

## BIBLIOMETRIC ANALYSIS OF THE DOCUMENT INDEX ON SCOPUS ABOUT TEACHER IN PRIMARY SCHOOL FROM 2012-2021

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### ABSTRACT

The increased interest of the scientific community in the investigation of elementary school teachers is reflected in the volume of material written on the subject. However, there is a paucity of thorough and systematic research that focuses on primary school teachers as key characters in promoting children's learning and development and school quality. The primary objective of this paper is to consolidate cutting-edge research on primary school teachers through bibliometric study articles published between 2012 and 2021, and to analyze and present the results from the perspective of growing trends in the field; productive and influential countries, institutions, governance patterns, and international cooperation. The results of the study indicate a gradual growth in research on elementary school teachers from 2012 to 2020, with the most recent five years showing the greatest increase. During this time period, a total of 1,424 scientific journal articles, conference papers, book chapters, books, and reviews were published and indexed by Scopus. Researchers showed a preference for articles as the mode of publication. Analyses were conducted on the top ten most productive and influential countries. A substantial number of institutions from both emerging and wealthy nations are compared (based on the quantity of papers and citation scores). On the basis of keywords derived from three factor studies, it was found that primary school, teacher, and primary school teacher had garnered significant interest as terms during the past decade.

**Keywords:** attitude, bibliometric elementary school teacher, elementary school, knowledge, teacher.

### INTRODUCTION

Teachers in primary schools (TiPS) are figures who have a big role in children's growth and development, and lay the foundation of education for the next level of education. The primary school years have long been acknowledged as crucial for fostering the learning and development of children<sup>1</sup>. Among these, primary school pedagogical practices that incorporate educational robotics foster student creativity<sup>2</sup>. The combination of theater and digital technology in primary school promotes situational and experiential learning, which can help students improve their language skills<sup>3</sup>. Primary school students' left and right eye visual acuity were significantly affected by their E-

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<sup>1</sup> Jo Lunn Brownlee et al., "What Influences Teachers' Support for Children's Reasoning about Social Inclusion in Primary School Education Classrooms?," *The Australian Educational Researcher* 49, no. 1 (March 1, 2022): 155–73, <https://doi.org/10.1007/s13384-021-00434-y>.

<sup>2</sup> Yuqin Yang et al., "Fostering Students' Creativity via Educational Robotics: An Investigation of Teachers' Pedagogical Practices Based on Teacher Interviews," *British Journal of Educational Technology* 51, no. 5 (2020): 1826–42, <https://doi.org/10.1111/bjet.12985>.

<sup>3</sup> Siao-cing Guo and Gwo-dong Chen, "Fostering the Learning of English Idioms by Setting Children within a Virtual Environment," in *2018 Seventh International Conference of Educational Innovation through Technology (EITT)*, 2018, 36–39, <https://doi.org/10.1109/EITT.2018.00016>.

learning environment use time<sup>4</sup>. A customized e-book learning system in primary school could provide students with a more personalized learning experience<sup>5</sup>.

Children spend a significant amount of time in schools, making primary schools an ideal setting in which to intervene<sup>6</sup>. If teachers implement 1 activity break per school day, classroom-based physical activity (PA) interventions can be effective in improving children's PA levels<sup>7</sup>. An elementary school-based, brief, daily stress management intervention can help these children better manage day-to-day stressors<sup>8</sup>. Training and support for primary school teachers in the delivery of an integrated social-emotional learning and literacy intervention can have a favorable effect on classroom social processes, especially those linked with the provision of emotionally supportive environments<sup>9</sup>. A regular classroom teacher in early primary school can also produce reading gains in struggling readers with a relatively small investment of time with struggling readers<sup>10</sup>. These studies show that teachers in the primary schools are important figures in learning, child development, and reforming the quality of education<sup>11</sup>.

Although primary school teachers are a subfield of teacher studies, there are some limited bibliometric studies on teachers. It is necessary to identify and track the most recent developments in the field. This can be accomplished by employing multiple relevant and comprehensive keywords, as well as the most authentic worldwide indexing

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<sup>4</sup> Zhixin Zhang et al., "Effects of E-Learning Environment Use on Visual Function of Elementary and Middle School Students: A Two-Year Assessment—Experience from China," *International Journal of Environmental Research and Public Health* 17, no. 5 (January 2020): 1560, <https://doi.org/10.3390/ijerph17051560>.

<sup>5</sup> Yueh-Min Huang et al., "Empowering Personalized Learning with an Interactive E-Book Learning System for Elementary School Students," *Educational Technology Research and Development* 60, no. 4 (August 1, 2012): 703–22, <https://doi.org/10.1007/s11423-012-9237-6>.

<sup>6</sup> Nia Coupe et al., "Educators' Experiences and Perspectives of Child Weight Discussions with Parents in Primary School Settings," *BMC Public Health* 22, no. 1 (April 22, 2022): 808, <https://doi.org/10.1186/s12889-022-13210-z>.

<sup>7</sup> Heather E. Erwin et al., "Effect of a Low-Cost, Teacher-Directed Classroom Intervention on Elementary Students' Physical Activity," *Journal of School Health* 81, no. 8 (2011): 455–61, <https://doi.org/10.1111/j.1746-1561.2011.00614.x>.

<sup>8</sup> Denise A. Bothe, Josephine B. Grignon, and Karen N. Olness, "The Effects of a Stress Management Intervention in Elementary School Children," *Journal of Developmental & Behavioral Pediatrics* 35, no. 1 (January 2014): 62–67, <https://doi.org/10.1097/DBP.0000000000000016>.

<sup>9</sup> Joshua L. Brown et al., "Improving Classroom Quality: Teacher Influences and Experimental Impacts of the 4rs Program," *Journal of Educational Psychology* 102, no. 1 (2010): 153–67, <https://doi.org/10.1037/a0018160>.

<sup>10</sup> Lynne Vernon-Feagans et al., "A Diagnostic Teaching Intervention for Classroom Teachers: Helping Struggling Readers in Early Elementary School," *Learning Disabilities Research & Practice* 25, no. 4 (2010): 183–93, <https://doi.org/10.1111/j.1540-5826.2010.00316.x>.

<sup>11</sup> Miriam Ham and John Dekkers, "What Role Do Teachers' Beliefs Play in the Implementation of Educational Reform?: Nepali Teachers' Voice.," *Teaching and Teacher Education* 86 (November 1, 2019): 102917, <https://doi.org/10.1016/j.tate.2019.102917>.

and abstracting database, Scopus, and by investigating areas previously unexplored by bibliometric studies (citations, productivity, affiliations of authors, collaborations of authors and countries, etc.). A focused approach like this can be used to elicit meaningful and comprehensive findings about the primary school teacher literature. It should be noted that there is limited research available on the bibliometric analysis of primary school teachers, since in general research on teachers is still dominated on partial topics among them about teacher identity<sup>12</sup> globally, burnout among teachers<sup>13</sup>, leadership and teacher professional learning<sup>14</sup>, initial teacher education for inclusive education<sup>15</sup>, ICT teacher training related to educational quality<sup>16</sup>, small private online courses and teacher training<sup>17</sup>, science teacher<sup>18</sup>, impact of scientific productivity on digital competence of future teachers<sup>19</sup>, stress reduction in teachers<sup>20</sup>, educational sciences and teacher education<sup>21</sup>, and teacher motivation<sup>22</sup>.

The current study aims to assess and identify the most productive countries, organizations, and authors; key journals; authorship patterns; collaborative networks;

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<sup>12</sup> Yunyun Zhang and Ping Wang, "Twenty Years' Development of Teacher Identity Research: A Bibliometric Analysis," *Frontiers in Psychology* 12 (February 4, 2022): 783913, <https://doi.org/10.3389/fpsyg.2021.783913>.

<sup>13</sup> Zafrul Allam et al., "Bibliometric Analysis of Research Visualizations of Knowledge Aspects on Burnout Among Teachers from 2012 to January 2022," in *2022 International Conference on Decision Aid Sciences and Applications (DASA)*, 2022, 126–31, <https://doi.org/10.1109/DASA54658.2022.9765200>.

