# Bibliometric Analysis of Educational Researches on Bilingualism 

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#### Abstract

The aim of this research is to perform a bibliometric analysis of published academic studies on "bilingualism" in the category of educational research in the Web of Science (WoS) database. Research titles were searched using the keyword "bilingualism" in all WoS data bases on the Web of Knowledge Web page. In order to reach a holistic interpretation, the study was done to cover the 51-year time period between the years 1970-2021 by starting from the oldest date available in the database. As a result of the search, the bibliometric data of the 1975 academic study was used as the data set of the study. The bibliometric analysis was used as the data analysis technique in the study. The research topics and orientations of the academic publications examined within the scope of the study were visually mapped through the keywords in the publications. Within this direction, WordArt online word cloud software was preferred. The social network analysis of the keywords of the 1975 academic study on bilingualism that is one of the bibliometric analysis tools, was visualized by using the VOSviewer (Version 1.6.16) package program. As a result of the analysis done, the year 2020 was the year with the most publications on bilingualism in the WoS database. In the field, mostly English publications were made. Most of the detected publications are of the article type. The California State University System - USA ranks first as the institution in which the authors publish on bilingualism. Most publications on bilingualism were done in the International Journal of Bilingual Education and Bilingualism. The country with the most publications and the country with the most cooperation network is the USA. It has been determined that concepts such as bilingualism, multilingualism, bilingual education, language policy, language switching, dual literacy, identity, language ideologies, second language acquisition, code change and literacy are used in scientific publications. It is thought that the study draws a broad framework for researchers in the field and contributes to the field.


Key words: Bilingualism, Bibliometric Analysis, Educational Researches

## INTRODUCTION

With the changing world, the perspective on language acquisition and learning has also changed. Sometimes bilingualism emerges with a normal process, sometimes bilingualism is consciously preferred. Considering international communication network and interaction density of today, it is seen that this situation has increased. There are different definitions for the concept of "bilingualism".

Bilingualism is defined as using two languages interchangeably (Weinreich, 1968), using both languages as their mother tongue (Bloomfiled, 1933), using two or more languages according to the need in daily life (Grosjean, 2010), situations where more than one language is spoken (Beardsmore, 1982), being able to use two or more languages in order to communicate and being able to switch from one language to another easily (Oksaar, 1992), the state of an individual knowing two languages or using two languages in a society (Vardar, 1998).

As a phenomenon bilingualism means having the ability to communicate in two different languages. If people grow
up in environments where two different languages are spoken from the moment they are born, they can acquire both languages naturally and at the end of this process, they can become competent in both languages (Arefi \& Alizadeh, 2008: 17). It is possible to be bilingual because of the second languages learned later due to requirement or necessity (Buran \& Çak, 2012, p. 126).

The individual becomes bilingual for various reasons such as immigration, education, extended family, temporary settlement. These differences are linked to differences in contexts, social class, educational opportunities and expectations, access to support systems, opportunities to gain experience, and home language environment. Bilingualism brings along a psychosocial dimension that deeply affects children (Bialystok, 2006, p. 183). According to Fishman (1991), "bilingualism is a bridge of mutual agreement. Although good things and bad things can cross the bridge, bilingualism is a good investment considering its economic, cultural and diplomatic advantages." Liedtke and Nelson
(1968) stated that bilinguals form concepts more easily than monolinguals because they are accustomed to a more complex environment due to being open to two languages.

Baker (2011) being bilingual is more than having two languages. Bilingualism has educational, social, economic, cultural and political results. Being bilingual or monolingual affects the identity, social order, education and training, work, marriage, place of residence, travel and thinking of individuals. Crystal (2015), on the other hand, states that bilingual or multilingual people have two or more completely different perspectives that they can constantly use when looking at large areas of life.

Well-balanced bilingualism or equal proficiency in both languages is rarely seen. The type of bilingualism in which the person is more proficient in one language than the other is more common (Owens, 2005). Although bilingualism is seen as an advantage, there are also negative effects. Considering that two or more languages coexist in an individual's mind, there may be situations in which the individual cannot balance in terms of the ability to maintain the integrity and autonomy of the two languages and cannot control the mixture of the two (Hyltenstam \& Obler, 1989). The acquisition of coding and decoding skills in a second language manifests itself at different rates under normal conditions (Romanie, 1989). Problems that will arise in coding bring along problems such as code switching and code mixing between two languages.

