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The Research Trends of Multilingualism in Applied Linguistics and Education (2000–2019): A Bibliometric Analysis

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Abstract: This study explored the state of the arts of bilingualism or multilingualism research in the past two decades. In particular, it employed a bibliometric method to examine the publication trend, the main publication venues, the most influential articles, and the important themes in the area of bilingualism or multilingualism. The main findings are summarised as follows. First, a significant increase of publications in the area was found in the past two decades. Second, the main publication venues and the most influential articles were reported. The results seemingly indicated that the research in the area focused largely on two broad categories, that is, (1) bilingualism or multilingualism from the perspective of psycholinguistics and cognition research and (2) how second/additional languages are learned and taught. Last, the important themes, including the hot and cold themes, were identified. Results showed that researchers prefer to study bilingualism or multilingualism more from deeper cognition levels such as *metalinguistic awareness*, *phonological awareness*, and *executive control*. Also, they may become more interested in the issue from *multilingual* perspectives rather than from the traditional *bilingual* view. In addition, the theme *emergent bilinguals*, a term closely related to *translanguaging*, has recently gained its popularity, which seemingly indicates a recent advocate for *heteroglossic language ideologies*.

Keywords: multilingualism; bilingualism; research trends; bibliometric analysis; translanguaging

1. Introduction

Bilingualism or multilingualism refers to the use of more than one language by individuals or a group of people. Researchers have a different understanding and categorisation of bilinguals/bilingualism and multilinguals/multilingualism (see [1] for a detailed discussion). In the present study, we do not distinguish bilinguals/bilingualism and multilinguals/multilingualism and use the terms interchangeably. In most cases, we use "bilingualism or multilingualism" to refer to the use of more than one language, which includes both bilingualism (the use of two languages) and multilingualism (the use of three or more languages). It was estimated that more than 60% of children grow up in a bilingual environment and have gradually gained competence in both languages [2]. In addition, approximately more than one third of the world's population regularly speak two or more languages and even more people occasionally use a language other than their mother tongue [1]. Due to the pervasive presence of multilingualism and its close relation to the cognitive development of the human being, the issue has long attracted attention from a wide range of areas in academia, such as applied linguistics, education, and psychology, or the overlapping areas of the preceding areas such as psycholinguistics and educational psychology.

Studies of multilingualism in the areas of applied linguistics and education is broadly categorized into several lines of research such as multilingualism and cognition, multilingualism and

second/additional language acquisition, and multilingualism and language policy. First, researchers are interested in the relationship between multilingualism and cognition. In the first half of the 20th century, bilingualism or multilingualism were considered as a cognitive disadvantage [3], since bilingual or multilingual children might score lower on verbal tests of cognitive capabilities [4]. Based on such findings, bilingualism or multilingualism was considered as "the problem of the bilingual child" [5] and "one of the chief factors in producing mental retardation" [6]. However, recent studies prefer to view bilingualism or multilingualism as an advantage since it has been found that bilingual or multilingual people may come out with cognitive advantages [7] such as increased attentional control [8], metalinguistic awareness [9,10], working memory [11,12], and problem solving capabilities [13]. Of course, researchers may not always agree with the point of bilingual advantages and studies have found no significant difference between bilinguals and monolinguals such as [14], [15], and [16] in terms of the previous mentioned points such as cognitive advantages and working memory (see [17] for a recent review on this topic).

Second, researchers are interested in the relationship between multilingualism and second/additional language acquisition. For example, researchers are interested in how the language information of a bilingual or multilingual is represented and processed in the mind [18–22]. In addition, people have investigated how the languages are acquired or learned [23–26] or attritted or lost [27–29]. Researchers have also explored bilingualism or multilingualism in classrooms [30–33].

Last, researchers have examined bilingualism or multilingualism from the perspective of language policy. For example, numerous studies have explored the bilingual or multilingual policy in various countries and regions such as France [34], Cameroon [35], and the Arabian Peninsula [36]. Other topics in this line of research include bilingualism or multilingualism policy and politics [37,38], bilingual language policy in classrooms [39,40], bilingual language policy in universities [41,42], and bilingual language policy in family [43–45].

