Research Trends on Students' Writing Skills: A Bibliometric Analysis Using Scopus Database

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ABSTRACT

Introduction: Students' writing skills positively impact their overall academic ability. Writing allows students to gain knowledge while enhancing their intelligence, initiative, courage, and willpower. Moreover, it fosters creativity, inspiring students to think outside the box. Therefore, it can be said that teaching students to write is crucial to the learning process in the classroom, even though, in reality, teaching students to write is an activity that neither teachers nor students enjoy. It seems contradictory that writing is both necessary and undesirable simultaneously.

Purpose: This study investigates research trends in students' writing skills through bibliometric analysis recorded on the Scopus database from 2014 to 2023.

Method: The study identified 7650 publications in the Scopus database when searching for the keyword "students, writing, and skills." Using the Prisma model, it selected 2214 publications as the sample. The data were analyzed using bibliometric analysis.

Results: The analysis has revealed that Graham *(f= 105)*, Hwang *(f= 102)*, and Kent *(f= 84)* were the top three authors who investigated students' writing skills in their studies, showcasing the diversity of research in our field. Meanwhile, Reading and Writing, Asian EFL Journal, and International Journal of Instruction are the top three publishers with the most publications, further highlighting the breadth of our field. At the country level, the United States is the most productive country, with Arizona State University being the most productive university in research about students' writing. The study also found that writing in higher education contexts is the most widely researched area.

Conclusion: More importantly, the bibliometrics analysis has also revealed that argumentative writing skills, collaborative writing, EFL learners, and writing attitude are some areas that need more research.

KEYWORDS

bibliometric analysis, research trends, Scopus database, students writing skills

INTRODUCTION

The four essential skills that students must develop and teachers should teach in language learning in an integrated manner are listening, speaking, reading, and writing (Yusuf et al., 2019). Writing is one of the four essential language skills students must master. It involves using language to convey ideas, emotions, or intentions through written expression in the form of text (Putri & Aminatun, 2021). Each text, be it a narrative, a poem, or an academic paper, carries unique characteristics, functions, purposes, structures, and guidelines (Jaja et al., 2019). From a viewpoint that treats texts as independent entities, students' compositions are viewed as langue-meaning they reflect the writer's understanding of structure and their awareness of the rules governing text creation (Hyland, 2002). Therefore, effective writing is not just about precision but about embracing the diversity and richness of language by communicating the writer's intended meaning. In 2004, a survey by *the American National Commission on Writing* on 120 large American companies employing eight million people indicated that writing is a threshold skill that offers a ticket into a professional career (James, 2007).

The development of science and technology changed how people write. To deal with it, teachers must find different strategies for students to learn to write (Bugis, 2018; Chevalier, 2011; Davis & Davis, 2013; Hung et al., 2012; Lipschutz, 2010) from an early age (Tolchinsky, 2016). Guidance and instructions in writing and knowledge about existing literary works can influence students' writing interests and motivation. As literature has repeatedly documented, writing can be considered a motor activity that involves mental processes because writing is a medium to convey what the writer feels (Muhanif et al., 2021; Nugroho, 2014). Writing is also a productive language activity that produces work from creative and critical thinking processes (Karim & Mustapha, 2020). Several studies show that many students experience difficulties in writing, both in terms of technique and content (Whai et al., 2013). Ceylan (2019) also identified that difficulty expressing ideas contributes to low writing skills. Therefore, teachers and schools must pay sufficient attention to developing students' writing skills by fostering their learning motivation. Jaja and Rahayu (2021) claim that exposing students to the benefits of writing could foster their motivation to learn to write.

In line with motivation, effective instructional strategies in writing are also critical. Sakkir and Dollah (2019) suggested that developing students' writing skills can be started by training in proper writing techniques, such as good grammar, punctuation, and writing structures. Furthermore, many studies have also recommended the use of various activities such as essaying, journaling, short stories, and poetry writing as effective strategies for teaching writing (Coleman & Willis, 2015; Iftanti, 2016; Kottacheruvu, 2023; Lee & Deakin, 2016). In addition, students also need to be taught writing strategies, such as brainstorming, outlining, and revision (Sadiku, 2015). By mastering good writing techniques and methods, students can write more effectively and efficiently in determining future students' academic and workplace success (Barone, 2010).

However, writing skills are not only related to writing techniques and strategies; the content and ideas conveyed are also critical in writing. Writing down concepts offered in class or a text helps students grasp and retain information (Bangert-Drowns et al., 2004; Graham & Hebert, 2011; Graham & Perin, 2007). In addition, students need to get constructive feedback from teachers and classmates (Elbow, 1973). This feedback can help students improve their writing quality (DaCrema & Stout, 2012; Stout, 2014). In this case, the teacher can provide specific and clear feedback regarding aspects that need improvement, such as grammar, writing structure, and content.

Students' writing skills have a positive impact on their overall academic ability. Students can gain knowledge by writing while also enhancing their intelligence, initiative, and creativity, as well as their courage and willpower (Baker, 2016; Li et al., 2022; Myhill, 2018). Therefore, teaching students to write is crucial to the learning process in the classroom, even though, in reality, teaching students to write is an activity that neither teachers nor students enjoy. It seems contradictory that writing is both necessary and undesirable simultaneously. The problems in learning to write in schools like that can be studied using bibliometric analysis.

Bibliometric analysis regarding students' writing skills is still minimal. Although several researchers have carried out this study, such as Crosthwaite et al. (2022) and Sun and Lan (2023), the bibliometric analysis carried out only focuses on the L2 written corrective feedback aspect, meanwhile Hyland and Jiang (2022) also only focuses on the interaction aspect in written texts. In this research, the bibliometric analysis focuses on various writing skills that have positive and significant implications for students' writing skills at multiple levels of education. Thus, this research aims to look at research trends and find important aspects of students' writing skills based on bibliometric analysis from the Scopus database in 2014-2023. It is hoped that the results of this research will be helpful and become a reference for teachers and researchers to improve students' writing skills in the future.

LITERATURE REVIEW

Writing Theory

A Cognitive Process Theory of Writing

Flower and Hayes (1981) aimed to present a formal model of the writing process. Their theory is built upon four hypotheses. Firstly, they propose that the writing process is most effectively comprehended as a sequence of distinct cognitive processes that the writer organizes or regulates while actively engaged in writing. Secondly, these processes exhibit a hierarchical and closely interconnected structure, wherein any specific process can be intricately embedded within other processes. Thirdly, composing itself is depicted as a goal-directed cognitive process shaped by the author's network of fundamental goals. Lastly, writers formulate their objectives through two primary methods: formulating overarching goals and corresponding sub-goals and occasionally modifying the principal goal or establishing new goals based on acquired knowledge. Figure 1 illustrates the primary components of the writing process, as Flower and Hayes (1981) proposed.

Figure 1 delineates the primary constituents of the writing process. The composing process model encompasses three key components:

(1) The task environment, encompassing all external elements beyond the writer's physical boundaries, includes the rhetorical problem or assignment and extends to incorporate the evolving text.

Figure 1

Structure of the Writing Model
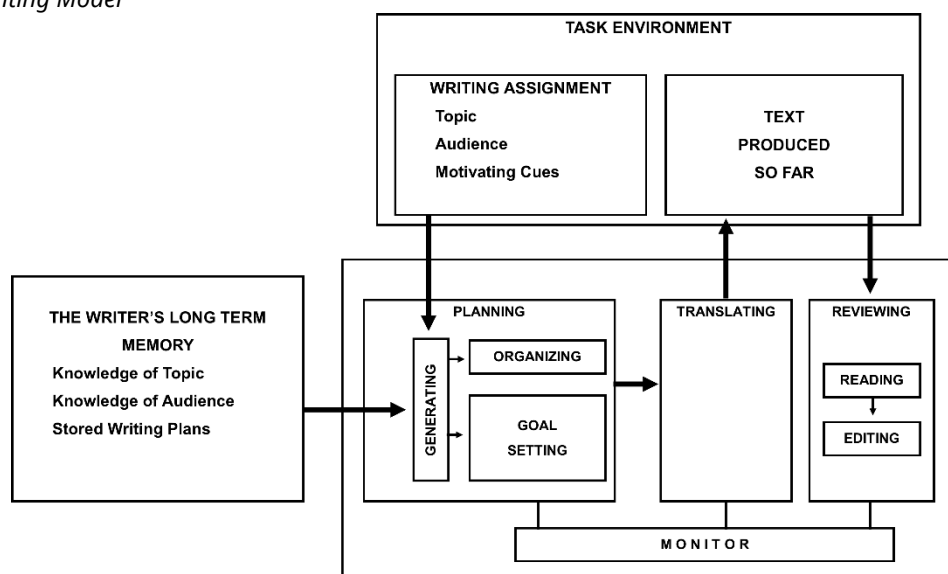
(2) The writer's long-term memory serves as the repository for the writer's accumulated knowledge, encompassing not only the subject matter but also understanding the audience and various writing strategies.

(3) The writing processes themselves, specifically the fundamental processes of Planning, Translating, and Reviewing, all of which fall under the supervision of the Monitor.

Social Constructivist Theory of Writing

The social constructivist theory of writing suggests that writing is essentially a social activity shaped by interactions within a community and cultural environment. According to this theory, writing is not a solitary endeavor but a collaborative process where knowledge and meaning are developed through social interaction. Hyland (2002) points out that writing is deeply social, with ideas being formed and reformed through engagement with others. The dynamics between the writer and their audience and the norms of their discourse community significantly influence the writing process. Bazerman (1988) adds that writing is embedded in a social context, where the writer's relationship with their readers and the community's expectations play crucial roles. This viewpoint highlights that writing involves negotiating meaning within a social framework, where the writer and the audience actively create and interpret.

Genre Theory of Writing

Genre theory suggests that writing is influenced by recurring social situations and the specific conventions associated with different genres. Writers develop their expressive skills by learning and adhering to the rules, structures, and expectations unique to each genre. According to Miller (1984), genres are not merely forms; they represent ways of acting, interacting with others, and making sense of the world. This viewpoint highlights that writing involves personal creativity and responding to the social contexts in which it occurs. Devitt (2004) builds on this idea by explaining that writers utilize genres as tools to engage with a community, achieve specific goals, and address particular audiences. Therefore, genre theory emphasizes the significance of understanding the rhetorical situation and social purpose behind each writing act.

