

# Mapping The Intellectual Structure of Educational Linguistics Research

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## Abstract

This research purpose was to present a thorough knowledge map of the intellectual structure of educational linguistics based on the dataset collected from the Scopus database. This research used secondary data from Scopus with bibliometric approaches. Use the VOSViewer tool and Scopus's analyze search queries function to examine and display data. This research examined through 166 scientific papers published between 1961 and 2020. According to the research, The Kazan Federal University; and Dearden, J. had the most active affiliated institutions and individual researchers in educational linguistic publication. Social science; and the journal of Calidoscopio were the most studied and disseminated outlets of educational linguistic research. The simulation results show that there was three category map of researchers who cooperate. This research suggests a categorization of educational linguistics research subjects requires the identification of a base of knowledge gained over fifty-six years of published simulation: Human, Education, Computational Linguistics, Language Learning, Identity, Language Policy, and Bilingual Education, as HECLILB research themes.

## Keywords

Educational linguistics, Bibliometric, Intellectual Structure, Linguistic, Research Mapping.

## 1. Introduction

Education and knowledge are affected through language. Education is a very important strategy for decreasing poverty and enhancing well-being, as well as a driver of progress. Educational environment has a close relationship with Linguistics. Linguistics is the study of language from a scientific perspective. As a part of applied linguistics, educational linguistics differs depending on one's perspective of language learning and language acquisition (Gee,

2017). Linguistic education involves teachers and students learning knowledge that appears to be simple (Tian, 2011). Bernard Spolsky's in the 1970s established educational linguistics as a distinct field of study (Pietro & Spolsky, 2006).

The relevance of language education has been recognized by many teachers. Educational Linguistics is focused to cutting-edge research on language usage and learning (Malinowski & Kramsch, 2014).

Educational systems are recognizing the importance of training teachers and administrators in the components of linguistics which are essential to educators, as well as the numerous sub - fields which have already developed in educational linguistics (Spolsky & Hult, 2008). The field of educational linguistics extends beyond theoretical considerations of language significance to the realistic context of human communication (Corson, 1997). Educational linguistics flourished long before modernist theology became significant in influencing the direction of human research study. Despite the fact that many people are highly interested in questions of human communication, these concerns were relatively quiet and had little effect on educational linguistics in general.

Over the last few years, there has been a lot of international research and development in the field of educational linguistics. Despite creating a vast visual map presented on a worldwide scale time after time utilizing data from numerous published research, educational linguistics has received little attention. There hasn't been a single publication that focuses on the favorable relationship across partnerships, researchers, and scholarly works' influence.

The bibliometric method is one of the ways used to look at research in general. Bibliometrics is an approach that uses a mix of mathematical and statistical tools to measure and analyze scholarly references. Bibliometrics is a statistical method for assessing bibliometric data such as books, peer-reviewed journal articles, reviews, reports, conference proceedings, periodicals, and other relevant publications. To demonstrate the relationship between quantitative approaches and the study domain, bibliometric techniques have been frequently used (IGI Global, 2021). What is the mapping and trend of educational linguistics research using visual bibliometric analysis? is one of the research topics proposed in this study. This research seeks to visually investigate mapping and research trends in the field of educational linguistics on a worldwide scale from the standpoint of bibliometric reviews.

There are multiple sections to this science paper. The study's background, questions, and aims are discussed in the first section of the introduction. The scientific strategy employed in the research is described in the second section. The results and discussion part describes the results of research are in the third section, while the fourth section summarizes the research's main points. Finally, acknowledgements, references, and biographies are included.

## 2. Research Methods

A significant literature database was subjected to bibliometric analysis in this study. This research revealed key terms for a study of educational linguistics that may be used to locate and categorize relevant works in the Scopus database around the world. Academics perceive the Scopus database as a reliable source of scholarly publications, hence it was used as the major source of information.

This study used the keywords "linguistic education\*" OR "education of linguistic\*" in the title, abstract, and author keywords to find relevant data in the Scopus database. Data mining is limited to annual data in order to acquire completely publicized data for twelve months each year. In data mining, the following search query option is utilized. TITLE-ABS-KEY ( "linguistic education\*" OR "education of linguistic\*" ) AND PUBYEAR < 2021. We found 166 documents results in this stage, spanning 56 years from 1961 to 2020. The Scopus result metadata has been extracted in CSV dataset format at this phase of the research (Firdausi & Purnomo, 2021).

