

14-01-2026

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**To cite this article:** Taqwa, M. R. A. & Panya, N. (2026). A bibliometric analysis of communication skills among social sciences students in higher education. *Priviet Social Sciences Journal*, 6(1), 344-357.  
<https://doi.org/10.55942/pssj.v6i1.719>

**To link to this article:** <https://doi.org/10.55942/pssj.v6i1.719>



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## A bibliometric analysis of communication skills among social sciences students in higher education

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*Received 09 October 2025*

*Revised 25 December 2025*

*Accepted 14 January 2026*

### ABSTRACT

Communication skills among social-science students in higher education (CS3HE) is a rapidly growing research area. This study aims to analyze research trends on this topic through a bibliometric analysis of 1,554 documents published in Scopus-indexed journal articles. The results highlighted an increasing number of publications since 2015. The research was conducted by researchers from multiple countries. The results of research on the CS3HE topic have also been widely published in reputable journals, with most of them being published in Q1 journals. The collaboration between authors and countries shows that this research topic has received significant attention globally. Based on the analysis of research trends, future research should continue to explore the application of technology in health education and the development of communication skills to improve interactions between medical personnel and patients.

**Keywords:** communication skills; social sciences; higher education; bibliometric analysis

**priviet lab.**  
RESEARCH & PUBLISHING



## 1. INTRODUCTION

Communication skills in the 21st century are becoming increasingly crucial in an interconnected and information-rich world (Thornhill-Miller et al., 2023). Communication skills are important in the professional world (Pearson & Opoku, 2025; Smith et al., 2024; Willey et al., 2014). The ability to convey ideas clearly, listen actively, and interact with various groups is a key requirement for building effective relationships in both professional and social spheres. In an environment dominated by technology and digital media, communication skills are not limited to face-to-face conversations, but also include effective online communication through various platforms. These skills enable individuals to collaborate in diverse teams (Al-Hamdan et al., 2021; Almusharraf & Bailey, 2021), solve problems collaboratively (Zhang et al., 2022), and adapt quickly to global changes (Baharum et al., 2023). Therefore, good communication skills are not only important for careers but also for strengthening relationships between individuals and improving understanding in an increasingly complex society.

In higher education, students face the challenge of developing more mature and effective communication skills (Ansari et al., 2022; Dauber & Spencer-Oatey, 2023), especially those who major in social sciences. Social science students, who often interact with various community groups, organizations, and other sectors, must convey their thoughts and analyses clearly and persuasively. Good communication skills greatly influence how they manage interpersonal relationships, negotiate, and convey complex ideas in an easily understandable manner (Habib et al., 2023; Kearney et al., 2024; Nwulu et al., 2022). Therefore, higher education must provide space for the development of these communication skills to prepare students to become competent professionals who can compete in the world of work.

Research on communication skills continues to grow rapidly in line with changing needs and increasingly complex social dynamics (Waldeck et al., 2012). With increasing attention to the importance of communication skills in various fields, from education to the professional world, many studies have been conducted to explore various aspects of these skills. To understand the rapid and diverse developments in research, as well as to identify trends, patterns, and relationships between various studies, a comprehensive analytical approach is needed. Bibliometric analysis is a very effective tool in this regard, as it can describe the development of literature, identify significant contributions from various authors, and map the most explored areas of research in the field of communication skills (Luthfiyah, 2025; Widyaningsih et al., 2025). This approach provides deeper insights into the direction of communication research and the potential for further research in the future.

Previous bibliometric analyses have mapped research on communication skills, although each study has focused on different aspects. Overall, these studies show an annual upward trend in research on communication skills, although there are still fluctuations in the number of publications each year. The results of communication research analysis on palliative care show an increase in the number of publications in the last decade (2007–2016) (Alves et al., 2019). At the university level, research trends on intangible subjects, such as emotional intelligence in classroom management for effective communication, have also seen a notable increase in the number of publications (Kumar et al., 2022). In relation to technology, Din et al. (2023) conducted a bibliometric analysis of social media platforms and communication skills, which also revealed a growing trend in the number of publications. Previous studies have not conducted bibliometric analyses of communication skills among higher education social science students. Sanusi et al. (2023) conducted a bibliometric analysis on communication skills in higher education, but focused on general subjects. Given the critical importance of communication skills for social science students, this emerging global research trend is essential for providing a comprehensive overview of future research. This bibliometric analysis addresses the urgency of exploring this area. This bibliometric analysis addressed two key aspects crucial for providing an overview of the development of research on communication skills among social science students in higher education (CS3HE): performance analysis and science mapping. Specifically, this bibliometric analysis aims to answer the following Research Questions (RQ): 1) What is the trend in research publications on CS3HE based on the number of publications and citations?; 2) Who are the most prolific authors in CS3HE research, and how do they collaborate?; 3) Which journals are the leading publications in CS3HE research?; 4) Which