Expressivist Theory of Writing

The expressivist theory of writing highlights writing as a tool for personal expression, creativity, and self-development. It sees writing as a way to uncover one's thoughts and feelings, emphasizing the importance of individuality and authenticity. According to Expressivist views, writing should not be constrained by strict rules to allow for the development of a writer's distinct style. Elbow (1973) observes that writing can lead to new insights and thoughts that were not initially apparent. This approach promotes exploring personal ideas and experiences, helping writers discover their unique voices. As Murray (1985) suggests, effective writing results from a writer's self-exploration and engagement with language and the world. The theory supports writing as a reflective and investigative activity, enabling writers to gain deeper self-awareness and perspective through their writing practice.

Types of Students' Writing Skills

Students' writing skills can be categorized into several types, each reflecting different aspects of writing proficiency.

Narrative Writing Skills

Narrative writing skills are crucial for enabling writers to convey stories in an engaging and organized manner. Narrative writing involves crafting a story that includes elements such as characters, plot, setting, and theme, all of which contribute to developing a cohesive narrative. According to Graham and Perin (2007), narrative writing skills help students organize and structure ideas into a coherent story that readers can follow. They also note that narrative writers should be able to use various techniques, such as description, dialogue, and characterization, to create a pleasurable and impactful reading experience. Furthermore, Applebee and Langer (2011) indicate that narrative writing skills are essential for enhancing students' ability to communicate effectively and creatively across different contexts. Thus, developing narrative writing skills is a key aspect of language education that supports students in expressing their ideas more efficiently and imaginatively.

Expository Writing Skills

Expository writing skills are crucial for conveying information clearly and systematically. Expository writing aims to explain or describe a topic objectively without influencing the reader with personal opinions. According to Anson and Schwegler (2012), expository writing involves presenting information in an organized manner supported by relevant evidence, which helps readers better understand complex topics. They state that expository writing requires arranging information logically and clearly, allowing readers to follow arguments and understand the material presented. Mastering these skills is essential in academic and professional contexts as it enables individuals to communicate ideas and information effectively and systematically.

Persuasive Writing Skills

Persuasive writing skills are a crucial aspect of effective communication, where the writer aims to influence the reader's opinions or actions through convincing arguments. According to Hyland (2005), persuasive writing involves conveying information, constructing solid arguments, and using appropriate rhetorical strategies to affect the audience. These skills include the ability to identify and understand the audience, formulate logical and data-based arguments, and address objections convincingly. For instance, Tannen (1998) suggests that the ability to present arguments persuasively can enhance communication effectiveness across various contexts, from academic writing to professional communication. Mastering these skills makes writers more effective in persuading readers and achieving their communication goals.

Descriptive Writing Skills

Descriptive writing skills involve creating vivid and detailed imagery through written language, allowing readers to visualize and experience scenes, characters, and events as though they were present. This skill requires using rich, sensory details and precise language to craft a mental image for the reader. Langan (2001) highlights that descriptive writing appeals to the reader's senses and emotions, offering a more immersive and memorable experience. This writing style is vital across various genres, including fiction, memoir, and non-fiction, as it helps establish atmosphere, develop characters, and improve storytelling. Williams (2006) adds that effective descriptive writing offers a clear depiction, stirs emotions, and sets the narrative tone. Mastery of descriptive writing is crucial for captivating readers and enhancing the text's overall impact.

Creative Writing Skills

Creative writing skills involve the ability to write imaginatively and originally, encompassing character development, plot construction, and expressive language. According to Burroway (2019), these skills require a deep understanding of narrative structure and writing techniques that allow the writer to create a touching and engaging reading experience. King (2000) explains that creative writing involves a reflective process where writers refine their ideas and translate them into authentic and compelling prose. These skills are not only about creativity but also about mastering writing techniques that enable effective self-expression.

Analytical Writing Skills

Analytical writing skills are crucial abilities that involve critical and systematic thinking in crafting well-structured arguments and analyses. According to Brown (2014), these skills are essential for assessing arguments, logically organizing thoughts, and presenting evidence effectively. This ability not only aids in creating coherent writing but also in constructing in-depth, evidence-based arguments. Furthermore, Chaffee (2015) highlights that effective analytical writing requires a clear understanding of the topic, the ability to break down complex ideas, and the capacity to present findings in a structured manner. With these skills, writers can produce informative and persuasive work, thereby contributing to broader academic and professional discussions.

Academic Writing Skills

Academic writing skills are a crucial component of higher education, involving organizing, structuring, and presenting ideas clearly and systematically in an academically recognized format. According to Leki (1998), academic writing

is the process used in scholarly contexts to communicate complex ideas and arguments clearly and coherently. This skill encompasses knowledge of grammar and spelling and the ability to construct arguments, conduct research, and format writing according to academic standards. Flowerdew and Peacock (2001) further emphasize that effective academic writing entails engaging with and contributing to ongoing scholarly discussions within a discipline. Thus, academic writing skills are essential for academic and professional success, enabling individuals to participate in intellectual discourse actively and produce work that significantly impacts their field of study.

Technical Writing Skills

Technical writing skills refer to the ability to convey complex information in a clear, structured, and understandable manner. This type of writing is commonly used in documents such as user manuals, technical reports, and software guides. According to Markel (2018), technical writing involves presenting information clearly and accurately while considering the audience and communication goals. This skill encompasses a deep understanding of the technical topic, the use of appropriate language, and the ability to organize information logically. Technical writers must be able to create content that is not only informative but also engaging and accessible to readers from diverse backgrounds (Gerson & Gerson, 2018). As technology and system complexity evolve, technical writing skills become increasingly crucial in helping users understand and utilize products or services effectively.

Research Focus

In this study, the term "students" includes individuals at various levels of education, including pupils, students, and college students. Meanwhile, the main focus of this study on writing skills is on the development of overall writing skills, including techniques and strategies, and how current studies address and support various aspects of writing skills. The "skills" referred to in this study are multiple types of students writing skills (such as narrative, expository, persuasive, descriptive, creative, analytical, academic, and technical writing skills) which include various components of writing skills, such as specific techniques (e.g., grammar and sentence structure), strategies (e.g., brainstorming and revision), and process approaches (e.g., drafting and editing).

These "skills" encompass all these aspects, providing a comprehensive picture of how writing skills are developed and learned. Thus, it can be said that the context of students writing skills in this study involves various types of students writing skills (such as narrative, expository, persuasive, descriptive, creative, analytical, academic, and technical writing skills) that students need to have and develop in various

aspects, such as writing techniques, strategies, and process approaches at multiple levels of education, based on research from the Scopus database in 2014-2023.

Research Questions

This study aims to find trends and novelties in students writing skills research in the last ten years (2014-2023). The previous ten years were chosen for investigation since more science and technology were used in education during this time. The advancement of science and technology in language teaching and learning makes it easier for students to create and publish their writings in various electronic media, including social media, journals, and other supporting media. Some questions underlie research on students' writing skills by retrieving data from the Scopus publication database.

RQ#1: What is the frequency of research on students writing skills in 2014-2023?

RQ#2: What keywords are the most widely used in the title of research articles on students' writing skills?

RQ#3: What words are the most widely used in the abstract of students' writing skills research articles?

RQ#4: Who is the author with the most citations in the students' writing skills articles?

RQ#5: What publisher publishes the most articles on students' writing skills?

RQ#6: Which countries and organizations are the most productive in students' writing skills research?

RQ#7: Which level of education is the most widely used in research on students' writing skills?

RQ#8: What are the future writing skills research opportunities?

METHOD

This study aims to visualize research trends using bibliometric analysis. Bibliometric visualization uses *Vos Viewer* software, which is free and easy to use to analyze trends, opportunities, or relationships between keywords in research.

Sample

The sample of this research is 2214 research articles from the Scopus database. The search uses a Scopus account

with an institution login because by using a personal Scopus account, researchers cannot search articles in the database but can only search for authors. The settings for searching the results of the research are *TITLE-ABS-KEY (students AND writing AND skills) AND PUBYEAR > 2013 AND PUBYEAR < 2024.*

Indicators

The indicators used in this study are the publication between 2014 and 2023 (the last ten years), the trend of keywords in research titles, popular words in abstracts, authors with the most significant number of citations, most productive countries, most writing skills, level of education, and writing skills research opportunities in the future. The indicator refers to the various types of students' writing skills (such as narrative, expository, persuasive, descriptive, creative, analytical, academic, and technical writing skills) that students need to have and develop in various aspects, such as writing techniques, strategies, and process approaches at multiple levels of education.

Data Collection and Analysis

The data collection procedure is done by specifying the Scopus database as the data source. Next, a search for research results articles was conducted in the database using the keywords explained in the sample described above. Search results on the Scopus database in the last ten years (2014-2023) for research on students' writing skills obtained 7629 research articles. The results are presented in Figure 2 below.

The search results are exported into CSV (comma-separated value) format for manual analysis and visualization using *Vos Viewer software*. To tidy up the research article data in CSV form, open the file using *Microsoft Excel software,* then set the file using the open *Microsoft Excel procedure* > After it is open > click the data tab > select *from text/CSV* > select the location of the *export CSV database file > load* > wait a few moments for the CSV data to be fully loaded. After using these settings, the CSV file will be easier to read and can be analyzed to select research results. The display conversion is presented in Figure 3.

There were 7650 research articles, which were analyzed manually using *Microsoft Excel*. At this stage, 3156 research articles were obtained unrelated to students' writing skills; thus, the search results that matched the keywords totaled 4494 research articles only. Then, 4494 research articles were re-selected (manually using Microsoft Excel) to ignore research results not sourced from *journals, conferences, books, book chapters, reviews, editorials, erratum, letters, notes, and reviews.* From this step, 2280 articles were irrelevant. Thus, the final results were 2214 research articles from journal publications that match the keywords of students' writing skills, which can be used for bibliometric analysis. The selection procedure for the research results used PRISMA models sourced from Moher et al. (2009), presented in Figure 4.

Data were analyzed using the *Vos Viewer software* bibliometric analysis. The VosViewer software settings use the setting defined by Syahid and Qodir (2021) with slight modifications, as presented in Table 1.

