a different semantic field when translated literally. Such a situation arises in mathematics education, for example, with the word “reasoning”. A look at an English-German dictionary (we used dict.leo.org) offers *Argument* and *Argumentation* as the first two single-word translations. Looking for a translation from German into English, *Argumentation* produces “rationale” as the first single-word translation, confirming the feeling that the semantic field of “reasoning” is wider than that of *Argumentation*, which seems to cover a more restricted field that prioritises logical arguments [7]. An EnDL author has to cope with these subtleties. This situation also gives rise to another question for English language publications: how to cope with, if not control, the differences between semantic fields in different languages?

## Negotiating a publication via German and Australian English

To illustrate the issues faced by EnDL authors, we describe and analyse, in the form of a heteroglossic discourse (Bakhtin, 1981), the correspondence between Rudolf, whose native language is German, but who is accustomed to publishing in English, and Vince, a native Australian English-speaker, as they worked together to prepare an English language publication. The collaboration began when Rudolf was invited to act as the respondent to a keynote address at a prestigious international English language mathematics education conference. His invitation required that he provide a written version of his reaction, in English, for publication in the conference proceedings. Vince agreed to Rudolf’s request to do a language check of the paper. Rudolf initiated the conversation as he was seeking:

A language check from Vince to be sure that my text was correct English, understandable in terms of the mathematics education arguments, and respecting the terminology in use in this scientific community.

While Vince was very happy to assist he was concerned about exerting too much influence on the text:

I was, of course, more than willing to assist a colleague. After a long association with Rudolf, I was aware of the difficulties non-dominant-language English speakers face in having their work published in prestigious English language outlets. But the request also brought with it challenges for me, as there was a dilemma associated with changing Rudolf’s text—it had to be understandable and also acceptable within the conventions of native English, but at the same time it was important to preserve the author’s voice.

In this section, we present some of the exchanges between us, categorised to represent the types of advice Vince provided to Rudolf. Exchanges take the form of: the original text provided by Rudolf to Vince; Vince’s reflections upon his suggested edits to this text (suggested edits communicated via email within a week of receiving the original text and reflections completed during preparation of this article); and reflections by Rudolf on the way in which he received and used the advice (completed during preparation of this article).

### Words that are not suited to the context or are unfamiliar in English

Original text from Rudolf:

This definition **transports** the three categories of competencies (as defined in a longer, interdisciplinary project sponsored by OECD) [...]

Responses:

*Vince:* The use of the word transports did not appear to make sense in the context within it was used. Thus I made suggestions to Rudolf about alternatives.

*Rudolf:* As a German, I was not aware of “trans-

port” being a word not used in this context. Consequently, I had no problem in changing to Vince’s first suggestion “outlines”, which perfectly met my intentions.

Later, Rudolf used a word that was unfamiliar to Vince:

Looking into Comparative International Surveys (“CIS”), this difference will prove helpful to better understand what CISs do. Following the competence approach *sensu* Chomsky, CISs only gather information on performance.

Responses:

*Vince:* I was simply unfamiliar with the word *sensu*. I was aware that it is a Latin word used in some scientific disciplines but I did not know if this was a term in common usage in European education research literature or a term drawn from Rudolf’s home tongue. Thus, I asked if it was the right word rather than assuming it was incorrect and offering suggestions.

*Rudolf:* Checking the word *sensu* in English dictionaries, I had to realise that it is not a word commonly used in English (even if I was sure I had read it in an English text). So I changed this expression into “The competencies (in the sense of Chomsky and his followers)”.

A direct translation from a native tongue can seem out of place when viewed by a first-language-English speaker. The challenge associated with this type of choice of words is consistent with the mistakes in English language usage identified by Burnham and Hutson (2007), who provide advice on the selection of words with overlapping semiotics. In all, the two examples can be seen as instances of heteroglossia in the sense of (“*sensu*”) Bakhtin, especially the multi-voicedness and multidiscursivity of international communication using scientific publications.

### Formal versus informal expressions and literal translations of words

At times, Rudolf’s translations took the form of informal expressions when the expectation is that formal language is used in academic papers. There were also examples of literal translations that seemed awkward to a native English speaker:

In xxx’s plenary, **I do like** two messages which I want to highlight and **bolster up**:

Edited text from Vince:

In xxx’s plenary, I would like **to support** two messages, in particular, which I want to highlight and **reinforce**.