<sup>14</sup> Philip Hallinger and Dhirapat Kulophas, "The Evolving Knowledge Base on Leadership and Teacher Professional Learning: A Bibliometric Analysis of the Literature, 1960-2018," *Professional Development in Education* 46, no. 4 (August 7, 2020): 521–40, <https://doi.org/10.1080/19415257.2019.1623287>.

<sup>15</sup> Daniela Maria Cretu and Felicia Morandau, "Initial Teacher Education for Inclusive Education: A Bibliometric Analysis of Educational Research," *Sustainability* 12, no. 12 (2020): 4923.

<sup>16</sup> T Sola et al., "Bibliometric Study of Documents Indexed in Scopus on ICT Teacher Training Related to Educational Quality," *Interuniv. Electron. J. Teach. Train* 23 (2020): 19–35.

<sup>17</sup> Ernesto Colomo Magaña et al., "SPOC y formación del profesorado: aproximación bibliométrica y pedagógica en Scopus y Web of Science," *Revista Electrónica Interuniversitaria de Formación del Profesorado* 23, no. 2 (April 13, 2020), <https://doi.org/10.6018/reifop.413541>.

<sup>18</sup> Jianqiang Ye, Dimei Chen, and Lingxin Kong, "Bibliometric Analysis of the WoS Literature on Research of Science Teacher from 2000 to 2017.," *Journal of Baltic Science Education* 18, no. 5 (2019): 732–47.

<sup>19</sup> Antonio Manuel Rodríguez-García, Juan Manuel Trujillo, and José Sánchez, "Impact of Scientific Productivity on Digital Competence of Future Teachers: Bibliometric Approach on Scopus and Web of Science," *Revista Complutense de Educación* 30, no. 2 (2019): 623–46.

<sup>20</sup> S Fernández-Aguayo et al., "Effective Mindfulness-Based Stress Reduction in Teachers: A Bibliometric Analysis," *International Journal of Pedagogy & Curriculum* 24, no. 1 (2017): 4962.

<sup>21</sup> Serife Koza Ciftci et al., "Map of Scientific Publication in the Field of Educational Sciences and Teacher Education in Turkey: A Bibliometric Study.," *Educational Sciences: Theory and Practice* 16, no. 4 (2016): 1097–1123.

<sup>22</sup> M Pino-Juste and J Criado del Rey, "Teacher Motivation: Bibliometric and Content Analysis," *International Journal of Educational Organization and Leadership* 23, no. 1 (2016): 25–36; João N Viseu et al., "Motivação Docente: Estudo Bibliométrico Da Relação Com Variáveis Individuais, Organizacionais e Atitudes Laborais," *Revista Latinoamericana de Psicología* 47, no. 1 (2015): 58–65.

three-factor analysis; and global collaboration patterns in primary school teachers from 2012 to 2021. To achieve the research objectives, the following research questions have been developed:

1. What were the primary school teacher publishing trends from 2012 to 2022?
2. Which periodicals are usually recommended by researchers for elementary school teachers?
3. Which nations, organizations, and authors have contributed the most to primary school teacher research?
4. Which patterns of authorship and collaboration have been most prevalent in primary school teacher research?
5. Which keywords have been used frequently in studies on elementary school teachers?

## **RESEARCH METHOD**

### **Method**

The approach of bibliometric analysis was used to examine and identify trends and patterns in the publication of teacher in primary school books. Bibliometric is a quantitative/statistical tool for analyzing trends in the publication of scholarly articles, conference papers, books, book chapters, and reviews. Bibliometrics is a method of analysis used to identify scientific trends and systematize research, ensuring the quality of information and the production of the resulting results<sup>23</sup>. The documents in the study were collected from the Scopus data platform, which is considered an ideal database for bibliometric analysis that includes information published in indexed journals in several areas of knowledge. This database has been widely used in bibliometric analysis<sup>24</sup>.

### **Database Selection**

There are numerous authoritative indexing and abstracting databases. Some are subject-specific databases, while others are multidisciplinary (Scopus, WOS) (MEDLINE, PubMed, AGRICOLA, ERIC). Scopus is the most widely regarded of these databases on a global scale. Scopus was selected for this study because it is regarded as

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<sup>23</sup> H. Yang, "Recent Advances and Trends in Visual Tracking: A Review," *Neurocomputing* 74, no. 18 (2011): 3823–31, <https://doi.org/10.1016/j.neucom.2011.07.024>.

<sup>24</sup> Rafael Ball and Dirk Tunger, "Science Indicators Revisited – Science Citation Index versus SCOPUS: A Bibliometric Comparison of Both Citation Databases," *Information Services & Use* 26, no. 4 (January 1, 2006): 293–301, <https://doi.org/10.3233/ISU-2006-26404>.

the most trusted, powerful, and dependable database in the world. The data was taken from the Scopus legitimate indexing and abstracting scientific database, which contains scholarly work of high caliber. In this study, both qualitative and quantitative features are explored. Notably, some papers that were indexed in other multidisciplinary and subject-specific databases may have been overlooked during the data retrieval procedure.

### **Search Query**

The following search query was run in the topic field (TS) of the Scopus collection. The query was run on 4 July 2022, at Universitas Islam Negeri Sunan Kalijaga Yogyakarta, Indonesia. TS = (“teacher” AND “primary school”).

### **Inclusion/ Exclusion Criteria**

The search for article titles on the Scopus database was carried out on July 4, 2022 with the input of the keywords "teacher" or "primary school". The search period is determined between 2012 and 2021, for analysis of extensive publications. We limit the literature to the following criteria: 1) English documents, 2) types of article documents, books, book chapters, conference papers, and reviews, and 3) final publication stages. The search returns 1,424 results, and is then exported as a comma delimited (.csv file that contains "Complete notes and references are cited". Author-keywords in comma files are cleaned up (from keywords- double keywords) using an open refine application that can be downloaded at the <https://openrefine.org/>. Thus, none of the key caravans are double. This process is carried out at the screening stage (Figure 1). Data that has been cleared of multiple keywords is used for author analysis, citation, and co-occurrence. Thus, it is possible to generate a network map of authors, countries, organaizations and keywords. In addition, from the analysis of citations, a network map of scientific journals is also generated.

Vosviewer software (version 1.6.18, Leiden University, Leiden, The Netherlands) is used for the construction and visualization of bibliometric networks. The software allows extracting information from publications, such as authorship, magazines, organizations, countries, and keywords. Output results are displayed in interlocking circles to see the relationships that exist between bibliometric data<sup>25</sup>. The distance between two or more circles indicates the strength of the relationship between the terms represented by each of

