Cultural Intelligence in School: A Bibliometric Analysis

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Abstract

The topic of school leadership and cultural intelligence has been a rising topic since 2005. Since 2005, scholars are being actively producing articles pertinent to this topic. Most of the articles have been published in journals, and primary language used for research is English. The objective of this paper is to explore the trend in the field of cultural intelligence in school by conducting bibliometric analysis. Sources of publication, authorship, citations, distributions publications and other bibliometric indicators are also analysed in this paper. This study is focused on a total of 133 published articles between 2005 and 2022. The articles have been collected through a process from the established Scopus database and then later analysed with bibliometric indicators analysis techniques. Since 2005 the topic of school leadership and cultural intelligence has been emerged. Beginning in 2005, many articles pertinent to this topic have been actively producing by the scholars. Journals is where most of the articles were published in, and English is the main language used in their publications. United States leads other country in publications contribution. In the meantime, the most significant areas in which the sources have been produced were social sciences, business, management and accounting, economics, econometrics and finance, arts and humanities and psychology. Though, there are still some limitations were found, for future research, we proposed to lengthen this work to other databases by adding a new keyword such a smulticultural leader and cultural intelligence, as well as bibliometric analysis of school leader and cultural intelligence in developed and developing countries. This paper presents the latest trends in expansion of academic literature on school leadership and cultural intelligence that uses the bibliometric analysis method. Bibliometric indicators are being used in this paper to present the results.

Keywords: school leader, cultural intelligence, bibliometric analysis, Scopus.

1. INTRODUCTION

School leaders, teachers, staff, students, and community members from different backgrounds of cultures, ethnic, religions, and languages are consist in a multicultural environment. According to Gill et al. (2013), a multi-ethnic environment is an ideal school, and a leader in this type of school is expected to have higher cultural intelligence. Cultural intelligence, which is linked to social expertise, as the ability of school leaders to effectively lead and interact with many stakeholders in the school community (Göksoy, 2017). Ang et.al. (2007) defined cultural intelligence as an individual's capability to function and manage effectively in a culturally diverse setting. The purpose of this study is to explore the latest trends in the development of scientific literature and cultural intelligence in school using a bibliometric analysis methodology. Bibliometric analysis is a collection of review methodologies used to examine all related publications on a specific topic (Han, et.al.,

2020). The use of bibliometric methods is clearly motivated by the need to assess scientific output and make the results available to policymakers, scientists, and other stakeholders (Ellegaard and Wallin, 2015). By employing the bibliometric method, it also contributes to the body of knowledge about cultural intelligence literature in school.

2. LITERATURE REVIEW

To attain organisational goals, school leaders use critical abilities and requisites to lead culturally diverse teams(Viloria, 2019).Involving school leaders, teachers, students, and the community, researchers have investigated the origins and implications of cultural intelligence in the educational context. (Kathy S., 2016;Velarde, J. M., et al., 2022; Al Dhaheri, A.,2021; Velarde, J. M., et al., 2022; Gultom, S., 2021; Keung et al., 2013; Kadam, R. et al., 2019). The section that follows discusses the development and benefits of having higher cultural intelligence in multicultural environment.

Development of Cultural Intelligence

Intelligence refers to the ability to acquire and apply knowledge and skills, allowing one to effectively adapt to an environment (Ana et.al., 2021). Stenberg (1986) in his book *Metaphor of Mind* conceptualized intelligence as something that resides in different compartments in the human context, enabling the understanding of four macro allocations such as biological, cognitive, motivational and behaviour. However, cultural intelligence (CQ) was conceptualized by professors P.C Earley and Soon Ang in 2003 as a capability to function effectively in situations characterized by cultural diversity (Earley and Ang, 2003). Research on CQ became noticeable when Ang et al. (2007) introduced the four-factor scale (CQS). According to Early and Ang (2003), the characteristics of CQ are conceptualized into four dimensions; metacognitive, cognitive, motivational, and behavioural. Metacognitive CQ refers to one's mental process to learn and understand cultural knowledge. Someone with high metacognitive CQ will realize, assume and

adapt to other cultures' preferences (Triandis, 2006). Cognitive CQ refers to the knowledge regarding norms, practices, and customs in different cultures acquires from personal education and experiences (Ang et., 2007). Knowledge about economics, laws and social system in different cultures and subcultures are considered cognitive CQ (Triandis, 2000). According to Brislin et al. (2006), an individual with high cognitive CQ understand the similarity and the differences among different cultures. The ability to learn cultural differences and to function in certain cultural situations is referred to as motivational CQ (Ang et., 2007).