As bilingualism becomes widespread and awareness of this phenomenon increases, studies in the field increase. There are also studies that deal with bilingualism from different perspectives. Kałamała at al. (2022) done studies on best practices for measuring bilingualism; Torregrossa et al. (2021) on reference use among bilingual children; Şenaydın and Dikilitaş (2022) on the relationship between bilingualism and identity in addition Gardner-Chloros (2009), Moriguchi and Kanda (2020), Soesman and Joel (2021), Tomić and Valdés (2022), Tomoschuk at al. (2021), Byers-Heinlein at al. (2022), and Broersma et al. (2020) conducted studies on code switching in bilinguals.

Gonçalves et al. (2021) examined whether there is a difference between the reading and writing achievements of bilingual and monolingual children. Stoehr and Martin (2022) searched the effects of language skills on each other in bilinguals whereas Engemann (2022) emphasized the difference between bilingual and monolingual children.

Bogulski et al. (2019), Cheung et al. (2019), Mergen and Kuruoğlu (2021), Cornut et al. (2022), and Iniesta et al. (2022) mentioned the subject of vocabulary learning in bilinguals. In addition, Bican (2017), Bölükbaş Kaya at al. (2019), Ertek and Süverdem (2020), and Uyar (2012) discussed the definition and types of bilingualism. Saydi (2013) examined the issue of bilingualism and bilingual education in Europe. Yağmur (2010), Yıldız (2013), Akıncı (2016) conducted studies on bilingual Turkish children abroad.

Plonsky et al. (2021) conducted a meta-analysis for research on bilingualism in their study. Variables such as authors, title, sample size, method, effect size, measurement were checked and coded. Günaydın (2020), on the other
hand, analyzed fifty-seven articles in thirty-eight journals on bilingualism with descriptive content analysis.

When the literature was searched, it was determined that there were a few bibliometric studies on bilingualism. Zhang (2020) analyzed related to bilingualism full articles for the period 1997-2018, Agulló and Herrero (2019) searched for with key word "bilingual education" and "multilingual education", Sanchez-Azanza et al. (2017) conducted a study on the advantages of bilingualism. No study has been found that deals with a wider period of time and that has been made with the term "bilingualism" in general. For researchers is important to reach scientific study, know researchers in the field and follow current research on the subject area. In this context, is thought that revealing the general framework by making a bibliometric analysis of the publications on bilingualism in the field of education will contribute to the field.

## The Aim of Research

The aim of this study is to examine the publications on bilingualism in the period from 1970 to 2021 in terms of bibliometric indicators. Based on the thought that the research will make significant contributions to the literature, answers to the following research questions were searched:

- What is the numerical distribution of academic publications on bilingualism by years?
- What is the publication language distribution of academic research on bilingualism?
- How do academic publications on bilingualism show a distribution by type of publication?
- In which institutions do the authors of academic publications on bilingualism work?
- Which are the sources where academic research on bilingualism is frequently published?
- What is the distribution of countries and international cooperation on bilingual academic research?
- What is the number of citations received from academic publications on bilingualism?
- What is the keyword situation in academic publications on bilingualism?
- What is the reference collaborative distribution of scientific publications on bilingualism?


## METHOD

## Research Design

In this study, academic studies on bilingualism in education were examined in terms of bibliometric parameters and the current situation was desired to be revealed. In this aim, bibliometric analysis method was used in the study. Nowadays bibliometrics, generally used to evaluate scientific research through quantitative studies on research publications (Yılmaz, 2021). By definition, bibliometry refers to the environment in which mathematical and statistical methods, can be applied which express quantitative analysis methods (Pritchard, 1969). Bibliometrics; It is a set of methods used in the quantitative analysis of scientific publications such as
printed journals, books, articles, such as author, field, subject, citation, institution, country with mathematical and statistical tools and provides some clues about the related discipline, field, subject, institutions, countries, authors, and cooperation between authors (Ukşul, 2016).

