VISUALIZING RESEARCH ON ENGLISH LEARNING: A BIBLIOMETRIC ANALYSIS

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Abstract
The bibliometric analysis encompasses a vast collection of scholarly articles and publications related to English learning. Data is extracted from reputable academic databases and citation indices, forming the basis for quantitative assessments. This research aimed to visualize, describe, and analyze the map of English learning research with the term “English Learning” in the Scopus Database accessed from Science direct’s official website. The method used in this article was the VOSviewer application which could be used for visualizing the map of research using keywords or terms, as well as the authors or researchers of the subject. The results showed that there were 179,232 article results, which came from 2000 up to 2024 publications from various fields. Then, specifically from the area of arts and humanities, there were 5,296 results, in which the most keywords related to the “English Learning” term were motivation, English as a Foreign Language, English, e-learning, foreign language teaching, language learning, higher education, also English language teaching

Keywords: Bibliometric Analysis, English Learning, VOSviewer

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INTRODUCTION
In the realm of language education, understanding the landscape of research is essential to inform pedagogical practices and guide future studies. This article delves into the world of English learning research by employing a bibliometric analysis to assess the trends, influential authors, prolific journals, and emerging themes in the field. Through advanced data visualization techniques, this study provides a comprehensive overview of the trajectory of English learning research, highlighting key areas of focus and gaps in the literature. The findings not only shed light on the evolving nature of language education but also offer valuable insights for educators, researchers, and policymakers aiming to enhance the effectiveness of English language learning methodologies.

The global significance of English as a lingua franca has prompted an extensive body of research aimed at improving English language teaching and learning. To comprehend the progress, dynamics, and patterns within this domain, a bibliometric analysis presents a powerful tool. This study aims to uncover the underlying structure of research in English learning, utilizing bibliometric methods to identify pivotal studies, influential researchers, and emerging themes. By visually representing these insights, the article contributes to a nuanced understanding of the research landscape, facilitating informed decision-making for educators and researchers.

The bibliometric analysis encompasses a vast collection of scholarly articles and
publications related to English learning. Data is extracted from reputable academic databases and citation indices, forming the basis for quantitative assessments. Metrics such as citation counts, co-authorship patterns, and journal impact factors are employed to gauge the significance and dissemination of research contributions. Advanced visualization techniques including co-citation networks, keyword co-occurrence maps, and author collaboration graphs are utilized to provide insightful visual representations of research trends.

The visual representations of co-citation networks reveal clusters of influential studies and researchers within specific subfields of English learning. These clusters indicate the evolution of dominant themes over time, while also revealing interdisciplinary intersections with linguistics, psychology, technology, and pedagogy. The analysis also pinpoints turning points in research focus, such as shifts from grammar-focused methodologies to communicative language teaching approaches.

Through author collaboration graphs, this article highlights key researchers who have significantly impacted the field. It showcases prolific collaborative networks and identifies research hubs, fostering an understanding of knowledge exchange and dissemination patterns. Moreover, by tracking individual researcher trajectories, the analysis sheds light on the longitudinal impact of scholarly contributions.

Keyword co-occurrence maps illuminate emerging themes and concepts that have gained momentum within English learning research. The identification of these themes offers insights into areas ripe for further investigation, encouraging researchers to address contemporary challenges in language education, such as technology integration, cultural sensitivity, and multilingualism.

The visualization of English learning research through bibliometric analysis provides a comprehensive overview of its evolution, trends, and key players. By uncovering influential studies, researchers, and emerging themes, this study contributes to the pedagogical landscape, enabling educators, researchers, and policymakers to make informed decisions. Ultimately, the article not only consolidates existing knowledge but also paves the way for future advancements in English language learning research.

There were some previous research which had been carried out by some researchers, for example (Dyah Prasasti et al., 2022), (Gu et al., 2022), (Sapitri et al., 2018), (Chen, 2020), (Indah Pratiwi Sri Sumarni, 2023), serta (Wili Tama & Sumarni, 2023).

METHOD

This research was conducted by using VOSviewer software. The process of conducting a bibliographic analysis using VOSviewer involves:

Data Collection: The first step is to collect bibliographic data, such as titles, abstracts, authors, keywords, and references, from a relevant database or source. The source used in this bibliometric research was Scopus. Data Preparation: After obtaining the bibliographic data, it needs to be formatted and organized into a suitable file format. VOSviewer supports several file formats, such as BibTeX, RIS, or plain text files, making it easy to import the data into the software. Importing Data into VOSviewer: Once the data is prepared, it can be imported into VOSviewer. The software will automatically analyze the data and create visualizations based on various bibliometric measures.