Analyze Search Results is a Scopus feature that displays bibliometric data from selected publications. We utilized this tool to assess and visualize the publishing output of academics, institutions, and countries. We can also track the number of annual publications and citations, as well as the proportion of subject categories and source documents, with this feature (Purnomo, Asitah, et al., 2020; Purnomo, Rosyidah, et al., 2020).

In order to analyze co-occurrence and co-authorship, the researcher used VOSViewer version 1.6.16 to evaluate the gathered documents. This study used VOSViewer tool to create a worldwide research network of cooperating researchers by combining co-authorship analysis with the author's analysis unit and the complete computation systematic technique. VOSViewer is used to create a network of keyword maps for research themes, as well as a comprehensive co-occurrence analysis, keyword association analysis, and a fully systematic computation technique (Ranjbar-Sahraei & Negenborn, 2017; van Eck & Waltman, 2010). Simple statistics and tables can easily be created and tabulated using Microsoft Excel. The data was then compiled and triangulated.

### 3. Result and Discussion

In this section describes the results of data development in the field of educational linguistics based on the most common organizational affiliations, individual researchers, most productive nations, document types, annual sources by year, annual documents, document cited, most common subject areas, map publications, and author networks.

#### 3.1 Organizational Affiliations in Educational Linguistics Research

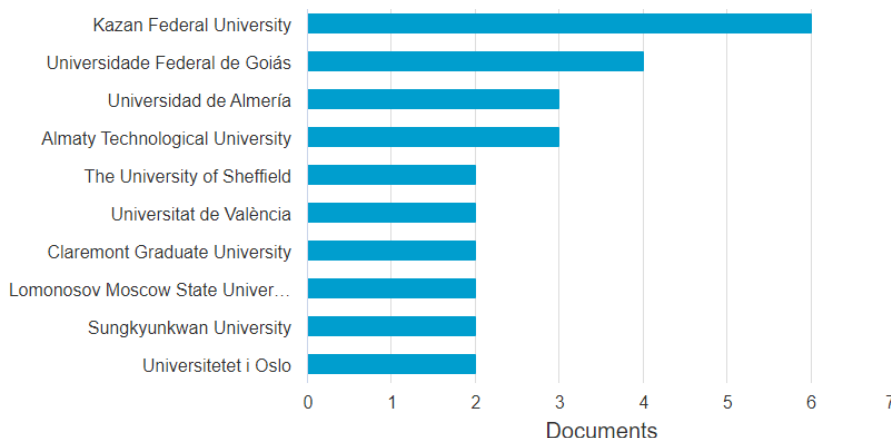


Fig. 1. Organizational Affiliations in Educational Linguistics Research

Educational linguistics has been studied by 234 affiliated institutions. The highest research organization in educational linguistics was Kazan Federal University in Russian Federation (n = 6). Then followed by Universidade Federal de Goiás in Brazil (n = 4), Universidad de Almería, Spain (n = 3), Almaty Technological University, Kazakhstan (n = 3), The University of Sheffield, United Kingdom (n = 2), Universitat de València, Spain (n = 2), Claremont Graduate University, United States (n = 2), Lomonosov Moscow State University, Russian Federation (n = 2), Sungkyunkwan University, South Korea (n = 2), and Universitetet i Oslo, Norway (n = 2).

It can be noted that Russian Federation and Spain have the most productive organizational affiliations, such as Kazan Federal University and Lomonosov Moscow State University in Russian Federation, and Universidad de Almería and Universitat de Valencia in Spain. Russian Federation and Spain were the countries that supported research and development, including in educational linguistics.