countries are the most productive in CS3HE research, and how do they collaborate with each other?; 5) How has the CS3HE research theme developed over time?

## **2. METHOD**

This study is a bibliometric analysis, which is a quantitative approach used to analyze scientific publications in a particular field. This study focuses on communication skills among social science students in higher education (CS3HE). Bibliometric analysis is useful for providing important information that can guide future research (Hulland, 2024). Another positive impact of bibliometric analysis is its use by journal managers to identify the most relevant reviewers for articles (Berger & Baker, 2014).

### **2.1. Investigating Scope**

The data search was conducted on August 29, 2025, using the Scopus database, which is widely recognized as the largest abstract and citation database, encompassing a broad range of disciplines, including social sciences pertinent to the context of this study. In addition to offering comprehensive data, Scopus ensures the inclusion of only the highest-quality content through a stringent selection process and periodic evaluations conducted by the Independent Content Selection and Advisory Board. The data search was performed using the following query: (TITLE-ABS-KEY ("communication skills") AND TITLE-ABS-KEY ("Tertiary Education" OR "Postsecondary Education" OR "Advanced Education" OR "University Education" OR "Academic Education" OR "Further Education" OR "Graduate Studies" OR "Graduate School\*" OR "Professional Education" OR "Undergraduate education" OR "Graduate Education" OR "Postgraduate Education" OR "university" OR "college") ).

### **2.2. Data Processing**

The document selection process used the PRISMA guide, as illustrated in Figure 1. Based on the query used, 5,183 documents were retrieved. Before screening, 14 duplicate documents were removed. A total of 5,169 documents were screened based on several criteria: (i) year (2015 to August 29, 2025), (ii) subject area (social science), (iii) document type (article), (iv) source type (journal), and (v) language (English). A total of 3,296 documents that did not meet the criteria were excluded. In the next step, 1,873 documents were checked for eligibility. After reading the titles and abstracts, 319 documents were excluded because they were outside the research theme of communication skills among social science students in higher education (CS3HE). Therefore, at the end of the data processing, 1,554 documents were included in the bibliometric analysis. See Figure 1