Figure 2

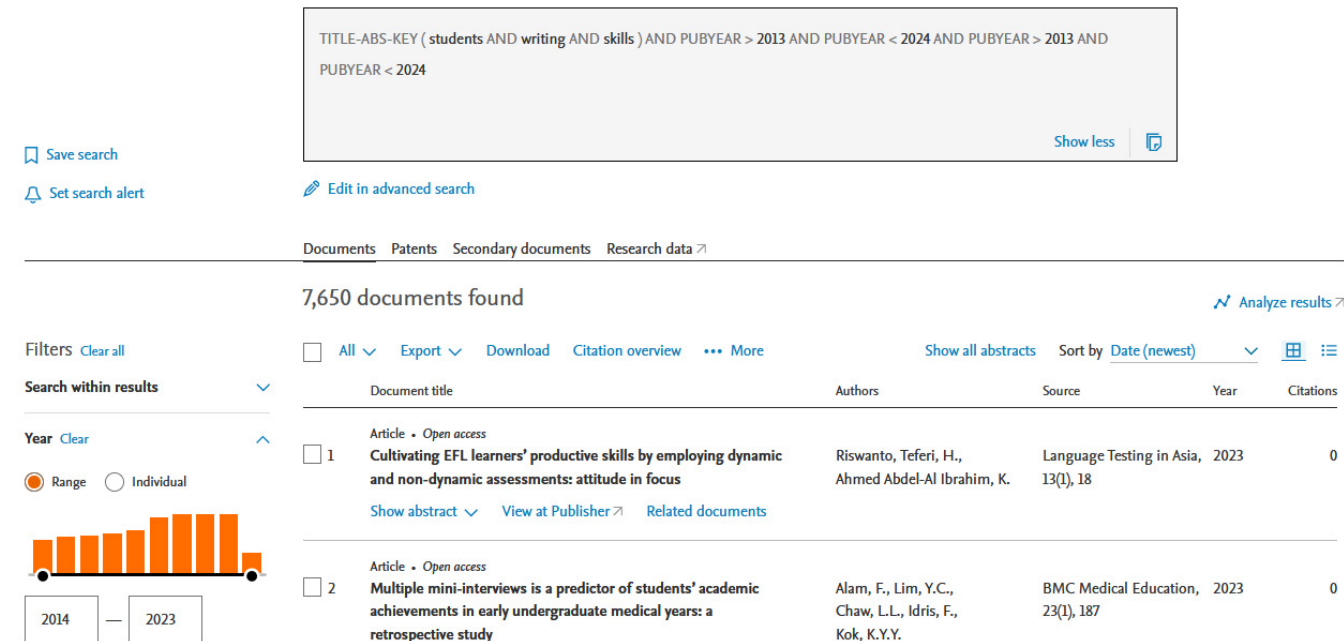*Search Queries in the Scopus Database*

Figure 3

CSV Layout Format into Microsoft Excel View
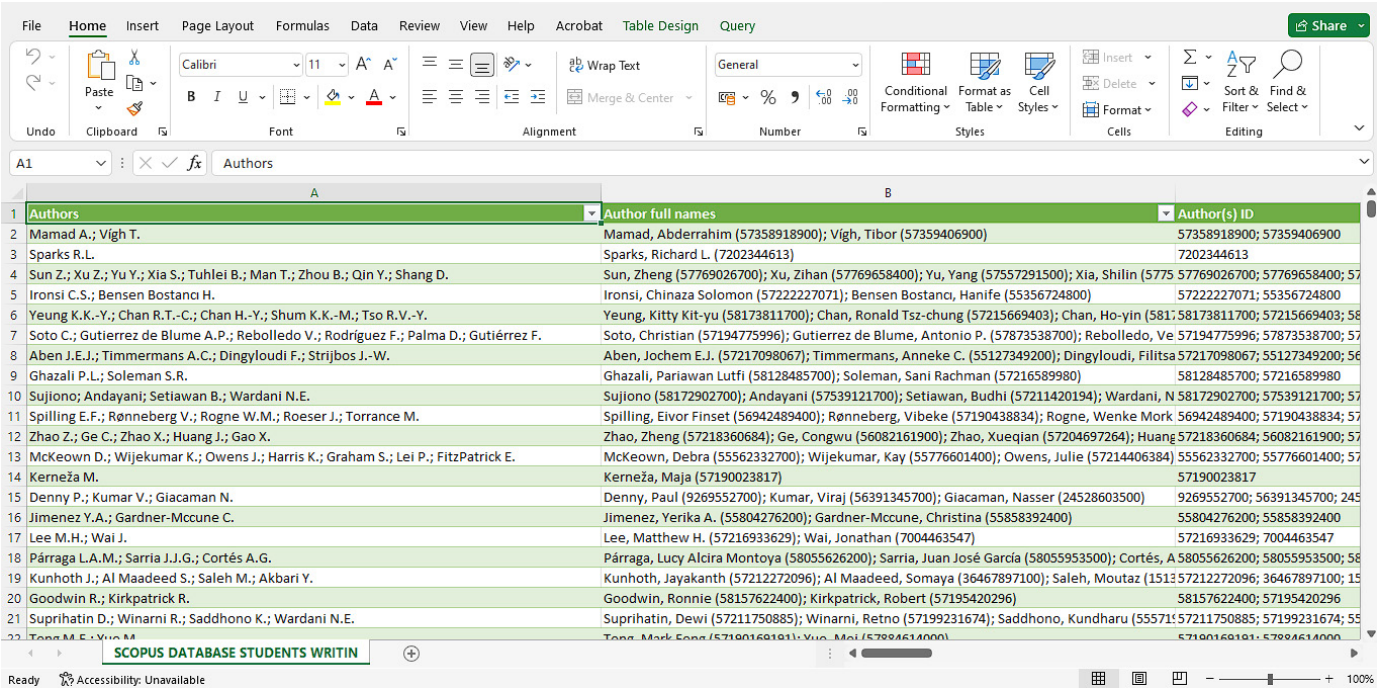

Figure 4

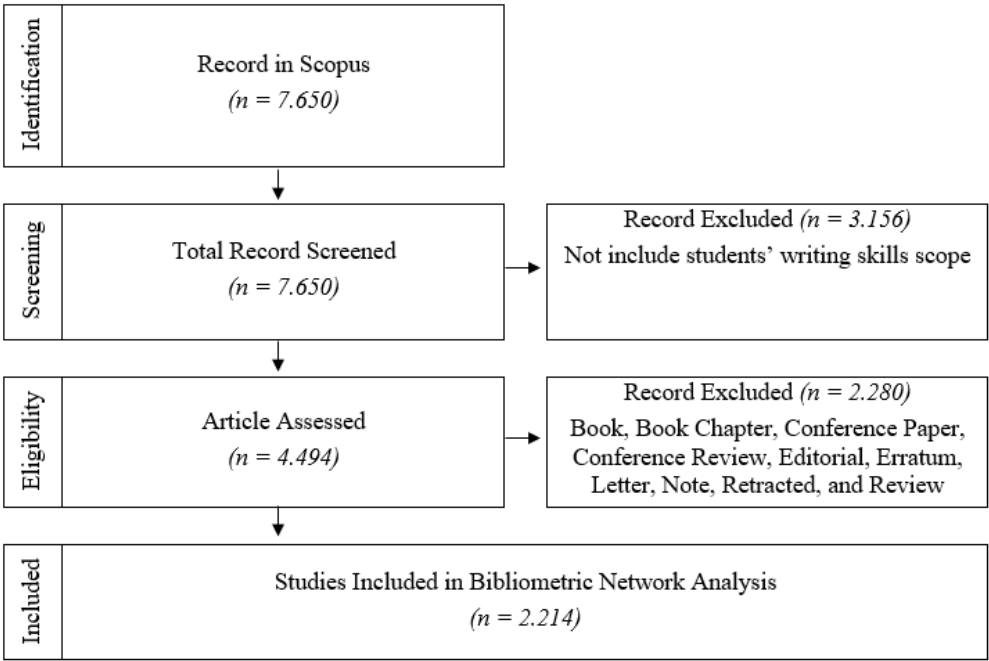*Prisma Flow for Sample Identification*

Table 1

Vos Viewer Software Retrieval Setting to Bibliometric Analysis

Type and Unit of Analysis	Counting Method	Threshold	A Large Number of Analysis Unit	Selection
Co-Authorship				
Authors	Full	1 Document	Not Ignored	Maximum
Organizations	Full	1 Document	Not Ignored	Maximum
Countries	Full	1 Document	Not Ignored	Maximum
Co-Occurrence				
Keywords	Full	5 Occurrences	Ignored	281
Abstract Words	Full	10 Occurrences	Ignored	721
Citation				
Authors	N/A	1 Document	Not Ignored	Maximum
Documents	N/A	10 Citations	N/A	Maximum

RESULTS

Based on the findings of a bibliometric analysis of 2214 research articles in the last ten years (2014-2023) on the *Scopus database* with *Vos Viewer software*, this study obtained data related to the keywords that were most widely used in titles and abstracts, authors with the highest number of citations, publishers with the highest number of publications, the most productive countries, and organizations in research. The study also collected data about the writing skills of the students under study, their level of education, and opportunities or *novelties* for future research. These results are presented in the visualization image and table below.

Research Frequency Related to Students' Writing Skills 2014-2023

The frequency of students' writing skills research results from the Scopus database in 2014-2023 was analyzed using Microsoft Excel software CSV data. Sorting is done to group publications by year of publication. Based on this analysis, data was obtained that research on students' writing skills had increased in 2014-2020 and fluctuated in 2021-2023. During this period, the highest number of publications occurred in 2022 (340 publications). The research frequency data is presented in Figure 5.

The Most Widely Used Keywords in Students' Writing Skills Research Articles

The stages in making *a map based on bibliographic data* for *the most widely used keywords* in the study were carried out using *co-occurrence* analysis based on the author's *keywords*. *The minimum number of occurrences* is automatically set at five, and the number of keywords is 281. The results are presented in Figure 6. Based on this analysis, the data obtained are 10 clusters with the most keywords: **writing** *(f= 304)*. These results are relevant to other keywords, such as **writing skills** *(f= 166)* and **academic writing** *(f=150)*, which are the most widely used in students' writing skills research. This finding indicates that most of the research focuses on students' writing skills in the academic field.

The Words That Are Most Widely Used in Abstract Research Articles on Students' Writing Skills

The analysis of the most widely used words in the abstract is carried out by *creating a map based on text data* by selecting abstract *fields* to get data. The calculation uses *full counting* with *a minimum number of occurrences* of 10 and *several terms* of 721. The visualization results are presented in Figure 7. The results show 10 clusters with the word **effect** *(f= 616)*, the most used in the abstract. Other words that are widely used are **test** *(f= 459)*, **control group** *(f= 369)*, **experimental group** *(f= 344)*, and **grade** *(f= 344)*. These results indicate that most research articles on students' writing skills focus on the influence or effect caused by the research group *(experimental and control)* on learning outcomes (*grade*) after a series of learning activities and tests.

