

Exploring the Integration of Service Learning in Curricula: A Bibliometric Analysis of Trends and Core Contributions

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Abstract

Service learning is an effective and widely recognized pedagogical approach that integrates academic learning with community service to enhance students' development and their sense of social responsibility. However, it still needs to be in-depth discussed about how to effectively integrate service learning into the curriculum. **Objective:** This review's objective is to examine the overview and effective strategies of service learning and curriculum integration. **Methods:** The PRISMA framework was used to summarize studies linking service learning and curriculum integration, by searching the Scopus database in this bibliometric analysis. The complete keyword search results are 2407 papers in the database. Inclusion and exclusion criteria were applied to narrow the findings to 791 relevant articles. **Results:** From 2005 to 2023, the development of the trajectory of service learning study from its rise, and maturity to new challenges. The involvement of multiple countries, academic institutions, and researchers highlights the multidisciplinary nature of the field. **Conclusion:** Service learning is becoming more significant in modern higher education, as demonstrated by the growing number of publications, researchers from different districts and institutions, and an emphasis on many subject areas and keywords. This indicates the diversity and collaboration of this field's research. **Recommendation:** The paper recommends a greater study to deepen the integration of interdisciplinary courses and service learning. Design projects related to industry needs and conduct empirical research to quantify their impact on student growth. **Keywords:** Service Learning, Curriculum Design, Bibliometric Analysis

Introduction

Service learning is an effective and widely recognized pedagogical approach that integrates academic learning with community service to enhance students' practical knowledge and their sense of social responsibility (Singha, 2024; Tiippana et al., 2024). Over the past few decades, this approach has been implemented in various disciplines, making significant contributions to the education field worldwide, particularly in higher education (Salam et al., 2019). It enhances not only students' learning experiences (Wong & Lau, 2024), but also develops their critical thinking (Desmet, 2024), collaboration (Desmet, 2024), communication capabilities (Mtawa et al., 2021), and problem-solving abilities (Winterbottom, 2024). With the continuous transformation of education, especially in the context of the increasing integration of technology into education, the learning platform poses new challenges and opportunities for incorporating service learning into curricula (Aramburuzabala et al., 2024). Educators should adapt and seize this opportunity to maximize the potential of service learning in curricula in an increasingly digital education context (Álvarez-Vanegas et al., 2024; Bitar & Davidovich, 2024).

However, despite the rapid development of service learning across various disciplines, comprehensive research on the integration of service learning into curricula remains scarce. Particularly in the context of globalization and digitization, the effective integration of service learning into curricula is an urgent issue that needs to be addressed in the education field. First, traditional classroom teaching focuses on theoretical knowledge, while service learning enables students to understand and deepen knowledge in practice (Bringle & Hatcher, 1996). Second, service learning can effectively bridge the gap between "academic knowledge" and "practice" (Grassetti et al., 2021; Molee et al., 2011). Furthermore, Unesco (2017) proposed Education for Sustainable Development (ESD), in which students need to be global citizens with a sense of social responsibility. The integration of service learning into curriculum is an important way to achieve this goal.

Therefore, this study implemented bibliometric analysis to deeply analyze the research on service learning and curricula from 2005 to 2023. The purpose of this study is to comprehensively identify the landscape of this field, including the publication trend, leading countries or districts, prominent educational institutions, famous authors, most influential journals, major keywords, critical topic research area, and research direction in the future.

From a methodological perspective, many researchers have employed bibliometric analysis to investigate various fields of education. For example, Abuhassna, Adnan and Awae (2024) conducted a comprehensive literature review of instructional design models and learning theories through the bibliometric technique and a systematic literature review. Abuhassna (2024) adopted bibliometric analysis to explore the effect of online learning platforms on student performance. In the meantime, Abuhassna, Awae, et al. (2024) employed a systematic literature review and bibliometric analysis to thoroughly analyze Artificial intelligence and machine learning in the field of education. Furthermore, building on the work of these researchers, Qi et al. (2024) assessed the current situation of flipped classrooms in language education using a systematic literature review and bibliometric analysis.

Based on previous studies and the methodology applied by researchers, this study seeks to examine service learning using bibliometric analysis. Through exploring the publication trends, leading countries or districts, educational institutions, prominent authors, subject area, and major keywords, this study will provide a comprehensive overview of this field. In light of this, the research questions following will guide this study:

1. What are the publication trends of service learning from 2005 to 2023?
2. Which countries or districts are most active in service learning research from 2005 to 2023?
3. What are the leading educational institutions in service learning research from 2005 to 2023?
4. Which authors made the most significant contributions to the field of service learning research from 2005 to 2023?
5. In which journals are service learning research most frequently published?
6. What are the keywords and common trends in service learning research?
7. Which topic area is the most critical in service learning research?

Materials and Methods

This bibliometric study followed the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) framework (Moher et al., 2010), and aimed to analyze and unveil the research situation on service learning and curriculum from 2005 to 2023. The study has established comprehensive research, including the analysis of major countries, educational institutions, primary publications, and authors. By exploring keywords in this field, the research not only reflects the content of bibliometric reviews but also indicates the potential future trends.