## Data Collection

In the data collection phase of this study, Web of Science (WoS) databases were used. A product of the "Thomson Reuters Institute of Scientific Information (ISI)", Web of Science arose from the Science Citation Index created by Eugene Garfield in the 1960s (Chadegani et al., 2013, p. 19). According to the information presented on the Web of Science today, the site is available from different citation databases (SCI, SSCI, SCI-Expanded, AHCI, ESCI) with different information collected from over 37,000 journals, more than 171 million records, conferences, reports, books and book series as well as data from different databases such as CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH) contains various information (Yeşiltaş \& Evci, 2021). Web of Science databases have been used because of its rich content and providing data sets that allow bibliometric analysis. During the study, research titles were searched using the keyword "bilingualism" in all WoS databases on the Web of Knowledge Web page. "Document title, abstract, keyword" was chosen as the search criteria. In order to reach a holistic interpretation, the study was carried out to cover the 51-year time period between 1970 and 2021, starting from the oldest date available in the database. The bibliometric data of 1975 academic studies, which were included in the "Education/Educational Researches" and "Educational Scientific Disciplines" categories out of 3901 results reached as a result of the search, were used as the data set of the study.

## Data Analysis

In the study, bibliometric analysis was used as a data analysis technique. While statistical bibliography was first used by E. Wyndham Hulme of Cambridge University in 1922, bibliometric analysis was first used by Pritchard. Pritchard expressed bibliometric analysis as the application of mathematics and statistical methods to books and other scientific communication tools (Pritchard, 1969).

A total of 1975 publications on bilingualism published in the period from 1970 to 2021 were analyzed and categorized in terms of bibliometric indicators. Percentages and frequencies of categorized data were calculated. MS Excel application was used for these calculations. The research topics and orientations of the academic publications examined within the scope of the study were visually mapped through the keywords in the publications. In this direction, WordArt online word cloud software was preferred. The social network analysis of the keywords of the 1975 academic study on bilingualism was visualized using the VOSviewer (Version 1.6.16) package program, which is one of the bibliometric analysis tools. VOSviewer is a software tool for creating and visualizing maps based on network data. The functions of VOSviewer can be summarized as follows:

- Creating maps based on network data: It can be used to create networks of scientific publications, scientific journals, researchers, research institutions, countries, keywords or terms. Items in these networks can be linked by co-authorship, co-existence, citation, bibliographic matching, or co-reference links.
- Visualizing and exploring maps: VOSviewer provides three different ways to visualize a map: mesh visualization, layer visualization, and density visualization (Van Eck \& Waltman, 2013).
In this study, the mentioned functions of the VOSviewer application were used.


## FINDINGS

## Number of Publications

The annual distribution of academic studies on bilingualism in education-related categories in WoS is given in Figure 1.

According to the data in Figure 1, the years with the highest number of publications regarding bilingualism were $2020(\mathrm{n}=215)$ and $2019(\mathrm{n}=191)$. Then come $2018(\mathrm{n}=171)$, $2021(\mathrm{n}=163)$ and $2017(\mathrm{n}=149)$ years, respectively. When the figure is evaluated as a whole, it can be said that the scientific publications published on bilingualism in 2005 and after increased in parallel with the following years.

## Publication Language of Studies

The distribution of academic studies published on bilingualism in WoS according to the languages in which they were prepared is given in Table 1.

When the data in Table 1 are examined, English (n=1829) comes first among the languages most frequently published regarding bilingualism, followed by Spanish ( $\mathrm{n}=71$ ). It can be said that the most important reasons for the distribution of publications by publication language are the widespread use of English as a scientific language and the publication language preferences of the journals indexed in WoS databases.

## Publication Type

The distribution of academic studies published on bilingualism in WoS according to publication types is given in Table 2.