The Writer with The Most Number of Citations in Students' Writing Skills

The total number of authors of research articles on students' writing skills based on the *Scopus database* is 2158 authors from 2214 publications. To find the authors with the

Figure 5

Publication Frequency on Students Writing Skills Researchers by Year
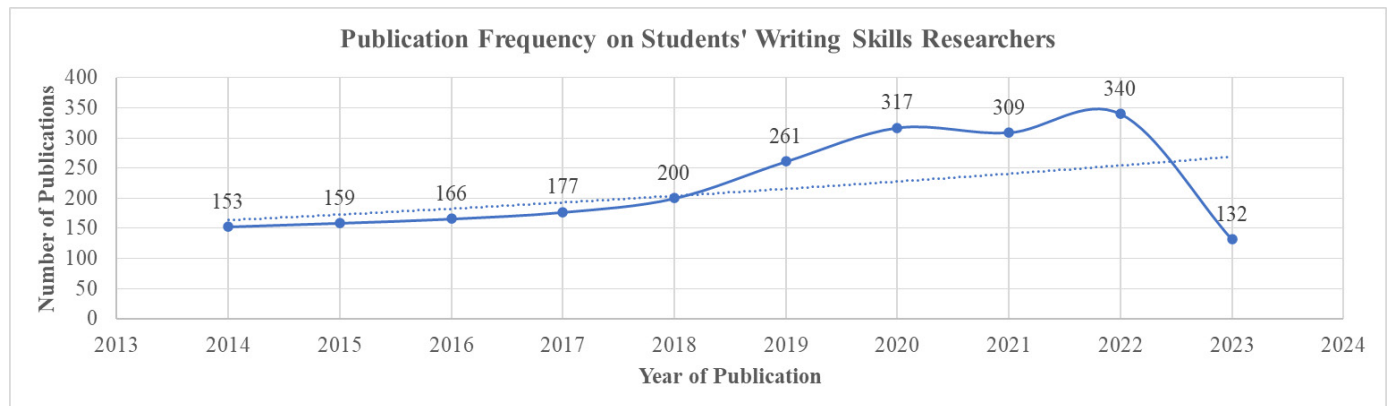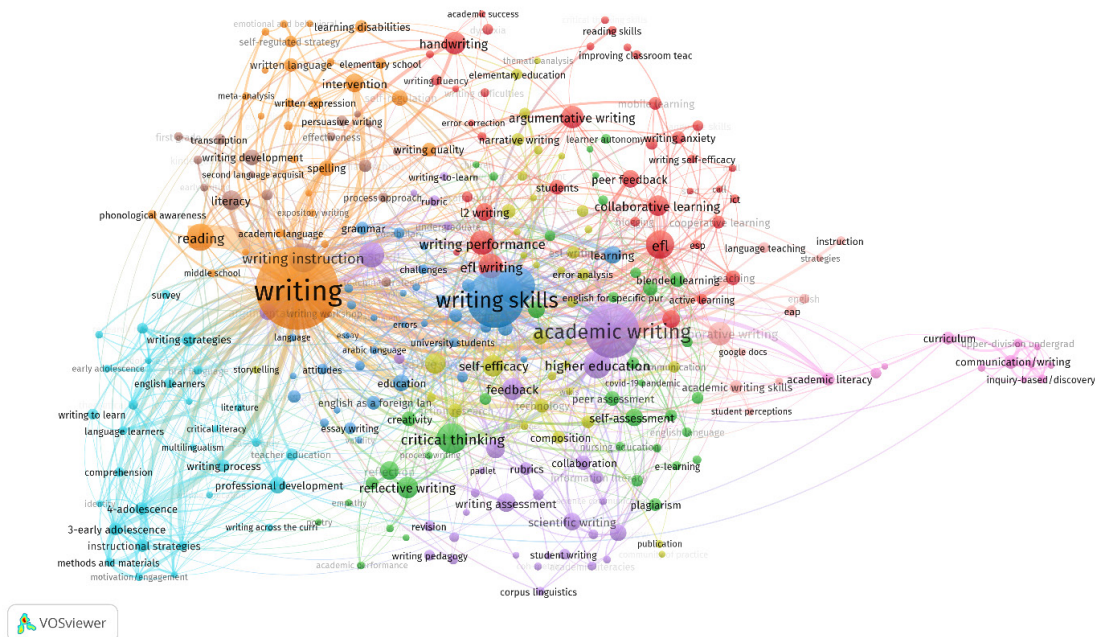

Figure 6

The Most Widely Used Keywords in Articles Relating to the Research on Students Writing Skills

highest number of citations, this study analyzed *co-authorship* with *the minimum number of documents* set as one and the maximum *number of authors* set *(f= 2158)*. Based on this analysis, ten authors with the highest number of citations were obtained. The top three authors are **Graham** (2019) with 105 citations, **Hwang** (2014) with 102 citations, and **Kent** (2014) with 84 citations. The complete data are presented in Table 2.

Based on Table 2, writing skills are an essential aspect that can be applied at various levels of education, individually and collaboratively. In addition, learning writing skills can also be integrated using media such as *game-based learning* and *augmented reality*.

The Publishers with The Most Publication in Students' Writing Skills Research Articles

Several publishers of students' writing skills research articles with the most publications were obtained through *CSV export data* from the *Scopus database*. The authors used CSV data to obtain publisher data and then sorted it manually using *Microsoft Excel* software to obtain 794 publishers. This analysis process has identified three publishers with the most publications of research articles on students' writing skills: *Reading and Writing (f= 65), Asian EFL Journal (f= 49),* and *International Journal of Instruction (f= 37)*. Complete data is presented in Table 3.

Figure 7

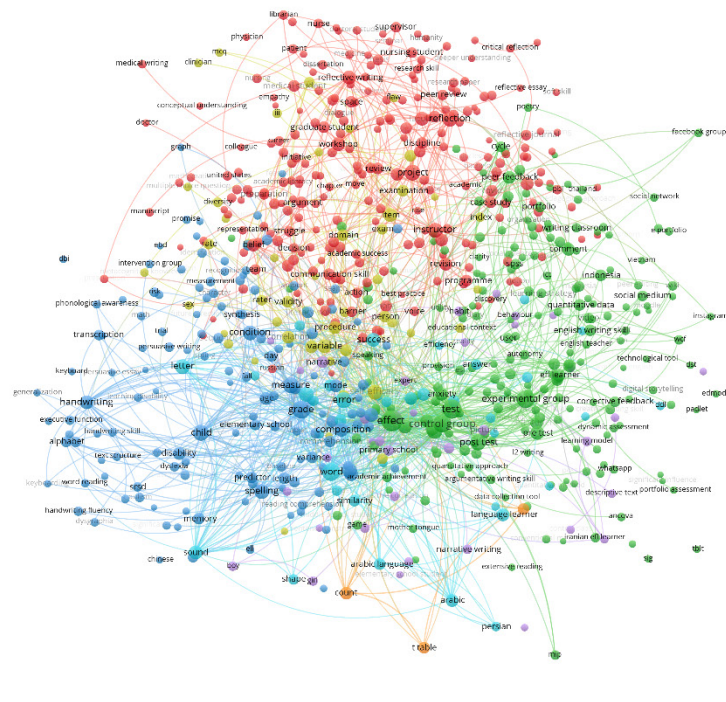*The Word That is Most Widely Used in an Abstract Article*

Table 2

The Most Cited Author

Author and Year	Title	Cited
Graham (2019)	Changing how writing is taught	105
Hwang et al. (2014)	Improving English as a foreign language writing in elementary schools using mobile devices in familiar situational contexts	102
Kent et al. (2014)	Writing fluency and quality in kindergarten and first grade: The role of attention, reading, transcription, and oral language	84
Charon et al. (2016)	Close reading and creative writing in clinical education: Teaching attention, representation, and affiliation	79
Koster et al. (2015)	Teaching children to write: A meta-analysis of writing intervention research	79
Wang (2014)	Promoting collaborative writing through wikis: A new approach for advancing innovative and active learning in an ESP context	76
Lin et al. (2018)	A flipped contextual game-based learning approach to enhancing EFL students' English business writing performance and reflective behaviors	71
Wang (2017)	Exploring the effectiveness of integrating augmented reality-based materials to support writing activities	67
Naber & Wyatt (2014)	The effect of reflective writing interventions on the critical thinking skills and dispositions of baccalaureate nursing students	67
Graham et al. (2018)	Effectiveness of literacy programs balancing reading and writing instruction: A meta-analysis	66

The Most Productive Countries and Organizations in Students' Writing Skills Research Articles

The Most Productive Country

Data from the most productive countries were obtained from the bibliographic database from the Scopus database, which included the *type of analysis co-authorship* and unit of analysis *countries*. The minimum document of a country is set at one, and the number of countries is set at 114. This analysis shows that the *United States* ranks first as the most productive country, with 642 documents. Meanwhile, *Indo-nesia* ranks second with 172 papers, and *Malaysia* is third with 119 papers. The complete data are presented in Table 4.

The Most Productive Organization

Data of the most productive organizations were obtained *from the bibliographic database* from the *Scopus database* through the *type of analysis co-authorship* and *unit of analysis organizations*. The minimum document of a country is set at one, and the maximum *number of countries* is set at 3655. The results show that *Arizona State University* is the most productive organization, with nine documents, followed by *Georgia State University* and the *University of Delaware*, ranked second and third, respectively, with seven papers each. The complete data are presented in Table 5.

Table 3

Top 10 Publishers on Students' Writing Skills Research Articles

Publisher	Publication	Percentage (%)
Reading and Writing	65	2.95
Asian EFL Journal	49	2.22
International Journal of Instruction	37	1.68
Journal of Language Teaching and Research	28	1.27
Theory and Practice in Language Studies	22	1.00
Computer-Assisted Language Learning	20	0.91
Reading and Writing Quarterly	20	0.91
Frontiers in Psychology	19	0.86
Journal of Writing Research	18	0.82
Assessing Writing	16	0.73

Table 4

The Most Productive Country for Students' Writing Skills Research Articles

Country	Documents	Cited	Total Link Strength
United States	642	5.173	122
Indonesia	172	433	15
Malaysia	119	477	34
Turkey	111	506	8
United Kingdom	89	699	56
Iran	88	518	28
China	82	482	48
Australia	81	750	50
Spain	74	431	19
Saudi Arabia	72	179	36

Table 5

The Most Productive Organization for Students' Writing Skills Research Articles

Organization	Country	Documents	Cited	Total Link Strength
Arizona State University	United States of America	9	208	17
Georgia State University	United States of America	7	122	6
University of Delaware	United States	7	55	9
Utrecht University	Netherlands	6	175	6
University of Amsterdam	Netherlands	5	122	7
Prince Sattam Bin Abdulaziz University	Saudi Arabia	5	18	7
Universidad Técnica Particular de Loja	South America	5	9	0
University of Porto	Portugal	4	147	1
Educational Testing Service	United States	3	75	3
Texas A&M University	United States	2	44	7

The Level of Education with The Most Widely Used in Students' Writing Skills Research Articles

This study analyzed bibliographic database files to determine the level of education that becomes the context of studies on students' writing (elementary school, primary school, high school, and higher education). The fields used are titles and abstracts with the *whole counting* method. *The minimum number* of occurrences is set at five, and the maximum number of terms is set at 2807 terms. Based on this analysis, the results show that the level of education with the most widely used for research on students writing skills is *higher education (f= 121)*, followed by *secondary school (f= 71)*, *elementary school (f= 43)*, and *high school (f= 39)*. The complete data is presented in Figure 8.