In this study, VosViewer software was used to analyze and simplify the construction and observation of bibliometric networks through data visualization techniques. These networks cover journals, publications, and researchers, indicating academic interactions such as co-author relationships and citation relationships. VosViewer's interactive interface and data processing capabilities for large datasets enable researchers to conduct in-depth analyses of academic topics study trends in the field of service learning and identify key research patterns. The geographic organization function of VosViewer provides a global perspective on service learning for understanding the research dynamics in this field. Education decision-makers, This analysis is of great importance to education decision-makers, as it not only promotes their understanding of research trends but also provides new insights and valuable references.

Database and Search Strategy

This study chose the Scopus database as the primary source for this review on November 8, 2024., due to its extensive coverage and excellent reputation in the field of scientific article analysis. Through a carefully designed search strategy, this study used the following search terms: TITLE-ABS-KEY ("service learning" AND "curve" OR "curved"), combined with publication year (PUBYEAR>2004 AND PUBYEAR<2024). The targeted subject areas include arts, social sciences, and computer science. The search was strictly limited to articles and English-language publications were implemented. Furthermore, only journal sources were searched. Table 1 displays the Inclusion and exclusion criteria.

Table 1

Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion criteria
Research specifically on service learning and (curriculum or curricular)	Research outside the specified subject areas
Publications from the years 2005 to 2023	Publications before 2005 and those from 2024
Articles published in English	Publications in other languages
Journal articles	Theses, conference papers, books, book chapters, blogs
Journals as the source type	All other sources

Data Screening and Selection

According to the PRISMA framework, the literature screening is divided into three stages: identification, screening, and inclusion. The primary keywords "service learning" AND "curriculum" OR "curricular" were used in the identification stage, which produced 2,407 items. By using the inclusion and exclusion criteria listed in Table 1, there were 791 articles left. The process of screening brought about the exclusion of 1,606 papers that failed to satisfy the predetermined criteria.

Inclusion and Reporting

As seen in Figure 1, the PRISMA framework is used to present the results of this bibliometric analysis. The following part will show the results by responding to the research questions and showing the results systematically and transparently.

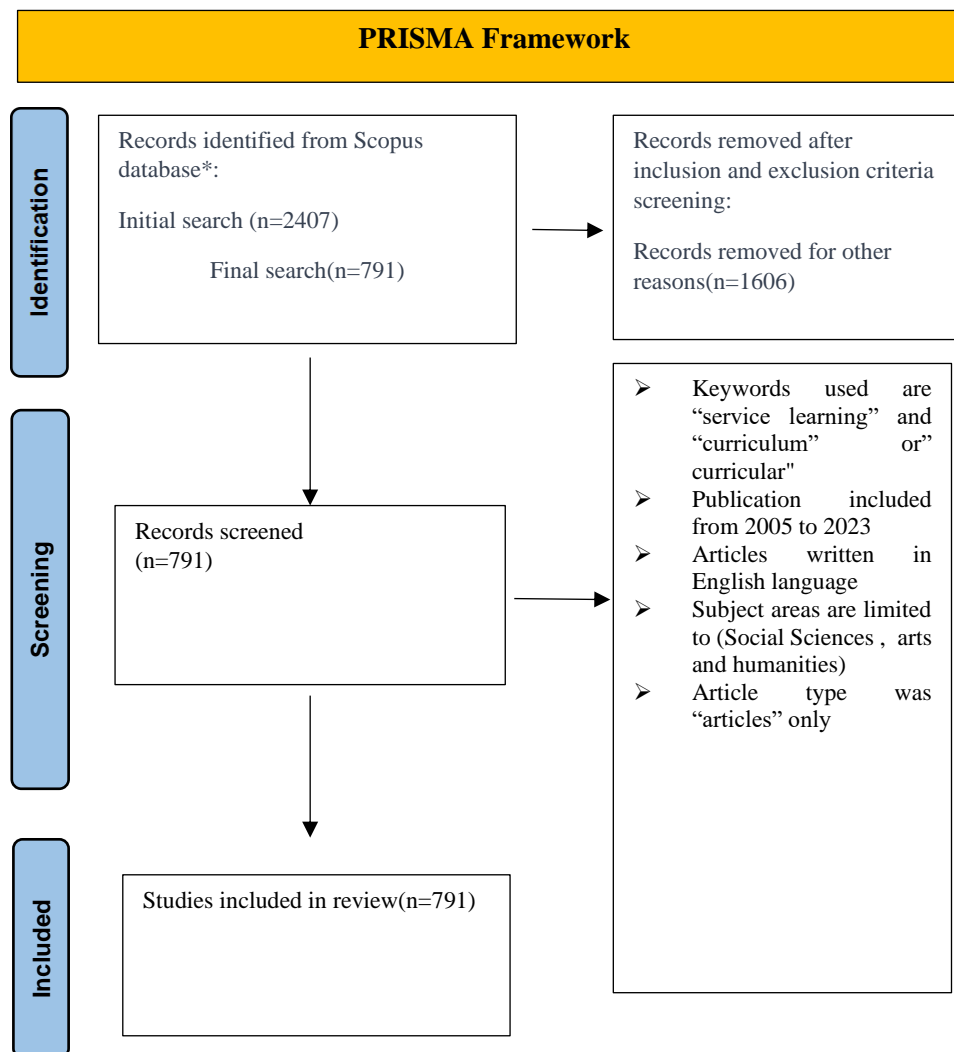


Figure 1. Prisma Framework

Results

This part will detail the findings of this bibliometric investigation of the correlation between service learning and curriculum. The study covers two decades of research and provides valuable perspectives for this discipline. It delves into various subject areas, revealing publishing patterns and highlighting influential journals. The study also examines the contributions of nations, educational institutions, prolific authors, and key research keywords. By assessing the global efforts and the influence of service learning on curriculum, this investigation offers valuable insights into this area.