#### 3.2 Most Publications in Educational Linguistics by Individual Researchers

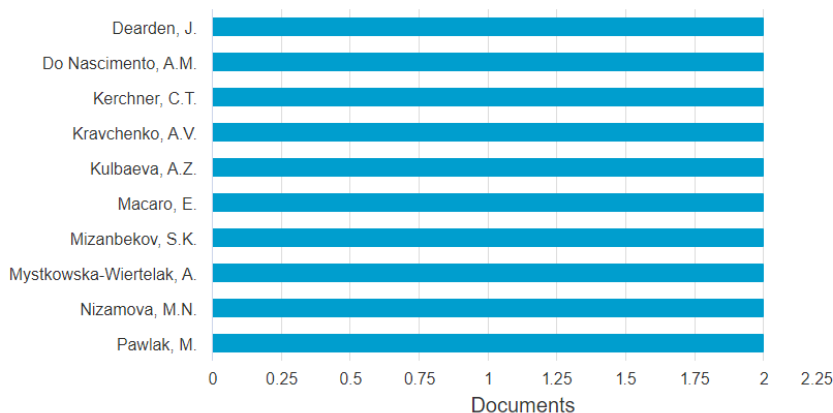


Fig. 2. Most Publications in Educational Linguistics by Individual Researchers

Educational linguistics was studied by 337 different researchers. Dearden, J. from Department of Education, Oxford University, United Kingdom was the most individual researcher in field of educational linguistics research (n = 2). Followed by Do Nascimento, A.M. from Universidade Federal de Goiás, Goiania, Brazil (n = 2), Kerchner, C.T.

from Claremont Graduate University, Claremont, United States (n = 2), Kravchenko, A.V. from Baikal State University, Irkutsk, Russian Federation (n = 2), Kulbaeva, A.Z. from Almaty Technological University, Almaty, Kazakhstan (n = 2), Macaro, E. From University of Oxford, Oxford, United Kingdom (n = 2), Mizanbekov, S.K. from National University Named after Al Farabi., Russian Federation (n = 2), Mystkowska-Wiertelak, A. from University of Wroclaw, Wroclaw, Poland (n = 2), Nizamova, M.N. from University of International Business, Almaty, Kazakhstan (n = 2), and Pawlak, M. From Uniwersytet im. Adama Mickiewicza w Poznaniu, Poznan, Poland (n = 2).

Dearden Julie were from University of Oxford, Oxford, United Kingdom since 2016 and has 4 *h*-index and 353 citations (Elsevier B.V., n.d.-a). While do Nascimento, André Marques from Universidade Federal de Goiás, Goiania, Brazil. His subject areas are social sciences, and arts and humanities. He has 1 *h*-index and 2 citations (Elsevier B.V., n.d.-b).

### 3.3 The Educational Linguistics Research Institute of the Most Productive Nation

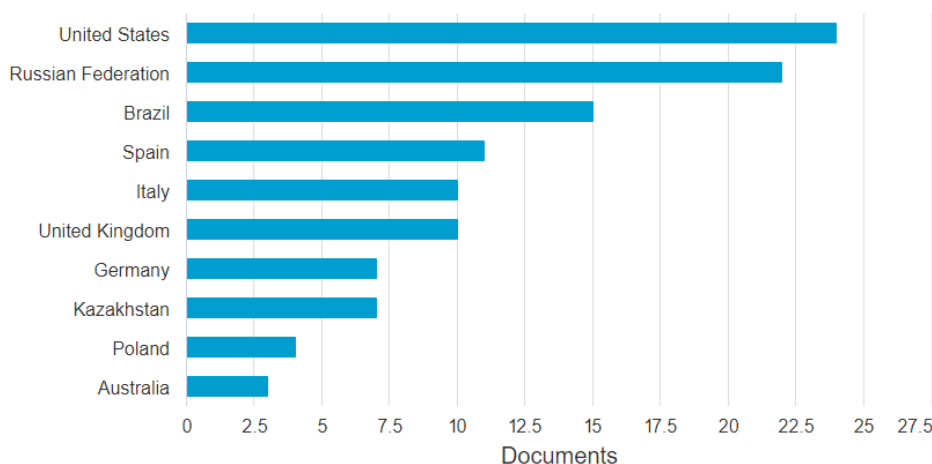


Fig. 3. The Educational Linguistics Research Institute of the Most Productive Nation

The study of educational linguistics was conducted in 47 nations. In educational linguistics, the United States had the most research publications (n = 24). Then followed by Russian Federation (n = 22), Brazil (n = 15), Spain (n = 11), Italy (n = 10), United Kingdom (n = 10), Germany (n = 7), Kazakhstan (n = 7), Poland (n = 4), and Australia (n = 3). In terms of educational linguistics research, the United States, Russian Federation, Brazil, and Spain are the most productive nations.