Opportunities and Novelty for Future Writing Skills Research

Opportunities for further research and novelties identified in this study based on the bibliometric analysis of students' writing skills research from the Scopus database in 2014-2023 are presented in Figure 9.

Based on Figures 9 A, B, C, and D, several *novelty* studies on students writing skills were found, such as research on *argumentative writing*, *collaborative writing*, *EFL learners*, and *writing attitude* as a topic that still has a chance and has not been widely carried out during the last ten years according to the *Scopus database bibliometric* analysis.

DISCUSSION

In today's educational environment, students' writing skills are undeniably important. Mastery in writing is crucial for achieving academic excellence and effective communication in both professional and personal settings. Studies show that solid writing skills are closely associated with better academic results and enhanced cognitive skills (Graham & Perin, 2007). Proficient writing supports critical thinking and problem-solving skills, essential for handling complex issues (Graham, 2006). Additionally, in the current digital age, the skill to express ideas clearly and convincingly is increasingly necessary for success across various domains (National Commission on Writing, 2004). Therefore, prioritizing writing instruction is fundamental to equipping students for future challenges.

Some important findings obtained based on bibliometric analysis in the study of students' writing skills are the most widely used keywords in students' writing skills, the most used word in the abstract on students' writing research, the total number of authors of research articles on students writing skills, the most popular publisher, the most productive countries and organization, the level education, and the opportunities.

## The Frequency of Research on Students' Writing Skills in 2014-2023 (RQ1)

Based on the findings of a bibliometric analysis of 2214 research articles in the last ten years on the Scopus database, this study obtained data related to the keywords that

Figure 8

The Level of Education with the Most Widely Used in Students' Writing Skills Research Articles
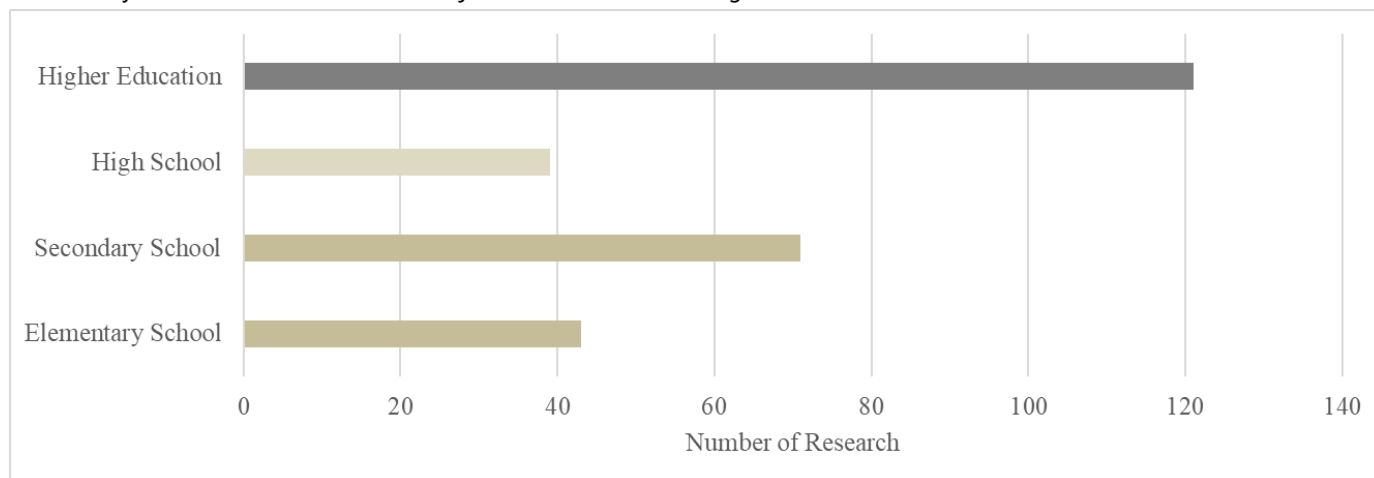
Figure 9

A) Argumentative Writing, B) Collaborative Writing, C) EFL Learners, D) Attitudes
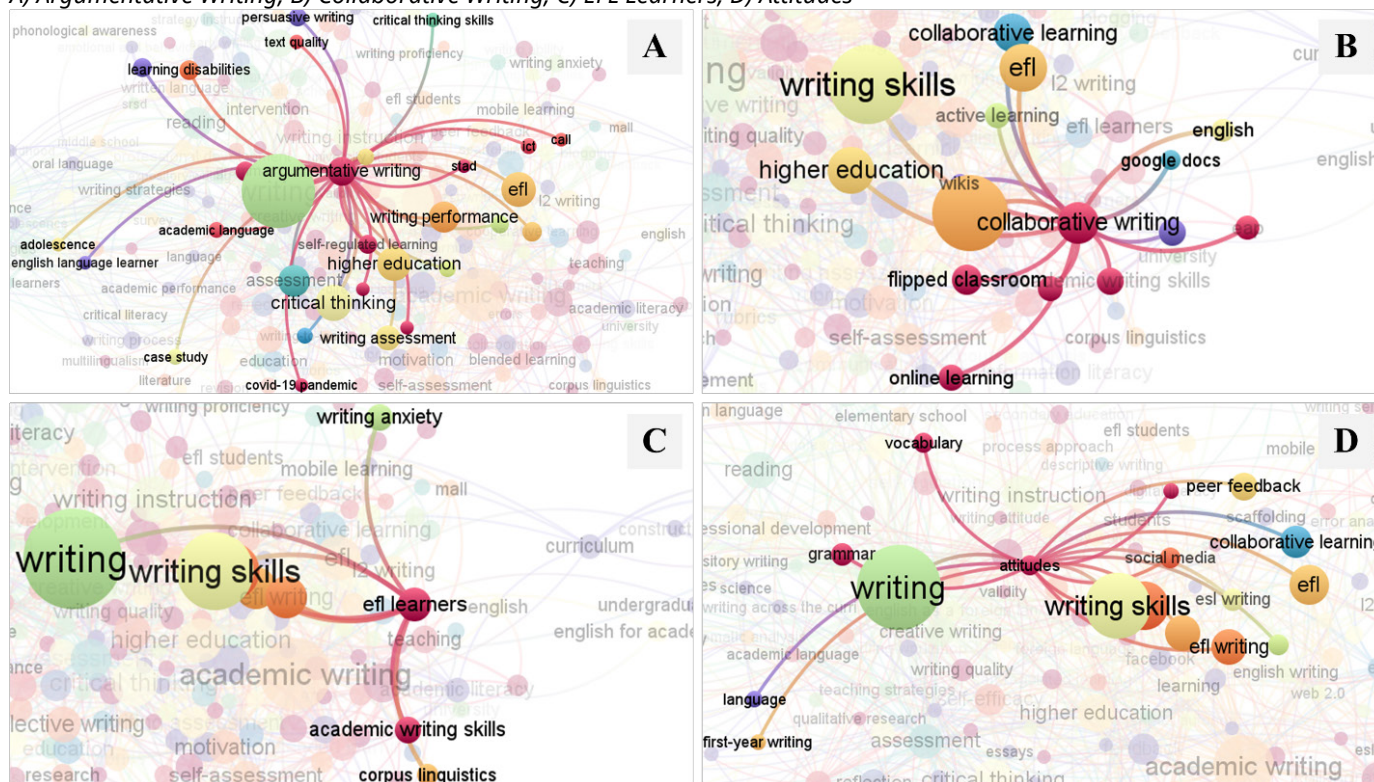
were most widely used in titles and abstracts, authors with the highest number of citations, publishers with the highest number of publications, the most productive countries, and organizations in research. The study also collected data about the writing skills of the students under study, their level of education, and opportunities or novelties for future research. From the findings of a bibliometric analysis on the *Scopus database* for 2014-2023, research on students' writing skills has increased from 2014 to 2020 and fluctuated from 2021 to 2023. During this period, the highest number of publications occurred in 2022.

The Most Widely Used Keywords in Students' Writing Skills Research Articles (RQ2)

The most widely used keywords in students writing skills research articles were obtained in 10 clusters with the most keywords: *"writing."* These results are relevant to other key-

words, such as *"writing skills"* and *"academic writing,"* the most widely used in writing skills research (see Figure 6). Writing skills were the search terms that were most frequently utilized in this survey. This finding indicates that most of the research focuses on writing skills in the academic field. For instance, Wale and Bogale (2021) stated that students who participated in inquiry-based writing instruction improved their academic writing skills. Meanwhile, Shulgina et al. (2024) state that obtaining additional comments during online peer editing is an effective way to enhance students' writing performance further because peer editing is crucial in developing students' academic writing.

The Most Commonly Used Words in the Abstracts of Research Articles on Students' Writing Skills (RQ3)

Analyzing the most widely used words in the abstract gets as much data as possible in 7 clusters with the word *"effect,"* the word most used in the abstract. Other words that are widely used are *"test," "control group," "experimental group,"* and *"grade"* (see Figure 7). These results indicate that most research articles on students' writing skills focus on the influence or effect caused by the research group *(experimental and control)* on learning outcomes *(grade)* after a series of learning activities and tests. For instance, Arici and Kaldirim (2015) observed that writing instruction courses, which involved Turkish pre-service teachers using activities based on a process-oriented writing approach, significantly improved the written expression skills of the experimental group compared to the control group. Ali and Ulker (2020) mentioned that the pre-test and post-test results indicated a significant improvement in students' writing skills through the application of Inquiry-based Learning.

