

The Language Of Research: Investigating The Place Of English In Algerian Scientific Research

The Case Of University Frères Mentouri, Constantine- Algeria

لغة البحث العلمي: دراسة مكانة اللغة الإنجليزية في البحث العلمي الجزائري

دراسة حالة جامعة الاخوة منتوري ، قسنطينة – الجزائر

La Langue De La Recherche: L'examination De L'utilisation De L'anglais Dans La Recherche Scientifique Algérienne

Étude De Cas: Université Frères Mentouri, Constantine – Algérie

Lamia ELMECHTA¹

Date of submission: 26/05/2019

Date of acceptance: 28/12/2019

Date of edition : 01/07/2020

ملخص:

في القرن الحادي والعشرين أصبحت اللغة عائقًا للباحثين الجزائريين الذين طالما عانوا من التقليل من قيمة عملهم في المجلات الدولية عالية الجودة بسبب افتقارهم إلى الكفاءة في اللغة الإنجليزية. تهدف هذه الورقة إلى دراسة مكانة اللغة الإنجليزية في المنشورات العلمية الجزائرية ، مع أخذ جامعة الإخوة منتوري ، قسنطينة 1 كعينة ، والهدف من ذلك هو زيادة وعي الباحثين بأهمية هذه اللغة في المنشورات الدولية وتعزيز مكانة هذه الجامعة في معظم المجلات الدولية المعترف بها ، ولإنجاز لهذه الدراسة تم تصفح قاعدتي بيانات علميتين (Google Scholar و ScienceDirect) وكذلك الشبكة الأكاديمية اجتماعية (ResearchGate). حيث تؤكد النتائج هيمنة اللغة الإنجليزية، ولذلك يجب أن تحتوي المختبرات في جامعة الإخوة منتوري - قسنطينة 1 وكذا الجامعات الجزائرية على توفر من يتقن اللغة الإنجليزية لنشر بحوث وتعزيز المرئية وكذا الحصول على اعتراف عالمي.

الكلمات المفتاحية : : الإنجليزية؛ بحث علمي؛ جامعة الإخوة منتوري- قسنطينة 1

Abstract:

In the 21st century, language has become a barrier for Algerian researchers who have their work undervalued by high-quality international journals because of their lack of proficiency in English. This paper purports to investigate the place of English in Algerian scientific publications, taking the University of Frères Mentouri, Constantine 1 as the sample. The aim is to increase researchers' awareness of the importance of this language in international publications and to enhance the visibility of this university through its publications in most recognized international journals. To examine the use of English in the publications of the university, we used two international databases namely Google Scholar and ScienceDirect as well as the social academic network ResearchGate. The results confirm the dominance of English. Therefore, laboratories at Frères Mentouri University, Constantine 1 as well as other Algerian universities should have at least one member who masters English in order to gain visibility and a global recognition of the university.

Keywords: English; scientific research; University Frères Mentouri; Google Scholar; ScienceDirect; ResearchGate.

Résumé:

Au XXI^e siècle, la langue est devenue un obstacle pour les chercheurs algériens qui ont leurs travaux sous-estimés dans les revues internationales à cause de la non-maitrise de la langue anglaise. Cet article a pour but d'examiner la place de l'anglais dans les publications scientifiques algériennes, en prenant comme exemple l'Université Frères Mentouri, Constantine 1. L'objectif est de souligner l'importance de cette langue dans les publications internationales et d'assurer la visibilité de cette université dans les revues internationales. Afin d'examiner l'utilisation de

¹ Lamia ELMECHTA ,INATAA, Frères Mentouri, Constantine 1- Algeria, lamia.elmechta@umc.edu.dz

l'anglais dans les publications de l'université, deux bases de données internationales reconnues (Google Scholar et ScienceDirect) et un réseau académique social international (ResearchGate) ont été sélectionnés. Les résultats confirment la prédominance de l'anglais. Par conséquent, les laboratoires de l'Université Frères Mentouri- Constantine 1 ainsi que les universités algériennes devraient avoir au moins un membre qui maîtrise l'anglais afin d'obtenir une meilleure visibilité et la reconnaissance mondiale de l'Université.

Mots clés: Anglais; Recherche Scientifique; Université Frères Mentouri; Google Scholar; ScienceDirect; ResearchGate.