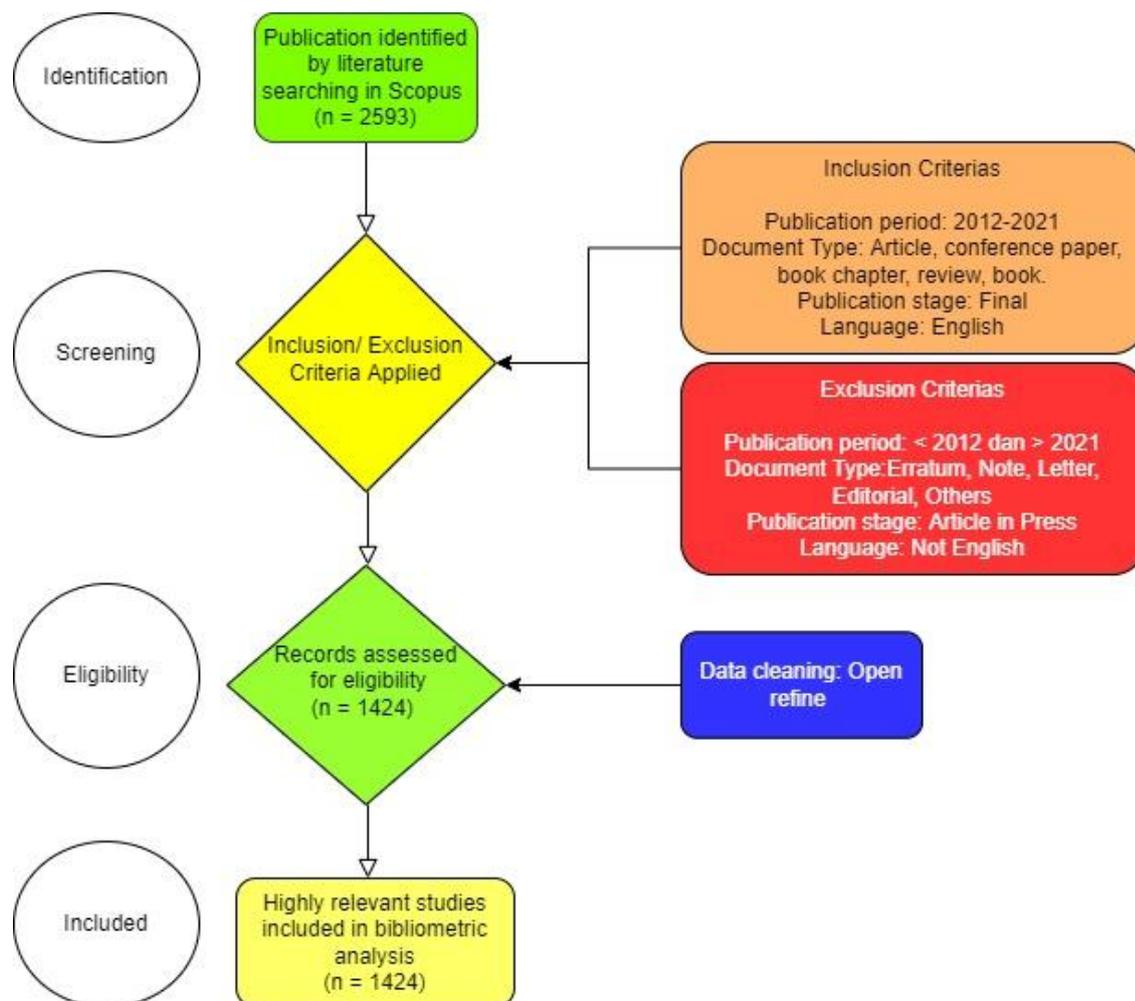
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<sup>25</sup> Ivan Zupic and Tomaž Čater, “Bibliometric Methods in Management and Organization,” *Organizational Research Methods* 18, no. 3 (July 1, 2015): 429–72, <https://doi.org/10.1177/1094428114562629>.

them. Different groups of terms are represented by different colors. In addition, the size of the circle correlates with the frequency with which the term appears<sup>26</sup>. The number of clusters in each network map may change depending on the number of links. In some cases, terms are not displayed with labels to avoid overlapping. It should be highlighted that repetitive or irrelevant terms for the study are issued manually. Considering the relationships between keywords in each cluster, the relevant themes are identified and discussed in detail.

### Data Analysis

Data analysis was performed using various tools and software including VOS viewer (version 1.6.18), MS. Excel 2019, and Tableau Desktop (2022.1.3/ 64-bit).



Figur 1.

Four-phase flow chart of data extraction and filtration process.

<sup>26</sup> Nees van Eck and Ludo Waltman, "Software Survey: VOSviewer, a Computer Program for Bibliometric Mapping," *Scientometrics* 84, no. 2 (December 30, 2009): 523–38, <https://doi.org/10.1007/s11192-009-0146-3>.

## RESULT AND DISCUSSION

### The Trend of Publication in TiPS

A search in the Scopus database found 1424 documents of scientific publications on the study of teachers in primary schools (2012-2021). Teacher studies in primary schools are divided into five groups according to document type: Article (1167), Conference Paper (145), Book Chapter (63), Review (39), and Book (10) (see Figure 2). Based on these data, researchers turned out to be more interested in publishing the results of their research in the form of scientific articles.

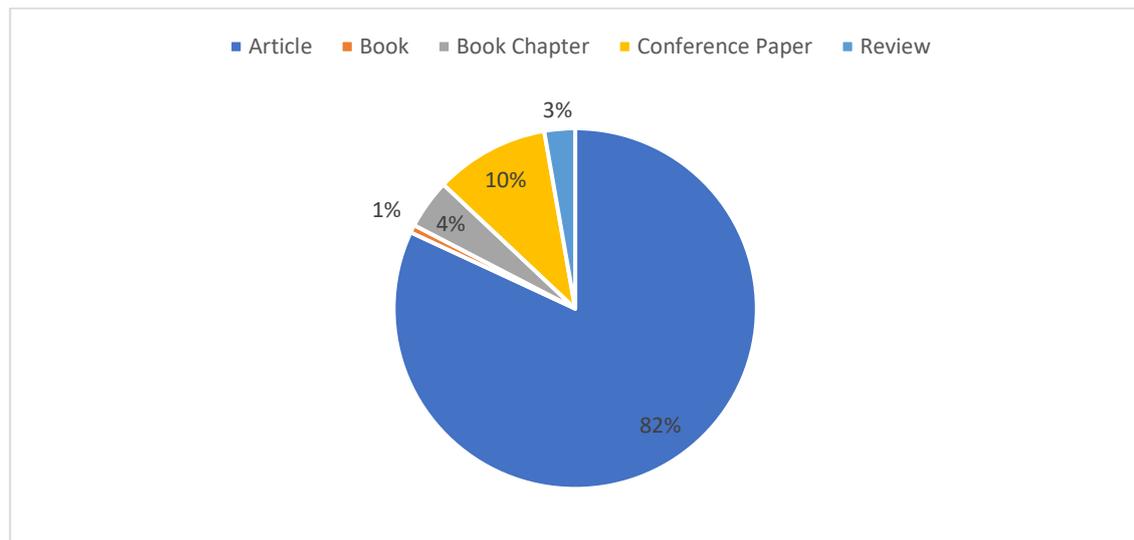


Figure 2.  
Percentage of Publications Related to Teacher Studies in Primary Schools

The trend of scientific publications in the study of teachers in primary schools showed a percentage growth of 8.91% in the period under study (Figure 3). Of the three types of documents with the largest number, namely articles, conference papers, and book chapters, it turns out that the largest percentage of growth in the number of documents actually occurred in conference papers (22.43%). Meanwhile, the percentage growth in the number of article documents (9.14%) is almost the same as that of book chapters (8.48%). However, when viewed in 2020, the number of article documents experienced the highest growth (33.80%). This growth trend is part of increased attractiveness in response to publishing to demand for quick access to empirical findings, albeit not peer-reviewed, during the COVID-19 pandemic <sup>27</sup>.

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<sup>27</sup> Silvia Gianola et al., "Characteristics of Academic Publications, Preprints, and Registered Clinical Trials on the COVID-19 Pandemic," *PLOS ONE* 15, no. 10 (Okt 2020): e0240123, <https://doi.org/10.1371/journal.pone.0240123>.