Distribution by Years

To address the first research inquiry, what are the publication trends of service learning from 2005 to 2023? By analyzing the data, we can peek into the distribution of publications on the integration of service learning and curriculum from 2005 to 2023. The number of publications concerning "service learning and curriculum" has experienced significant changes.

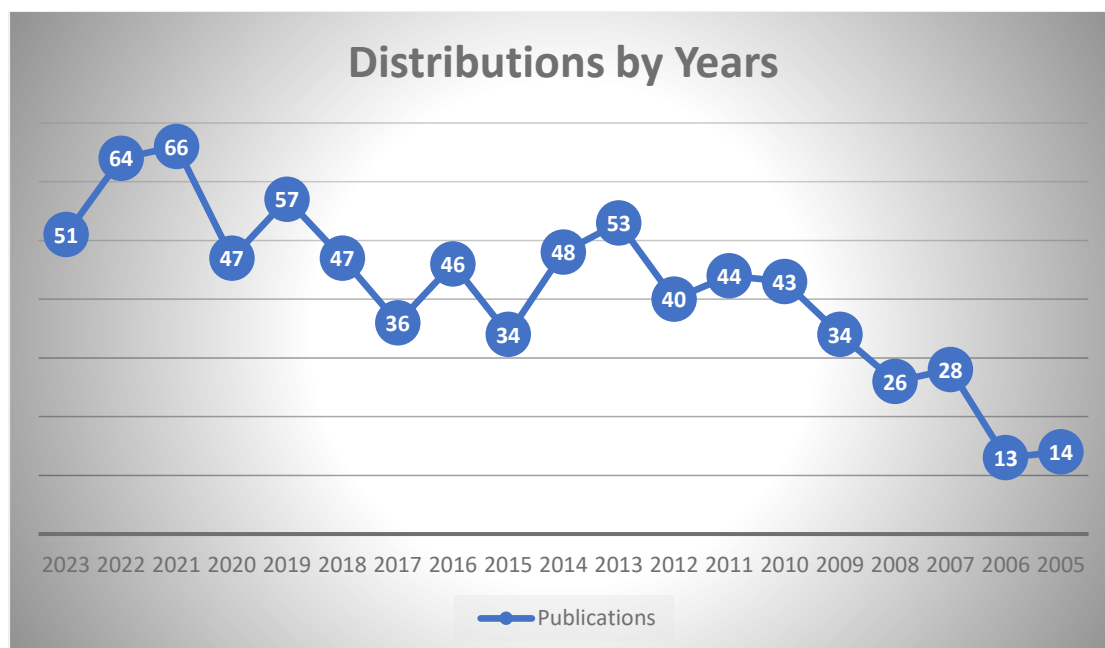


Figure 2. Distribution by years

The data is displayed in Figure 2. The number of publications related to service learning and curriculum study from 2005 to 2023 shows an overall upward trend accompanied by short-term fluctuations, reflecting a growing focus on this area. From 2005 to 2013, the number of publications increased from 14 to 53, which indicates academics are paying more attention to practical teaching methods. From 2013 to 2021, the number of publications fluctuated between 34 and 66, the research entered a mature stage. This may be attributed to the fact that scholars have conducted in-depth research on the practice and effectiveness of service learning and curriculum integration. Notably, the number of publications reached a peak of 66 in 2021, which may be attributed to the great change in educational methods driven by the COVID-19 pandemic. However, the number of publications dropped to 51 by 2023, which may be related to the shift of educational research hotspots to online and hybrid teaching. The data indicates the development of the trajectory of service-learning study from its rise, and maturity to new challenges. In the future, researchers can pay attention to the application of service-learning in online and interdisciplinary courses, and explore its deep integration with educational technology and social responsibility.

The Most Significant Countries or Districts

In response to the second study question,—" Which countries or districts are most active in service learning research from 2005 to 2023?"-the data reveals the heterogeneous worldwide impact. As shown in Figure 3. Distribution of publications by countries or districts.