Introduction

Since the 21st century, and when the internet has become a tremendous resource of scientific publications, the noticeable shift to the adaptation of English has made it the lingua franca of scientific research. Language has become a barrier for non-native speakers of English who have their work undervalued because of their lack of proficiency in the language. As a consequence, learning English has always been considered inevitable for researchers who seek to have international recognition. This is the case for Algerian researchers who start to feel the need to learn this language so to be capable to access high-quality international reviews to publish their work. Despite the efforts devoted by Algerian researchers to produce scientific papers in English, and in spite of the valuable research attempts and significant obtained results, the reviewers' comments stick on the poor quality of English rather than the good quality of work. Similarly, Algerian papers produced in a language rather than English are not allowed to be published in a journal with a high impact factor. This research paper purports to investigate the place of English in Algerian scientific publications, taking the University of Frères Mentouri, Constantine 1 as the sample of the study. The aim is to increase researchers' awareness of the importance of this language in international publications and to enhance the visibility of this university, as with its publications, in most recognized and high impacted international journals.

1- Literature review

This section provides an overview on the English language. Three major points will be of concern: the spread of English as a global language; its evolution as a global language; and its use as a language of scientific research.

1-1. The spread of English as a global language

The rapid spread of internet and media has led to the globalization of the world. In the light of this globalization, there has been an inevitable need of people from different areas of the world to exchange ideas using a common language. The need of a global language has increased over time.

English is rapidly becoming the first lingua franca (EFL) (Crystal, 2003). The reasons of the popularity will be discussed later. A definition of the concept global language is required.

According to Crystal (2003, p. 4), “A language achieves a genuinely global status when it develops a special role that is recognized in every country”. English has gained the status of globalization as it is spoken by politicians all over the world, in advertisement, etc.. If one goes to any foreign country, s/he will find English in hotels, shops, restaurants; he will use this language in order to understand and be understood. English has now become the most influential world language and has gained the status of globalization and internet dominance in the last twenty years (Christiansen, 2015). The statement English as a global language does not indicate that it has become the official language in the entire world; rather, it means that people around the globe are learning this language for the sake of communicating with foreign people either for daily life requirements or for research requirements.

In fact, the dominance of English in international communication is not only reflected in the population using this language, but more reflected in the scope of its application. English has widely been applied in many fields around the world, including politics, economy, trade, culture, diplomacy, tourism, communication, natural science and academic research of humanities, etc. (Xue&Zue, 2013)

1-2. The evolution of English as a global language

In the nineteenth century (1914), German was considered the prevalent language of science (Ferguson, 2007). After this year, the status of this language declined, and English emerged, mainly after the Second World War (WWII). The cause of the switch from German to English was the burst of scientific research in the United States in this period and the development of computer technology. People in Europe as well as East Asia started to adopt the English language instead in research for they saw that this language was economically and educationally advantageous. Chevillet (1994, in Christiansen, 2015, p. 129) averred:

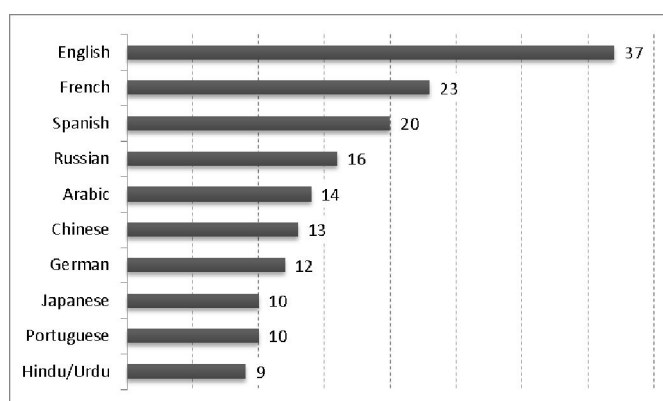
Since the middle of the nineteenth century the role of English has done nothing but grow. The decline of the British Empire has not entailed a corresponding decline in the language (but) quite the contrary. English is not an international language, after the fashion of Spanish or Russian, but a world language, a consequence of the economic and cultural strength of the Anglo-Saxon world (The United States) and the increasing role of the media.