Responses:

*Vince:* Rudolf used *I do like*—an informal expression in English. I made a sugges-

tion that I thought would capture the sense of the original wording, while shifting the expression towards a more formal form. I was, however, concerned about altering the original meaning. Also, “**bolster up**” appears to be a literal translation of a word Rudolf thought of in German when writing this sentence. I thought the word “reinforce” would be less jarring to a native English speaker’s ear.

*Rudolf:* Here, I simply trusted my Australian colleague, who must have a better feeling/knowledge on which words to use.

While it is no surprise that the use of colloquial language in a native tongue would creep into a translation, we did not find specific advice in the literature. This instance, however, appears to show an outcome of the tension between centrifugal forces, in this case the diversity introduced by German English or an attempt to translate a German expression literally into English, and centripetal forces represented by Vince’s attempt to shape Rudolf’s language into a standardised form of English.

### Use of punctuation

Rudolf’s use of punctuation was different to that commonly seen in English. In the text below, the use of colons attracted Vince’s attention:

The first one is a repetition of this year’s conference theme: teaching and learning mathematics have to be discussed in a lifelong perspective, or: mathematics education is an issue “across the life span”.

Edited text from Vince:

The first one is a repetition of this year’s conference theme, within which the teaching and learning of mathematics must be discussed from a lifelong perspective, that is, that mathematics education is an issue “across the life span”.

Responses:

*Vince:* I noticed that Rudolf was using a colon to introduce a pause into his text. I was aware that colons can be used to indicate a long pause is needed in reading a text, but colons are most commonly used in English to mark the beginning of a list, or to mark the beginning of a quotation (as in this paragraph). I made a suggestion on how to rewrite the text so that colons were not necessary.

*Rudolf:* I know that I have a personal over-use of colons. So I simply followed my colleague’s advice—not realising that this is a more general issue.

That punctuation is a challenge for English non-dominant-language authors has been identified by Glasman-Deal

(2009) and Burnham and Hutson [2]. Again, it is no surprise that the conventions of punctuation differ across cultures of mathematics education, as implied by Bakhtin's multidiscursivity and language diversity. This exchange is also an example of how Bakhtin's centripetal forces come into play when publishing in international journals; a difficult problem to alleviate since authors, essentially, must unlearn the grammatical conventions of their native tongues in order to write coherently in English.

### Words with different meanings in their native educational contexts

Original text from Rudolf:

The same issue is relevant for a researcher in **Didactics** of Mathematics.

Responses:

*Vince:* The meaning of the word “didactics”, in English, is often associated with direct teaching methods. In Europe it has a broader meaning including considerations of content knowledge and pedagogy. While I noted the use of the word, which I might have edited if the paper was for an Australian publication, I left the text alone, since I knew it would be understood in the context in which it was to be presented.

*Rudolf:* Vince was correct in noting that “didactics” carries a meaning different in my research community from the use in an Australian and English research tradition. In France (where it is “didactique”), Germany and Scandinavia, didactics of mathematics is the name of the scientific discipline analysing the teaching and learning of mathematics (to make a long story short). It does not have the negative connotation it has in the Anglo-Saxon tradition.

The problem of the same or similar words having different meanings in different languages, as exemplified in the above exchange, has been identified as a frequently encountered difficulty for EnDL authors by Burnham and Hutson [2]), for example, see no. 7). Such words are known as “false friends” in German and other languages (for specific examples and a comment see [5]). Advice is often to avoid such words (*e.g.*, [2]) but this means that rich constructs such as *didactics* are not available to readers of English language journals—a case of centripetal forces acting to limit the richness that might be introduced via the diversity driven by centrifugal forces. This example is also an instance of the differences between semantic fields of the very same word in different languages and cultures. In linguistic terms, even if words seem to be the same (in terms of vocabulary), they may be quite different in terms of their related semantic field.