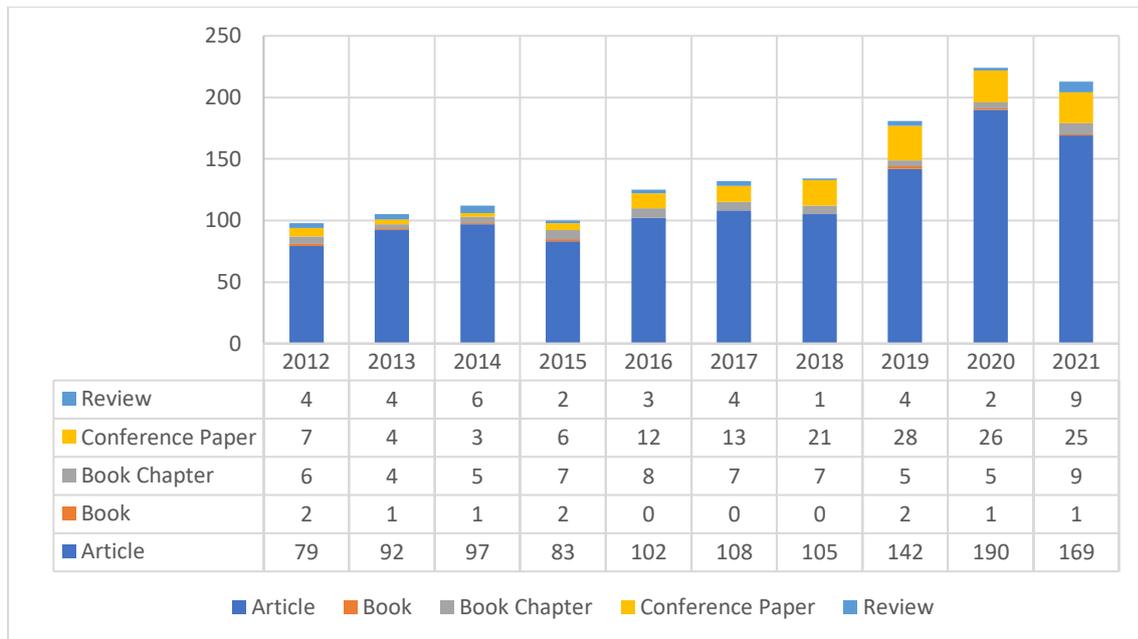


Figure 3.  
Publication Productivity in TiPS 2012-2021

### The Top 10 Authors by Number of Documents and Citations in TiPS

Furthermore, regarding the authors, out of a total of 3,769 authors only 334 authors (8.86%) have 2 or more documents. The ten authors with the most documents by number of citations and documents are presented in Figure 4. The most influential authors were Achmad Samsudin with 164 citations and 2 documents, followed by Arianna Astolfi (154 citations and 7 documents) and Philip Hallinger (124 citations and 5 documents). It is an interesting fact that the productivity of scientific publications is not compared to the number of citations, such as Achamd Samsudin has only 2 documents but the number of citations is the largest, on the contrary Tamsin Ford has 4 documents and only has citations less than half the number of citations of Achmad Samsudin.

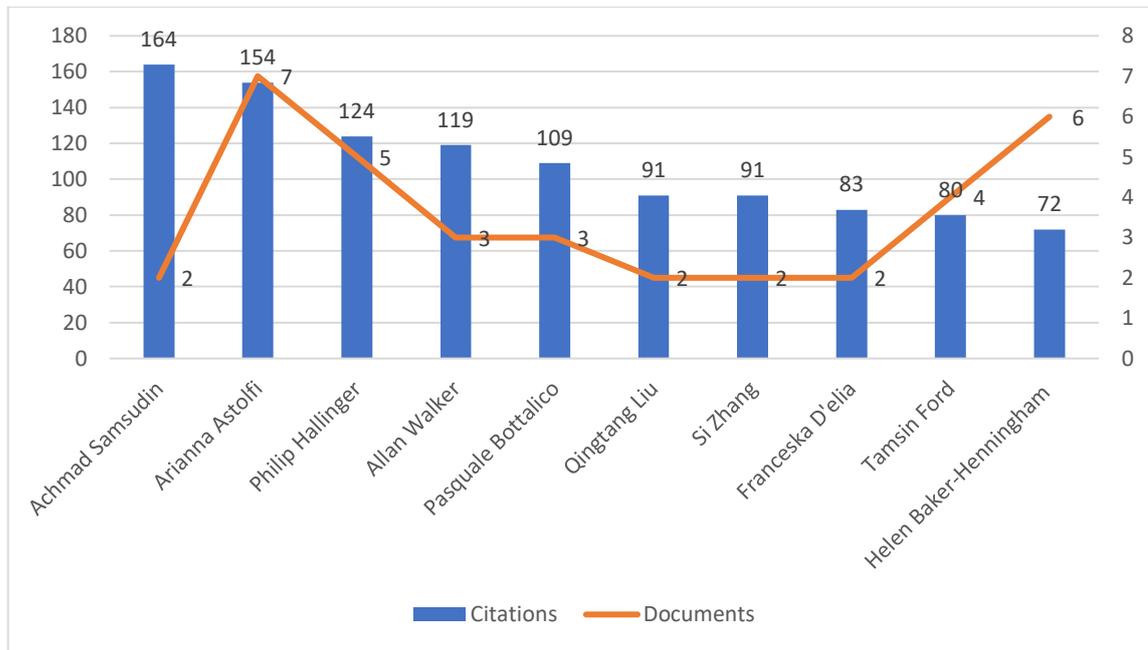


Figure 4.  
Distribution of the top 10 authors by number of documents and citations

### The top 10 countries by number of documents and citations in TiPS

Another fact is that the United Kingdom became the most productive country in the world in scientific publications in the study of teachers in primary schools. The country also has the greatest influence in the world in the topic under study with a total of 1,076 citations (Figure 5). Turkey is next in order, followed by Australia, Indonesia, Spain, Malaysia, Netherlands, South Africa, the United States, and China. The tendency to the productivity of scientific publication documents and their influence according to the state also has similarities with the tendency to the productivity of scientific publication documents and influence according to the author. Both analyses show that productivity in producing scientific publication documents is not directly proportional to the amount of influence or the number of citations obtained.

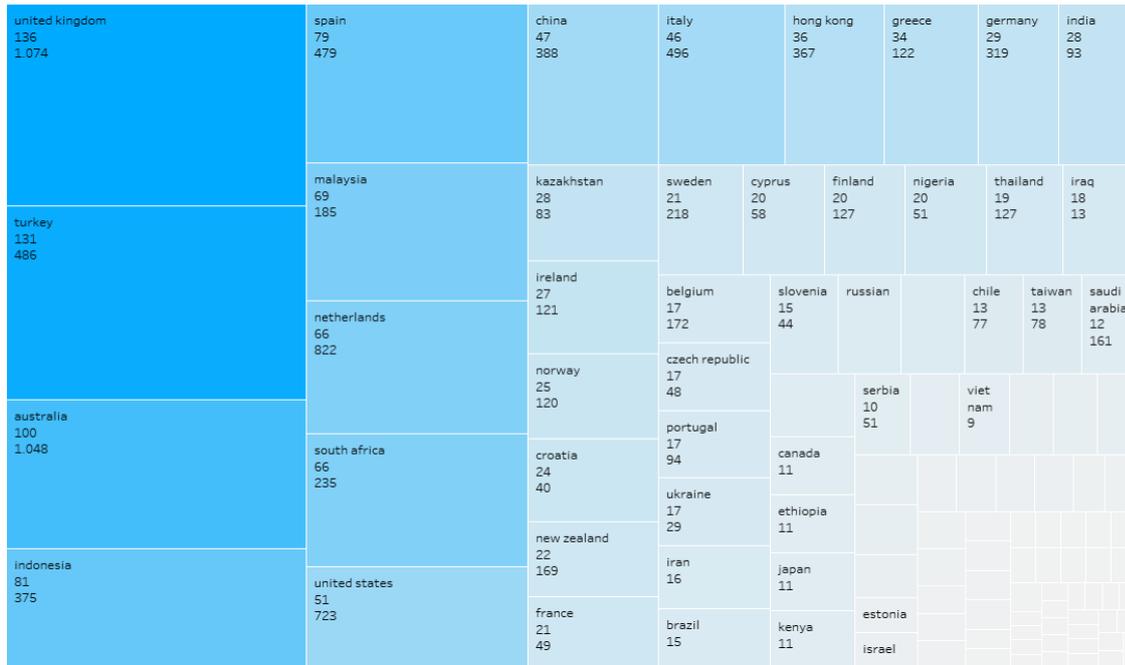


Figure 5.