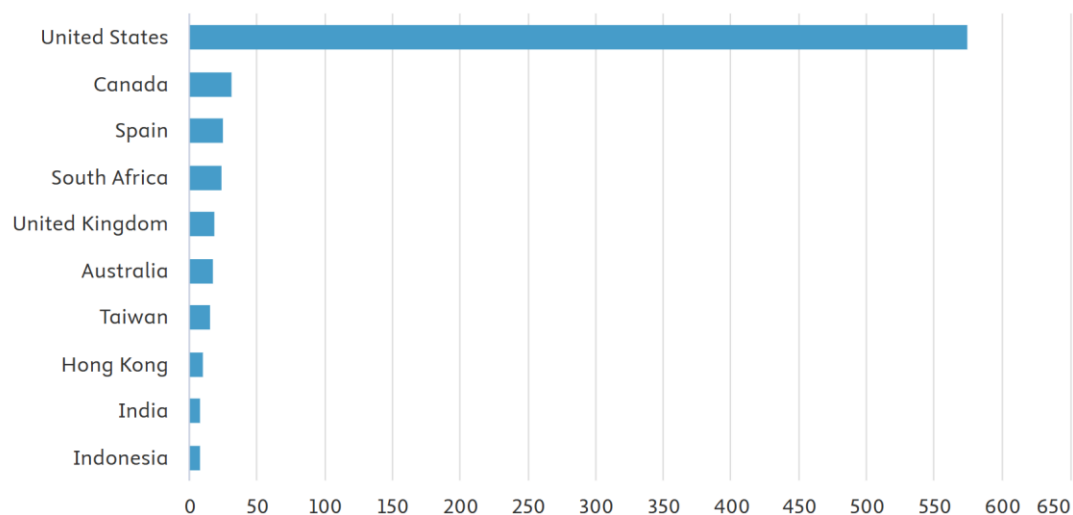


Figure 3. Distribution by countries or districts

With a total count of 574 publications, the United States is far ahead of other countries in the number of research and publications in the field of service learning, indicating the United States' considerable commitment and broad educational practice foundation in this field. The leading position may be related to the great importance of practical teaching methods in the American education system and policy support for this field. Canada, Spain, South Africa, and the United Kingdom rank closely, with 31, 24, 23, and 18 publications respectively. Although the number of publications is less than that of the United States, it also indicates that these countries have certain investments and commitments in the research and application of service learning. Australia, Taiwan, Hong Kong, India, and Indonesia have limited research in this field, with 17, 15, 9, 7, and 7 publications respectively. This may be related to local education policies, allocation of research resources, and awareness of service-learning.

Collectively, these countries or districts make up a substantial amount of the global scholarly research on service learning and curricular integration. As the development of global education reforms and practical teaching methods become more popular, these regions may have great potential for development in this field in the future. Transnational cooperation and experience communication will promote further breakthroughs in this field in these countries and regions.

The Most Significant Educational Institutions

Regarding the third research inquiry, "What are the leading educational institutions in service learning research from 2005 to 2023?" the data shown in Figure 4 and Figure 5 underscores the most important academic institutions in this domain.

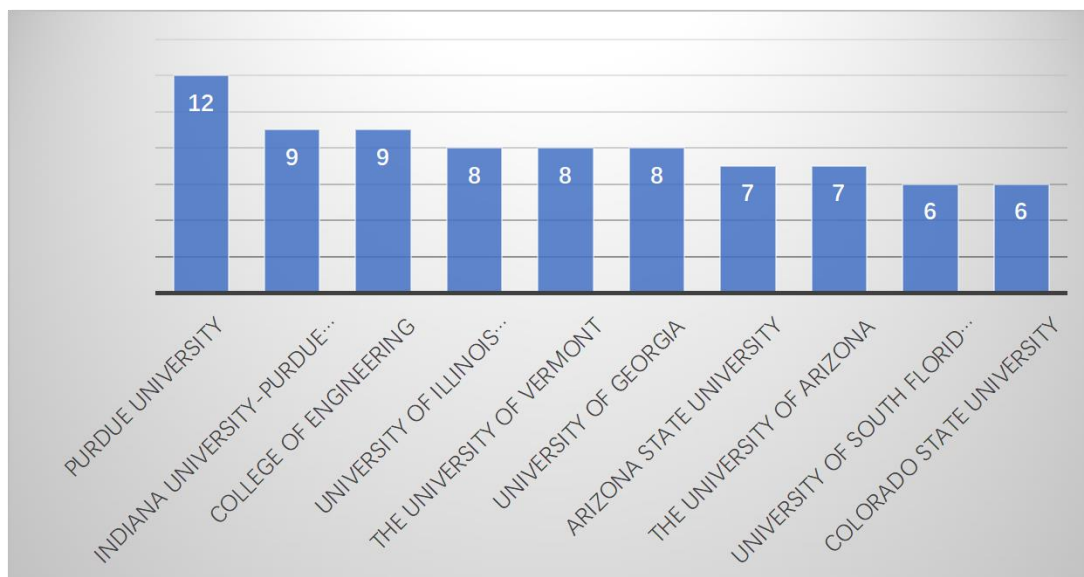


Figure 4. The most significant educational institutions

Purdue University has generated the greatest number of publications overall, with 12, which indicates the institution's commitment to service learning and curriculum research. Indiana University-Purdue University Indianapolis (IUPUI) and the College of Engineering published nine articles separately in this field, indicating the in-depth exploration of combining engineering education with service learning. Interestingly, the University of Illinois Urbana-Champaign, the University of Vermont, and the University of Georgia published eight papers separately, demonstrating these institutions' active engagement in the application and investigation of service-learning in different disciplines (e.g., education, environmental science, and social sciences). Arizona State University and the University of Arizona each published seven papers, showcasing these institutions' dedication to the progression of service learning. The six publications of the University of South Florida, Tampa, and the Colorado State University separately, likewise, located in the United States, demonstrate the institutions' commitment to service learning research.

The geographical distributions are shown in Figure 5. The top ten institutions in the domain of service learning are all located in the United States, which indicates that the United States is in a leading position in the world in research and practice in this field. These institutions have promoted the integration of theory and practice, by deeply studying the curriculum design, implementation, and evaluation of service learning. With the development of online learning and the deepening of international cooperation, service learning faces reform. Educational institutions in different nations should strengthen exchanges and cooperation, share successful experiences and research results, and explore more diverse service-learning models to promote global educational innovation and sustainable social development.