The Author with the Highest Number of Citations in the Student' Writing Skills Articles (RQ4)

The total number of authors of research articles on students' writing skills based on the Scopus database is 2158 authors from 2214 publications. The three authors in this field of study with the most citations are Graham, Hwang, and Kent. Graham (2019) stated that if students want to be successful at school, at work, and in everyday life, students must learn to write. Writing cannot happen naturally but requires practice and proper instruction, especially in formal education. To practice writing skills, Hwang et al. (2014) train students with the help of mobile devices to be more flexible and develop their writing skills anywhere and anytime. As a result, students are not only able to write more sentences, but they are also able to describe the objects they write about clearly and thoroughly. Kent et al. (2014) carried out a study on a framework for the progression of students

writing, encompassing a collaborative focus on reading abilities, spelling, fluency in handwriting, and oral language elements. The findings indicated that the mindfulness approach demonstrated a more suitable fit than the one solely based on language and literacy elements. Writing skills are an essential aspect that can be applied at various levels of education, individually and collaboratively.

In addition, learning writing skills can also be integrated using media such as *game-based learning* and *augmented reality*. Wang (2014) states that language learning can be done collaboratively using social networking platforms. This is one of the new approaches to teaching that has emerged due to the influence of technological advances. Wang (2017) also uses technology as a tool in students writing learning with Augmented Reality media. Wang stated that AR is a reference that teachers can use to encourage students to have good writing skills.

The other frequently cited topics include research by Charon et al. (2016), which explored the significance of creative writing for students; Koster et al. (2015), which examined effective writing interventions for elementary students; Lin et al. (2018), which demonstrated how flipped contextual game-based instruction can improve students' English writing performance; Naber & Wyatt (2014), who investigated the impact of reflective writing interventions on critical thinking skills and student attitudes; and Graham et al. (2018), which assessed the effectiveness of literacy programs that combine reading and writing instruction. Thus, based on the ten articles with the highest citation counts, research on students' writing skills from 2014 to 2023 covers aspects of the writing process, strategies, and techniques that can facilitate students to improve their writing skills.

Authors with many citations often play a crucial role in research. Their publications can lay the groundwork for further studies, advance scientific disciplines, and offer valuable references for other researchers. However, the impact of a highly cited author is determined by the number of citations and the quality and context of those citations. Research shows that not all citations are necessarily positive, as some may critique or challenge the original work (Huang et al., 2022; Xu et al., 2022).

Articles with many citations can shape other researchers' perceptions of topics or fields. A study on the role of highly cited articles indicates that such papers can be markers of scientific productivity and intellectual impact (Plomp, 1990). Nonetheless, it is important to recognize that citations might sometimes reflect the popularity of a topic rather than the inherent quality or positive influence of the research. Thus, while high citation counts are generally seen as a good sign, the actual impact of a highly cited author is determined by the contribution their work makes to scientific advancement and discussion.

The Publisher Publishes the Most Articles on Students' Writing Skills (RQ5)

Regarding the publishers that publish the most articles on students' writing skills, *Reading and Writing, Asian EFL Journal, and International Journal of Instruction* are the top three publishers with the most publications based on the number of documents identified. These three journals can be a reference for teachers to find out and apply the latest research results to improve students' writing skills in this area. Also, for researchers, these journal references can make it easier to find gaps or novelties that have been carried out by other researchers worldwide and as a reference for publishing their research articles. However, it should be underlined that the level of popularity of these research findings is based on the quantity of publications. Meanwhile, it does not mean that other journals that do not have a large number of publications are not popular or of good quality. Just because a journal such as "The Asian EFL Journal" publishes monthly does not mean it is better than other journals that publish less often.

Beyond the top three journals listed in Table 3, which rank as the most popular journals for publications on students' writing skills, several other journals between ranks 11 and 20 can also be considered for publishing articles in this field. These journals include *Frontiers in Education, Indonesian Journal of Applied Linguistics, Asian ESP Journal, International Journal of Language Education, Journal of Language and Linguistic Studies, TESOL International Journal, International Journal of Applied Linguistics and English Literature, Journal of Second Language Writing, Journal of Language and Education,* and *International Journal of English Language and Literature Studies*.

Some popular journals may be influenced by factors such as publication frequency, acceptance rate, speed of publication, special issues, publication fee, and the journal's indexing rating. For authors, before publishing an article in a journal, it is recommended to check all the details about the journal, especially the indexing status of those journals through platforms like SCImago Journal & Country Rank (SJR) or by checking the Scopus source page. For instance, although the International Journal of Instruction is one of the most popular journals that publishes a lot of content about students' writing skills, it has recently been discontinued from Scopus indexing.

Countries and Organizations Most Productive in Research on Students' Writing Skills (RQ6)

The Most Productive Countries in Research on Students' Writing Skills

Over the past decade, the most productive countries in research on students' writing skills, based on the number of identified documents, are the United States in first place, Indonesia in second place, and Malaysia in third place (see Table 4). At the same time, the countries ranked from fourth to tenth in research on students' writing skills are Turkey, the United Kingdom, Iran, China, Australia, Spain, and Saudi Arabia. They are nations from diverse continents, including the Americas, Asia, and Europe. Regarding article citations, the United States leads, with Australia in second place and the United Kingdom in third. Additionally, regarding the overall strength of article links, the United States ranks first, followed by the United Kingdom in second and Australia in third. This indicates that the United States excels not only in the volume of research article publications but also in the number of citations and the strength of interconnected article links. Conversely, although Indonesia and Malaysia have published more articles than Australia and the United Kingdom, their citation counts and article link strengths do not surpass those of Australia and the United Kingdom.

The Most Productive Organization in Research on Students' Writing Skills

Arizona State University is the leading organization in the United States for publishing research on students' writing skills, as evidenced by the number of documents published (see Table 5). Other prominent organizations based on document counts include Georgia State University, the University of Delaware, Educational Testing Service, and Texas A&M University in the U.S.; Utrecht University and the University of Amsterdam in the Netherlands; Prince Sattam Bin Abdulaziz University in Saudi Arabia; Universidad Técnica Particular de Loja in South America; and the University of Porto in Portugal. In terms of citations, Arizona State University leads with 208 citations, followed by Utrecht University with 175 citations in second place, and the University of Porto with 147 citations in third place. This indicates that Arizona State University is not only the most prolific in publishing research on students' writing skills but also significantly influential, as reflected in the high number of citations, demonstrating the impact and relevance of its publications.

Education Level is the Most Commonly Studied Factor in Research on Students' Writing Skills (RQ7)

Most studies about students' writing took place in higher education contexts, followed by secondary school, elementary school, and high school (see Figure 8). In this bibliometric analysis visualization, one of the keywords identified as the most widely used in research on students' writing skills is "Academic Writing" (see Figure 7). These visualization findings support the findings in Figure 8. Swales and Feak (2012) describe academic writing as a unique genre marked by its formal tone, organized structure, and adherence to specific disciplinary norms. It is a key method for communicating and evaluating scholarly ideas in higher education.

Mastering academic writing requires more than just understanding language mechanics; it demands a deep grasp of the disciplinary context and the ability to meet complex academic expectations. This complexity highlights the need for specialized instruction and support to help students develop strong writing skills (Gillett et al., 2009). Historically, the focus on enhancing writing skills in higher education stems from the belief that these skills are essential for academic and professional success, which has shaped the direction of research (Hyland, 2003).

The Future Writing Skills Research Opportunities (RQ8)

The areas that need further research and exploration are *argumentative writing, collaborative writing, EFL learners,* and *attitude writing* (see Figure 9 A, B, C, D). An explanation of these aspects is presented in the following paragraph.

Argumentative Writing

Argumentative rhetoric aims to persuade others to adopt the writer's or reader's desired beliefs and behaviors by manipulating their attitudes and opinions (Ka-kan-dee & Kaur, 2015; Keraf, 2010). In other words, argumentative writing is when the writer presents reasons and evidence to support their argument and convince the reader of the position's validity (Harmer, 2004). An effective scientific argumentative essay should adhere to specific standards. This requires ensuring that the statement is supported by solid reasoning, evidence, or data and, if applicable, incorporating counter-arguments to strengthen the author's position (Mulyati & Hadianto, 2023).

Studies in the cognitive tradition, like those by Graham et al. (2018), show that argumentative writing development in students' is influenced by factors like writing goals and knowledge of persuasion genres. These studies often employ interventions to improve students' argumentative writing skills. While there is existing research, the ongoing exploration into the factors that influence argumentative writing suggests that this area still requires more nuanced investigation, mainly from various educational and cultural perspectives.

Collaborative Writing

Collaborative writing, on the other hand, is a potent technique that promotes critical thinking, peer learning, and active engagement in the final output. The requirement to deal with structuring, negotiating, and merging ideas in written form led to introducing more conventional approaches into the classroom, making collaborative writing a relatively young discipline compared to other practices (Dobao, 2012). In collaborative learning, students should be organized into study clusters, facilitating collective effort, the opportunity to engage in conversations with peers, a strong inclination

to educate group members, and utilizing students' interaction within these collaborative groups for their advantage (Ghufron et al., 2023).

Research on collaborative writing, especially in educational settings, indicates that it serves as an effective bridge for enhancing argumentative writing skills. Studies have explored its role in fostering peer discourse, improving writing synthesis, and integrating conflicting information from multiple sources. While collaborative writing has been studied, understanding its full potential and diverse applications in different learning contexts (such as EFL environments) remains an open research area (Granado et al., 2019; Matos, 2021).

EFL Learners

In the context of EFL, further study is required. EFL refers to individuals who study English in nations that do not speak the language. Japanese citizens, for instance, who study English, are EFL learners (Iwai, 2011). Harmer (2007) has a similar definition, limiting EFL to English teaching in which students take short courses in English or learn English in their home country. Proficiency in writing is crucial for English as a Foreign Language (EFL) students, particularly in the contemporary era where effective written communication is gaining heightened significance (Kusumaningrum et al., 2019).

There is increasing interest in how technologies like chatbots assist EFL students in argumentative writing. However, since these technological interventions are relatively new, there are gaps in understanding how these tools affect students' writing skills, attitudes, and learning processes. Further studies could explore long-term effects and the best practices for incorporating such technologies into the EFL classroom (Guo et al., 2021).