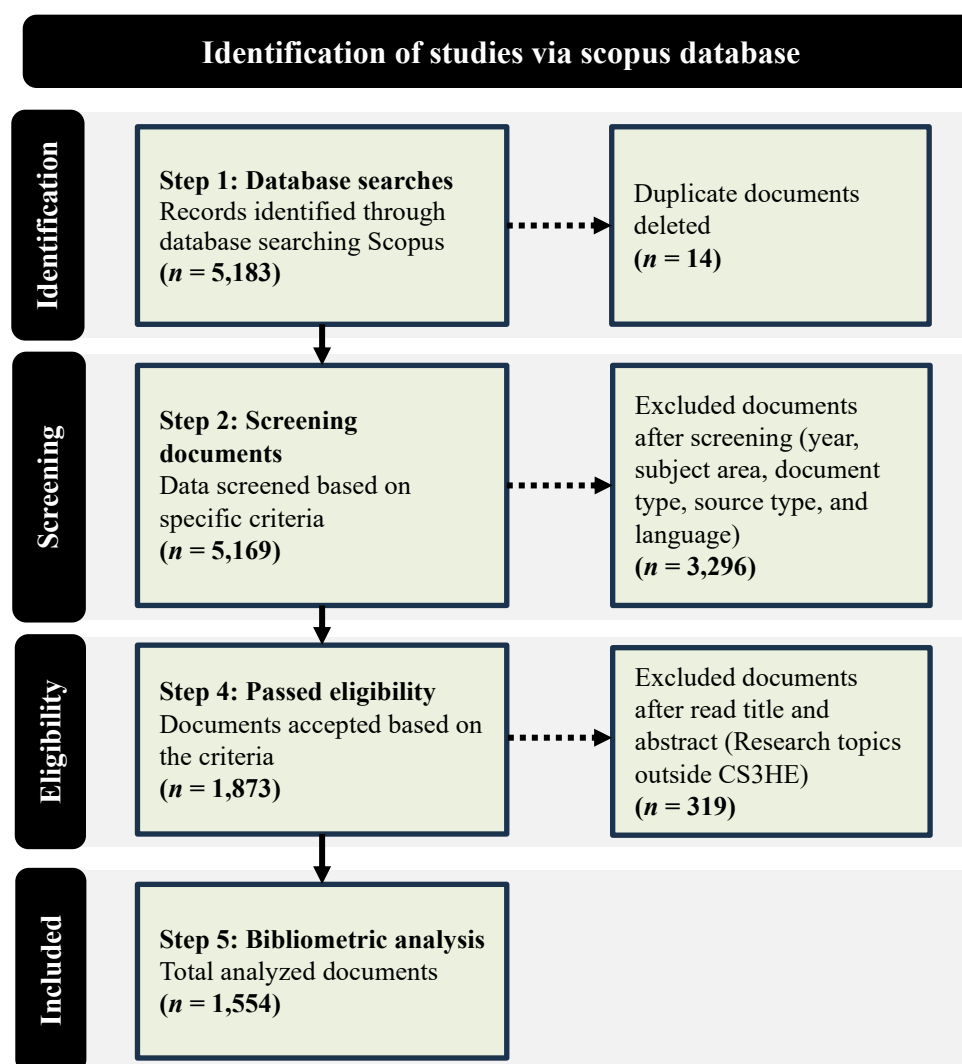


Figure 1. The Process of Selecting Documents for Analysis

**Source:** Personal documents about the document selection process

### 2.3. Data Analysis

Data analysis was performed on 1,554 documents containing metadata information such as title, author, affiliation, abstract, author keywords, and index keywords. In this bibliometric analysis, we used VOSviewer and Biblioshiny software. However, in the graphical visualization of the number of publications and citations, the quantitative data from the Biblioshiny analysis was re-represented using Microsoft Excel.

## 3. RESULT AND DISCUSSION

Before discussing each finding in detail according to the research questions, Figure 2 shows the results of Biblioshiny's analysis of the main information. This bibliometric analysis covers publications on communication skills among social science students in higher education from 2015 to 2025. We analyzed 1,554 articles with a total of 10,065 authors, indicating broad participation from various researchers in this field. With an annual growth rate of 19.97%, this topic is rapidly growing. The average document has 11.4 authors, reflecting the collaborative nature of the research. Only 14.54% of publications involve international collaboration, although there are several significant collaborations at the global level.

In addition, the analysis shows that the average age of the documents is 3.85 years, indicating that most of this research is relatively new and relevant to current developments. Each document is cited an

average of 8.599 times, indicating that this research has a major impact in its field. With 13,283 references used, these publications are supported by a variety of sources that enrich the study of communication skills in higher education. Overall, this research demonstrates the importance of this topic and its significant contribution to global academic research. In more detail, the findings that answer the research questions will be discussed separately in the following subsections (Figure 2).



Figure 2. Main Information

Source: Results of data analysis using Biblioshiny

### 3.1. Research Trends Based on Number of Publications and Citations

Figure 3 illustrates the trend in the number of annual publications and citations related to research on CS3HE. The data reveals a steady increase in the number of publications from 2015 to 2024. However, a notable decline in publications is observed in 2025, with the total dropping to 173. This decrease is attributed to the fact that the data analyzed in this study were collected mid-year, meaning that there is still potential for the publication count to rise by the end of 2025. In contrast, the Mean Total Citation per Article (MTCpA) remains consistently low and has shown a gradual decline over the years. This trend can be attributed to the inherent nature of newer articles, which typically require more time to accrue citations.