Since a large number of studies in the area have been performed, it would be of interest to examine the research trends in bilingualism or multilingualism. Hence, the present study aims to explore the landscape or the state of the arts of bilingualism or multilingualism research in the past two decades with a bibliometric method. In particular, the following research questions are to be addressed in the present study.

1. What is the publication trend in the area of bilingualism or multilingualism?
2. What are the main publication venues in the area of bilingualism or multilingualism?
3. What are the most influential articles in the area of bilingualism or multilingualism?
4. What are the important research themes, including hot and cold themes, in the area of bilingualism or multilingualism?

2. Methods

The bibliometric approach [46–48] was used in the present study and the methods for data retrieval and processing are described as follows. The bibliometric approach, also known as *informetrics* [49] or *scientometrics* [50], refers to the quantitative analysis of academic literature based on relevant bibliometric information such as the authors, the publication venues, and citation counts [51]. First, the database of Web of Science Core Collection (indexed in SSCI and A&HCI) was retrieved on January 20, 2020. The database was used for the reason that they included high-impact journal publications as well as their corresponding bibliometric information such as the authors, the journals, the abstracts, and the article citation counts that were to be used for the bibliometric analyses in this study. The queries presented in Table 1 were used to extract the bibliometric information that was necessary for the follow-up analyses. To be specific, the purpose of the retrieval was to search the articles of bilingualism or multilingualism in the areas of linguistics and education that were published in English from 2000 and 2019. We set 2000 as the starting year of the queries since the database in our university library starts at 2000. In addition, we retrieved articles in the areas of linguistics and education since (1) most

articles pertinent to bilingualism or multilingualism were published in journals in the two areas, and (2) such an option not only matches our research expertise but also fits well the theme of the special issue. Furthermore, the combined query "(TS = bilingual* OR TS = multilingual*)" was used to retrieve all publications in the database that contained key words such as "bilingual*" or "multilingual*" (i.e., "bilingual", "bilinguals", "bilingualism", "multilingual", "multilinguals", and "multilingualism") in the titles or abstracts. At this step, a total of 7216 entries were found by the queries.

Table 1. Retrieval queries.

(from Web of Science Core Collection)
(TS = bilingual* OR TS = multilingual*) AND LANGUAGE: (English) AND DOCUMENT TYPES: (Article)
Refined by: WEB OF SCIENCE CATEGORIES: (Linguistics OR Language Linguistics OR Education
Educational Research OR Psychology Educational OR Education Special OR Education Scientific Disciplines)
Timespan: 2000–2019. Indexes: SSCI, A&HCI.

Second, the detailed bibliometric information of the entries was then downloaded. The bibliometric information of the entries included article titles, authors, journal titles, publishing years, abstracts, citation counts of each article, etc. The entries without information such as the publishing year, the journal title, or an abstract were excluded, and the remaining 6909 entries were employed for the follow-up analyses.

Third, the number of articles published in each year of the examined span was calculated for the analysis of the publication trend. Also, the information of journal titles was used and counted for the analysis of the main publication venues.

Fourth, the information of citation counts of each article was used for the analysis of the most influential articles. The number of citations that an article receives is closely related with the number of years it has published. That is, the longer an article has been published, the more citations it may have received. Hence, the citation counts of each article were normalised with the following formula based on the common practice of previous bibliometric research such as [48].

$$\text{Normalised citation} = \frac{\textit{Raw citation of an article}}{\textit{Total number of citations in the publishing year}} \quad (1)$$