Concerning English dominance in the world, Xue&Zue (2013) related it with the number of people using this language. They demonstrate statistics that more than 60 countries around the

world are using English as the official language; 85% of international organizations use this language to communicate; 75% of the world’s messages are written in English; and 80% of publications and information on the net are published in English. They reviewed the estimation of English cultural council that the number of people around the world who are learning English reaches 1 billion, and about 1.5 to 2 billion people are in contact with it and that by the year 2050, half of the world’s population will be speakers of English.

Crystal (2003) identified three criteria for the popularity of a foreign language: historical tradition, political expediency, and the desire for commercial, cultural and technological communication. Christiansen (2015) highlighted six criteria for the world most influential language: the number of native speakers, the number of speakers of a language as a second language; the number of countries using the language; the number of major fields the language occupies (e.g. science); the economic power of countries using the language; and social literary prestige. Taking these criteria into consideration, English heads the list according to Weber’s calculations (1997). The figure below illustrates top ten most influenced languages:

Figure-1-: Top ten most influential language according to Weber’s calculation



Source: Weber (1997)

Similarly, English is also considered the most influential internet language. According to *Internet World Stats* (in Christiansen, 2015), English was ranked at the top of the list, with more than 140 million users in 2000 to more than 800 million users in 2013; followed by Chinese, with 32 million to 649 million in 2013; and Spanish, with 18 million users in 2000 to 222 million users in 2013. Concerning the use of websites, English headed the list according to w3techs.com (inChristiansen, 2015) with 55.30% of total world websites; Russian websites were ranked the second with only 5.80%; and German websites were ranked the third with 5.70% of total websites.

Concerning the use of English as a foreign language, it has started to be taught as a foreign language in 100 countries like China, Russia, Germany, Spain, Egypt and Brazil. Similarly, it has started to be applied in some Algerian schools in 2006 to replace French (Crystal, 2003). Despite

the globalization of this language, some languages remain with a considerable official use like French, German, Spanish, Russian, and Arabic (Crystal, 2003). French continues to occupy most of Algerian schools despite the introduction of English.

1-3. The place of English in scientific research

After the First World War (WWI), German was considered the main language of scientific research; however, twenty years after the Cold War, English dominance has become quite apparent (Xue&Zue, 2013). The dominance of English in external network has had a great impact on switching to this language, mainly for scientific publication (Ferguson, 2007). Crystal (2003) reported that 50% of scientific and technological productions between the years 1750 and 1900 were written in English. According to the investigation of thousands of copies of scientific journals in 1997, 95% of 925,000 scientific papers were produced in English, where 50% were written by non-native speakers (Xue&Zue, 2013). Other statistics were provided by Anglo- Saxon bibliographic databases (Ferguson, 2007) where English accounted for more than 87% in natural sciences (e.g. biology, chemistry, physics, medicine and mathematics) and more than 82% in social sciences(e.g. sociology and economics). Another example of the supremacy of English in scientific publications is the statistics used in the abstract of the journal of *Chemistry* (Sano, 2002, in Ferguson, 2007), where the number of English publication increased from 54% in 1970 to 82% in 2000.

Having considered the aforementioned arguments on the importance of English in scientific research and the reports of its place in scientific publications, one would deduce that language has become a barrier for non-proficient scholars in English. If one intends to publish his/her work in highly prestigious journals, they have to write in English, otherwise they will have their work ignored (Crystal, 2003) or undervalued (Ferguson, 2007) by the international community, which increases the chance for people from the Anglo-Saxon community to be accepted and to obey the linguistic norms of publication and decreases the opportunity for non-natives and non-proficient writers (Ferguson, 2007). Any involvement in international communications, either in publications or conferences, requires learning both spoken and written English. (Cargill &O'Connor, 2009)

There is specific English that is used for research. The English written for marine biology, for example, is different from the one used for plant biotechnology (Cargill &O'Connor, 2009). Therefore, researchers, even native speakers, should learn English related to their discipline. Under the need to publish in an international journal, a new discipline of language teaching appeared in the twentieth century, known as English for Specific Purposes (ESP) (Ferguson, 2007). ESP refers to the teaching of specific genre of English, mainly scientific or technical English, to learners with

special purposes. ESP meets the needs for learners who learn English as a foreign language to use it in their fields, like science, technology, and medicine. (Anthony, 1997)