This pattern is reflective of the growing emphasis on communication skills research within higher education. The increase in the volume of publications suggests a growing engagement by researchers in this field. This finding is relevant to several previous studies that show that research on communication skills has increased year by year (Alves et al., 2019; Din et al., 2023; Kumar et al., 2022; Sanusi et al., 2023). However, the low citation rate may indicate a delay in the scientific impact or suggest that the research area is still relatively niche within the broader context of social science education. Drawing from bibliometric theories such as Lotka's Law and Zipf's Law, it is important to note that the relationship between publication volume and citation frequency is not always linear (Kushairi & Ahmi, 2021; Newby et al., 2003; Nicholls, 1989). In emerging research fields, articles often require time to establish their influence and gain recognition within the broader academic community.

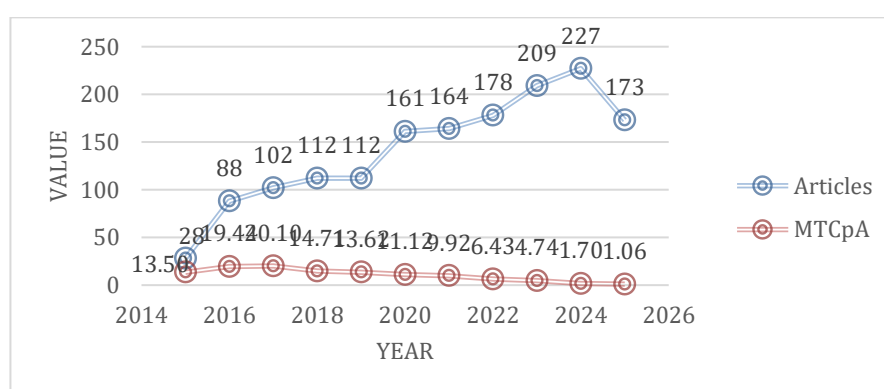


Figure 3. Number of Annual Publications and Citations

Source: Data analysis results using Biblioshiny and represented using Microsoft Excel

### 3.2. The 10 Most Productive Researchers and Their Collaborative Networks

Table 1 shows the 10 most productive researchers in communication skills research among social science students. The most productive researcher is Kallies, K. J., from the Medical College of Wisconsin,

USA, with four published articles and a fractionalized article of 0.75, indicating a significant contribution despite collaboration. Several other researchers, such as Alias, N. A., and Dewitt, D., from the University of Malaya, Malaysia, each published three articles with a fairly high fractionalized article (0.83), indicating their significant role in each publication they made.

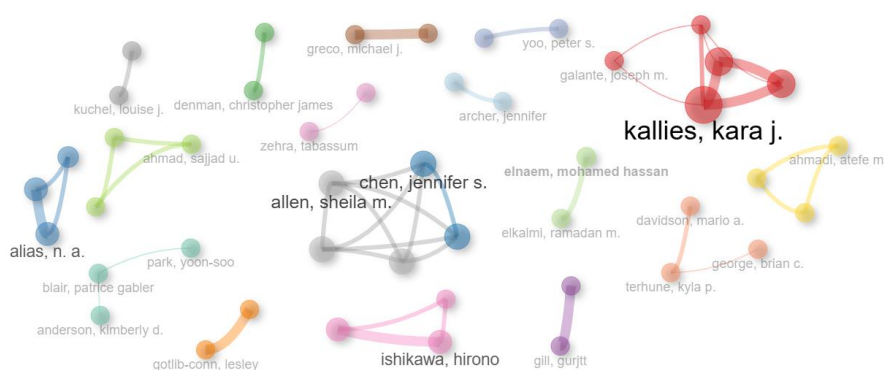
In addition, Denman, C., from Sultan Qaboos University, Oman, has a higher fractionalized article (1.08), indicating a major contribution in each published article. Researchers such as Gluchmanová, M., from the Technical University of Košice, Slovakia, show a very high fractionalized number (3.00), which could indicate that even though the number of articles is limited, their contribution to the publication is enormous. On the other hand, researchers such as Gotlib-Conn, L., from Sunnybrook Research Institute, Canada, and Gill, G., from the University of Michigan, USA, despite publishing three articles, have lower fractionalized articles, 0.39 and 0.44, respectively, indicating that their contribution to each publication is smaller.