Tree Map of the country with the highest document productivity and citations in the study of teachers in primary schools

**The top 10 institutions by number of documents and citations in TiPS**

In terms of research centers engaged in the study of teachers in primary schools, the study identified 1, 000 institutions participating in the publication. The 10 main institutions with the largest number of documents published on the topic of teachers in primary schools are hierarchically structured in the TreeMap in Figure 6. Tukey has two institutions that are ranked 10 institutions with the largest number of documents, namely Andolu University and Gazi University. Another fact, there are four institutions that have the most documents with a total of as many documents (5 documents), namely Andolu University, Endhoven School of Education, University of Salerno and University of Johannesburg. This data turned out to be somewhat different from Figure 4. None of the institutions from the United Kingdom, Indonesia, Malaysia, and the United States are included in the top 10 institutions with the highest number of documents in the field of teachers in primary schools. This condition occurs because the number of documents spreads across 1, 000 institutions evenly with insignificant differences.

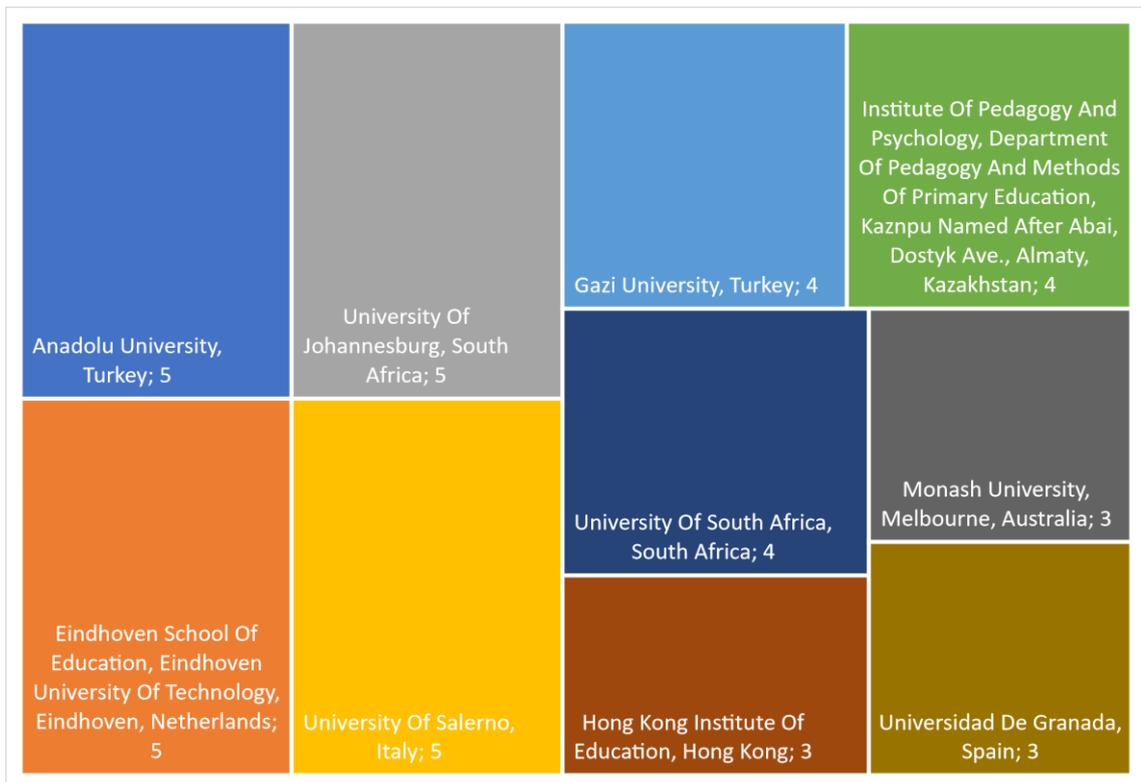


Figure 6.

TreeMap of the top 10 institutions that publish the most studies on teachers in primary schools

Figure 7 presents data on the institutions with the top number of citations in teacher studies in primary schools involving institutes in three countries, namely Indonesia, the United States, and the United Kingdom. Three institutions in Indonesia even occupy the top rank in the number of citations. Djuanda University as the institution with the largest number of citations (162) in the first place. Then, Medan State University (162) and Indonesian University of Education (162) successively ranked in the top two and three. The productivity of institutions in Indonesia in terms of the number of citations for scientific publications is part of the program of the Ministry of Education and Culture of the Republic of Indonesia to improve the quality of research and scientific publications of scientists in Indonesia awarding the SINTA Award <sup>28</sup>.

<sup>28</sup> Muksal Bakrie, "Kemenristekdikti Umumkan Penerima SINTA Award 2019 – LLDIKTI Wilayah XIII," 09 2019, <https://lldikti13.kemdikbud.go.id/2019/09/16/kemenristekdikti-umumkan-penerima-sinta-award-2019/>.

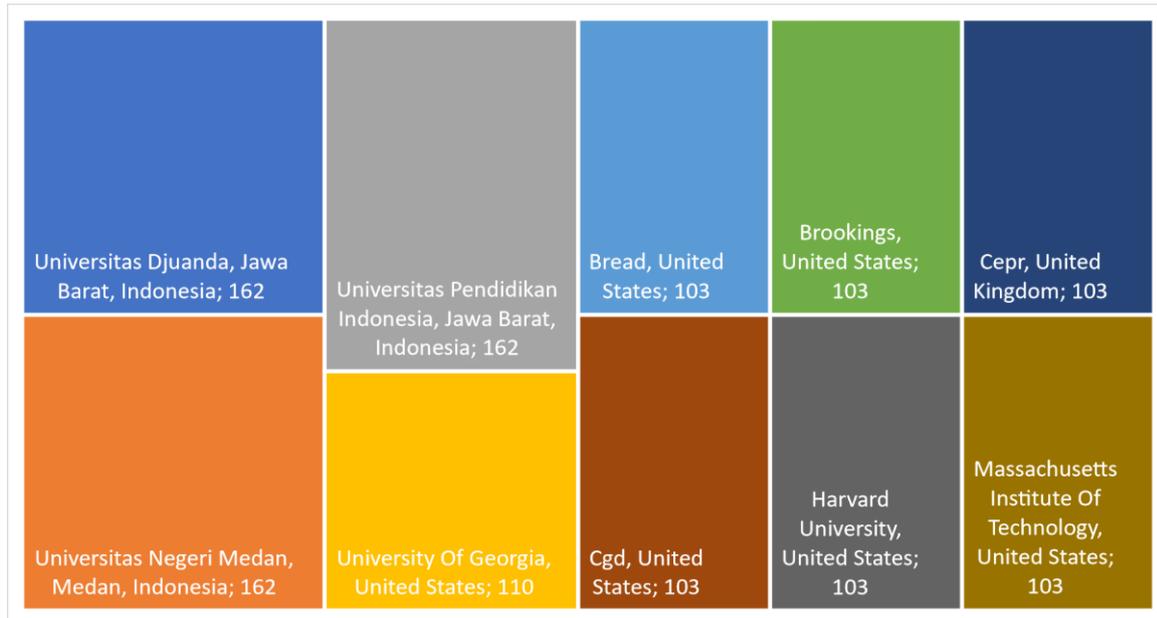


Figure 7.  
Top 10 institutions that get the most citations

### The top 10 papers by number of citations in TiPS

The top 20 most cited articles during the period 2012-2021 are presented in Table 1.

Table 1.  
Top 20 articles with the top number of citations

Rank	Authors	Title	Source title	Cited by	Publisher	References
1	Rasmitadila, Aliyyah R.R., Rachmadtullah R., Samsudin A., Syaodih E., Nurtanto M., Tambunan A.R.S.	The perceptions of primary school teachers of online learning during the covid-19 pandemic period: A case study in Indonesia	Journal of Ethnic and Cultural Studies	162	Florida Gulf Coast University	<sup>29</sup>

<sup>29</sup> Rasmitadila Rasmitadila et al., “The Perceptions of Primary School Teachers of Online Learning during the COVID-19 Pandemic Period: A Case Study in Indonesia,” *Journal of Ethnic and Cultural Studies*, July 11, 2020, 90–109, <https://doi.org/10.29333/ejecs/388>.