### 3.4 Document Types of Educational Linguistics Publications

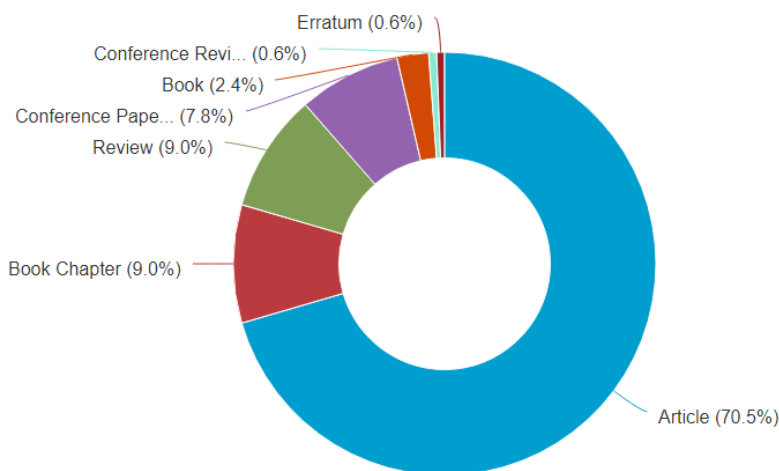


Fig. 4. Document Types of Educational Linguistics Publication

Educational Linguistics study findings have been published in a variety of types. Article (n = 117 or 70.5 percent) was the highest publications document types in educational linguistics. Persuade by Book Chapter (n = 15 or 9.0 percent), Review (n = 15 or 9.0 percent), Conference Paper (n = 13 or 7.8 percent), Book (n = 4 or 2.4 percent), Conference Review (n = 1 or 0.6 percent), and Erratum (n = 1 or 0.6 percent).

### 3.5 Educational Linguistics Documents Publications Sources by Year

Table 1. Number Sources of the Educational Linguistics Research

Scientific journals	SJR	Article
Calidoscopio	0.12	4
Porta Linguarum	0.55	4
Cahiers De Recherches Medievales	0.1	3
International Journal Of Environmental And Science Education	0	3
Izvestiya Vysshikh Uchebnykh Zavedenii Seriya Tekhnologiya Tekstil Noi Promyshlennosti	0.2	3
Life Science Journal	0	3

Educational linguistics research has been published in 114 publications sources. According to sources in educational linguistics research, "Calidoscopio" has the highest number of publications per year with SJR 0.12 (n = 4), and "Porta Linguarum", SJR 0.55 (n = 4). After that comes "Cahiers De Recherches Medievales", SJR 0.1 (n = 3); "International Journal Of Environmental And Science Education", SJR 0 (n = 3); "Izvestiya Vysshikh Uchebnykh Zavedenii Seriya Tekhnologiya Tekstil Noi Promyshlennosti", SJR 0.2 (n = 3); and "Life Science Journal", SJR 0 (n = 3).

The SCImago Journal Rating (SJR) assigns a value to journals based on their average prestige per article, as well as their subject area, quality, and repute. SJR indicators of 0 to 0.55 are seen in the most productive journals that publish educational linguistics research (Scimago Lab, n.d.).

### 3.6 Educational Linguistics Sector Annual Publications

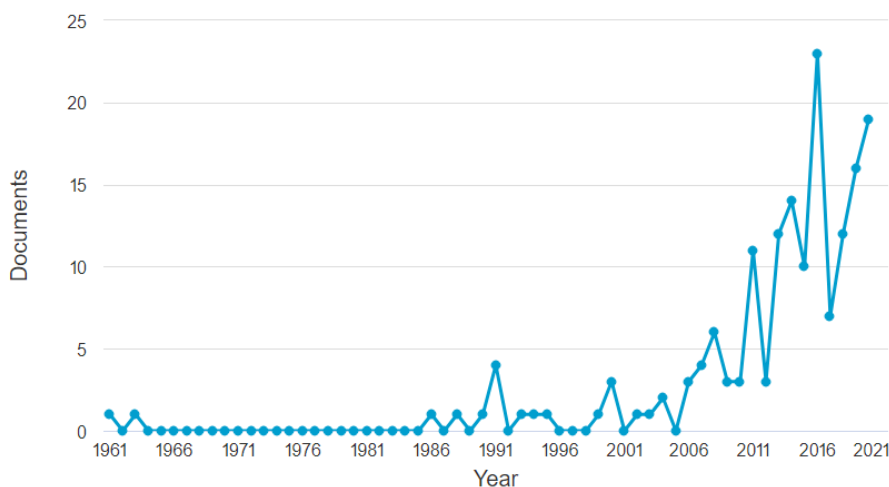


Fig. 5. Educational Linguistics Sector Annual Publications

Annual international publications in educational linguistics research is on the rise each year. With 23 documents, Figure 5 illustrates the highest peak of publishing in 2016. The study of educational linguistics has been carried on since 1961. Educational linguistics has 19 documents in 2020, 16 documents in 2019, 12 documents in 2018, 7 documents in 2017, 10 documents in 2015, 14 documents in 2014, and 12 documents in 2013.