**Table 1. The 10 Most Productive Researchers**

Authors	Affiliation	Country	Articles	Articles Fractionalized
Kallies, K. J.	Medical College of Wisconsin	USA	4	0.75
Alias, N. A.	University Malaya	Malaysia	3	0.83
Denman, C.	Sultan Qaboos University	Oman	3	1.08
Dewitt, D.	University Malaya	Malaysia	3	0.83
Gill, G.	University of Michigan	USA	3	0.44
Gillespie, C. C.	NYU Grossman Sch. of Medicine	USA	3	0.66
Gluchmanová, M.	Technical University of Košice	Slovakia	3	3.00
Gotlib-Conn, L.	Sunnybrook Research Institute	Canada	3	0.39
Greco, M. J.	Griffith University	Australia	3	0.44
Hasan, M. K.	United International University	Bangladesh	3	0.92

**Source:** Data analysis results using Biblioshiny with additional information on affiliation and country

The research listed in Table 1 shows that the topic of communication skills among social science students is not only of interest to scientists from one country or continent, but involves cross-continental collaboration. This indicates that research on communication skills among social science students is a universal topic that has received global attention, with contributions from various continents, including America, Europe, Asia, and Australia. This indicates that communication skills are considered important in higher education in various parts of the world, and this research brings a very broad perspective in examining the challenges and developments occurring in each country and region.



**Figure 4. Visualization of Collaboration Networks between Authors**

**Source:** Data analysis results using Biblioshiny

The CS3HE research not only demonstrates broad interest based on the distribution of researchers across countries, but also extensive collaboration among researchers. Figure 4 is a visualization of the

collaboration network between authors involved in CS3HE research. Collaboration between authors from various countries and affiliations shows that this research is a collective effort involving various global perspectives. With this visualization, we can see how important international collaboration networks are in enriching research, allowing various ideas and approaches from different regions to contribute to the same topic. This also indicates that the more collaboration that occurs, the greater the possibility of producing research results that are more impactful and broader at the global level.

### 3.3. The 10 Leading Journals in CS3HE Research

Table 2 shows the ten leading journals in communication skills research among social science students in higher education (CS3HE). All journals on this list are in Quartile 1 (Q1), indicating high quality in their category. Journals in Q2 and Q3 are also high-quality journals, as evidenced by their relatively high 2024 SJR. The most prominent journal is Nurse Education Today, which has the highest SJR (1,483), indicating a significant impact in nursing education research. The number of articles published also varies, with the Journal of Surgical Education leading with the highest number of articles (138), followed by BMC Medical Education (92), indicating that these two journals have a greater focus on topics related to medical education and communication skills. In addition, these journals are published by major publishers such as Elsevier Inc. (Journal of Surgical Education, Nurse Education Today, and American Journal of Pharmaceutical Education), BioMed Central Ltd (BMC Medical Education), and MDPI (Sustainability), reflecting the diversity of publishers in this field. The journal Sustainability (Switzerland) is also noteworthy for its more multidisciplinary nature, with an SJR of 0.688, covering a broader range of topics than other journals that are more focused on the medical and educational fields. In contrast, the GMS Journal for Medical Education and the Journal of Chemical Education have lower SJRs (0.495 and 0.596), indicating that they are more focused on more specific or niche fields. Overall, these findings show that research on communication skills in higher education has many high-quality publication channels, with some journals focusing more on the medical and nursing fields, while others offer a multidisciplinary perspective.

**Table 2. The 10 Leading Journals in CS3HE Research**

Sources	Publisher	Quartile	SJR 2024	Articles
Journal of Surgical Education	Elsevier Inc.	Q1	0.830	138
BMC Medical Education	BioMed Central Ltd	Q1	0.947	92
Nurse Education Today	Churchill Livingstone	Q1	1.483	45
Nurse Education in Practice	Elsevier Ltd	Q1	1.129	22
GMS Journal for Medical Education	German Medical Science	Q2	0.495	19
Sustainability (Switzerland)	Multidisciplinary Digital Publishing Institute (MDPI)	Q1	0.688	18
Journal of Chemical Education	American Chemical Society	Q2	0.596	14
American Journal of Pharmaceutical Education	Elsevier B.V.	Q1	0.736	13
International Journal of Learning, Teaching and Educational Research	Society for Research and Knowledge Management	Q3	0.316	13
Academic Medicine	Lippincott Williams and Wilkins Ltd.	Q1	1.446	12