Figure 5. The geographical distributions of publications

The Prominent Authors

To examine the third study question, Which authors made the most significant contributions to the field of service learning research from 2005 to 2023? The data is shown in Table 2.

Table 2

The top 10 authors in service-learning and curriculum area

Author	1TP	H-Index	2TC	Current affiliation	Country
Bringle, Robert G.	80	23	2,186	<u>Indiana University-Purdue University Indianapolis</u>	United States
Dymond, Stacy K.	56	14	525	<u>University of Illinois Urbana-Champaign</u>	United States
Atan, Noor Azean	51	9	218	<u>Universiti Teknologi Malaysia</u>	Malaysia
Backhaus, Bridget	24	6	102	<u>Griffith University</u>	Australia
Bandi, Surendra Reddy	14	4	27	<u>Hyderabad Institute of Technology and Management</u>	India
Chun, Euljung	7	5	117	<u>Miami University</u>	United States
Clark, Douglas B.	110	29	3,462	University of Calgary	Canada
Dewoolkar, Mandar M.	97	21	1,063	The University of Vermont	United States
Hayden, Nancy J.	34	15	478	<u>College of Engineering and Mathematical Sciences</u>	United States
Ho, Karen	5	2	10	B276(N)	Canada

1TP=Total publications,2TC=Total citations

Table 2 lists the prominent authors in this field. For instance, Bringle, Robert G., who published his first paper in 1973, has amassed an impressive 80 publications and 691 citations, with an h-index of 23. Bringle, who is now associated with Indiana University-Purdue University Indianapolis in the United States, has established himself as a leading expert in developing, implementing, and evaluating educational programs focused on service learning and civic engagement in higher education. Since her first publication in 1994, Dymond, Stacy K. has gathered a total of 56 articles with an h-index of 14. The 525 citations have accumulated and her association with the University of Illinois Urbana-Champaign in the United States demonstrates her influential reputation in the domain. Since starting her study in 2008, Atan, Noor Azean has achieved a prominent h-index of 9, 51 articles, and 218 citations. Her connection with Universiti Teknologi Malaysia in Malaysia reflects the nation has achieved excellent advancements in the domain of service-learning research. Backhaus, Bridget started her scholarly path in 2019, has produced 24 publications, and received 102 citations with a h-index of 6. Her affiliation, with Griffith University, suggests that she has made a significant contribution to the field in Australia. Since 2018, Bandi, Surendra Reddy, who has accumulated 27 citations with a h-index of 4, has published 14 articles. His work at the Hyderabad Institute of Technology and Management in India has made considerable contributions to this academic discipline from an Indian perspective. Since her first publication in 2004, Chun, Euljung has gathered 117 citations and 7 articles, reflecting a h-index of 5. Douglas B. Clark's 110 articles have been cited 3,462 times, achieving him a h-index of 29, with her affiliation to Miami University in the United States. Since beginning his scholarly pursuits in 1995, Dewoolkar, Mandar M. has collected a h-index of 21, published 97 articles, and 1,063 citations. His affiliation with the University of Vermont in the United States emphasizes the significant progress that the country has achieved in this domain. Since Hayden, Nancy J. started her scholarly path in 1991, she has published 34 articles to date, accumulating a total of 478 citations and a h-index of 15. Her connection with the College of Engineering and Mathematical Sciences in the United States represents her growing importance in the field. Since the first publication of Ho, Karen in 2014, she has got a h-index of 2, published 5 papers with 10 citations. Her research on chemistry courses and service learning in Canada has helped to enhance the position of her country in the field of service learning.

The numerous research and publications by these prominent authors investigate the theory and practice of service-learning and its impact on different disciplines. Their diverse international connections further underscore the international scope of this field.

The Leading Journals

Considering the fifth research question, in which journals are service learning research most frequently published? A large number of papers that have significant contributions to this theme are obvious in Table 3, according to the data offered from the years 2005 to 2023.

Table 3

The leading journals in service-learning and curriculum area

Journal	1TP	2TC	Cite score	Publisher	Most cited publication	Time cited
Journal of Nursing Education	493	1426	2.9	Slack, Inc.	<u>An interprofessional service-learning course: Uniting students across educational levels and promoting patient-centered care</u>	33
Gerontology and Geriatrics Education	181	542	3	Taylor & Francis	<u>Bridging the generation gap: Intergenerational service-learning benefits young and old</u>	87
American Journal of Pharmaceutical Education	629	2676	4.3	Elsevier	<u>A diabetes camp as the service-learning capstone experience in a diabetes concentration</u>	33
Journal of Dental Education	907	3191	3.5	John Wiley & Sons	<u>A framework for service-learning in dental education</u>	71
BMC Medical Education	2958	14457	4.9	Springer Nature	<u>Learning relationships in community-based service-learning: A social network analysis</u>	20
Journal of Chemical Education	2336	13145	5.6	American Chemical Society	Service-learning in introductory chemistry: Supplementing chemistry curriculum in elementary schools	44
International Journal of Engineering Education	554	1337	2.4	Tempus Publications	Vertical integration of service-learning into civil and environmental engineering curricula	28
Journal of Experiential Education	95	303	3.2	SAGE	Service-Learning and Pre-Service Educators' Cultural Competence for Teaching: An Exploratory Study	69