People with high motivational CQ are intrinsically motivated by the new cultural situation. The fourth dimension is behavioural CQ which is defined as one's ability to show appropriate verbal and non-verbal actions when interacting with people from a different culture (Early and Ang 2003). Someone with a high behavioural CQ level has wider verbal and non-verbal abilities and is capable to act accordingly to any situations they face, such as selecting appropriate words, tones, gestures and facial expressions (Gudykunst et.al., 1988).

Benefit of Cultural Intelligence

Cultural intelligence is the capability to cross boundaries and prosper in multiple cultures. It is about taking time to understand and adapt to different cultural norms. It is beneficial to develop cultural intelligence as it implies a greater access to more resources, knowledge, and talent. It helps to work effectively and get along easily with anyone from a different culture and background. It gives them the confidence to operate successfully in a wide range of settings (Musa et al., 2021). Individuals with high CQ work effectively in workplaces characterised by diversity (Earley & Ang, 2003) and display good moral judgement, sound decision-making ability, and effective adaptation (Earley et. al., 2006).

3. METHODS

This paper is intended to evaluate the latest trends in the expansion of scholarly literature on school leadership and cultural intelligence using the bibliometric analysis methodology. Bibliometric indicators are being used in this paper to report the results.

Bibliometrics Analysis

Bibliometrics examines formal characteristics of knowledge domains using mathematical and statical technique (de Bellis, 2009). The bibliometric survey of this paper is to add to the existing analyses of school leadership and cultural intelligence by focusing on the overall intellectual structure of this knowledge domain through Scoupus database.

This study used 133 source documents identified by keyword search and combining the analysis of the citations among the, along with the citation and publication counts. Citation and publication counts are the two most basic bibliometric measures as stated by Martin & Daim, (2008). These documents represent every school leadership and cultural intelligence in the English Language between 2005and 2022. More precisely, the literature containing the term " school leadership" and "cultural intelligence," in the title stored in the Scopus scholarly database.

Source and data collection

The Scopus database was utilized to extract the necessary data t0 present a bibliometric analysis. The most significant factor of Scopus is its ability to offer a direct and simple bibliometric indicators (Sweileh et al, 2018). Scopus database is one of the most outstanding academic database with approximately 1348 titles. Scopus database also employed in this study as the primary source for the data collection. The topical range of this review was delimited 'school leadership' and 'cultural intelligence'. In operational terms, the authors followed PRISMA (Preferred Reporting Items for Systematise Reviews and Meta-Analyses) guidelines for the guidelines for the document search as shown in figure 1 (Moher et al.,2010). A series of search were carried out which used various combinations of following keywords string: TITLE-ABS-KEY ("school leader*" AND "cultural intelligence").