**Source:** Data analysis results using Biblioshiny and additional information based on data at <https://www.scimagojr.com/>

These findings highlight the importance of publishing research results in reputable journals or publishers. Publication in reputable journals or publishers is important because it guarantees the quality of research through a rigorous peer review process, ensuring the scientific validity of the findings (Kelly et al., 2014; Lu & Daugherty, 2022). Leading journals have a high Impact Factor or SJR, increasing the visibility of articles and accelerating the dissemination of knowledge. Publication in prestigious journals also strengthens the author's reputation, supports academic career development, and provides access to

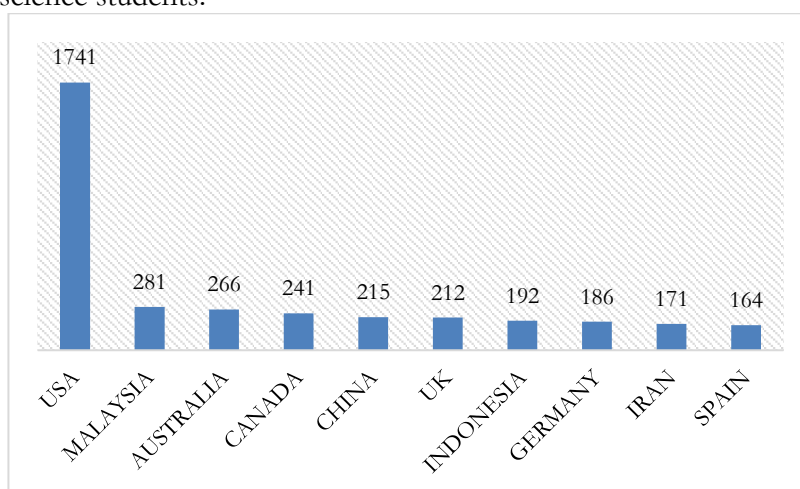
research opportunities. In addition, these journals often have an international reach, expanding the audience and allowing research results to be accessed by the global community.

### 3.4. The 10 Most Productive Countries and Their Collaborations in CS3HE Research

Figure 5 shows the frequency of author-affiliated countries recorded in publications analyzed in a bibliometric study of communication skills among social science students in higher education. Of the total 1,554 documents analyzed, the United States (USA) ranked first with 1,741 mentions, indicating a very large dominance over other countries. Malaysia ranked second with 281 mentions, followed by Australia with 266, and Canada with 241 mentions. Other countries, such as China, the United Kingdom (UK), Indonesia, Germany, Iran, and Spain, had lower numbers, with mentions ranging from 164 to 215, respectively. The dominance of the USA in this study reflects the country's strong influence in the topic of communication skills, while countries such as Malaysia and Australia show significant contributions to this literature. Conversely, countries such as Iran and Spain have fewer citations, which may indicate potential for increased research collaboration in this field.

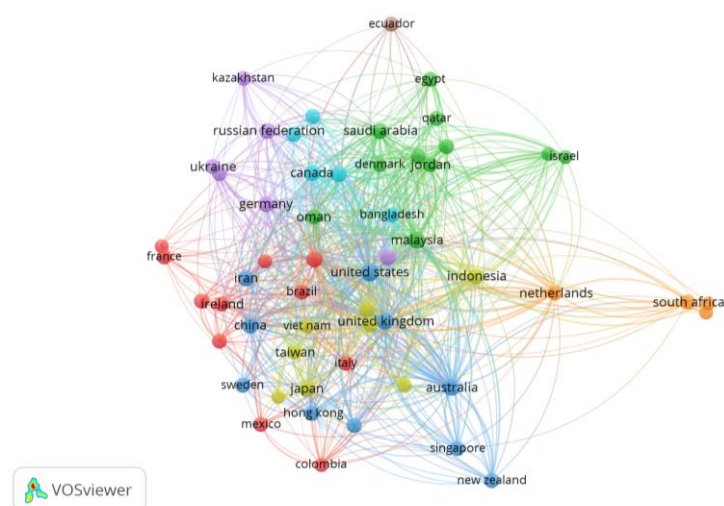
Information about the author's country of origin in Figure 5 is very important for researchers who want to conduct research in the CS3HE area. This data provides an overview of the countries that are most active in publishing, such as the United States, Malaysia, and Australia, which could be potential sources for international collaboration. Researchers from countries with lower contributions can explore opportunities to collaborate with these countries, expand their networks, and gain access to research resources and funding.