### 3.7 Educational Linguistics Publications Document Citation

Table 2. Document Cited of Educational Linguistics Publication

NO	Document title	Authors	Year	Source	Cited by
1	The threshold hypothesis, semilingualism, and other contributions to a deficit view of linguistic minorities	MacSwan, J.	2000	Hispanic Journal of Behavioral Sciences 22(1), pp. 3-45	128
2	Buzz Without Being There? Communities of Practice in Context (Book Chapter)	Gertler, M.S.	2008	<i>Community, Economic Creativity, and Organization</i>	106
3	Standart English and the politics of language: Second edition (Book)	Crowley, T.	2003	<i>Standard English and the Politics of Language: Second Edition</i> pp. 1-292	74
4	Linguistic mudes: How to become a new speaker in Catalonia	Pujolar, J., Puigdevall, M.	2015	International Journal of the Sociology of Language 2015(231), pp. 167-187	73
5	Higher education teachers' attitudes towards English medium instruction: A three-country comparison	Deaeden, J., Macaro, E.	2016	Studies in Second Language and Teaching 6(3), pp. 455-486	61

With 128 citations, MacSwan, J.'s article "The threshold hypothesis, semilingualism, and other contributions to a deficit view of linguistic minorities" was the most highly cited publication in 2000. Macswan, Jeff from University of Maryland, College Park, College Park, United States. His subject areas are Social Sciences, Arts and Humanities, Psychology. He has 13 *h*-index and 745 citations by 617 documents (Elsevier B.V., n.d.-d).

### 3.8 The Most Common Subject Area in Educational Linguistics Research

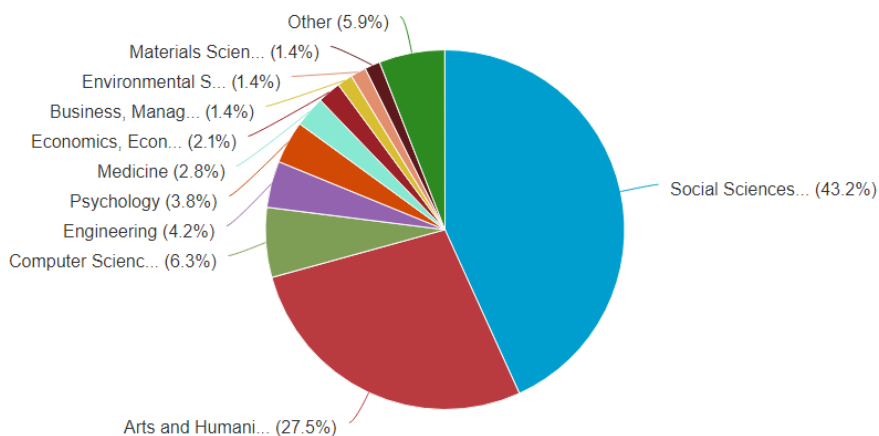


Fig. 6. The Most Common Subject Area in Educational Linguistics Research

Educational linguistics has been studied across a variety of subjects areas. Social Sciences (n =124 or 43.2 percent) was the higher subject area in educational linguistics research. Then Arts and Humanities (n = 79 or 27.5 percent) was next, Computer Science (n = 18 or 6.3 percent), Engineering (n = 12 or 4.2 percent), Psychology (n = 11 or 3.8 percent), Medicine (n = 8 or 2.8 percent), Economics, Econometrics and Finance (n = 6 or 2.1 percent), Business, Management and Accounting (n = 4 or 1.4 percent), Environmental Science (n = 4 or 1.4 percent), Materials Science (n = 4 or 1.4 percent), and other 5.9 percent.