The dominance of English in journals with high impact factor has been thoroughly dealt with. Explaining the meaning of impact factor is, hence, required. According to Cargill and P. O'Connor (2009), there is no easy method to assess the quality of a journal or the degree of its contribution to any research area. However, there are a number of ways used to provide information on the degree of popularity of journals. The most common measure is referred to as the journal impact factor. This latter is defined as the average number of times articles published in a journal have been cited for the two last years. The impact factor provides a measure of the average recent use of articles in a given journal. In order to determine this index, the following formula is used:
$$\text{Journal Impact Factor (Year}_x) = \frac{\text{Cites to recent articles (Year}_x\text{-1 \& Year}_x\text{-2)}}{\text{Number of recent articles (Year}_x\text{-1 \& Year}_x\text{-2)}}$$
 (Cargill & O'Connor, 2009)

2- Materials and methods

In order to investigate the use of English in scientific publication in the University of Constantine, two most popular data-bases of scientific research were chosen: Google Scholar, ScienceDirect and one most adopted international social academic network 'ResearchGate' was opted for.

As a procedure, in the first database, the name « university Frères Mentouri, Constantine » was typed. The period was chosen between 2010-2018 so to allow for the examination of the most recent scientific publications, whether articles, abstracts of conferences, or communications. The language of search was not specified to compare the different languages used for publication.

Concerning the examination of the second data-base –ScienceDirect- the same procedure was taken in that the name « university Frères Mentouri, Constantine » was typed and the period 2010-2018 was chosen. The search in ScienceDirect data base was, somehow, different, as the specification of each year was required.

ResearchGate was an international social academic network and was opted for as the third material for our investigation. This network displayed the world researchers' profiles as with their publications. The procedure applied for this database was different; there was no identification of the year, as the website does not allow for any specification. So the name « university Frères Mentouri, Constantine » was typed, and all the inscribed researchers belonging to the university were displayed. The language of these researchers' publications was examined. The results of the three databases are shown and discussed in the results section.

3- Results

3-1. Google Scholar database

The choice of Frères Mentouri University- Constantine, in this database between the years 2010- 2018, results in the appearance of 8330 articles. Different languages are displayed: English, French, Spanish, Portuguese and Turkish. Despite the huge number of articles produced in French (4000), English dominance is clearly distinguished (4070 articles). Therefore, English is ranked the first in the production of Frères MentouriUniverstiy for occupying 48,85% of total production; then comes French with 48,01%; then Spanish with only 0.20% (17 articles); then Portuguese with 0.15% (13 articles); and finally Turkish with 0.07% of total production (6 articles).

As an interpretation to the previous findings, one would confirm the dominance of English over other languages in the university Frères Mentouri- Constantine. We would also deduce that many researchers at this university shift to the adaptation of the English language in writing research articles in order to be accepted for publication in Google Scholar database, which is an international database with a recognized value. As a further interpretation, the struggle between French and English in this database would add evidence that a huge number of researchers are still not proficient in English which urges them to write in French.

In order to examine whether the use of English is increased or decreased between the years 2010-2018, a comparison was made between English and French productions by taking each two years separately, and the results were observed. The statistics are illustrated in table 1 and figure 2:

Table-1-: Comparison between English and French productions between the years (2010-2018) in Google Scholar database

	2010-2011	2012-2013	2014-2015	2016-2017	March 2018
English	875	1090	598	1270	207
French	1240	797	715	1170	54

Figure-2-: Comparison between English and French productions between the years (2010-2018) in Google Scholar database



The data displayed in table 1 and figure 2 confirms the increase in the contribution of English in the production of researchers at the university Frères Mentouri- Constantine in the last decade. Between the years 2010 and 2013, the number of English papers increases from 875 to

1090. However, between the years 2014 and 2015, there is a decrease to only 598 productions. It is noteworthy that the French production also decreases between these years from 797 (2014) to 715 (2015). One should also note that the number of publications of Frères Mentouri University reaches the top with a total contribution of 2440 papers between the years 2016 and 2017, where English papers exceed French papers (1270 Vs. 1170) representing 52.04% of total publications.