Last, the important themes as well as the hot and cold themes in bilingualism or multilingualism were extracted based on the methods used in [52]. That is, all abstracts were first parsed for their sentence-level syntactic dependency relations with spaCy with homemade Python scripts. Then, the noun phrases were extracted out of the dependency parsing results. In the present study, we, following [53], defined a topic or a theme as a lexical noun phrase (the structure criterion) that occurs frequently across a wide range of texts (the repetition criterion). It should be noted that the specification of the thresholds for frequency and range of a theme is contingent. That is, it depends on many factors such as the data size used in the study and the research purpose. Also, the structure and repetition criteria may not guarantee that a frequent lexical noun phrase is a topic or a theme, and a manual check by the researchers or professionals (in case the researchers are not in the examined area) is needed. Next, the important themes were filtered in out of the candidate noun phrases with their frequency and range. Several rounds of experiments were performed in order to find the optimal criteria of frequency and range. The final criteria were set at 30 for both frequency and range, that is, a noun phrase may be considered as an important research theme in bilingualism or multilingualism if it occurs at least 30 times in at least 30 abstracts. The two researchers first individually judged if the candidate noun phrases were themes in bilingualism or multilingualism. They then discussed together and agreed that all the extracted candidates noun phrases were themes in the area. Finally, the hot and cold themes in the research themes were identified across the examined two decades with the normalised frequency of each research theme. The normalised frequency of each research theme was calculated with the following formula and the hot and cold themes were identified with

a first-order autoregressive model. The first-order autoregressive model is a linear regression model that examines the trend of a group of values on a time series. It has been widely used to detect the research trend of themes such as in [52,54]. In the present study, the hot themes are those that have been detected a significant increase in use in the examined span by the autoregressive model, while the cold themes are those that have significantly decreased in use in the examined period. The first-order autoregressive model was fit with the packages *forecast* and *lmtest* in the R language [55].

$$\text{Normalised frequency of each year} = \frac{Raw\ frequenncy}{Number\ of\ abstracts\ in\ each\ year} \quad (2)$$

3. Results and Discussion

In this section, major findings of the present study are reported.

3.1. Publication Trend

The number of articles published in the area of bilingualism or multilingualism is presented in Table 2. A linear regression model was fit and results showed that the number of articles published in the examined decades increased significantly ($F(1,18) = 339.2$, $p. = 3.973 \times 10^{-13}$, Multiple R-squared = 0.9496, Adjusted R-squared = 0.9468). The publication trend is illustrated in Figure 1. The results that more articles have been published may indicate that bilingualism or multilingualism have attracted increasing attention in the examined years.

Table 2. Number of publications published per year.

Year	Number of Publications
2019	742
2018	811
2017	708
2016	657
2015	499
2014	476
2013	484
2012	441
2011	437
2010	367
2009	281
2008	237
2007	177
2006	132
2005	118
2004	78
2003	68
2002	75
2001	66
2000	55
Total	6909

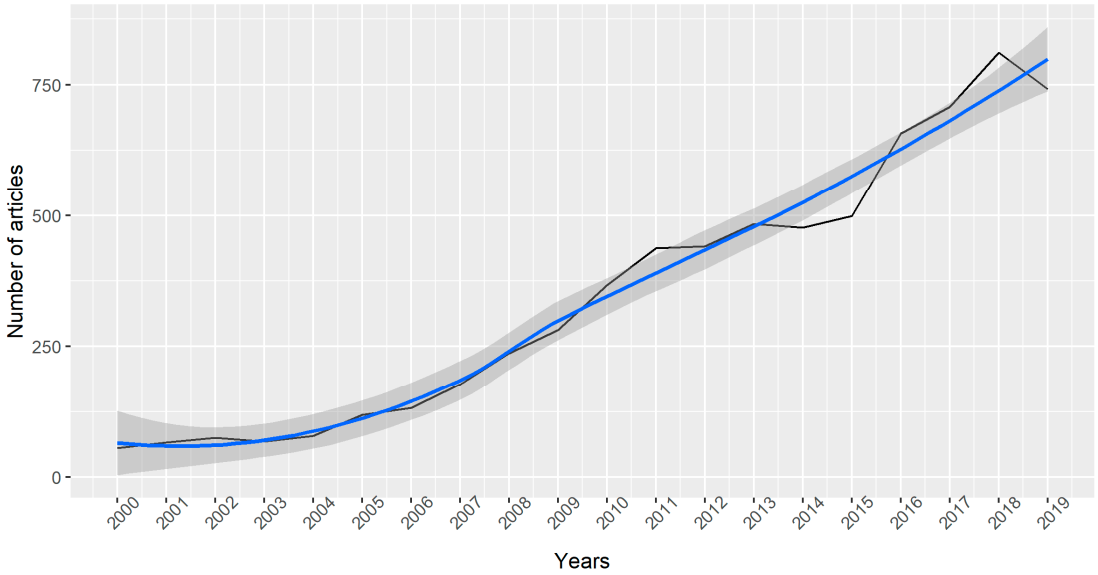

Figure 1. Publication trend in the examined decades.