This Scopus searches generated a total of 133 documents (see Figure 1) and the search was conducted on March 29, 2022. There is no filtration involved on the list of 133 documents. Thus, the total of all 133 documents were analysed comprehensively using bibliometrics tools namely Harzing Publish or Perish, and Microsoft Excel for further analysis.
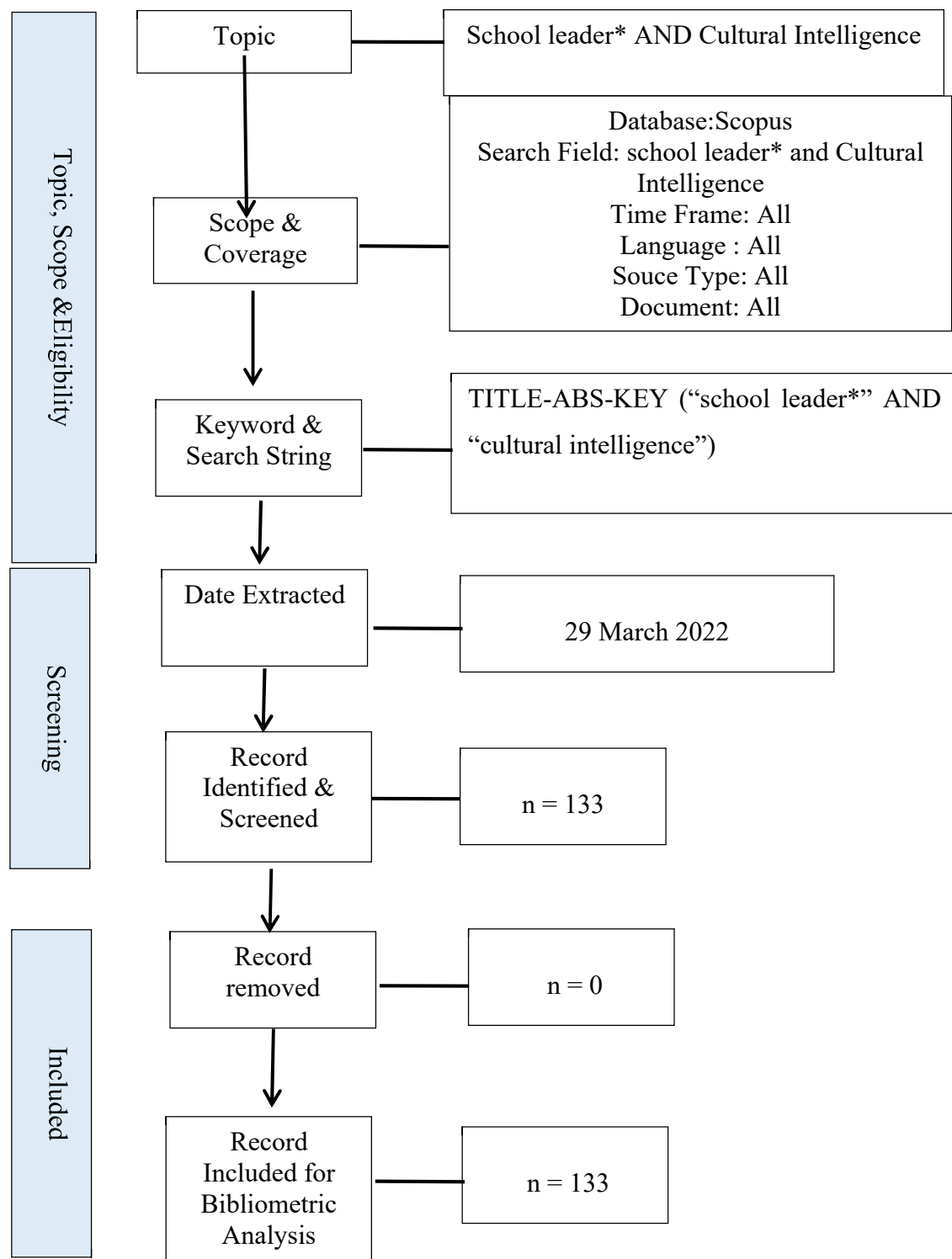
Figure 1 PRISMA Flow Diagram

Source: Adapted from Moher et al., (2010).

4. RESULT AND DISCUSSION

The following attributes used to extract the academic works for this analysis; research productivity, document and source type, the language of document, subject area, distribution of publication by countries,

most active institutions, citation metric analysis and authorship analysis.

Document Profile

Table 1 shows the number of publications distributes in five different document types. Most documents were publishes as either article or book chapter which dominates by 82.71%of overall profiles. In term of document sources, 78.20% (104) were in journals, 20.30% in

book while two were in conference proceeding as shown in Table 2.

Table 3 shows Language used to publish the documents. Only two languages identified from the collected data, English (132) and Portuguese (1). English was the main language used in the documents on school leadership and cultural intelligence.

Table 1. Type of documents

Document Type	TP	%
Article	96	72.18%
Book Chapter	14	10.53%
Book	13	9.77%
Review	7	5.26%
Conference Paper	3	2.26%
Total	133	100.00%

Table 2. Document Source

Source Type	TP	%
Journal	104	78.20%
Book	27	20.30%
Conference Proceeding	2	1.50%
Total	133	100.00%

Table 3. Languages

Language	TP	%
English	132	99.25%
Portuguese	1	0.75%
Total	133	100.00%

Subject Area Analysis

Table 4 shows the publications based on topic area. It shows that the largest number of publications were grouped under "social sciences" with a total of 89 66.92) publications. Second largest was in "business, management and accounting (45.86%), economics, econometrics and finance" (10.53%), while "arts and humanities" and

" psychology" contributed same amount of publications for this analyses (9.77%) each. "engineering" also contributed 7 publications while the rest like " computer science", "decision sciences", "earth and planetary sciences", "environmental science", "health professions", "medicine", and "multidisciplinary" have produced 5 and below publications.