Writing Attitudes

Regarding students' writing attitudes, Ni'mah et al. (2017) state that it considerably impacts students' writing skills. Students' writing skills are significantly affected by writing attitudes (Graham & Perin, 2007). Here, kids with a positive mindset demonstrate superior writing abilities to those with a bad attitude. Negative attitudes can hamper an effective writing process. This mentality can be detrimental to writing because it is a complex endeavor requiring much work. Attitudes, such as cognitive involvement, influence writing skills. For instance, students who write more diligently and with more effort than students with fewer positive views do so (McKenna et al., 1995). Writing attitudes have been a topic of interest, but there is an ongoing need for more comprehensive studies to understand its impact on writing proficiency and its interaction with other variables (Graham & Perin, 2007).

Based on previous research, this bibliometric analysis reveals that argumentative writing, collaborative writing, EFL learners, and writing attitudes influence students' writing skills. Murtadho (2021) underscores the significance of argumentative writing as a critical area for researchers seeking to enhance college-level writing. Additionally, Pham (2021) highlights the substantial improvement in writing fluency observed in students who engage in collaborative writing in group and individual assignments. Furthermore, Chen (2022) emphasizes that EFL learners generally perceive mastering effective writing as one of the most challenging and frustrating aspects of language learning. Similarly, Özen and Duran (2021) discuss the importance of writing attitude, emphasizing its close relationship to the practical implementation of skills in language learning programs. These skills include writing short texts and composing stories. Teachers can support and guide students to cultivate a positive attitude towards writing at every stage of writing development, serving as mentors and participants.

Students' writing proficiency is significantly influenced by their exposure to different writing theories and genres. Effective writing instruction incorporates theoretical frameworks that address both the cognitive aspects of writing and the structural elements of various genres, leading to improved writing outcomes (Bereiter & Scardamalia, 1987). The quality of writing is significantly affected by the processes and techniques writers use and their motivation levels. Effective writing instruction should address these elements to enhance students' writing skills and outcomes (Applebee & Langer, 2011). Furthermore, successful writing comes from various strategies and techniques supporting the writing process, such as organization, coherence, and language use. Motivation also plays a crucial role, affecting writers' persistence and commitment to refining their work (Graham & Perin, 2007).

Historically, several researchers have studied the topic of students' writing skills using bibliometric analysis, including Crosthwaite et al. (2022), Hyland and Jiang (2022), and Sun and Lan (2023). However, these studies only focus on aspects such as L2 written corrective feedback or the interaction aspect in written texts. In contrast, our bibliometric analysis takes a broader approach, considering the general context of students' writing skills. Our goal is to identify trends and opportunities related to the writing skills that students should possess. Furthermore, we include data from all countries, regardless of whether English is their primary language. Therefore, it is crucial to investigate further the essential aspects of students' writing skills across various countries and languages. By doing so, we can improve students' writing skills at different educational levels.

The expected outcome of this analysis is to identify future trends and opportunities for students' writing skills. However, the findings of this bibliometric analysis cover essential aspects such as argumentative writing, collaborative writing, EFL learners, and writing attitude. Research on students' writing skills has decreased in intensity from 2021 to 2023. In today's technological era, writing skills are crucial for students, especially in technology and digital literacy. The advancement of science and technology should encourage teachers, researchers, and students to improve their writing skills actively. Nowadays, students are expected to be critical in various areas, not just science.

Additionally, students need to be able to collaborate on various tasks, including writing. Moreover, students from countries where English is not the primary language must learn foreign languages to support their knowledge. Furthermore, since writing is an effort to convey information, students' must also use proper ethics in writing so that the meaning of their text aligns with the purpose of the writing. Research on students' writing skills, including argumentative writing, collaborative writing, EFL learners, and writing attitude, is precious for improving students' writing skills. Not only in the academic realm but also in students' writing skills will help them achieve tremendous success in their professional careers.

Limitations

The limitation of this research is that it only uses Scopus database. Additionally, the research parameters are limited to analyzing research frequency, commonly used words in articles and abstracts, authors with the highest citation counts, prominent publishers, the productivity of countries and organizations, and educational levels. In the future, conducting bibliometric analysis using multiple data sources such as Web of Science (WOS), EBSCO, Eric, Microsoft Academic, Google Scholar, and various other databases will produce better results. Furthermore, other indicators, such as content analysis, research methods, and data analysis, can also be used to enrich the data analysis results. Moreover, this type of bibliometric analysis will provide more valuable information for readers, researchers, authors, teachers, and students.

CONCLUSION

This study aims to find trends and novelties in students' writing skills research in the last ten years (2014-2023) using bibliometric analysis from the Scopus database. The results of this bibliometric analysis demonstrate that since 2014, there has been a rise in research on students' writing abilities. Several international journals that can be used as references in this research are *Reading and Writing, Asian EFL Journal*, and *International Journal of Instruction*. From this bibliometric analysis, *argumentative writing*, *collaborative writing*, *EFL learners*, and *writing attitudes* have not been widely practiced in the last ten years. These four topics can be used as one of the research themes for students writing skills at various levels of education for future researchers.

Several innovations in this field have been applied in various research over the last ten years, such as structured training and integrating technology such as mobile devices, games, augmented reality, social networks, methods, and learning models at various levels of education. Findings from this analysis, such as *argumentative writing skills*, *collaborative writing*, *EFL learners*, and *writing attitudes*, are interesting topics to research and develop in the future. Teachers or researchers can analyze, research, or integrate these rare topics to improve students' writing skills at various levels of education. These findings hold significance within writing skills, serving as valuable points of reference and suggestions for forthcoming investigations and educational endeavors. By incorporating these revelations into their work, educators and scholars can leverage these insights to uncover diverse crucial facets of writing skills that may have eluded prior research efforts.

The limitation of this research is that it only uses Scopus database. Furthermore, the research parameters are confined to analyzing research frequency, commonly utilized words in articles and abstracts, authors with the highest citation counts, prominent publishers, the productivity of countries and organizations, and educational levels. Although the analysis of this topic is limited and only obtained from the Scopus database, we hope these findings can become valuable recommendations for teachers, researchers, and students to enrich their knowledge in the field of language, especially in terms of writing skills.

Recommendations for further research are that researchers can use various databases such as Scopus, Web of Science, Ebsco, Eric, and other databases to obtain more complex data. Besides that, broader parameters can be used in research, such as type of research, methods, data analysis, impact, and other variables, to deepen the scope of study in this field and provide valuable information for readers.

DECLARATION OF COMPETING INTEREST

None declared.

REFERENCES

Abd Karim, R., & Mustapha, R. (2020). Students' perception on the use of digital mind map to stimulate creativity and critical thinking in ESL writing course. *Universal Journal of Educational Research, 8(12A)*, 7596-7606. https://doi.org/10.13189/UJER.2020.082545

Ali, H. F., & Ulker, V. (2020). *The effect of inquiry-based approach on development of reading and writing skills of university EFL students* [Preprint]. SSRN. https://doi.org/10.2139/ssrn.3621259

Anson, C. M., & Schwegler, R. (2012). *The longman handbook for writers and readers* (6th ed.). Pearson.

Applebee, A. N., & Langer, J. A. (2011). *Writing instruction that works: Proven methods for middle and high school classrooms*. Teachers College Press.

Arici, A. F., & Kaldirim, A. (2015). The effect of the process-based writing approach on writing success and anxiety of pre-service teachers. *The Anthropologist*, *22*(2), 318-327. https://doi.org/10.1080/09720073.2015.11891883

Baker, K. M. (2016). Peer review as a strategy for improving students' writing process. *Active Learning in Higher Education, 17*(3), 179–192. https://doi.org/10.1177/1469787416654794

Bangert-Drowns, R. L., Hurley, M. M., & Wilkinson, B. (2004). The effects of school-based writing-to-learn interventions on academic achievement: A meta-analysis. *Review of Educational Research*, *74*(1), 29–58. https://doi.org/10.3102/00346543074001029

Barone, D. M. (2010). Engaging young ELLs with reading and writing. In G. Li & P. Edwards, (Eds.), *Best practices in ELL instruction* (pp. 84-102). The Guildford Press.

Bazerman, C. (1988). *Shaping written knowledge: The genre and activity of the experimental article in science*. University of Wisconsin Press.

Bereiter, C., & Scardamalia, M. (1987). *The psychology of written composition.* Lawrence Erlbaum Associates.

Bugis, Y. (2018). *Creating digital stories with Saudi Arabian pre-service teachers: using the analysis, design, development, implementation, and evaluation model to promote lesson plan development* [Doctoral Dissertation]. University of Northern Colorado. https://www.proquest.com/docview/2103953544

Burroway, J. (2019). *Writing fiction: A guide to narrative craft* (11th ed.). University of Chicago Press.

Brown, H. D. (2014). *Principles of language learning and teaching.* Pearson Education.

Ceylan, N. O. (2019). Student perceptions of difficulties in second language writing. *Journal of Language and Linguistic Studies*, *15*(1), 151-157. https://doi.org/10.17263/jlls.547683

Chaffee, J. (2015). *Thinking critically.* Cengage Learning.

Charon, R., Hermann, N., & Devlin, M. J. (2016). Close reading and creative writing in clinical education: Teaching attention, representation, and affiliation. *Academic Medicine: Journal of the Association of American Medical Colleges*, *91*(3), 345–350. https://doi.org/10.1097/ACM.0000000000000827

Chen, A. H. (2022). The effects of writing strategy instruction on efl learners' writing development. *English Language Teaching,* *15*(3), 29-37. https://doi.org/10.5539/elt.v15n3p29

Chevalier, R. D. (2011). When did ADDIE become addie? *Performance Improvement*, *50*(6), 10–14. https://doi.org/10.1002/PFI.20221

Coleman, D., & Willis, D. S. (2015). Reflective writing: The student nurse's perspective on reflective writing and poetry writing. *Nurse Education Today*, *35*(7), 906–911. https://doi.org/10.1016/J.NEDT.2015.02.018

Crosthwaite, P., Ningrum, S., & Lee, I. (2022). Research trends in L2 written corrective feedback: A bibliometric analysis of three decades of Scopus-indexed research on L2 WCF. *Journal of Second Language Writing*, *58*, 100934. https://doi.org/10.1016/J.JSLW.2022.100934

DaCrema, J. J., & Stout, D. (2012). *Ten tips for improving business writing. White paper prepared for ACC6902- Management Accounting Systems*. Youngstown State University.

Davis, A. L., & Davis, A. L. (2013). Using instructional design principles to develop effective information literacy instruction: The ADDIE model. *College & Research Libraries News*, *74*(4), 205–207. https://doi.org/10.5860/crln.74.4.8934

Devitt, A. J. (2004). *Writing genres*. Southern Illinois University Press.