Network Visualization: VOSviewer generates network visualizations that represent the relationships between publications. The most common type of visualization is a co-authorship network, where authors are represented as nodes, and links connect authors who have collaborated on publications together. Other types of visualizations include co-citation networks and keyword co-occurrence networks. Clustering and Analysis: VOSviewer allows users to apply clustering algorithms to group-related publications based on their citation or co-occurrence patterns. Clustering helps identify research themes or subfields within the literature. Data Analysis: The software provides various bibliometric indicators, including...
citation counts, co-citation strengths, and keyword occurrences, to analyze the influence and impact of publications and authors. Visual Interpretation: Researchers can visually interpret the generated maps to identify important authors, influential publications, research trends, and key thematic areas in the field. The size and color of the nodes in the visualizations represent the significance and impact of the items being analyzed. By using VOSviewer, researchers can gain valuable insights into the structure and development of scientific literature, identify research trends, and make informed decisions for further exploration and collaboration.

FINDINGS AND DISCUSSION


A number of these publications were divided into several article types, namely: Review articles (17,901), Research articles (118,649), Encyclopedias (2,924), Book chapters (13,794), Conference abstracts (2,523), Book reviews (4,982), Case reports (313), Conference info (373), Correspondence (787), Data articles (141), Discussion (2,761), Editorials (1,820), Errata (57), Examinations (16), Mini reviews (728), News (747), Patent reports (4), Practice guidelines (210), Product reviews (91), Replication studies (3), Short communications (3,245), Software publications (25), Video articles (6), serta Other (7,132). Those publications were published in Procedia - Social and Behavioral Sciences (4,569), System (3,144), The Lancet (2,815), Teaching and Teacher Education (2,040), Computers & Education (1,643), Nurse Education Today (1,557), Journal of Pragmatics (1,533), Procedia Computer Science (1,502), Cognition (1,417), Expert Systems with Applications (1,248), Social Science & Medicine (1,169), International Journal of Educational Development (1,122), Neuropsychologia (1,087), Children and Youth Services Review (1,075), Lingua (1,032), Computers in Human Behavior (1,028), Journal of Experimental Child Psychology (989), Early Childhood Research Quarterly (960), Brain and Language (953), English for Specific Purposes (944), Linguistics and Education (939), Patient Education and Counseling (921), International Journal of Educational Research (901), Journal of English for Academic Purposes (850), Information Processing & Management (837). Those researches were included in some subject areas, including Social Sciences (61,488), Medicine and Dentistry (51,315), Psychology (36,686), Arts and Humanities (22,364), Neuroscience (20,200), Computer Science (18,063), Business, Management and Accounting (12,920), Nursing and Health Professions (12,595), Engineering (10,205), also Economics, Econometrics and Finance (6,216).

Subsequently, for more specificity, the findings were narrowed down to the subject area of Art and Humanities, Research Article, as well as Open Access. The results obtained after this specification amount to 5,296 results, which were published in Procedia - Social and Behavioral Sciences (4,512), Journal of Phonetics (119), and System (85).
Figure 1 showed the network visualization of English learning keyword according to Sciedirect database. Based on the previous visualization, it could be seen that English learning term was mostly related to English as a Foreign Language, English, e-learning, foreign language teaching, language learning, higher education, also English language teaching. Besides, there were also some researches on English learning which was correlated to digital content, learning outcome, academic achievement, emotions, higher technical education, design, speaking skill, classification, Chinese, students, code switching, narrative, primary education, corpus, professional development, English learning strategies, also action research. Then, figure 2 showed the overlay visualization on English learning keyword. Overlay visualization in VOSviewer refers to the capability of the software to overlay additional information or attributes onto a network visualization. This feature allows researchers to enhance the visual representation of their data by adding context or highlighting specific aspects of the network. In this context, the visualization showed the years in which the articles or publications were mostly published related to English learning, it was 2012 up to 2018.