Table 4. Topic Area

Subject Area	TP	%
Social Sciences	89	66.92%
Business, Management and Accounting	61	45.86%
Economics, Econometrics and Finance	14	10.53%
Arts and Humanities	13	9.77%
Psychology	13	9.77%

Engineering	7	5.26%
Computer Science	5	3.76%
Decision Sciences	2	1.50%
Earth and Planetary Sciences	1	0.75%
Environmental Science	1	0.75%
Health Professions	1	0.75%
Medicine	1	0.75%
Multidisciplinary	1	0.75%

Publication Year

Figure 2 presents the publication-year distribution. The publications were mostly produced (32) in 2021, followed by 21 publications in 2020. The trend of publications had been increasing since 2005.
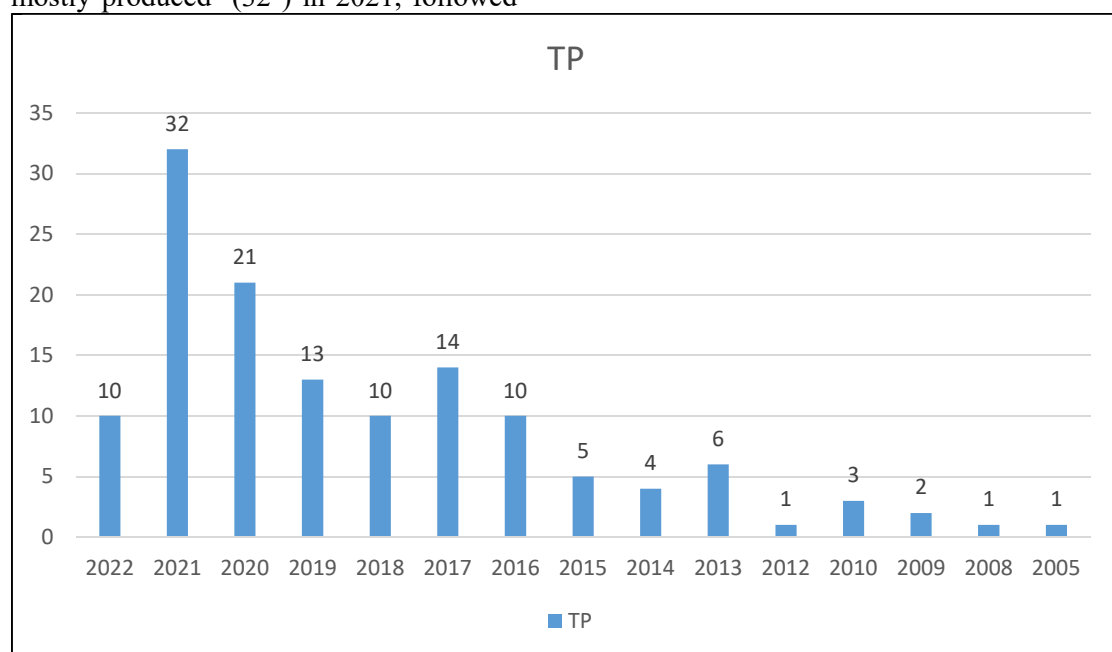
Producing Country

There were 52 countries published their documents related to this topic. It included 6 publications by an undefined country. Top three countries which produced more documents were United State 28.57% (38/133), United Kingdom 11.28% (25/133) and Australia 6.77% (9/133). A filled map of publications by country is shown in figure 3.

Table 5. Publications by Countries

Country	TP	%
United States	38	28.57%
United Kingdom	15	11.28%
Australia	9	6.77%
India	8	6.02%
Indonesia	8	6.02%
South Africa	8	6.02%
United Arab Emirates	8	6.02%
China	7	5.26%