### 3.9 Theme Map of Educational Linguistics Research

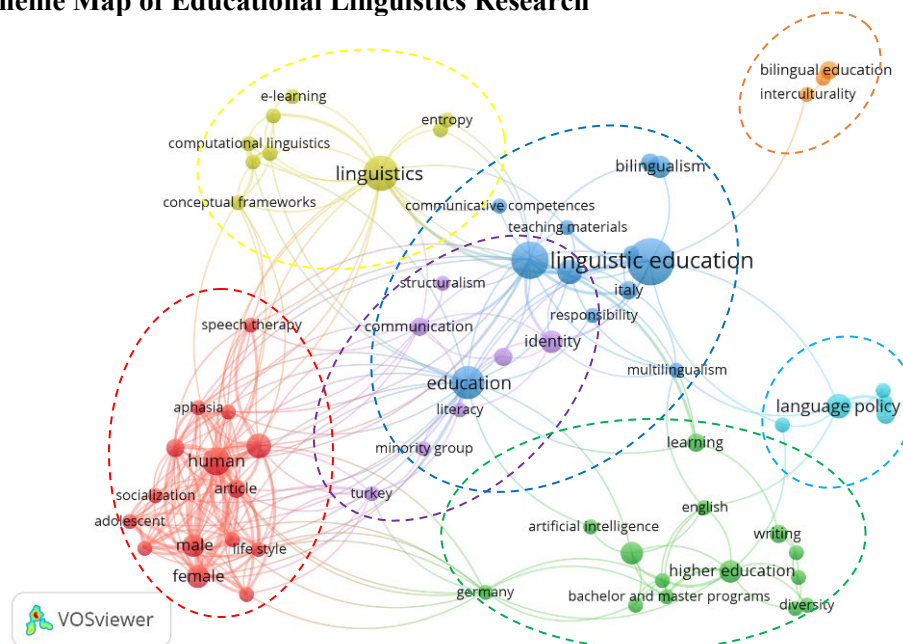


Fig. 7. Theme Map of Educational Linguistics Research

The research theme map is a review that aims to find educational linguistics research based on published keyword correlations. For the research theme map's educational linguistics, the VOSViewer tool was used to examine and show the growth of the educational linguistics keyword scheme. Two repeats were required for the minimum quantity of keyword-related articles. As a result, 768 out of 74 keywords fulfill the criteria.

Based on research keywords, Figure 7 depicts seven research subject groupings for international academic publications in educational linguistics, which have been condensed and abbreviated as HECLILB themes.

1. Human cluster (red). Child, child development, female, lifestyle, male, psychology, questionnaire, socialization, and speech therapy are all included in this cluster. The majority of these terms were connected to this cluster.
2. Education cluster (blue). This cluster consists of education keywords, such as bilingualism, communicative competences, ethnicity, grammar, Italy, language, linguistic education, multilingualism, and teaching.
3. Computational Linguistics cluster (yellow). In this cluster dominated by conceptual frameworks, e-learning, entropy, human computer interaction, interaction, linguistics, sematic analysis, and semantics.
4. Language Learning cluster (green). The dominant keywords in this cluster are bachelor and master programs, curriculum, diversity, english, Germany, higher education, international experience, learning, pedagogy, research, and writing.
5. Identity cluster (purple). This cluster includes communication, competence, identity, literacy, minority group, structuralism, and Turkey.
6. Language Policy cluster (light blue). This cluster is linked by 19th century, language education, language of instruction, language planning, and language policy.
7. Bilingual Education cluster (orange). This cluster consists of bilingual education, interculturality, and sociolinguistics.