3.2. Main Publication Venues

The top 20 journals in terms of the number of publications are presented in Table 3. The journals are the main publication venues of articles in bilingualism or multilingualism. It is obvious that approximately a half of the journals (nine journals) are in the areas of psycholinguistics, neurolinguistics, and cognition studies (i.e., *Bilingualism-Language and Cognition*, *International Journal of Bilingualism*, *Applied Psycholinguistics*, *Journal of Speech Language and Hearing Research*, *Brain and Language*, *Clinical Linguistics & Phonetics*, *Journal of Neurolinguistics*, *Journal of Memory and Language*, and *Journal of Psycholinguistic Research*). Of the remaining journals, seven are in the areas of education and second language learning (*International Journal of Bilingual Education and Bilingualism*, *Language and Education*, *Linguistic Approaches to Bilingualism*, *Language Learning*, *Reading and Writing*, *Journal of Child Language*, and *Southern African Linguistics and Applied Language Studies*). The preceding findings showed that most studies investigate the issue of bilingualism or multilingualism from the perspective of language representation and processing and cognition development as well as how second or additional languages are learned and taught. Other journals include those in the areas of cross- or inter-cultural communication/development (*Journal of Multilingual and Multicultural Development*, *Multilingua-Journal of Cross-Cultural and interlanguage Communication*, and *Journal of Pragmatics*) and lexicography (*Lexikos*).

Table 3. Top 20 publication venues.

Rank	Journals	Number of Publications
1	*Bilingualism-Language and Cognition*	513
2	*International Journal of Bilingual Education and Bilingualism*	325
3	*International Journal of Bilingualism*	307
4	*Journal of Multilingual and Multicultural Development*	178
5	*Applied Psycholinguistics*	151
6	*Journal of Speech Language and Hearing Research*	136
7	*Brain and Language*	120
8	*Language and Education*	116
9	*Linguistic Approaches to Bilingualism*	113
10	*Multilingua-Journal of Cross-Cultural and interlanguage Communication*	94
11	*Clinical Linguistics & Phonetics*	90
12	*Journal of Neurolinguistics*	88
13	*Journal of Pragmatics*	87
14	*Language Learning*	86

Table 3. *Cont.*

Rank	Journals	Number of Publications
15	*Journal of Memory and Language*	80
16	*Reading and Writing*	77
17	*Journal of Psycholinguistic Research*	76
18	*Journal of Child Language*	72
19	*Southern African Linguistics and Applied Language Studies*	72
20	*Lexikos*	68

3.3. Influential Articles

We presented the top 20 most influential articles in terms of normalised citations in Table 4. Similar to the findings of main publication venues in the previous section, the influential articles can be broad categorized into two areas, that is, bilingualism or multilingualism from the perspective of psycholinguistics and cognition research [10,56–65] and how second/additional languages are learned and taught [23,30,66–72].

The two most recent articles of the top 20 highly cited ones are [30,67], both of which discuss the issue of translanguaging. Translanguaging has recently attracted much attention in the area of bilingualism or multilingualism. It was originally used to refer to the pedagogical practice of using more than one language (such as the target second language and the learner's mother tongue) in classroom teaching [73]. Such an understanding of the term has been widely discussed and advocated in works such as [30,74,75]. Li [67], however, extends translanguaging to a practical theory of language which takes language as a resource for people to think and to communicate. Hence, translanguaging, as [67] argues, goes much beyond the pedagogical practice and may serve as a transdisciplinary theory across the overlapping research areas such as linguistics, education, and psychology.