1TP=Total publications,2TC=Total citations

Table 3 shows the most relevant to the theme of service learning and curriculum research. The data ranging from 2005 to 2023 reflects several significant articles. "Journal of Nursing Education," distributed by Slack, Inc., demonstrates a significant impact with a total of 493 articles, 1426 citations, and a cite score of 2.9. With 33 citations, its renowned paper on interprofessional service-learning courses has attracted attention(Dacey et al., 2010). Likewise, "Gerontology and Geriatrics Education," a scholarly journal published by Taylor & Francis, sets itself apart via its total of 181 papers and 542 citations. The paper that receives the most citations, 87, relates to intergenerational service learning(Andreolletti & Howard, 2018) and has a citation score of 3. The journal "American Journal of Pharmaceutical Education," which is published by Elsevier, is notable for its 629 articles, 2676 citations, and 4.3 cite score. With 33 citations, its most-cited paper examines service-learning capstone experience in a diabetes concentration(Johnson, 2007). In the meantime, "The Journal of Dental Education", which is published by John Wiley & Sons, has an impressive compilation of 907 publications and a remarkable 3191 total citations, accompanied by a cite score of 3.5.

Cited 71 times, the journal's most-cited paper explores the framework for service-learning in dental education (Yoder, 2006). "BMC Medical Education" by Springer Nature makes a scholarly devotion of 2958 articles, 14457 citations, and a cite score of 4.9. Cited 20 times, its most-cited examines the learning relationships in community-based service-learning (Held et al., 2019).

The American Chemical Society's "Journal of Chemical Education" has a cite score of 5.6 with substantial publications of 2336 articles and 13145 citations. With 44 citations, its renowned piece focuses on service learning in introductory chemistry (Esson et al., 2005). Furthermore, "International Journal of Engineering Education" by Tempus Publications issued 554 articles, 1337 citations, and a cite score of 2.4. Cited 28 times, its linchpin piece explores the vertical integration of service learning into civil and environmental engineering curricula (Dewoolkar et al., 2009). Finally, "Journal of Experiential Education" by SAGE, which has been cited 303 times and has 95 articles for a cite score of 3.2, has a 69-times-cited prominent paper on service-learning and pre-service educators' cultural competence for teaching (Dewoolkar et al., 2009). Journals with high citation scores, prolific publication counts, and prominent publications have had a considerable impact on the development of service learning and curriculum research.

The Major Keywords and Trends

To address the sixth question, "What are the keywords and common trends in service learning research?" The figure demonstrates the primary research terms and tendencies, as shown by the information presented in the picture.

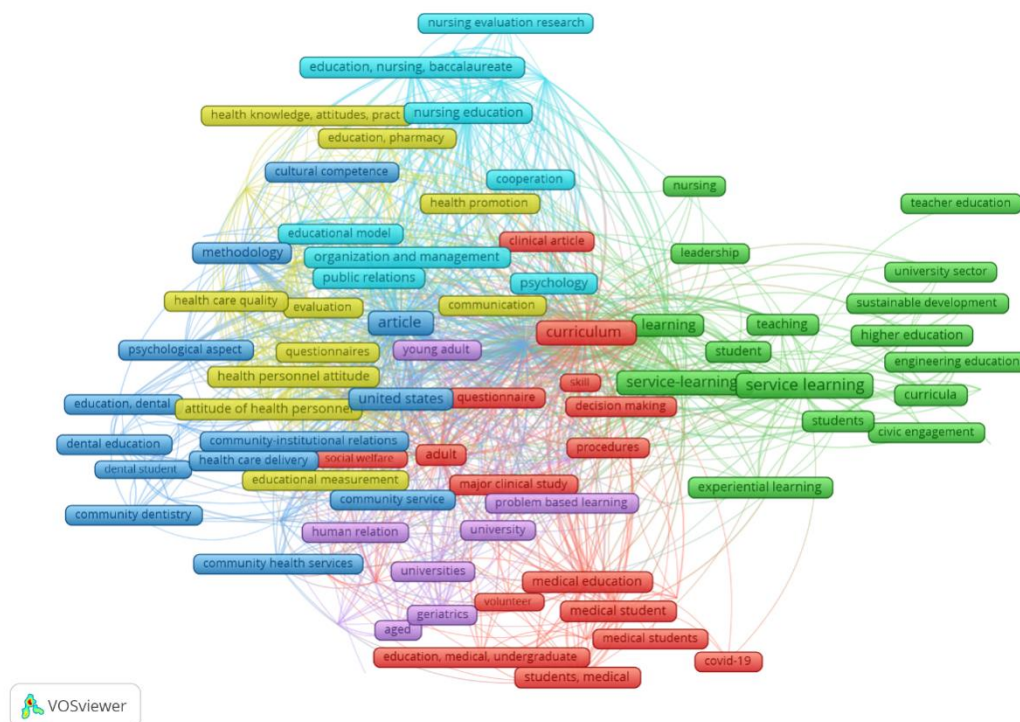


Figure 6. The primary research keywords and trends

Figure 6, which is generated by VOSviewer software, represents the clusters of research topics and the correlation between keywords in service learning research. Firstly, different colors show different clusters of research topics. For example, the red clusters revolve around “medical education”, “medical students” and “curriculum”, demonstrating the application of service learning in medical education. The green clusters mainly focus on education-related topics such as “service learning”, “experiential learning”, and “higher education”, which involve teaching methods and student engagement. The yellow clusters involve “attitude of health personnel”, “evaluation” and “communication”, and mainly focus more on educational effectiveness evaluation. The light blue clusters resolve “nursing education”, “educational model” and “cooperation”, reflecting the Innovation of nursing education and education management model under interdisciplinary cooperation. However, the dark blue cluster involves “dental education”, “health care delivery” and “community health services”, which shows the application of service learning in health and community services. The purple clusters concentrate on “problem-based learning” and “universities”, showing the application of PBL in universities.