Figure 1. Numerical distribution of studies on bilingualism by years

When the data in Table 2 is examined, it is seen that most of the educational research published on bilingualism is composed of articles ( $n=1527$ ), and the most frequently published types are papers ( $n=201$ ) and book reviews ( $n=150$ ), respectively. It is noteworthy that the number of books ( $\mathrm{n}=9$ ) written on bilingualism in education categories is low.

## Institutions of Authors

Table 3 shows the distribution of the authors of educational studies published on bilingualism in WoS by institutions. Since the number of institutions in this category is high ( $\mathrm{n}=1302$ ), only the first 10 institutions are included in the table according to the number of publications. The California University System and California State University System data presented separately in the search results were combined and used.

Table 1. Distribution of educational research on bilingualism by the languages in which they are published

| Languages | f | $\mathbf{\%}$ |
| :--- | :---: | :---: |
| English | 1829 | 92.61 |
| Spanish | 71 | 3.60 |
| German | 20 | 1.01 |
| Russian | 19 | 0.96 |
| Portuguese | 17 | 0.86 |
| French | 11 | 0.56 |
| Slovenian | 2 | 0.10 |
| Arabic | 1 | 0.05 |
| Chinese | 1 | 0.05 |
| Danish | 1 | 0.05 |
| Dutch | 1 | 0.05 |
| Swedish | 1 | 0.05 |
| Not mentioned | 1 | 0.05 |
| Total | 1975 | 100 |

Table 2. Distribution of educational research on bilingualism by type of publication

| Publication type | f | \% |
| :--- | :---: | :---: |
| Article | 1527 | 77.32 |
| Notice | 201 | 10.18 |
| Book Review | 150 | 7.60 |
| Book Chapter | 139 | 7.04 |
| Early Access | 118 | 5.98 |
| Editorial | 47 | 2.38 |
| Analysis | 44 | 2.23 |
| Book | 9 | 0.46 |
| Note | 7 | 0.35 |
| Letter | 2 | 0.10 |
| Correction | 1 | 0.05 |
| Retracted Work | 1 | 0.05 |
| Total | 1975 | 100 |

When the data in Table 3 is examined, the leading institutions that the authors working or supported on bilingualism are California State University System - USA ( $\mathrm{n}=80$ ), University of London - England ( $\mathrm{n}=49$ ) and Texas University System - USA ( $\mathrm{n}=46$ ). Educational institutions from Turkey, which are included in the list as a result of the search for institutions, their rankings and the number of publications are given in Table 4.

When the data in Table 4 are examined it is seen that Boğaziçi University ( $\mathrm{n}=5$ ) is the leading institution where the authors who publish on bilingualism work or supported. It is followed by Artvin Çoruh University ( $\mathrm{n}=2$ ), Gazi University ( $n=2$ ) and Yeditepe University ( $n=2$ ) respectively.

Table 3. Institutions of authors publishing on
bilingualism - top 10 institutions

| Author Institutions | f | \% |
| :--- | :---: | :---: |
| 1. California State University System | 80 | 4.05 |
| 2. London University | 49 | 2.48 |
| 3. Texas University System | 46 | 2.33 |
| 4. New York Cuny System City University | 40 | 2.03 |
| 5. Florida State University System | 36 | 1.82 |
| 6. Kazan Federal University | 31 | 1.57 |
| 7. Bask State University | 31 | 1.57 |
| 8. Illinois State University | 24 | 1.22 |
| 9. Colorado University System | 22 | 1.11 |
| 10. Arizona University | 21 | 1.06 |

Table 4. Number of publications on bilingualism and the institutions of the authors, Turkish Educational Institutions

| Institutions of Authors | f | \% |
| :--- | :---: | :---: |
| Boğaziçi University | 5 | 0.25 |
| Artvin Çoruh University | 2 | 0.10 |
| Gazi University | 2 | 0.10 |
| Yeditepe University | 2 | 0.10 |
| Mediterrenean University | 1 | 0.05 |
| Atatürk University | 1 | 0.05 |
| Balıkesir University | 1 | 0.05 |
| Çağ University Turkey | 1 | 0.05 |
| Çukurova University | 1 | 0.05 |
| Dokuz Eylül University | 1 | 0.05 |
| Aegean University | 1 | 0.05 |
| Eskişehir Osmangazi University | 1 | 0.05 |
| Hacettepe University | 1 | 0.05 |
| Middle East Technical University | 1 | 0.05 |
| National Education Ministry | 1 | 0.05 |
| Mustafa Kemal University | 1 | 0.05 |
| Ordu University | 1 | 0.05 |
| Selçuk University | 1 | 0.05 |