Figure 3 showed the density visualization of the English Learning keyword. Density visualization in VOSviewer is a feature that helps you understand the distribution and concentration of network nodes (e.g., authors, keywords, or documents) within a network. It is particularly useful for visualizing the density of connections or relationships between nodes in a network, providing insights into how closely interconnected or clustered certain elements are. It was almost similar to the network visualization, in which based on the previous visualization, it could be seen that English learning term was mostly related to English as a Foreign Language, English, e-learning, foreign language teaching, language learning, higher education, also English language teaching.
Figure 2. Overlay Visualization on English Learning Keyword

Figure 3. Density Visualization on English Learning Keyword
Generally, VOSviewer is a software tool commonly used for visualizing and analyzing bibliometric and scientometric data, such as co-authorship networks, citation networks, and keyword co-occurrence networks. It is often employed in academic research to gain insights into the structure and relationships within large sets of scholarly publications. Figure 4 showed some authors who had published their works on English learning.

As mentioned above overlay visualization showed the years in which the articles were published. Figure 5 shows the authors who published their works from 2011 up to 2020. From the figure, it can be said that the authors were related to each other. It meant that one author had cited other authors’ works related to English learning articles.
Based on the above data, several dominant themes emerge in relation to the field of English Learning, namely in connection with motivation, English as a Foreign Language,
English, e-learning, foreign language teaching, language learning, higher education, and English language teaching. This is depicted in the following visualization:

Figure 7. Visualization of Language Learning Related to Motivation Keyword

Figure 7 showed that one of the most dominant keyword was the term motivation. In VOSviewer application, it could be seen, that one term is closely related to other terms, in this case, the term “motivation” was closely related to the following terms, English, learning, contrastive analysis, teacher education, intercultural communication, strategies, quality, teaching strategy, student, cross cultural communication, classification, and also Chinese. Then, Figure 8 showed the keyword “English” which was closely related to the following words, including engagement, adult learners, motivation, English language, also English causative form.

Figure 9 showed that one of the most dominant keyword related to English learning was English as a Foreign Language. This keyword was specifically related to some other keywords, including content and language integrate, professional discourse, bilingual education, ICT, blended learning, motivation, EFL, teacher education, culture, professional development, and young English language learner.
Figure 8. Visualization of Language Learning Related to English Keyword

Figure 9. Visualization of Language Learning Related to English as a Foreign Language Keyword
Figure 10 showed that English language keyword was closely related to the following words, including, non native speakers, need analysis, e-learning, motivation, learning, integration, English achievement, culture, strategies, quality, and primary education.

Figure 11. Visualization of Language Learning related to Foreign Language Learning Keyword
Figure 11 showed that Foreign Language Learning keyword was related to culture and bilingual keywords, while Figure 12 showed that English learning keyword was closely related to digital content, dictionary, computer games, career, English, difficulties, language teaching, affective strategies, and also culture.

Figure 13 showed that Higher Education related Language Learning keyword was closely related to digital content, dictionary, computer games, career, English, difficulties, language teaching, affective strategies, and also culture.
Then, Figure 13 showed clearly that the term Learning Learning in Sciencedirect database was related to Higher Education keyword. Then, it specifically related to the following terms, including English medium instruction, e-learning, ESP, English language, English as a Foreign Language, English for Academic Purposes, comparative study and distance learning.

In the pursuit of understanding the intricate web of research in English learning, the VoS Viewer (Visualization of Similarities Viewer) emerges as an invaluable tool. This article showcases how VoS Viewer, a cutting-edge bibliometric analysis tool, is harnessed to delve into the depths of English learning research trends, influential authors, co-citation patterns, and emerging themes, presenting a visual narrative of the research landscape. VoS Viewer operates by transforming textual data, such as titles, abstracts, keywords, and citation information from the collected articles. Data Analysis: Utilize VoS Viewer to process the data and generate visualizations that capture relationships between articles, authors, keywords, and citations. Related to the visual representation, consisting of Co-Citation Networks: VoS Viewer generates co-citation networks that showcase influential studies by mapping articles that are frequently cited together. The size and proximity of nodes reflect the strength of connections between articles. By visualizing clusters of interconnected articles, this representation reveals prominent research themes and historical trajectories in English learning. Besides, Author Collaboration Graphs: This visualization highlights collaborative networks among authors. Nodes represent
authors, and edges indicate co-authorship. The resulting graph illuminates clusters of prolific researchers and their collaborative relationships, aiding in the identification of research hubs and influential contributors. There is also Keyword Co-Occurrence Maps: VoS Viewer generates maps that display the relationships between keywords present in article titles, abstracts, and keywords. Keywords that frequently appear together are linked, creating a map that visually encapsulates emerging themes and research directions.