Table 4. Top 20 influential articles.

Authors	Year	Title	Journals	Raw Citation	Normalised Citation
Dijkstra & van Heuven	2002	The architecture of the bilingual word recognition system: From identification to decision	*Bilingualism-Language and Cognition*	537	0.1620
Costa & Santesteban	2004	Lexical access in bilingual speech production: Evidence from language switching in highly proficient bilinguals and L2 learners	*Journal of Memory and Language*	377	0.0955
Piske, et al.	2001	Factors affecting degree of foreign accent in an L2: a review	*Journal of Phonetics*	337	0.0945
Hernandez, et al.	2000	In search of the language switch: An fMRI study of picture naming in Spanish-English bilinguals	*Brain and Language*	205	0.0861
Marion, et al.	2007	The Language Experience and Proficiency Questionnaire (LEAP-Q): Assessing language profiles in bilinguals and multilinguals	*Journal of Speech Language and Hearing Research*	513	0.0830
Geva & Siegel	2000	Orthographic and cognitive factors in the concurrent development of basic reading skills in two languages	*Reading and Writing*	190	0.0798

Table 4. *Cont.*

Authors	Year	Title	Journals	Raw Citation	Normalised Citation
Li	2018	Translanguaging as a practical theory of language	*Applied Linguistics*	116	0.0794
Cook	2001	Using the first language in the classroom	*Canadian Modern Language Review-Revue Canadienne Des Langues Vivantes*	279	0.0782
Jiang	2000	Lexical representation and development in a second language	*Applied Linguistics*	175	0.0735
Creese & Blackledge	2010	Translanguaging in the bilingual classroom: A pedagogy for learning and teaching?	*Modern Language Journal*	576	0.0726
Carlo, et al.	2004	Closing the gap: Addressing the vocabulary needs of English-language learners in bilingual and mainstream classrooms	*Reading Research Quarterly*	271	0.0686
Bialystok	2009	Bilingualism: The good, the bad, and the indifferent	*Bilingualism-Language and Cognition*	352	0.0592
de Groot & Keijzer	2000	What is hard to learn is easy to forget: The roles of word concreteness, cognate status, and word frequency in foreign-language vocabulary learning and forgetting	*Language Learning*	132	0.0554
Hahne	2001	What's different in second-language processing? Evidence from event-related brain potentials	*Journal of Psycholinguistic Research*	195	0.0547
Jared & Kroll	2001	Do bilinguals activate phonological representations in one or both of their languages when naming words?	*Journal of Memory and Language*	193	0.0541
Bosch & Sebastian-Galles	2003	Simultaneous bilingualism and the perception of a language-specific vowel contrast in the first year of life	*Language and Speech*	188	0.0541
Gersten & Baker	2000	What we know about effective instructional practices for English-language learners	*Exceptional Children*	126	0.0529
Wharton	2000	Language learning strategy use of bilingual foreign language learners in Singapore	*Language Learning*	126	0.0529
Bialystok, et al.	2003	Developing phonological awareness: Is there a bilingual advantage?	*Applied Psycholinguistics*	181	0.0521
Gutierrez-Clellen & Kreiter	2003	Understanding child bilingual acquisition using parent and teacher reports	*Applied Psycholinguistics*	179	0.0515

3.4. Important Research Themes of Bilingualism or Multilingualism

A total of 82 research themes met the threshold of frequency and range and were hence detected and extracted. The important research themes in bilingualism or multilingualism are presented in Table 5.

Table 5. Important research themes.