In addition, this information helps researchers identify global trends in CS3HE research, as well as opportunities to find research gaps that have been underexplored. By understanding which countries are more active, researchers can develop research topics that are relevant to international needs and priorities, and understand the educational and policy contexts that influence the development of communication skills among social science students.



**Figure 5. Frequency of Author's Country of Origin in Publications**

**Source:** Data analysis results using Biblioshiny and represented in bar charts using Microsoft Excel



**Figure 6. Visualization of Collaboration Networks between Authors Based on Country of Origin**

**Source:** Data analysis results using VOSviewer

Figure 6 shows a visualization of the collaboration network between countries based on the authors' origins. In this image, countries that collaborate frequently are connected by lines that indicate the relationship between the publications produced. Countries such as the United States, the United Kingdom, and Germany are highly centralized with many connections, indicating a high level of collaboration in international research. Malaysia, Indonesia, and Brazil also appear to have many connections with other countries, indicating significant collaboration in research. In addition, countries with fewer connections such as Ecuador, South Africa, and Israel show more limited collaboration, but are still connected in the global network. This visualization provides an overview of the extent and complexity of international collaboration in research, as well as indicating potential areas for increased cooperation.

Collaboration between countries plays a crucial role in research, particularly in disciplines that demand a global perspective, diverse resources, and multidisciplinary expertise (Khan, 2024). Such international partnerships enable researchers to exchange knowledge, data, and methodologies that may not be accessible within their own national contexts. This exchange significantly enhances the quality of research and yields findings that are more relevant and applicable across various global contexts. Moreover, cross-national collaboration opens avenues for securing substantial funding and resources, while also facilitating access to broader academic and professional networks (Hinds et al., 2011). It allows researchers to harness the benefits of differing policies, infrastructure, and cultural contexts to address complex global challenges, such as climate change, public health, and education. Through international cooperation, researchers can amplify their impact, accelerate innovation, and contribute to the advancement of science on a global scale, transcending local and national boundaries.

### 3.5. The Development of Research Themes in CS3HE

Figure 7 shows the trends in topics that have developed in research related to health education and related fields from 2016 to 2024. This data shows changes in the frequency of use of certain terms over time. The topics of health education and ChatGPT show a significant surge in recent years, with a very high frequency of use. Topics such as nurse-patient relations, blended learning, and speaking skills have also experienced rapid growth. Meanwhile, more general topics such as education, nursing students, and humans have shown more consistent trends throughout the period. Overall, this graph illustrates a shift in research topic priorities, with a significant increase in technology-related issues (such as ChatGPT and artificial intelligence) and changes in the dynamics of education in the fields of health and nursing.