Research on English learning in relation to motivation constitutes a significant and evolving area of study within the broader field of language education. This line of research delves into the factors that drive individuals to engage in the process of learning the English language, exploring how motivation affects learners' attitudes, behaviors, and ultimately, their language proficiency (Maehr & Pintrich, 2003; Deci & Ryan, 2000; Dörnyei, 2005). Motivation is a multidimensional construct that encompasses various internal and external factors, and understanding its impact on English language learning has implications for curriculum design, teaching methodologies, and educational policies. Key Themes and Research Areas included Types of Motivation: Research often categorizes motivation into intrinsic and extrinsic forms. Intrinsic motivation refers to learning driven by personal interest, satisfaction, and a genuine desire to master the language. Extrinsic motivation, on the other hand, involves external rewards or pressures, such as grades or social recognition. Studies often investigate the interplay between these types of motivation and their effects on learners' engagement and success in English learning (Dörnyei, 2005; Deci & Ryan, 1985; Noels, et al., 2000; Vallerand, et al., 1992; Ryan & Deci, 2000). Motivational Factors: Various factors influence learners' motivation to study English. These include individual variables like attitudes toward the language, cultural influences, past experiences, and self-efficacy beliefs. Additionally, the role of teachers, peers, and family support in shaping learners' motivation is examined in many studies. Goal Orientation: Research explores how learners' goals and objectives impact their motivation. Some learners might aim for proficiency for academic or career purposes, while others may seek language skills for personal enrichment, travel, or intercultural communication. The alignment of learners' goals with appropriate teaching strategies is a key consideration. Motivational Strategies: Educators and researchers investigate instructional approaches that foster and sustain learners' motivation. Incorporating activities that tap into learners' interests, integrating real-world contexts, and using technology effectively are examples of strategies that can enhance motivation in English language classrooms. Language Learning Contexts: Research takes into account the context in which English learning occurs, including formal classroom settings, informal language exchange, online courses, and immersion experiences. Each context brings unique motivational dynamics that shape learners' experiences and outcomes.

Those researches had some implications and Future Directions, included Enhanced Teaching Approaches: Insights from motivation research inform pedagogical practices that resonate with learners' individual motivations. Educators can tailor their teaching strategies to foster intrinsic motivation and create an engaging learning environment. Curriculum Design: Understanding how motivation evolves over time and interacts with language proficiency levels helps in designing curriculum that sustains learners' interest and meets their evolving needs. Assessment Strategies: Motivation can influence how learners approach assessments. By recognizing these dynamics, educators can design assessments that promote

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a positive motivational impact and encourage deeper learning. Diverse Learner Profiles: Research acknowledges the diversity of learners and how cultural, linguistic, and individual differences influence motivation. Tailoring teaching approaches to accommodate these diversities is a crucial consideration.

Longitudinal Studies: Long-term research allows for the exploration of how motivation evolves across different stages of language learning. This provides insights into factors that contribute to learners' sustained commitment to mastering English. In conclusion, research on English learning in relation to motivation highlights the intricate interplay between learners' internal motivations, external influences, and their language learning experiences. By unpacking the motivational dynamics, researchers and educators can collaborate to create more effective, engaging, and learner-centered approaches to teaching English as a second or foreign language.

Research on English learning in the context of English as a foreign language (EFL) focuses on understanding the unique challenges, strategies, and outcomes associated with acquiring English in regions where it is not the primary language of communication. This area of research addresses the specific needs of learners who are immersed in environments where English is used primarily for educational, professional, or international communication purposes. Related to the previous points, some Key Themes and Research Areas including Language Proficiency Attainment: EFL research examines how learners progress from basic language skills to advanced proficiency levels. Studies often explore the factors that influence the speed and quality of language acquisition, including exposure to authentic English materials, interaction with native speakers, and the role of formal instruction. Cultural and Societal Factors: Research in this domain considers how cultural and societal factors impact the learning process. These factors include cultural attitudes toward English, learners' motivation, and the perceived utility of English for career advancement or international communication.