Themes	Raw Frequency	Range	Ar1 Coefficient	*p*.
Bilingual children	593	382	−0.2547	0.2755
Bilingual education	267	199	0.2905	0.3860
Language use	242	197	0.0897	0.7258
Native speakers	175	139	0.0571	0.7956
Bilingual speakers	156	132	0.3437	0.1456
Emergent bilinguals	67	44	0.9036	0.0000
Monolingual children	142	111	−0.1099	0.6685
Language proficiency	142	116	−0.1952	0.4906
Language impairment	115	79	0.0067	0.9785
Language policy	115	95	0.1993	0.3573
Language learning	111	98	−0.3046	0.1487
Different languages	111	104	−0.1447	0.5193
Second language	107	103	0.3465	0.0947
Higher education	101	74	0.1205	0.6126
Language dominance	98	71	0.2716	0.2420
Working memory	98	71	0.1627	0.5990
Specific language impairment	90	83	−0.2212	0.3457
Language development	88	74	0.2864	0.1921
Heritage speakers	86	51	0.2337	0.2916
Language choice	86	62	−0.0998	0.6565
Young children	84	68	−0.1061	0.6293
Multilingual students	50	34	0.7032	0.0011
Language contact	82	71	0.1415	0.5538
Language acquisition	81	74	−0.3810	0.0703
Second language acquisition	79	72	0.2435	0.2998
Cross–linguistic influence	78	53	0.3439	0.1190
Late bilinguals	78	56	−0.1509	0.5187
Language ideologies	78	59	0.1600	0.4801
Early bilinguals	76	52	−0.2177	0.3258
Morphological awareness	70	33	−0.0291	0.9007
Multilingual children	57	34	0.6016	0.0006
First language	67	66	0.2761	0.2191
Linguistic diversity	55	49	0.5661	0.0037
First grade	62	33	−0.0209	0.9248
Cognitive control	59	43	0.3793	0.0844
L2 learners	57	45	0.0352	0.9075
L2 proficiency	57	41	0.0463	0.8427
Socioeconomic status	48	43	0.5649	0.0024
Monolingual speakers	55	44	−0.1096	0.6869
Deaf children	71	37	0.5065	0.0079
Lexical access	54	44	−0.0600	0.7952
Translation equivalents	53	42	0.2355	0.2839
Bilingual aphasia	53	37	−0.1231	0.7058
Language policies	53	46	0.3993	0.0547
Bilingual dictionaries	47	35	0.5051	0.0084
Metalinguistic awareness	52	33	0.4977	0.0103
Multiple languages	83	70	0.4585	0.0251
L2 acquisition	50	48	−0.0400	0.8644
Phonological awareness	155	91	0.4572	0.0193
Native English speakers	49	38	0.0770	0.7352

Table 5. *Cont.*

Themes	Raw Frequency	Range	Ar1 Coefficient	*p*.
Literacy development	31	30	0.4453	0.0393
Language processing	48	42	−0.1436	0.5342
Language education	48	40	0.3763	0.0770
Language switching	47	30	−0.5132	0.1726
Executive control	50	33	0.4254	0.0435
Multilingual contexts	47	44	−0.0803	0.7563
Vocabulary knowledge	49	43	−0.4714	0.0167
Language learners	46	43	0.2990	0.2175
Bilingual development	45	37	0.0928	0.6851
Speech-language pathologists	45	32	0.3928	0.0576
Speech production	44	38	0.1134	0.6432
Sign language	44	30	−0.3897	0.4223
Minority languages	44	38	0.1178	0.6142
Word reading	42	37	0.2039	0.3656
Language practices	42	38	−0.0048	0.9834
Multilingual education	42	37	0.3895	0.0658
Language planning	42	30	0.1899	0.3922
Word recognition	41	33	−0.2995	0.4157
Language shift	41	37	−0.4096	0.0544
Receptive vocabulary	40	32	0.3116	0.2136
Monolingual and bilingual children	40	34	−0.2616	0.2335
L2 speakers	40	34	0.0406	0.8656
Language experience	40	36	−0.3942	0.0603
Language exposure	39	32	−0.0644	0.7781
Multilingual settings	38	37	−0.3845	0.0675
Academic achievement	37	32	−0.2253	0.4761
Language production	36	32	−0.1239	0.5865
Language teaching	35	32	0.0134	0.9539
Bilingual individuals	35	33	0.1009	0.6660
Bilingual acquisition	34	31	0.3750	0.1649
American sign language	34	34	−0.1841	0.4470
Bilingual students	68	54	−0.7253	0.0003

We fit first-order autoregression models to detect the hot and cold themes in bilingualism and or multilingualism. A total of 12 hot themes, those that had gained significantly more attention in the examined period, were detected. Meanwhile, two cold themes, those that had received significantly less attention, were identified. See Table 6 for the details.