## Source

The distribution of academic studies published on bilingualism in WoS according to the sources they are published in is given in Table 5. Since the number of sources in this category is high ( $\mathrm{n}=591$ ), only the first 10 sources are included in the table according to the number of publications.

When the data in Table 5 is examined, it is seen that the leading sources published on bilingualism are International Journal of Bilingual Education and Bilingualism ( $\mathrm{n}=295$ ), International Journal of Multilingualism (n=69), Modern Language Journal (n=66) and Language Learning ( $\mathrm{n}=58$ ). It can be said that this ranking, which emerges according to the number of publications among the sources, is related to the countries in which the journals are published (Table 6).

## Countries

The distribution of academic studies published on bilingualism in WoS by countries is given in Table 6. Since the number of countries in this category is high ( $\mathrm{n}=96$ ), only the top 10 countries are included in the table according to the number of publications.

When the data in Table 6 are examined, it is seen that the USA $(\mathrm{n}=679)$, Spain $(\mathrm{n}=166)$ and England $(\mathrm{n}=158)$ are

Table 5. Sources of scientific publications on bilingualism - Top 10 sources

| Source Name | f | \% |
| :--- | :---: | :---: |
| 1. International Journal of Bilingual Education <br> and Bilingualism | 295 | 14.937 |
| 2. International Journal of Multilingualism | 69 | 3.494 |
| 3. Modern Language Journal | 66 | 3.342 |
| 4. Language Learning | 58 | 2.937 |
| 5. International Multilingualism Research Journal | 38 | 1.924 |
| 6. Second Language Research | 34 | 1.722 |
| 7. Language Culture and Curriculum | 32 | 1.62 |
| 8. Reading and Writing | 32 | 1.62 |
| 9. Journal of Language Identity and Education | 31 | 1.57 |
| 10. Procedia Social and Behavioral Sciences | 31 | 1.57 |

Table 6. Countries where scientific publications on bilingualism are published - top 10 countries

| Countries | $\mathbf{f}$ | \% |
| :--- | :---: | :---: |
| The United States of America | 679 | 34.38 |
| Spain | 166 | 8.41 |
| England | 158 | 8.00 |
| Canada | 130 | 6.58 |
| Russia | 90 | 4.56 |
| The Republic of China | 67 | 3.39 |
| Germany | 65 | 3.29 |
| Australia | 60 | 3.04 |
| South Africa | 42 | 2.13 |
| Colombia | 36 | 1.82 |

the leading countries where publications are made about bilingualism.

## Country collaborations

The cross-country cooperation in the co-authorship analysis of the publications on bilingualism is shown in Figure 2. While the nodes in each analysis represent countries, the node sizes between them reflect the published articles and the distance and thickness of the connecting lines reflect the degree of cooperation.

When the number of articles cited from countries in the program is selected as at least 1 , these countries are divided into 15 clusters and there are 195 connecting lines between them. By number of connections, the USA has the highest number ( 36 connections). The USA is followed by the United Kingdom (26 connections), Spain (23 connections), Germany (19 connections) and Canada (17 connections). Clusters connected by these link elements are connection oriented with related clusters. While the large distance between the countries represents the lack of sufficient relationship and similarity, the close location of the countries reveals the strength of the relationship between them.

## Citation Analysis

The number of citations by years of academic publications on bilingualism in WoS is given in Figure 3.

When the data in Figure 3 are examined, it is seen that the citations of academic publications on bilingualism remained low from the first publication in 1972 until the mid-2000s, and after 2005 the number of citations increased with each passing year. This increase in the number of citations can be associated with the increase in academic studies on bilingualism and the global importance of the subject.