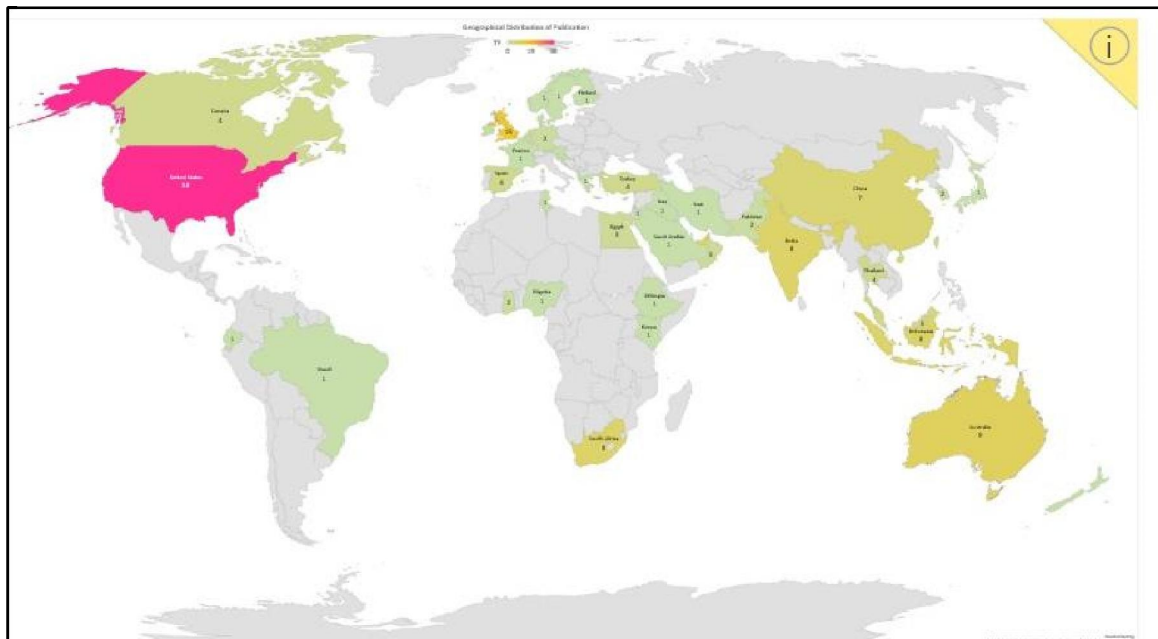| Malaysia	5	3.76%

Figure 3. Filled map of the Total 133 Publications Produces by 52 countries.

Author's Contribution

Table 6*.* Authors

Author Name	TP	%
Aldhaheri, A.	3	2.26%
Bafadal, I.	3	2.26%
Brion, C.	3	2.26%
Charoensukmongkol, P.	3	2.26%
Frías-Jamilena, D.M.	3	2.26%
Sabiote-Ortiz, C.M.	3	2.26%
Velarde, J.M.	3	2.26%
Adams, D.	2	1.50%
Arifin, I.	2	1.50%
Barakat, M.	2	1.50%
Beerli-Palacio, A.	2	1.50%
Effendi, Y.R.	2	1.50%
Martín-Santana, J.D.	2	1.50%
McArthur, S.	2	1.50%
Nelson, D.B.	2	1.50%
Puyod, J.V.	2	1.50%
Shah, S.	2	1.50%
Solomon, A.	2	1.50%
Steyn, R.	2	1.50%
Sudana, I.N.D.	2	1.50%
Tan, P.L.	2	1.50%
Tang, H.W.V.	2	1.50%
Tharapos, M.	2	1.50%
Wibbeke, E.S.	2	1.50%
Yin, M.S.	2	1.50%

Abbas, A.	1	0.75%
Abdulmuhsin, A.A.	1	0.75%
Abuarrah, S.	1	0.75%
Acar, O.A.	1	0.75%
Adha, M.A.	1	0.75%
Adhar Wisandiko, F.	1	0.75%
Afsar, B.	1	0.75%

Table 6 shows the authors contribution to the publication for school leader* and cultural intelligence since 2005. Aldhaheri, A., Bafadal, I., Brion, C., Charoensukmongkol, P.,Frías-Jamilena, D.M., Sabiote-Ortiz, C.M. and Velarde, J.M have contributed 3 documents each. The rest produced 2 and 1 publication each.

Most influential institutions

Table 7. Most influencial institutions

Institution	TP	%
Abu Dhabi University	6	4.51%
University of South Africa	4	3.01%
Thailand National Institute of Development Administration	3	2.26%
University of Dayton	3	2.26%
Assumption University, Bangkok	3	2.26%
Universidad de Granada	3	2.26%
Sultan Qaboos University	3	2.26%
Universitas Negeri Malang	3	2.26%
University of Palmas de Gran Canaria	2	1.50%
RMIT University	2	1.50%
King's College London	2	1.50%
Auburn University	2	1.50%
Texas A&M University	2	1.50%
University of Melbourne	2	1.50%
Ming Chuan University	2	1.50%
Universiti Malaya	2	1.50%
University of Leicester	2	1.50%
Hsing Wu University	2	1.50%
Durham University Business School	2	1.50%
Griffith Business School	2	1.50%
The Leadership Alliance Inc.	1	0.75%
Berlin	1	0.75%
Kenya Institute of Education	1	0.75%
Latin American Faculty of Social Sciences	1	0.75%
Ministry of Higher Education	1	0.75%
Ministry of Education	1	0.75%
Buffalo State University	1	0.75%
University of Alabama	1	0.75%
Forum for Emotional Intelligence Learning FEIL	1	0.75%
Shri Dharmasthala Manjunatheshwara Institute for Management Development SDMIMD	1	0.75%