Table 6. Hot and cold themes.

Themes	Raw Frequency	Range	Ar1 Coefficient	*p*.
Emergent bilinguals	67	44	0.9036	0.0000
Multilingual students	50	34	0.7032	0.0011
Multilingual children	57	34	0.6016	0.0006
Linguistic diversity	55	49	0.5661	0.0037
Socioeconomic status	48	43	0.5649	0.0024
Deaf children	71	37	0.5065	0.0079
Bilingual dictionaries	47	35	0.5051	0.0084
Metalinguistic awareness	52	33	0.4977	0.0103
Multiple languages	83	70	0.4585	0.0251
Phonological awareness	155	91	0.4572	0.0193
Literacy development	31	30	0.4453	0.0393
Executive control	50	33	0.4254	0.0435
Vocabulary knowledge	49	43	−0.4714	0.0167
Bilingual students	68	54	−0.7253	0.0003

Vocabulary knowledge has received significantly less attention, which suggests that this topic/theme has not garnered extensive attention in bilingualism or multilingualism research. Rather, they prefer to examine the issue more from deeper cognition levels such as *metalinguistic awareness*, *phonological awareness,* and *executive control*.

In addition, it is of interest to find that the theme of *bilingual students* has also lost its popularity in the past two decades. In contrast, researchers may become more interested in the issue from multilingual and more diverse perspectives, which is evidenced by the occurrence of such hot themes as *multiple languages, multilingual students*, *multilingual children*, and *linguistic diversity*. Researchers may also have attempted to address the concerns from the perspective of special groups of learners (*deaf children*) and socioeconomic views (*socioeconomic status*).

Last, the theme *emergent bilinguals*, which is closely related to *translanguaging* as discussed in the previous section, has recently gained its popularity in academia. Following [76], researchers such as [77–79] *emergent bilinguals* to refer to immigrant children who may learn the second/additional language at school while they still speak their mother tongue at home. Such a term, different from previously used popular terms such as *bilingual students/learners*, shows a recent advocate for *heteroglossic language ideologies* from *monoglossic language ideologies* [79].

4. Conclusions

In this study, we examined the research trends of bilingualism or multilingualism in the past two decades. The main findings are summarised as follows. First, a significant increase of publications in the area was found in the past two decades. Second, the main publication venues and the most influential articles were reported. The results seemingly indicated that the research in the area focused largely on two broad categories, specifically, (1) bilingualism or multilingualism from the perspective of psycholinguistics and cognition research and (2) how second/additional languages are learned and taught. Last, the important themes, including the hot and cold themes were identified. Researchers prefer to examine bilingualism and or multilingualism more from deeper cognition levels such as *metalinguistic awareness*, *phonological awareness*, and *executive control*. Also, they may become more interested in the issue from *multilingual* perspectives rather than the traditional *bilingual* view. The theme *emergent bilinguals*, a term closely related to *translanguaging*, has recently gained its popularity in academia, which seemingly indicates a recent advocate for *heteroglossic language ideologies* [79]. While the issue of bilingualism or multilingualism has attracted more attention in academia as the findings of the present study suggest, it may not only serve as a language issue or a concept in academia. In fact, it is closely related to social factors such as politics, culture, and economy [1]. For example, hot themes identified in the study such as *emergent bilinguals* and *translanguaging* are pertinent to the social or cultural identities of language learners. Hence, the issue of bilingualism or multilingualism may also play a role in the sustainable development, particularly when bilingualism or multilingualism is pervasive in the world [2].

Although the study has obtained findings that may illuminate the research area, it is limited in the type and discipline of the data. Only journal articles in linguistics and education science were used for the analyses. Future research may extend the study to other data types such as theses, dissertations, edited books, and monographs in linguistics and education, as well as other disciplines such as psychology and sociology in order to map a fuller picture of the state of the arts and research trends in the area of bilingualism or multilingualism.

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