### 3.10 Authorship Network in Educational Linguistics Publication

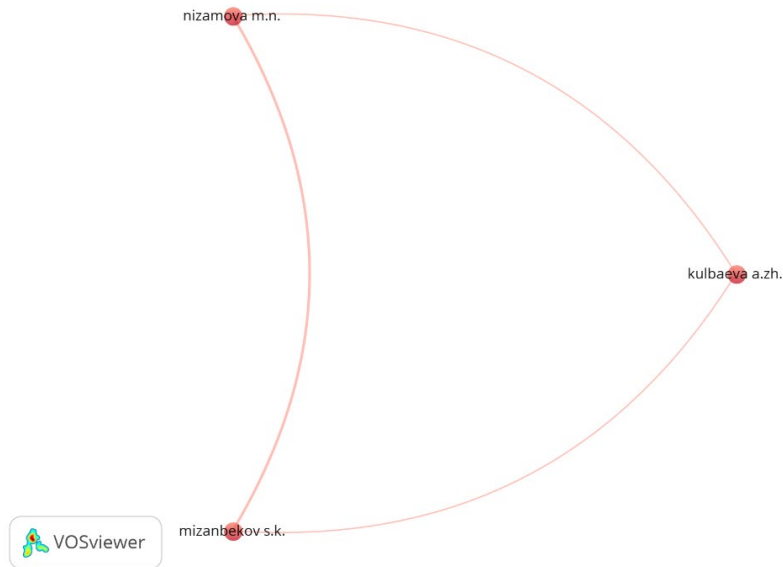


Fig. 8. Authorship Network in Educational Linguistics Publication

Educational linguistics studies have been studied by various of research groups. The VOSViewer tool, which is based on the educational linguistics researcher framework, was used to construct the authorship network map. One of the requirements for a minimum collection of research articles per author was two documents. As a result, 337 out of 11 authors were deemed to fit the criteria. There is a group collaboration network amongst worldwide academics in educational linguistics research papers, as indicated in figure 8.

The first authorship network in educational linguistics publication is Nizamova, M.N., who affiliated in University of International Business, Almaty, Kazakhstan. Makhinur Nizamova affiliations' history are Al Farabi Kazakh National University, Almaty, Kazakhstan since 2019; and Almaty Technological University, Almaty, Kazakhstan since 2015. The subject area that Makhinur Nizamova field are business, management and accounting; materials science; engineering; and computer science. Makhinur Nizamova has 23 documents, 5 citations by 5 documents, and 2 *h*-index (Elsevier B.V., n.d.-f). The second authorship is Kulbaeva, A.Zh., from Almaty Technological University, Kazakhstan. Kulbaeva, A.Zh. studied in Almaty Technological University, Almaty, Kazakhstan since 2016. Kulbaeva, A.Zh. subject areas are Business, Management and Accounting; Materials Science; and Engineering. Kulbaeva, A.Zh. has 8 documents, 1 citation by 1 document, and 1 *h*-index (Elsevier B.V., n.d.-c). And the last authorship network is Mizanbekov, S. K., from National University Named after Al Farabi., Russian Federation. Serik Mizanbekov affiliations' histories are Almaty Technological University, Almaty, Kazakhstan since 2016; RUDN University, Moscow, Russian Federation since 2019. Serik Mizanbekov has several subject areas, including Materials Science; Business, Management and Accounting; Engineering; and Computer Science. Serik Mizanbekov has 27 documents, 3 citations by 3 documents, and 1 *h*-index (Elsevier B.V., n.d.-e).

#### 4. Conclusion

The number of worldwide publications in educational linguistics, as well as maps and visual patterns, has been expanding year after year, according to the findings. The higher research organization in educational linguistics was Kazan Federal University in Russian Federation with 6 documents. Dearden Julie from University of Oxford, Oxford, United Kingdom since 2016, has 4 *h*-index and 353 citations was the most individual researcher in field of educational linguistics research with 2 documents. The United States was the most nation research in educational linguistics publications with 24 documents. Article was the highest publications document types in educational linguistics with 117 documents or 70.5%. According to sources in educational linguistics research, "Calidoscopio" has the highest number of publications per year with SJR 0.12 with 4 documents. In 2016 was the highest peak of annual international publications in educational linguistics research with 23 documents. Macswan, Jeff from University of Maryland, College Park, College Park, United States was the most highly cited publication in 2000

with article "The threshold hypothesis, semilingualism, and other contributions to a deficit view of linguistic minorities".

This study proposes a categorization of the convergence axis, which includes educational linguistics articles, in terms of knowledge contributions: Human, Education, Computational Linguistics, Language Learning, Identity, Language Policy, and Bilingual Education, abbreviated as HECLILB topics. As a result of establishing main themes in the educational linguistics sector, practical studies are necessary to define broad backgrounds and subjects, as well as study gaps, and the necessity for them is becoming more apparent. All of this will result in further investigations into the fields' lack of advanced knowledge and analysis. Educational linguistics' ability to contribute to education, human behavior, knowledge, and language learning is a hot topic.

## Acknowledgments

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**Fatkul Anam** is an Associate Professor and lecturer of Teacher Professional Education Department at the Universitas Wijaya Kusuma Surabaya, Surabaya, Indonesia. Mr. Anam is a Rector of Universitas Nahdlatul Ulama Sidoarjo, Indonesia. He earned a Bachelor of Education from Universitas Negeri Surabaya, Indonesia; a Master of Science from Universitas Gadjah Mada, Indonesia; and P.hD of Education from Universitas Negeri Malang, Indonesia. He has published several journals, conference papers, and books.

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