| LeaTech, LLC | 1 | 0.75% |
| GMI, Ltd | 1 | 0.75% |

The most influential institutions in publishing the documents are presented in Table 7. Abu Dhabi University is the most influential institution with 6 publications. The second highest was University of South Africa with 4 publications while Thailand National Institute of Development Administration, University of Dayton, Assumption University, Bangkok, University de Granada, Sultan Qaboos University and UniversitasNegeri Malangproduced 3 each. The rest of the remaining institutions published 2 and 1 document each.

Citation Metric

Table 8.Citations Metric

Metrics	Data
Papers	133
Number of citations	902
Years	2005-2022
Citations per Year	53.06
Citations per Paper	6.78
Authors per Paper	2.50
h-index	15
g-index	26

Table 8 presents the citation metrics for the retrieved documents for 18 years as of 29/03/2022. The software of Harzing's Publish or Perish has been used to find the citation metric for the extracted data from the *Scopus* database. The summary contains number of citations with their citations per year, citation per paper, and citations per author.

Altogether, there were 133 papers with 902 citations averaging at 53.06 citations per year of school leadership and cultural intelligence publications. Each paper was cited 6.78 times, and the total of h-index and the g-index were at 15 and 26 for the entire publications.

Keyword Analysis

Table 9. Top-30 Keywords used.

Keywords	TP	%
Cultural Intelligence	22	16.54%
Leadership	16	12.03%
Transformational Leadership	16	12.03%
Emotional Intelligence	7	5.26%
Diversity	6	4.51%
Education	6	4.51%
International Schools	6	4.51%
Culture	4	3.01%
Higher Education	4	3.01%
Human	4	3.01%
Leadership Styles	4	3.01%
Learning	4	3.01%
Malaysia	4	3.01%
UAE	4	3.01%
Cultural Diversity	3	2.26%
Educational Leadership	3	2.26%
Inter cultural Competence	3	2.26%

School Climate	3	2.26%
School Leaders	3	2.26%
School Leadership	3	2.26%
Article	2	1.50%
Assessment	2	1.50%
Attitude	2	1.50%
China	2	1.50%
Creativity	2	1.50%
Cultural Difference	2	1.50%
Discrimination	2	1.50%

Table 9 shows Top-30 keywords in the development of school leader and cultural intelligence that has been published between 2005 and 2022. Cultural intelligence, leadership and transformational leaderships were the main keywords used by literatures in this study.

5. CONCLUSIONS

This analysis concludes that the number of publications on this topic has been steadily increasing since 2005.This development is most likely due to the multiculturalism or diversity of people from various cultures studying or working under one roof or under one organisation. School leaders are expected to gain cultural intelligence knowledge in order to manage students, teachers, staff, and members of the community from various cultures, ethnicities, and races.

Despite the fact that Scopus is one of the most extensive databases for academic research, it does not contain all published sources (Sweileh et al., 2017; Ahmi and Mohamad, 2019). The research using bibliometric analysis also has several limits that should be limited in order for readers to fully comprehend the article and for future research to be strengthened. In the first place, the results are limited to specific terms, such as school leader and cultural intelligence based on document titles. As a result, search query results for other fields (such as abstract and keywords) are excluded from this analysis. The main purpose is to use the title as a catchphrase in most academic works. Some researchers may concentrate on important words in the abstract or in the keyword field. As a

consequence, their research may or may not be directly relevant to their goal. As a result, prior to data analysis, data screening (filtering and cleaning) is required. It may be the subject of future investigation.

Future study could make advantage of more databases, such as Web of Science, Google Scholar, Dimensions, and others. Bringing all of these databases together can help produce exciting and valuable results. Despite these limitations, the current study adds to knowledge by presenting current trend of cultural intelligence in school.

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