2	Cornwell C., Mustard D.B., Van Parys J.	Noncognitive skills and the gender disparities in test scores and teacher assessments: Evidence from primary school	Journal of Human Resources	108	University of Wisconsin Press	30
3	Duflo E., Dupas P., Kremer M.	School governance, teacher incentives, and pupil-teacher ratios: Experimental evidence from Kenyan primary schools	Journal of Public Economics	103	Elsevier	31
4	Bottalico P., Astolfi A.	Investigations into vocal doses and parameters pertaining to primary school teachers in classrooms	Journal of the Acoustical Society of America	75	AIP Publishing LLC	32
5	Vaz S., Wilson N., Falkmer M., Sim A., Scott M., Cordier R., Falkmer T.	Factors associated with primary school teachers' attitudes towards the inclusion of students with disabilities	PLoS ONE	72	Public Library of Science	33

<sup>30</sup> Christopher Cornwell, David B. Mustard, and Jessica Van Parys, "Noncognitive Skills and the Gender Disparities in Test Scores and Teacher Assessments: Evidence from Primary School," *Journal of Human Resources* 48, no. 1 (January 1, 2013): 236–64, <https://doi.org/10.3368/jhr.48.1.236>.

<sup>31</sup> Esther Duflo, Pascaline Dupas, and Michael Kremer, "School Governance, Teacher Incentives, and Pupil-Teacher Ratios: Experimental Evidence from Kenyan Primary Schools," *Journal of Public Economics* 123 (March 1, 2015): 92–110, <https://doi.org/10.1016/j.jpubeco.2014.11.008>.

<sup>32</sup> Pasquale Bottalico and Arianna Astolfi, "Investigations into Vocal Doses and Parameters Pertaining to Primary School Teachers in Classrooms," *The Journal of the Acoustical Society of America* 131, no. 4 (April 2012): 2817–27, <https://doi.org/10.1121/1.3689549>.

<sup>33</sup> Sharmila Vaz et al., "Factors Associated with Primary School Teachers' Attitudes Towards the Inclusion of Students with Disabilities," *PLoS ONE* 10, no. 8 (Agt 2015): e0137002, <https://doi.org/10.1371/journal.pone.0137002>.

6	Skelton C.	Men teachers and the "feminised" primary school: A review of the literature	Educational Review	69	Taylor and Francis Group	<sup>34</sup>
7	D'elia F.	The training of physical education teacher in primary school	Journal of Human Sport and Exercise	65	University of Alicante	<sup>35</sup>
8	Zhang S., Liu Q., Chen W., Wang Q., Huang Z.	Interactive networks and social knowledge construction behavioral patterns in primary school teachers' online collaborative learning activities	Computers and Education	65	Elsevier Ltd	<sup>36</sup>
9	Sprietsma M.	Discrimination in grading: Experimental evidence from primary school teachers	Empirical Economics	63	Springer Verlag	<sup>37</sup>
10	Haiyan Q., Walker A., Xiaowei Y.	Building and leading a learning culture among teachers: A	Educational Management Administration and Leadership	59	SAGE Publications Ltd	<sup>38</sup>

<sup>34</sup> Christine Skelton, "Men Teachers and the 'Feminised' Primary School: A Review of the Literature," *Educational Review* 64, no. 1 (February 2012): 1–19, <https://doi.org/10.1080/00131911.2011.616634>.

<sup>35</sup> Francesca D'Elia, "The Training of Physical Education Teacher in Primary School," *Journal of Human Sport and Exercise*, 2019, <https://doi.org/10.14198/jhse.2019.14.proc1.12>.

<sup>36</sup> S. Zhang et al., "Interactive Networks and Social Knowledge Construction Behavioral Patterns in Primary School Teachers' Online Collaborative Learning Activities," *Computers & Education* 104, no. C (January 1, 2017): 1–17, <https://doi.org/10.1016/j.compedu.2016.10.011>.

<sup>37</sup> Maresa Sprietsma, "Discrimination in Grading: Experimental Evidence from Primary School Teachers," *Empirical Economics* 45, no. 1 (August 1, 2013): 523–38, <https://doi.org/10.1007/s00181-012-0609-x>.

<sup>38</sup> Qian Haiyan, Allan Walker, and Yang Xiaowei, "Building and Leading a Learning Culture among Teachers: A Case Study of a Shanghai Primary School," *Educational Management Administration & Leadership* 45, no. 1 (January 1, 2017): 101–22, <https://doi.org/10.1177/1741143215623785>.

		case study of a Shanghai primary school					
11	Grosemans I., Boon A., Verclairen C., Dochy F., Kyndt E.	Informal learning of primary school teachers: Considering the role of teaching experience and school culture	Teaching and Teacher Education	57	Elsevier Ltd	<sup>39</sup>	
12	Schols M.W.A., De Ruiter C., Öry F.G.	How do public child healthcare professionals and primary school teachers identify and handle child abuse cases? A qualitative study	BMC Public Health	57	BioMed Central Ltd	<sup>40</sup>	
13	Li L., Hallinger P., Walker A.	Exploring the mediating effects of trust on principal leadership and teacher professional learning in Hong Kong primary schools	Educational Management Administration and Leadership	52	SAGE Publications Ltd	<sup>41</sup>	
14	Alkhattabi M.	Augmented reality as e-	International Journal of	50	Kassel University	<sup>42</sup>	

<sup>39</sup> Ilke Grosemans et al., "Informal Learning of Primary School Teachers: Considering the Role of Teaching Experience and School Culture," *Teaching and Teacher Education* 47 (April 1, 2015): 151–61, <https://doi.org/10.1016/j.tate.2014.12.011>.

<sup>40</sup> Manuela WA Schols, Corine de Ruiter, and Ferko G. Öry, "How Do Public Child Healthcare Professionals and Primary School Teachers Identify and Handle Child Abuse Cases? A Qualitative Study," *BMC Public Health* 13, no. 1 (September 5, 2013): 807, <https://doi.org/10.1186/1471-2458-13-807>.

<sup>41</sup> Lijuan Li, Philip Hallinger, and Allan Walker, "Exploring the Mediating Effects of Trust on Principal Leadership and Teacher Professional Learning in Hong Kong Primary Schools," *Educational Management Administration & Leadership* 44, no. 1 (January 1, 2016): 20–42, <https://doi.org/10.1177/1741143214558577>.

<sup>42</sup> Mona Alkhattabi, "Augmented Reality as E-Learning Tool in Primary Schools' Education: Barriers to Teachers' Adoption," *International Journal of Emerging Technologies in Learning (IJET)* 12, no. 02 (February 28, 2017): 91–100, <https://doi.org/10.3991/ijet.v12i02.6158>.

			learning tool in primary schools' education: Barriers to teachers' adoption	Emerging Technologies in Learning		Press GmbH	
15	Rohaan E.J., Taconis R., Jochems W.M.G.	Analysing teacher knowledge for technology education in primary schools	International Journal of Technology and Design Education	50	Springer Nature		<sup>43</sup>
16	Yin H., Huang S., Lee J.C.K.	Choose your strategy wisely: Examining the relationships between emotional labor in teaching and teacher efficacy in Hong Kong primary schools	Teaching and Teacher Education	48	Elsevier Ltd		<sup>44</sup>
17	Lui A.M., Bonner S.M.	Preservice and inservice teachers' knowledge, beliefs, and instructional planning in primary school mathematics	Teaching and Teacher Education	48	Elsevier Ltd		<sup>45</sup>

<sup>43</sup> Ellen J. Rohaan, Ruurd Taconis, and Wim M. G. Jochems, "Analysing Teacher Knowledge for Technology Education in Primary Schools," *International Journal of Technology and Design Education* 22, no. 3 (August 1, 2012): 271–80, <https://doi.org/10.1007/s10798-010-9147-z>.

<sup>44</sup> Hongbiao Yin, Shenghua Huang, and John Chi Kin Lee, "Choose Your Strategy Wisely: Examining the Relationships between Emotional Labor in Teaching and Teacher Efficacy in Hong Kong Primary Schools," *Teaching and Teacher Education* 66 (August 1, 2017): 127–36, <https://doi.org/10.1016/j.tate.2017.04.006>.