Concerning the year 2018, one should indicate that the statistics were done for the three first months only. This is why a small number of articles was displayed in table 1. Yet again, the English contribution is clearly higher than the French one (207 articles Vs. 54 articles). We would also assume that by the end of the year, the number of scientific papers will be four times higher. The analysis of these results does confirm the hypothesis of the place of English in scientific research in Algerian universities, notably the university Frères Mentouri Constantine.

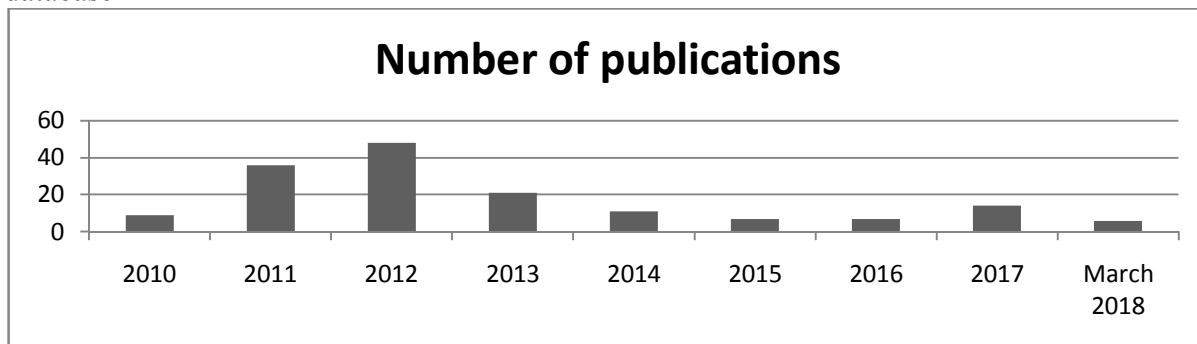
3-2. ScienceDirect database

The contribution of Frères Mentouri Constantine University in this database was unstable. The number of researchers' publications increases between the years 2010 and 2012 from 9 articles in 2010 to 36 articles in 2011 to 48 articles in 2012; then starts to decrease gradually starting from the year 2013 with 21 articles to reach only 7 articles in 2016; the number increases again to 14 articles in 2017. Concerning the year 2018, the statistics were only taken for the three first months to result in the appearance of 6 articles in this period, so the number is assumed to increase. These results are demonstrated in table 2 and figure 3:

Table -2-: The contribution of English papers between the years 2010 and 2018 in ScienceDirect database

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Number of publications	9	36	48	21	11	7	7	14	6

Figure-3-: The contribution of English papers between the years 2010 and 2018 in ScienceDirect database

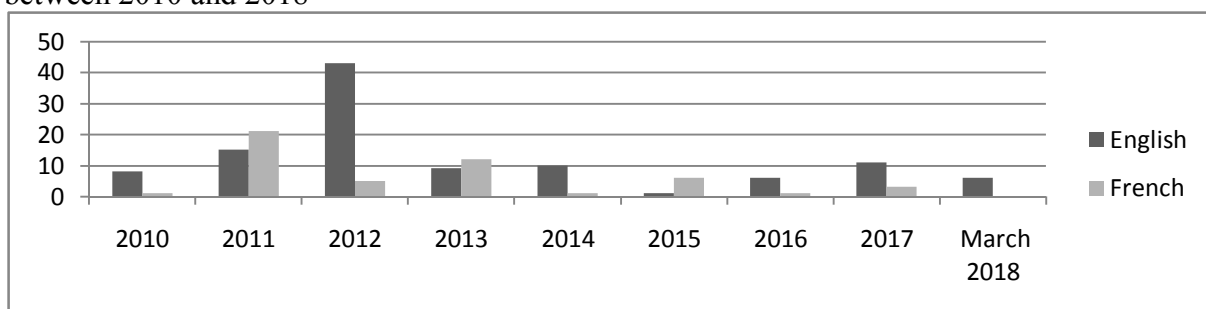


As an interpretation of the results of the second database (ScienceDirect), the total contribution of Frères MentouriUniveristyis considered unsatisfactory in comparison to the first database (Google Scholar). One would consider language as the primary reason for having a limited access to this database. So English is confirmed to be a barrier for non- proficient writers who adopt another language. ScienceDirect database is assumed to favour papers written in English, which limits the access of researchers at Frères MentouriUniveristy to it. This will be investigated in table 3. The comparison of French and English is shown in the following table 3 and figure 4:

Table -3-: Comparison between French and English contribution in ScienceDirect database between 2010 and 2018

	2010	2011	2012	2013	2014	2015	2016	2017	March 2018
English	8	15	43	9	10	1	6	11	6
French	1	21	5	12	1	6	1	3	0

Figure-4-: Comparison between French and English contribution in ScienceDirect database between 2010 and 2018



The observation of table 3 and figure 4 indicates that the number of English publications in Frères Mentouri University is not stable during the years 2010 and 2018. Similarly, the contribution of this university with the adaptation of English is more increasing than decreasing in comparison with the French language. To illustrate this, publications in English increase from 8 papers in 2010 to 15 papers in 2011 to reach 43 papers in 2012; then they increase from 9 articles in 2013 to 10 articles in 2014; then to 11 article in 2017; and then to 6 articles in the first three months of 2018 (we assume that this number will be four times larger by the end of the year). As for publications produced in French, for example, only 1 publication is displayed in the year 2010; the number decreases from 12 articles in 2013 to only 1 article in 2014; to 1 in 2016 to 00 article in 2018. From these results, one can say that the publication of works written in French is very limited in this database in comparison to those written in English (although this latter is not also satisfactory). As a conclusion, ScienceDirect database allows more for papers that are written in English than in French.

3-3. ResearchGate social academic network

The overall participation in this database was 45 researchers. The language of these researchers' publications varies between English and French, which are the major adopted languages (which is proved above in the two first databases). The dominance of English is also apparent in this website with about 35 researchers' profiles (representing 77, 77% of the total number). French is only used by 10 researchers (22, 22% of the total number). Since this website is international, and since English is the lingua franca of research, we could say that the majority of Frères Mentouri University-Constantine researchers are obliged to learn this language and adopt it as the language of their profile to gain a wide popularity of their publications and to valorise the quality of their works. This adds further evidence for the importance of the English language in scientific research.

Conclusion

In this paper we have highlighted the place of English in scientific research. The dominance of this language as the world language and as the language of scientific research was reviewed theoretically, and an Algerian university "Mentouri Frères University- Constantine" was taken as the sample of our investigation to provide practical evidence. The results of this investigation prove the dominance of English over other languages, mainly the concurrent language –French- in the publications of the university (e.g. articles, conference abstracts, communications) in the databases 'GoogleScholar' and 'ScienceDirect'. Similarly, the majority of researchers profiles as with their publications in the social academic network 'ResearchGate' are also proved to be in English, which adds evidence to the clear dominance of English as the world language and as the lingua franca of research. The findings of this paper recommend the learning of English as a foreign language for Algerian researchers, in general, and researchers at Frères Mentouri University- Constantine, in particular, in order to gain access for publication in international and highly impacted reviews and, hence, to valorise the quality of work. To serve this purpose, each laboratory of the university should contain at least one researcher who masters this language to reveal the university research attempts to the whole world and to place it among top international universities by ensuring its contribution to scientific research worldwide.

Bibliography

1. Anthony, L. (1997). English for specific purposes: What does it mean? Why is it different? . *On-CUE Journal*, 5(3), 9-10.
2. Cargill, M., & O'Connor, P. (2009). *Writing scientific research articles: strategy and steps*. . NJ: Wiley-Blackwell.
3. Christiansen, T. (2015). The rise of English as the global lingua franca. Is the world heading towards greater monolingualism or new forms of plurilingualism? *Lingue e Linguaggi*, 15, 129-154.
4. Crystal, D. (2003). *English as a global language* (éd. 2nd). Cambridge, England: Cambridge University Press.
5. Ferguson, G. (2007). The global spread of English, scientific communication and ESP: questions of equity, access and domain loss. *Ibérica*, 13, 7-38.
6. Weber, G. (1997). The World's 10 most important languages . *Language Monthly*, 3, 12-18. Récupéré sur <http://www.andaman.org/BOOK/reprints/weber/repweber.htm>.
7. Xue, J., & Zuo, W. (December, 2013). English Dominance and Its Influence on International Communication. *Theory and Practice in Language Studies*, 3(12), 2262-2266.