## Key Words

Data showing the frequency of keywords used in scientific publications on bilingualism are presented in the word cloud image below (Figure 4).

When the keywords in Figure 4 are examined, it is seen that the most common words used in scientific publications on bilingualism are bilingualism, multilingualism, bilingual education, language policy, language switching, dual literacy, identity, language ideologies, second language acquisition, code change and literacy.

The general research areas and the social network analysis of the relations between these areas determined based on the keywords of scientific publications on bilingualism are shown in Figure 5.

When Figure 5 is examined, it is understood that scientific publications related to bilingualism are grouped under 34 clusters according to the cluster analysis in the keyword social network graph. The most frequently used keywords in these clusters are bilingualism ( $\mathrm{f}=750$ ), multilingualism ( $\mathrm{f}=143$ ), bilingual education ( $\mathrm{f}=127$ ), language policy ( $\mathrm{f}=76$ ) and language switching ( $\mathrm{f}=74$ ). Among the keywords, those with the highest link strength (bg) are listed as bilingual


Figure 2. Country collaborations in co-authorship analysis of scientific publications on bilingualism


Figure 3. Number of citations of publications on bilingualism by years
( $\mathrm{bg}=2151$ ), multilingualism $(\mathrm{bg}=507)$, bilingual education ( $\mathrm{bg}=384$ ), language learners $(\mathrm{bg}=249)$ and language policy ( $\mathrm{bg}=249$ ). Clusters connected by these link elements are connection oriented with related clusters. While the close positioning of the items reveals the strength of the relationship between them, the large distance between the items represents the lack of sufficient relationship and similarity.

## Reference Common Citation Network

The mapping of the reference co-citation network is shown in Figure 6. After selecting the minimum number of
citations of the reference as 20 in the VOS viewer application, 466 of the 33072 cited references meet the threshold value. In the mapping, according to the citations received by the publications in the reference co-citation network, the clusters were divided into four clusters, consisting of 149 authors in the red cluster, 128 in the green cluster, 114 in the blue cluster, 66 in the yellow cluster, and 9 authors in the purple cluster.

According to the reference common citation network analysis, the citation numbers and link strengths of the 10 most commonly cited publications are presented in Table 7.


Figure 4. The word cloud related to the frequency of use of the keywords used in scientific publications on bilingualism


Figure 5. Social analysis of the keywords used in scientific publications on bilingualism (frame size shows the most taken subject, yellow fields show the current topics.)


Figure 6. Analysis of the reference common citation network

Table 7. Most cited publications, common citation numbers ( f ) and link strengths (bg) in the reference partner

| Cited Reference | f | bg |
| :--- | :---: | :---: |
| García, O. (2009). Education, multilingualism <br> and translanguaging in the 211s century. In | 153 | 1129 |
| Social justice through multilingual education <br> (pp. 140-158). Multilingual Matters. |  |  |
| Cummins, J. (2000). Language, power and <br> pedagogy. Multilingual Matters. <br> García, O., \& Wei, L. (2014). Translanguaging <br> and education. In Translanguaging: Language, <br> bilingualism and education (pp. 63-77). Palgrave | 135 | 715 |
| Pivot, London. | 65 | 606 |
| Bialystok, E. (2009). Bilingualism: The good, the <br> bad, and the indifferent. Bilingualism: Language <br> and cognition, 12 (1), 3-11. | 84 | 531 |
| Cummins, J. (1979). Linguistic interdependence and <br> the educational development of bilingual children. | 81 | 356 |
| Review of educational research, 49 (2), 222-251. |  |  |

When Table 7 is examined, it is seen that the most cited source in the studies published on bilingualism is the work titled "Education, multilingualism and translanguaging in the $21^{\text {st }}$ century" by Ofelia Garcia in 2009. Again, Jim Cummins' book "Language, power and pedagogy" published in 2000, "Translanguaging in the bilingual classroom: A pedagogy for learning and teaching?" by Angela Creese and Adrian Blackledge, the study titled "Translanguaging and education" by Ofelia Garcia and Lie Wei in 2014 and the study titled "Bilingualism: The good, the bad and the indifferent" by Ellen Bialystok in 2009 seem to be the reference sources with the highest connection strengths.