Furthermore, the correlation between keywords in this field indicates the correlation and research tendency between different research topics. As can be seen in Figure 6, “service learning” is closely connected with high-frequency words such as “curriculum”, “learning”, “student” and “experiential learning”, demonstrating that service learning plays an important role in curriculum design and learning, especially in experiential learning. Meanwhile, “medical education”, “community health service” and “nursing education” are also closely related to service learning, suggesting that service learning is widely used in medical education and community service. These close connections show the interdisciplinary research trend of service learning, especially the integration and interaction in the fields of education, medicine, and social services.

The Primary Subject Area

To answer the seventh research question, which topic area is the most critical in service learning research? According to the subject area shown, Social Sciences emerges as the most significant field of study, with a considerable publication of 773 articles.

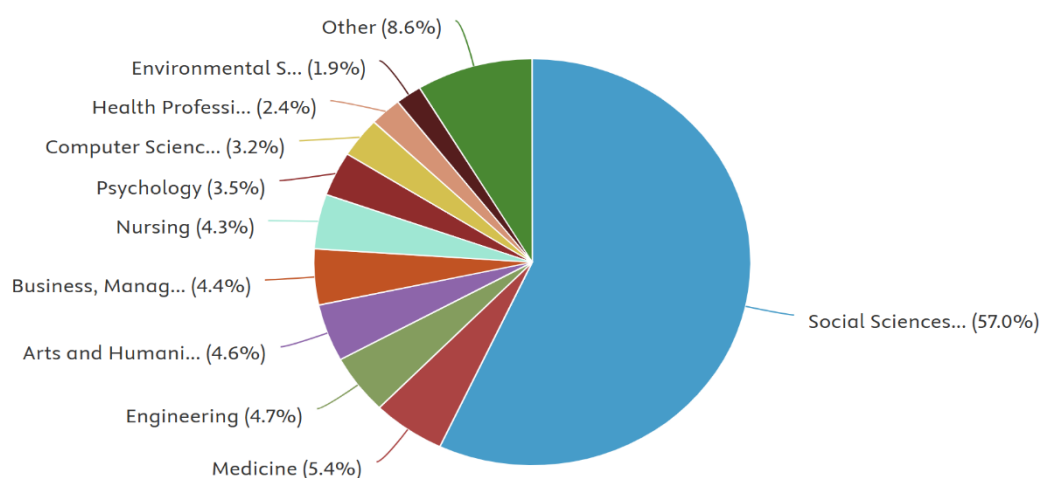


Figure 7. The most important subject area

Figure 6 shows the most important subject area. The Social sciences accounted for the largest proportion, reaching 57.0%, suggesting the substantial interest in various fields of education (such as health care, business, sustainable development, and diversity education). Medicine, which has 73 articles, stands out as the second area. With a combined total of 64, 62, and 60 papers, the Engineering, Arts and Humanities, and Business, and Management respectively, reflect the active exploration of service learning in these fields. Nursing (59), psychology (48), computer science (43), health professions (32), and environmental science (26) account for a relatively small proportion. Other disciplines account for 8.6%, indicating that service learning is widely integrated with many fields.

In summary, while the study of service-learning mainly focuses on social sciences, there are several other disciplines (such as medicine, engineering, humanities, and arts) that are integrated with service learning, indicating a trend of interdisciplinary development.

Discussion

Regarding the dynamic research on service learning and curriculum integration, this study conducted a bibliometric analysis to provide a comprehensive overview. Various nations and organizations, as well as scholars, have made great contributions, focusing on the growth and development of this research discipline.

Trends in Publication and Geographic Distribution

The data spanning from 2005 to 2023 indicates the development of the trajectory of service learning and curriculum integration study from its rise, and maturity to new challenges. This development trend indicates a growing scholarly interest in this area. The mature stage of the above pattern is due to the in-depth research of scholars on service learning and curriculum integration. The challenges after 2021 may be attributed to the great change in educational methods driven by the COVID-19 pandemic. In this field, North America and Europe have high research activity, while developing countries are relatively less in service-learning research and practice, and there is a geographical imbalance in global research.

The Most Influential Journals and Educational Institutions

This study discovers influential journals and educational institutions that are focusing on cutting-edge research in service learning. This information is important for scholars who want to take part in frontier research. Additionally, the significance of these journals and academic institutions indicates not only their importance but also drives the direction of policy-making and education reforms.