Language Teaching Methodologies: EFL research assesses the effectiveness of various teaching methodologies in different cultural and linguistic contexts. This includes evaluating traditional approaches such as grammar-translation and more modern approaches like communicative language teaching, task-based learning, and technology integration. Language Assessment: Research in EFL addresses the development of appropriate assessment tools to measure learners' language proficiency accurately. This includes creating tests that consider learners' cultural backgrounds and linguistic experiences.

Language Policy and Planning: Many EFL contexts have specific language policies that influence language education practices. Research investigates the impact of these policies on curriculum design, teacher training, and learners' language learning experiences.

Teacher Training and Professional Development: Studies in this area explore how EFL teachers are trained, their beliefs about language teaching, and the strategies they use to overcome challenges related to teaching English in a non-English-speaking environment.

The research had some Implications and Future Directions including Cultural Sensitivity in Teaching: EFL research emphasizes the importance of adapting teaching materials and methodologies to local cultural norms and learner expectations. Recognizing and addressing cultural differences in language learning contexts can enhance engagement and effectiveness. Learner-Centered Approaches: Research suggests that learner-centered approaches in EFL settings, such as focusing on learners' interests and real-world contexts, can increase motivation and engagement (Wahyuni, et al., 2023). Multilingualism and Code-
Switching: In many EFL contexts, learners are already proficient in one or more languages. Research examines how multilingualism and code-switching influence English language learning and communication. Technology Integration: EFL research explores the potential of technology, such as online resources and language learning apps, to facilitate language acquisition and provide access to authentic English materials. Teacher Empowerment: Understanding EFL teacher beliefs and challenges helps in designing targeted professional development programs that enhance teacher effectiveness and student outcomes. Language Policy Advocacy: Research findings can inform discussions about language policies and their implications for EFL education, advocating for policies that align with effective language teaching practices. In conclusion, research on English learning in the context of EFL highlights the complex interactions between linguistic, cultural, and pedagogical factors. By studying these dynamics, researchers and educators can enhance language teaching methodologies, adapt curriculum materials, and foster environments that support effective English language acquisition in regions where English is not the primary language of communication.

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<th>No.</th>
<th>Title</th>
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<td>1.</td>
<td>The effect of working memory and English proficiency on Chinese EFL learners’ vocabulary learning with background music</td>
<td>Ampersand</td>
<td>(Lu &amp; Murao, 2023)</td>
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<td>2.</td>
<td>A narrative inquiry into the emotional effects of English medium instruction, language learning, and career opportunities</td>
<td>Linguistics and Education</td>
<td>(Şahan &amp; Şahan, 2023)</td>
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<td>3.</td>
<td>The Study of the Undergraduates’ English Learning Strategies</td>
<td>Procedia - Social and Behavioral Sciences</td>
<td>(Namwong, 2012)</td>
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<td>4.</td>
<td>English Learning Strategy and Proficiency Level of the First Year Students</td>
<td>Procedia - Social and Behavioral Sciences</td>
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<td>5.</td>
<td>Social Benefits of an English Learning Program for Young Learners</td>
<td>Procedia - Social and Behavioral Sciences</td>
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<td>6.</td>
<td>Learning English through Collaboration: A Case Study at Mahachulalongornrajavidyalaya University, Loei Buddhist College</td>
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<td>9.</td>
<td>The Effect of Emotional Intelligence in English Language Learning</td>
<td>Procedia - Social and Behavioral Sciences</td>
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**CONCLUSION**

Related to the previous description and analysis, it can be concluded that by using VOSviewer, there were some points which can be seen, including Trends and Evolution: Co-citation networks showcase the trajectory of English learning research by revealing clusters of frequently cited studies. The emergence and decline of research foci can be identified, providing a historical perspective on the field’s development. Influential Figures: Author collaboration graphs highlight the network of
researchers who have significantly impacted the field. The density and structure of the graph unveil the extent of their collaborations, underscoring their influence on the scholarly landscape. Emerging Themes: Keyword co-occurrence maps capture the rise of new themes and concepts. These maps help researchers identify evolving areas of interest, facilitating the exploration of cutting-edge subjects in English learning research.

VoS Viewer empowers researchers and educators to delve into the depths of English learning research through a visually engaging and intuitive lens. By converting textual data into insightful visual representations, it fosters a comprehensive understanding of research trends, influential contributors, and emerging themes. Ultimately, the utilization of VoS Viewer enhances our grasp of the intricacies of English learning research and offers a roadmap for future exploration and advancement in the field.

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