<sup>45</sup> Angela M. Lui and Sarah M. Bonner, "Preservice and Inservice Teachers' Knowledge, Beliefs, and Instructional Planning in Primary School Mathematics," *Teaching and Teacher Education* 56 (May 1, 2016): 1–13, <https://doi.org/10.1016/j.tate.2016.01.015>.

18	Pladevall-Ballester E.	Exploring primary school CLIL perceptions in Catalonia: students', teachers' and parents' opinions and expectations	International Journal of Bilingual Education and Bilingualism	47	Routledge	<sup>46</sup>
19	McGrath K., Sinclair M.	More male primary-school teachers? Social benefits for boys and girls	Gender and Education	47	Taylor and Francis Group	<sup>47</sup>
20	Martinez-Molina A., Boarin P., Tort-Ausina I., Vivancos J.-L.	Post-occupancy evaluation of a historic primary school in Spain: Comparing PMV, TSV and PD for teachers' and pupils' thermal comfort	Building and Environment	45	Elsevier Ltd	<sup>48</sup>

Ten of the twenty papers that had the top number of citations in primary school teacher studies were published after 2012 (Table 1). As for the subject/field of study, two of the top ten papers talk about online learning, and two about learning assessment. There are also two articles on classroom management. In addition, each of them has 1 article that examines school policy, school management, inclusive education, and physical education also needs to be considered. The paper with the most citations (162) is "The

<sup>46</sup> Elisabet Pladevall-Ballester, "Exploring Primary School CLIL Perceptions in Catalonia: Students', Teachers' and Parents' Opinions and Expectations," *International Journal of Bilingual Education and Bilingualism* 18, no. 1 (January 2, 2015): 45–59, <https://doi.org/10.1080/13670050.2013.874972>.

<sup>47</sup> Kevin McGrath and Mark Sinclair, "More Male Primary-School Teachers? Social Benefits for Boys and Girls," *Gender and Education* 25, no. 5 (August 1, 2013): 531–47, <https://doi.org/10.1080/09540253.2013.796342>.

<sup>48</sup> Antonio Martinez-Molina et al., "Post-Occupancy Evaluation of a Historic Primary School in Spain: Comparing PMV, TSV and PD for Teachers' and Pupils' Thermal Comfort," *Building and Environment* 117 (May 15, 2017): 248–59, <https://doi.org/10.1016/j.buildenv.2017.03.010>.

perceptions of primary school teachers of online learning during the covid-19 pandemic period: A case study in Indonesia" written by Rasmitadila, Rusi Rusmiati Aliyyah, Reza Rachmadtullah, Ahmad Samsudin, Ernawulan Syaodih, Muhammad Nurtanto, and Anna Riana Suryanti Tambunan <sup>49</sup>. When implementing the national curriculum during the COVID-19 Pandemic, teachers and learning designers should create online learning frameworks that take into account student backgrounds, especially economic ones, as well as students' learning experiences and needs. Developing online learning with a variety of learning methodologies that are compatible with a more flexible national curriculum, technical preparedness, and collaboration is essential for its effectiveness. The second most cited article studies the difference in learning assessment results between test scores (objective) and teacher assessments (subjective) of boys and girls <sup>50</sup>. Teachers do not align grades with test scores, with differences in grading exceeding those in test scores and consistently favoring girls. Boys of all races (white, black, and Hispanic) and in all subject areas (reading, mathematics, and science) do not have the grade distributions predicted by their test scores. We then connect the misalignment of grades and test scores to differences in noncognitive development between boys and girls. Artikel ketiga yang paling banyak dikutip mengkaji tentang rasio guru-murid, tata kelola guru, dan manajemen sekolah <sup>51</sup>. In the case of inadequate institutions, resource growth may be thwarted by the behavior of existing suppliers. Nonetheless, local governance has the capacity to convert additional resources into improved outcomes. Particularly, programs that delegate the authority to hire teachers on short-term contracts have the potential to boost test scores in the short term and the quality of the teaching workforce in the long term. Small improvements in program design (such as a few hours of School-Based Management training) can have a significant impact on outcomes.

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<sup>49</sup> Rasmitadila et al., "The Perceptions of Primary School Teachers of Online Learning during the COVID-19 Pandemic Period."

<sup>50</sup> Cornwell, Mustard, and Parys, "Noncognitive Skills and the Gender Disparities in Test Scores and Teacher Assessments."

<sup>51</sup> Duflo, Dupas, and Kremer, "School Governance, Teacher Incentives, and Pupil-Teacher Ratios."

### The top 10 journals by number of documents and citations in TiPS

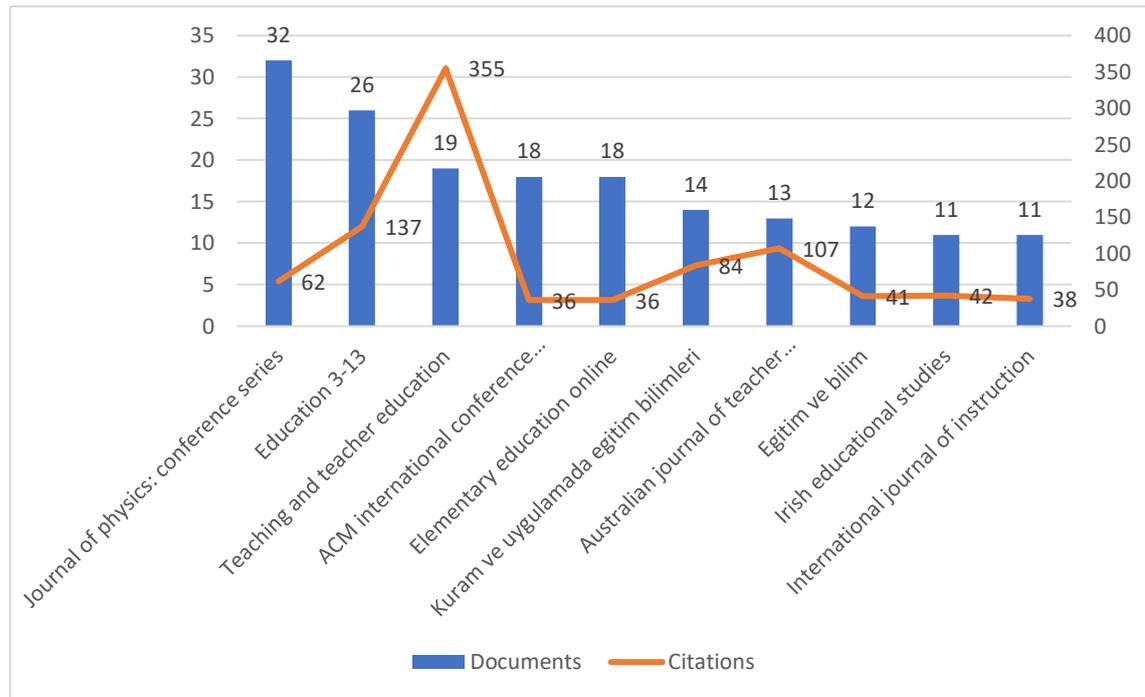


Figure 8.  
Top 10 most productive journals

Research papers in the field of teachers in primary schools were published in 756 source titles (journals, books, book chapters, conference papers, reviews) in the period under study. Figure 8 presents 10 leading journals in terms of the number of articles published in the field of teachers in primary schools. The Journal of physics (conference paper) published 32 papers, which ranked first (the most). The next two journals, Education 3-13 and Teaching and Teacher Education, were ranked second and third with publications of 26 articles and 19 articles respectively..