## DISCUSSION, CONCLUSION AND SUGGESTIONS

In the study, a total of 1975 publications on bilingualism published in the period from 1970 to 2021 were examined and categorized in terms of bibliometric indicators. During the study, all WoS databases were searched in the Web of Knowledge Web page using the keyword "bilingualism".

Bibliometric data belonging to 1975 academic studies in the categories of "Education/Educational Researches" and "Educational Scientific Disciplines" were obtained from 3901 results.

When examining the academic studies published on bilingualism in education-related categories in WoS on a yearly basis, it is seen that the most published years were 2020 and 2019. Then come 2018, 2021 and 2017 years, respectively. It can be said that the interest in the field has increased over the years. This result is in Agulló and Herrero (2019) and Sanchez-Azanza et al. (2017) has shown parallelism with both study.

The languages in which the academic studies published on bilingualism were prepared were examined and it was determined that the most frequently published languages were English, followed by Spanish. This can be explained by the widespread use of English as the language of science and the existence of a bilingual society in Spain.

After the majority of the academic studies published on bilingualism were articles, it was determined that the most frequently published types were papers and book reviews, respectively. The fact that the type of article is more scientific and that it can reach a wide audience can be considered as a reason for preference.

Within the scope of the research, California State University System - USA, University of London - England and Texas University System - USA are the leading institutions where the authors work. In Turkey, it is seen that Bogazaçici University ranks first. In the study of Agulló and Herrero (2019), Universidad del País Vasco (Spain) is in the ranks first. But in the study of Zhang (2020), Georgetown University and Penn State University are at the top.

When we look at the sources where academic studies are published, four journals come to the forefront: International Journal of Bilingual Education and Bilingualism, International Journal of Multilingualism, Modern Language Journal and Language Learning. This situation is in parallel with the fact that the most article types are included in the field. In terms of the journal, it is similar to the study of Agulló and Herrero (2019), with the International Journal of Bilingual Education and Bilingualism in the first place.

The countries in which the studies were published were examined and it was seen that the USA, Spain and England were in the first place. This situation supports the results of mostly English and Spanish publications in the field. The United States is also in the first place in the studies of Agulló and Herrero (2019) and Zhang (2020).

In terms of co-authorship of publications, 195 connection lines have been identified in cross-country cooperation. By number of connections, the US has the highest ( 36 connections). It is thought that it is important to consider cooperation between countries with different dimensions, especially in terms of bilingualism and biculturalism. Researchers can be encouraged to collaborate by taking this network distribution into account. In the study of Agulló and Herrero (2019), the most intense cooperation was found in the USA and Canada, which is in parallel with our study.

It has been determined that the number of citations of academic publications has increased over the years. Especially after 2005, the increase attracts attention. The increase in the number of citations can be explained by the increase in the number of studies.

When the keywords in scientific publications about bilingualism are examined, it is seen that concepts such as bilingualism, multilingualism, bilingual education, language policy, language switching, dual literacy, identity, language ideologies, second language acquisition, code change and literacy are used. Today, being bilingual and multilingual is encouraged by the European Language Portfolio (CEFR) and awareness of this issue is increasing. It can be said that the vocabulary network has expanded with the increase in applied studies on the field.

It has been determined that the most cited source in studies published on bilingualism is "Education, multilingualism and translanguaging in the $21^{\text {st }}$ century" published in 2009 by Ofelia Garcia. It is understood that the mentioned study is an important resource that has a high impact power, reference quality and directs the field in the field of bilingualism. When the top 10 most cited sources are examined, it is seen that they are written in English. It is thought that this situation is in parallel with the result that there is intensive English publication in the field.

This study is limited to the bibliometric analysis of the concept of bilingualism in the field of education. Bilingualism is associated with many disciplines such as psychology and sociology. In order to make a multidimensional evaluation, it would be useful to look at it from a broad perspective, not limiting it to the field of education. Researchers in the field can also examine bilingualism bibliometrically with different dimensions.

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