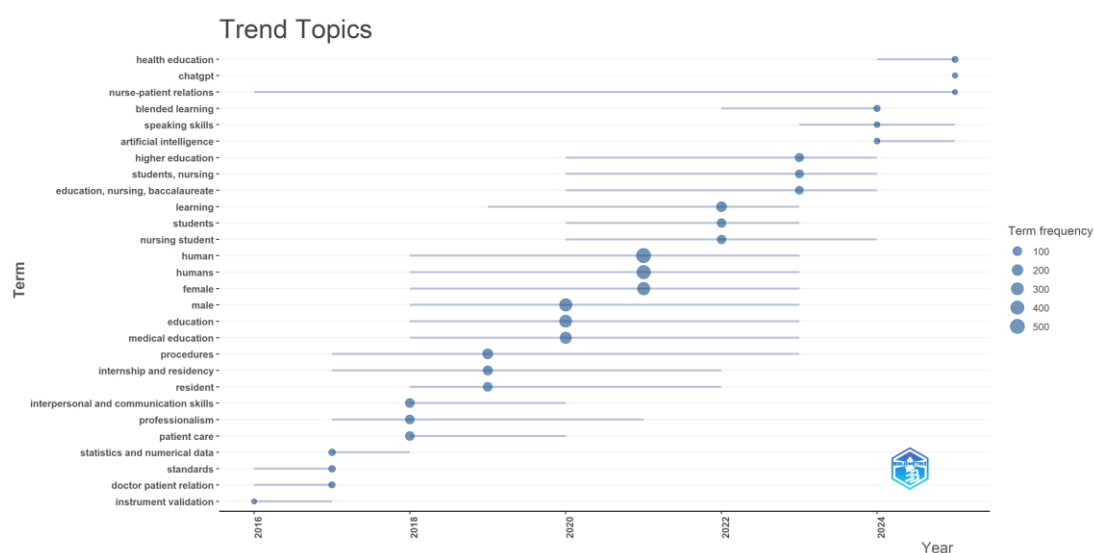


Figure 7. Trend Topics

**Source:** Data analysis results using Biblioshiny

Future research in health and nursing education should focus on technology integration in education, the application of artificial intelligence (AI), and improving interpersonal skills that support effective communication between medical personnel and patients. Based on the trends shown in Figure 7, research should continue to develop the use of advanced technologies such as ChatGPT and AI to improve the learning process and simulation in health education. With the increasing reliance on technology, research should also focus on distance learning, blended learning, and the application of AI in medical diagnosis, patient care, and medical data management.

The shift in research topic priorities is due to the evolution of education and healthcare needs, influenced by rapid technological developments (Ahmad et al., 2022; Oliveira et al., 2021; Su & Zhong, 2022). ChatGPT and AI have shown a significant surge because these technologies enable more personalized and interactive teaching, as well as improving the accessibility of learning at various levels of health education (Alshahrani & Qureshi, 2024; Mema et al., 2023; Yu, 2024). The use of AI in the medical field not only improves the efficiency of diagnosis and patient data management but also has the potential to democratize healthcare by providing access to advanced medical tools that were previously difficult for many people to access. Meanwhile, developments in interpersonal communication and communication skills between nurses and patients continue to be necessary because the human factor remains a crucial aspect of healthcare despite technological advances. Overall, these shifts reflect the need to balance technology with human interaction, with further research needed to understand how best to integrate technology with medical practices based on empathy and communication skills.

#### 4. CONCLUSION

Based on the results of a bibliometric analysis of publications on communication skills among social science students in higher education (CS3HE), research trends show a significant increase in the number of publications with a relatively low number of citations, indicating that this topic is still relatively new and needs time to gain greater scientific influence. The most productive researchers in this field come from various countries, such as the United States, Malaysia, and Oman, with international collaborations demonstrating the importance of global cooperation in improving research quality. The most productive journals dominating publications come from several leading publishers, which have a major impact on the field of medical education. The United States is the most productive country in this research, followed by Malaysia and Australia, with quite extensive international collaboration, but there is still potential to increase collaboration with other countries whose contributions are lower. The CS3HE research theme

has grown rapidly, particularly with an increased focus on technologies such as ChatGPT and artificial intelligence (AI), which are changing the dynamics of health and nursing education, while interpersonal communication skills remain important despite technological advances. Future work should examine technology-supported pedagogy (e.g., AI-assisted feedback) and interventions that strengthen student–stakeholder communication.

### **Ethical Approval**

This study is a literature review and therefore does not require ethical approval.

### **Informed Consent Statement**

This study does not collect primary data, so an Informed Consent Statement is not required.

### **Authors' Contributions**

Conceptualization, MRAT and NP; data analysis, NP; writing – original draft preparation, MRAT and NP; writing – review and editing, MRAT and NP. All authors have read and approved the final manuscript for submission.

### **Disclosure statement**

No potential conflict of interest was reported by the authors.

### **Data Availability Statement**

The data presented in this study are available on request from the corresponding author due to privacy reasons.

### **Funding**

This research received no external funding.

### **Notes on Contributors**

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#### **Napat Panya**

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Napat Panya is a teacher at a Senior High School and is currently pursuing a Master of Education in Education Administration at the Faculty of Education, Yala Rajabhat University, Thailand. She has a strong interest in research related to science education at both the secondary and higher education levels. Her current research focuses on integrating 21st-century skills and technology into the learning process, particularly in secondary schools and universities.

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