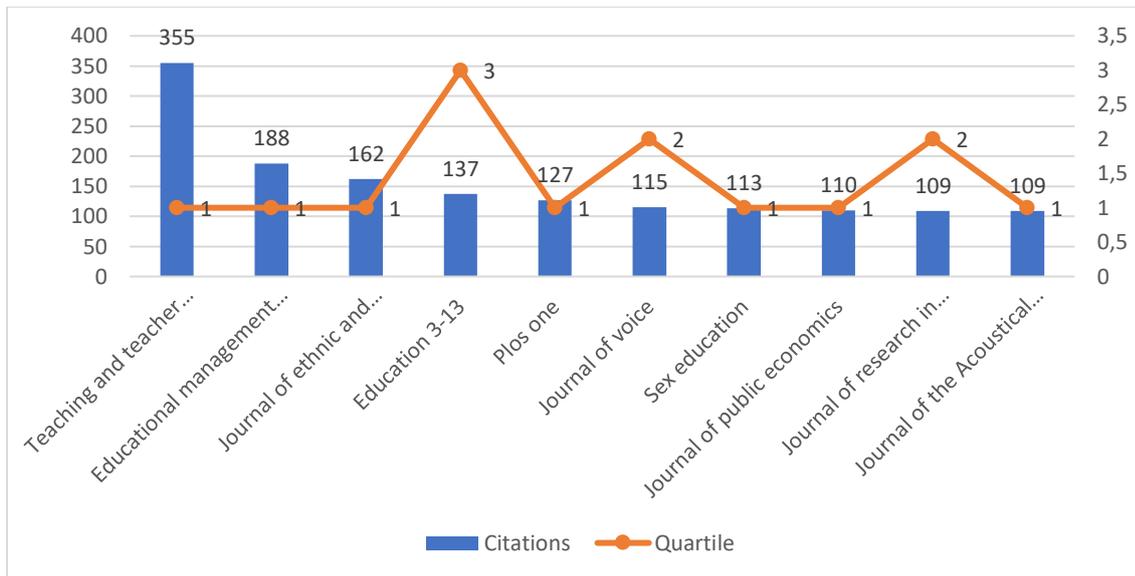


Figure 9.

#### Top 10 jurnal paling berpengaruh dengan jumlah sitasi tertinggi

Figure 9 presents the ten most cited journals in the study of teachers in primary schools. Teaching and Teacher Education became the first-ranked journal to get the most citations (355). The Journal of Ethnic and Cultural Studies ranks the most citations in second place (188), followed by Educational Management Administration and Leadership in third place (162). The ten most cited journals in teacher studies in primary schools were mostly published in journals at quartile 1 (70%), followed by quartile journals 2 (20%) and quartile journals 3 (10%). In fact, nine (90%) of the ten most cited journals have a majority Sjr above 0.5. This trend shows that journals with Quartile 1 and Sjr above 0.5 are most in demand and used as references. In this study, Teaching and Teacher Education became the most sought-after and referenced journal.

## Evolution of research themes in TiPS (2012-2021)

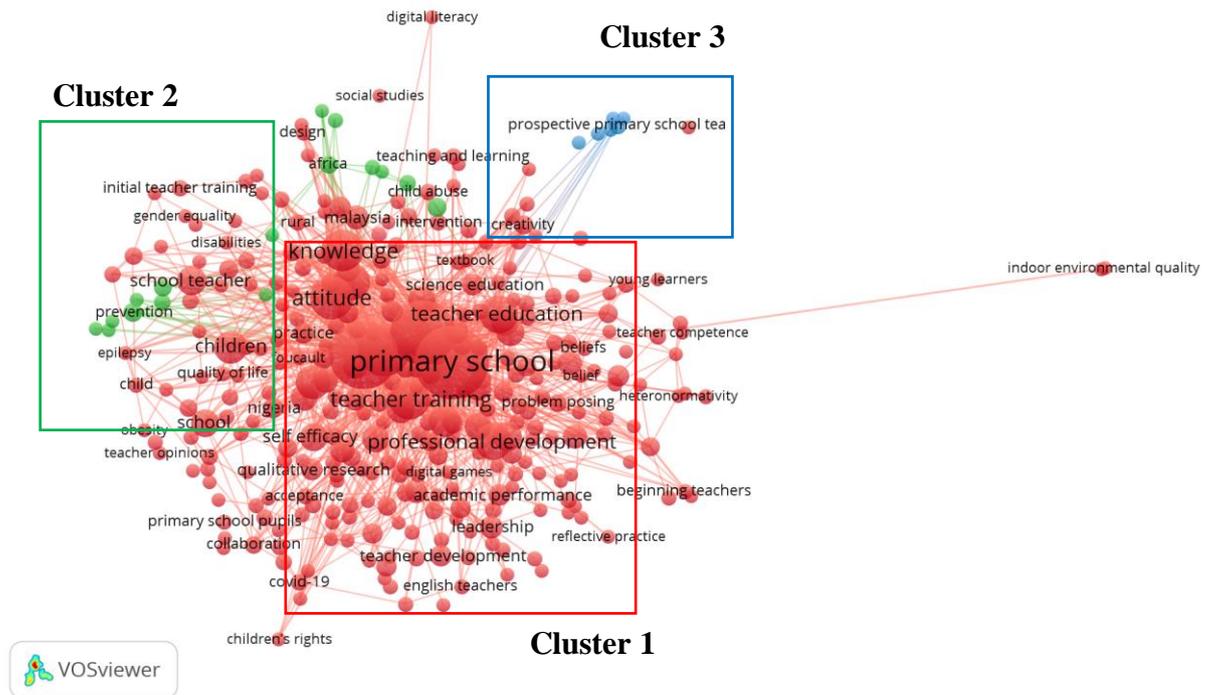


Figure 10.

Visualisasi co-occurrence dengan unit analisis author-keyword. Of the 3.446 keywords, 329 meet threshold (minimum number of occurrence of a keyword:2)

The co-occurrence analysis was carried out with keywords that were repeated at least 3 times in the study. A total of 329 keywords met these criteria and formed three different clusters. When the visualization map of the network of shared events in **Figure 10** was explored, it was found that this group of keywords presented an overview of the relationships of topics prevalent in research studies. The most relevant keywords are represented by the largest nodes. The node size represents the number of events. Each cluster has the most frequently appearing keywords. The largest cluster (in red) includes: primary school, teacher, primary school teacher, attitude, knowledge as the most frequently repeated keywords. The second cluster is green, the most frequently repeated keywords consist of: prevention, health education, health promotion, noise, , teachers' knowledge. The third cluster (blue color) has the words prospective primary school teacher, curriculum design, competences, teacher's role, english teaching. Meanwhile, the most common keyword that appears is "primary school" (red cluster) with 194 occurrences. Then, "teacher" (red cluster) appears with 160 occurrences, and "primary school teacher" (red cluster) with 138 occurrences. The next two keywords, "attitude"



However, keywords that are still popular in the last three years include digital competence, quality of school services, teacher agency, children's human rights, and gender equality.

## **CONCLUSION**

The overarching objective of the study is to conduct a thorough analysis of published studies on elementary school instructors. To foster responsive, adaptive, literate, innovative, and inclusive teacher figures and competences in both developed and developing nations, research on primary school teachers is vital. This study is the first full bibliometric analysis for the period 2012 to 2021 that evaluates and summarizes the literature, progress, and future direction of this significant subfield of education.

Nevertheless, based on our assessment and findings from existing research, we would like to offer a few potential areas for future study. With this study, researchers in the field of elementary school instructors will be able to develop tactics that emphasize developing subjects (as demonstrated by the visualization of data in this study). Moreover, they can discover the most influential published articles, authors, and journals in this sector in order to find research gaps and fresh insights. Here are five main forecasts and trends from the study on primary school teacher research trends and future insights: digital literacy; heteronormativity; children's rights; indoor environmental quality; and prospective primary school teachers. Similarly, based on the findings of this bibliometric analysis, we can recommend *Teaching and Teacher Education*, *Journal of Ethnic and Cultural Studies*, *Educational Management Administration and Leadership*, *Education 3-13*, and *Plos One* as potential outlets for scientific work in primary school teachers.

This study has significantly contributed to the expansion of knowledge regarding primary school teacher research. By reviewing 1,424 published papers, conference papers, book chapters, books, and reviews from Scopus, we have brought new insights into primary school teacher research. In addition, the survey revealed that academic interest in this subject area increased gradually from 2012 to 2021.

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