Famous Authors and Research Keywords

Recognizing and studying the prolific writers in this field is helpful to grasp cutting-edge research and hot trends. The theoretical achievements and methodological innovations of prolific authors provide authoritative references and resource support for academic cooperation and research directions. Furthermore, the close correlation between keywords like “service learning”, “curriculum” and “experiential learning” underscores its central role in curriculum design and active learning. The analysis of keywords shows different research clusters in service learning, emphasizing its applications in medical education, nursing education, health services, and interdisciplinary educational management.

Subject Areas and their Implications

The study shows the multi-disciplinary trend of service learning, especially its integration among education, medicine, and social services. Using an interdisciplinary approach is important to developing effective service learning environments that are suitable for a variety of learning requirements.

In conclusion, the findings of this bibliometric study depict the current state and highlight scholarly interest in the future integration of service learning into the curriculum. Its application in different fields encourages innovative teaching methods, improves community engagement, and promotes the development of students’ professional competencies, indicating a broader educational trend toward experiential and social responsibility.

Summary

Table 4 provides a thorough summary extracted from this research, which provides a comprehensive overview of the development, consequences, and potential future direction of service learning, emphasizing its integration into the curriculum. The data is divided into important areas including findings, implications, trends, and future agenda. The research analyzes the academic focus, geographic distribution, leading authors, and key areas in this field. The study aims to describe the current situation and predict the future development path of this rapidly developing domain, as seen in Table 4.

Table 4

A Thorough Examination of Service Learning and Curriculum Integration: Principal Discoveries and Prospects for the Future

Aspect	Findings	Implications	Trends	Future Agenda
Publications	From 2005 to 2023, An overall upward trend, reaching a peak of 66 articles in 2021 and then declining slightly in 2023.	The growth and maturity of service learning research show its recognition as an effective educational strategy.	The study experienced three stages growth, maturity to challenge.	Service learning needs to be more deeply integrated with online education and interdisciplinary courses.
Countries or Districts	The United States leads the way in service learning research with 574 publications, followed by Canada, Spain, South Africa, and the United Kingdom, indicating the differences in research activity in this field among different countries or districts.	It is necessary to strengthen cross-border cooperation and experience exchange to improve the development and innovation of global service learning.	The United States has long led the research on service learning. Other countries are gradually paying attention to this area.	Strengthen cross-border cooperation and experience exchange, and promote education reform and technological innovation.
Educational Institutions	Purdue University ranked first in service learning research with 12 publications, and the	The importance of service learning research by U.S.	Multiple disciplines such as engineering, education,	Universities around the world should strengthen cross-

	top ten institutions were all from the United States.	universities underscores the significance of integrating theory with practice.	environmental science, and social science are exploring the integration and application of service learning.	border cooperation, innovate service learning models, and promote educational reform.
Authors	Bringle, Robert G. leads with 80 publications in service learning research, followed by other influential scholars like Clark, Douglas B., and Dymond, Stacy K.	This field is highly valued in American higher education, and other countries need to increase investment.	It has gradually expanded from the United States to countries such as Malaysia, Australia, India, and Canada.	Encourage cross-border cooperation among global scholars.
Journals	"Journal of Nursing Education", "Gerontology and Geriatrics Education", and "The American Journal of Pharmaceutical Education" are all significant journals.	It is an important means to improve the quality of education and practical teaching in multidisciplinary fields.	The trend toward interdisciplinary development, especially in the fields of nursing, dentistry, pharmacy, and engineering education, continues to deepen.	Promote the publication and exchange of service learning in more disciplines and journals.
Keywords	The keywords mainly focus on the fields of "medical education", "experiential learning", "curriculum design" and "community health services".	Interdisciplinary integration and practical teaching have become key ways to improve the quality of education and social service effects.	The research shows a trend of interdisciplinary integration, especially in the fields of education, medical care, and social services.	Through interdisciplinary collaboration, we explore new models and paths in educational innovation and social responsibility practice.
Subject Area	Social sciences are the most important field in service learning research, followed by medicine, engineering, arts and humanities, and business management.	Service learning has important impacts on education, health, business, and sustainable development.	The trend of interdisciplinary integration has gradually expanded from social sciences to medicine, engineering, art and humanities, and other fields.	Promote in-depth research and practice of service learning in disciplines such as medicine, engineering, and business.

The table above demonstrates the relevance of service learning to curriculum integration. The table emphasizes the dynamic and evolving nature of the topic. Since 2005, the academic papers and international contributions have experienced three stages rise, maturity, and challenge. The involvement of multiple countries, academic institutions, and researchers

highlights the multidisciplinary nature of the field. Service learning is considered an important practice because it integrates practical teaching principles and a student-centered approach. In the future, it is expected that more emphasis will be placed on leveraging emerging technologies, cultivating global partnerships, and conducting multidisciplinary research to improve the effectiveness of service learning and its curriculum integration. This phenomenon has laid a good foundation for research and progress in global education reforms.

Conclusion

This study comprehensively explored the dynamic relationship between service learning and curriculum integration through bibliometric analysis. The study showed that the number of academic studies in this field has grown significantly, highlighting the importance of service learning in modern higher education. The study also emphasized the global and interdisciplinary nature of service-learning and curriculum integration research, involving multiple subject areas, keywords, and researchers from different countries and institutions. The collaboration of scholars, technicians, and researchers around the world not only reveals the current research status but also lays the foundation for future research. In an era of increasing popularity of digital platforms, continuous research is essential to shaping educational methods and improving students' learning experience.

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