### Conclusion

The excerpts from Rudolph's initial text, Vince's editing suggestions, and Rudolf's reactions provide examples of the challenges which English EnDL mathematics education/didactics of mathematics authors face when attempting to publish in English language research outlets. While space has prohibited a comprehensive list of such challenges, other issues exist, such as, for example, the use of native language (in Rudolph's case, German) grammatical structures when writing in English. These examples represent the influence of centripetal forces in language use which potentially limit the full participation of EnDL academics in the international mathematics education community. This situation works against the centrifugal forces that generate diversity in language and restricts access to novel ideas that exist outside of English-language dominated mathematics education culture. Rudolf, because of his history of collaboration across the field, was able to secure competent advice and so found a way to negotiate the centripetal forces that limit the paths of many EnDL authors toward publication. Others, for example early career academics, who lack status and/or have fewer international collaborators, may have greater difficulty seeking out and obtaining the sort of expert advice they might require to publish in a field dominated by the English language.

What changes are needed to address this situation? At the very least, journal editors of English language journals need to be sensitive to this challenge. Other initiatives include making available additional support to EnDL academics, and in particular, to those who are in the early phase of their careers. One possibility would be to identify a committed group of colleagues with English as a dominant language willing to help EnDL authors with writing research papers. This solution is only plausible once colleagues with English as a dominant language are aware of the linguistic and cultural differences faced by English as a non-dominant language, and consequently themselves.

Other possibilities include greater recognition of the role of fully bilingual or non-English-dominant journals such as *Revista Latinoamericana de Etnomatemática* [8]. Such publication outlets could play a major role in providing EnDL authors with access to a readership broader than their own native language journals. An alternative approach could be the selection of exemplary articles from English language journals and their translation into a variety of languages for a special issue of that journal. Less traditional strategies for publication in multiple languages might also be explored via the opportunities afforded by Web 2.0 technologies.

We have attempted to draw attention to the problems EnDL authors face when attempting to publish in English language research outlets and pointed out that this issue is symptomatic of the situation in which English has become the universal language of the research enterprise. The situation is particularly problematic as current practices are self-perpetuating, in that English language journals are already dominant in mathematics education and continue to require submissions to be written in specific forms of English. Those EnDL authors who find a way to get published are considered successful, become better known, and form a broader range of collaborations, providing the right conditions to continue to publish.

Other EnDL authors who struggle to get published in English language journals have limited opportunity to change their situation and may well give up. The community is poorer for such a loss. As identified by McKay (2002), the problem is far greater than simply learning English as a second language and then conducting a translation from their native tongue into English. Through the preceding discussion, we have attempted to raise the sensitivity of colleagues in the mathematics education community to this issue while, at the same time, offering possible solutions, one of which was played out in the way in which this article has been generated. Further systematic research is required, however, to find the best way forward.

## Notes

[1] We deliberately use the word “dominant”, because it best covers the situation we want to analyse. The Merriam-Webster Dictionary offers two major explanations for “dominant”: “more important, powerful, or successful than most or all others” or “most common”. As can be seen for some colleagues, the dominant language is not necessarily the native language with which a person has grown up. In addition, “dominant” also captures the power relation inherent in the dominance of a language.

[2] See “Scientific English as a foreign language,” by Nancy A Burnham and Frederick L Hutson, retrieved on 24/9/15 from users.wpi.edu/~nab/sci\_eng/

[3] [www.nature.com/scitable](http://www.nature.com/scitable)

[4] See “Academic writing: checklist of language to avoid in academic writing”, retrieved 24/9/15 from [unlearning.uow.edu.au/academic/2e.html](http://unlearning.uow.edu.au/academic/2e.html)

[5] See “English Communication for scientists: writing scientific papers”, retrieved on 24/9/15 from *Nature Education*: [www.nature.com/scitable/ebooks/english-communication-for-scientists-14053993/writing-scientific-papers-14239285](http://www.nature.com/scitable/ebooks/english-communication-for-scientists-14053993/writing-scientific-papers-14239285)

[6] For a description of the translation process for Bakhtin (1981), see Busch (2014).

[7] [www.dict.cc](http://www.dict.cc) comes up with *Gedankengang* and *Argumentation* as translations for “reasoning”, somehow showing the two possibilities of a wider or a more narrow understanding of reasoning.

[8] [www.revista.etnomatematica.org/index.php/RLE/index](http://www.revista.etnomatematica.org/index.php/RLE/index)

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