Elbow, P. (1973). *Writing without teachers*. Oxford University Press*.*

Ferretti, R. P., & Graham, S. (2019). Argumentative writing: Theory, assessment, and instruction. *Reading and Writing*, *32*, 1345-1357. https://doi.org/10.1007/s11145-019-09950-x

Fernández Dobao, A. (2012). Collaborative writing tasks in the L2 classroom: Comparing group, pair, and individual work. *Journal of Second Language Writing*, *21*(1), 40–58. https://doi.org/10.1016/J.JSLW.2011.12.002

Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication*, *32*(4), 365-387. https://doi.org/10.2307/356600

Flowerdew, J., & Peacock, M. (2001). Research perspectives on English for academic purposes. Cambridge University Press.

Gerson, S. J., & Gerson, S. M. (2018). *Technical communication: Process and product* (10th ed.). Pearson.

Ghufron, S., Nafiah, Syahruddin, Kaswadi, & Mustofa. (2023). The effect of STAD-type cooperative learning based on a learning tool on critical thinking ability in writing materials. *International Journal of Instruction*, *16*(1), 61–84. https://doi.org/10.29333/iji.2023.1614a

Gillett, A., Hammond, A., & Martala, J. (2009). *Inside track: Writing successfully in science.* Open University Press.

Graham, S. (2006). Writing as a goal of instruction. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 187-207). Guilford Press.

Graham, S. (2019). Changing how writing is taught. *Review of Research in Education*, *43*(1), 277–303. https://doi.org/10.3102/0091732X18821125

Graham, S., & Hebert, M. (2011). Writing to read: A meta-analysis of the impact of writing and writing instruction on reading. *Harvard Educational Review*, *81*(4), 710–744. https://doi.org/10.17763/haer.81.4.t2k0m13756113566

Graham, S., Liu, X., Aitken, A., Ng, C., Bartlett, B., Harris, K. R., & Holzapfel, J. (2018). Effectiveness of literacy programs balancing reading and writing instruction: A meta-analysis. *Reading Research Quarterly*, *53*(3), 279–304. https://doi.org/10.1002/RRQ.194

Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools. A Report to Carnegie Corporation of New York*. Alliance for Excellent Education.

Granado-Peinado, M., Mateos, M., Martín, E., & Cuevas, I. (2019). Teaching to write collaborative argumentative syntheses in higher education. *Reading and Writing*, *32*(8), 2037-2058. https://doi.org/10.1007/s11145-019-09939-6

Guo, K., Li, Y., Li, Y., & Chu, S. K. W. (2024). Understanding EFL students' chatbot-assisted argumentative writing: An activity theory perspective. *Education and Information Technologies*, *29*(1), 1-20. https://doi.org/10.1007/s10639-023-12230-5

Harmer, J. (2004). *How to teach writing.* Pearson Longman.

Harmer, J. (2007). *The practice of English language teaching*. Longman.

Huang, H., Zhu, D. & Wang, X. (2022). Evaluating scientific impact of publications: combining citation polarity and purpose. *Scientometrics, 127*, 5257–5281. https://doi.org/10.1007/s11192-021-04183-8

Hung, C.-M., Hwang, G.-J., & Huang, I. (2012). A project-based digital storytelling approach for improving students' learning motivation, problem-solving competence and learning achievement. *Educational Technology & Society*, *15*(4), 368–379.

Hwang, W. Y., Chen, H. S. L., Shadiev, R., Huang, R. Y. M., & Chen, C. Y. (2014). Improving English as a foreign language writing in elementary schools using mobile devices in familiar situational contexts. *Computer Assisted Language Learning*, *27*(5), 359–378. https://doi.org/10.1080/09588221.2012.733711

Hyland, K. (2002). *Teaching and researching writing*. Longman.

Hyland, K., & Jiang, F. K. (2022). Interaction in written texts: A bibliometric study of published research. *Studies in Second Language Learning and Teaching*, *13*(4), 903-924. https://doi.org/10.14746/ssllt.40220

Hyland, K. (2003). Genre-based pedagogies: A social response to process. *Journal of Second Language Writing*, *12*(1), 17-29. https://doi.org/10.1016/S1060-3743(02)00124-8

Hyland, K. (2005). *Metadiscourse: Exploring interaction in writing*. Continuum.

Iftanti, E. (2016). Improving students' writing skills through writing journal articles. *Jurnal Bahasa Lingua Scientia*, *8*(1), 1–14. https://doi.org/10.21274/LS.2016.8.1.1-14

Iwai, Y. (2011). The effects of metacognitive reading strategies: Pedagogical implications for EFL/ESL teachers. *The Reading Matrix: An International Online Journal, 11*(2), 150-159.

Jaja, J., Mudopar, M., Kurnia, M. D., & Muliawati, H. (2019). Representation of linguistic aspects in the genre of text in junior high school's bahasa Indonesia textbooks in the 2013 curriculum. In *International Symposium on Social Sciences, Education, and Humanities (ISSEH 2018)* (pp. 75-79). Atlantis Press. https://doi.org/10.2991/ISSEH-18.2019.18

Jaja, & Rahayu, I. (2021). *Apresiasi dan kajian prosa fiksi, menuju proses kreatif menulis* [Appreciation and analysis of fictional prose, towards the creative writing process]. Media Edukasi Indonesia.

James, N. (2007). *Writing at work: How to write clearly, effectively, and professionally*. Allen & Unwin.

Ka-kan-dee, M., & Kaur, S. (2015). Teaching strategies used by Thai EFL lecturers to teach argumentative writing. *Procedia - Social and Behavioral Sciences*, *208*, 143–156. https://doi.org/10.1016/J.SBSPRO.2015.11.191

Kent, S., Wanzek, J., Petscher, Y., Al Otaiba, S., & Kim, Y. S. (2014). Writing fluency and quality in kindergarten and first grade: The role of attention, reading, transcription, and oral language. *Reading and Writing*, *27*(7), 1163–1188. https://doi.org/10.1007/S11145-013-9480-1

Keraf, G. (2010). *Argumentasi dan narasi* [Argumentation and narrative]. Gramedia.

King, S. (2000). *On writing: A memoir of the craft*. Scribner.

Koster, M., Tribushinina, E., de Jong, P. F., & van den Bergh, H. (2015). Teaching children to write: A meta-analysis of writing intervention research. *Journal of Writing Research*, *7*(2), 249–274. https://doi.org/10.17239/JOWR-2015.07.02.2

Kottacheruvu, N. (2023). Developing writing skills through english short stories: A case study in the classroom. *International Journal of Language and Literary Studies*, *5*(1), 287–299. https://doi.org/10.36892/IJLLS.V5I1.1243

Kusumaningrum, S. R., Cahyono, B. Y., & Prayogo, J. A. (2019). The effect of different types of peer feedback provision on EFL students' writing performance. *International Journal of Instruction*, *12*(1), 213–224. https://doi.org/10.29333/iji.2019.12114a

Langan, J. (2001). *College writing skills with readings* (5th ed.). McGraw-Hill.

Lee, J. J., & Deakin, L. (2016). Interactions in L1 and L2 undergraduate student writing: Interactional metadiscourse in successful and less-successful argumentative essays. *Journal of Second Language Writing*, *33*, 21–34. https://doi.org/10.1016/J.JSLW.2016.06.004

Leki, I. (1998). *Academic writing: Exploring processes and strategies.* Cambridge University Press.

Li, M., Chen, Y., Zhang, L., Wu, X., & Huang, C. (2022). Investigating learners' engagement and chinese writing learning outcomes with different designs of SVVR-based activities. *Sustainability, 14*(8), 4767. https://doi.org/10.3390/SU14084767

Lin, C.-J., Hwang, G.-J., Fu, Q.-K., & Chen, J.-F. (2018). A flipped contextual game-based learning approach to enhancing efl students' english business writing performance and reflective behaviors. *Educational Technology & Society*, *21*(3), 117–131.

Lipschutz, B. D. (2010). *The use of digital storytelling to improve the effectiveness of social and conflict resolution skills training for elementary students* [Doctoral Dissertation]. Temple University. http://dx.doi.org/10.34944/dspace/1728

Markel, M. (2018). *Technical communication* (12th ed.). Bedford/St. Martin's.

Matos, F. (2021). Collaborative writing as a bridge from peer discourse to individual argumentative writing. *Reading and Writing, 34(5)*, 1321-1342. https://doi.org/10.1007/s11145-020-10117-2

McKenna, M. C., Kear, D. J., & Ellsworth, R. A. (1995). Children's attitudes toward reading: A national survey. *Reading Research Quarterly*, *30*(4), 934. https://doi.org/10.2307/748205

Miller, C. R. (1984). Genre as social action. *Quarterly Journal of Speech, 70(2)*, 151-167. https://doi.org/10.1080/00335638409383686

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *BMJ*, *339*(7716), 332–336. https://doi.org/10.1136/BMJ.B2535

Muhanif, M., Suhartono, S., & Juhana, J. (2021). Pengaruh kedisiplinan dan kreativitas terhadap keterampilan menulis siswa sekolah dasar [The influence of discipline and creativity on the writing skills of elementary school students]. *Edukatif: Jurnal Ilmu Pendidikan*, *3*(4), 1962–1973. https://doi.org/10.31004/EDUKATIF.V3I4.1046

Mulyati, Y., & Hadianto, D. (2023). Enhancing argumentative writing via online peer feedback-based essay: A quasi-experiment study. *International Journal of Instruction*, *16*(2), 195–212. https://doi.org/10.29333/iji.2023.16212a

Murray, D. M. (1985). *A writer teaches writing*. Houghton Mifflin.

Murtadho, F. (2021). Metacognitive and critical thinking practices in developing EFL students' argumentative writing skills. *Indonesian Journal of Applied Linguistics*, *10*(3), 656-666. https://doi.org/10.17509/ijal.v10i3.31752

Myhill, D. (2018). Grammar as a meaning-making resource for language development. *L1-Educational Studies in Language and Literature*, *18, Running Issue* (Running Issue), 1–21. https://doi.org/10.17239/L1ESLL-2018.18.04.04

Naber, J., & Wyatt, T. H. (2014). The effect of reflective writing interventions on the critical thinking skills and dispositions of baccalaureate nursing students. *Nurse Education Today*, *34*(1), 67–72. https://doi.org/10.1016/J.NEDT.2013.04.002

National Commission on Writing. (2004). *Writing: A ticket to work… or a ticket out: A survey of business leaders.* College Entrance Examination Board.

Ni'mah, U., Kadarisman, A. E., & Suryati, N. (2017). The roles of writing attitudes and writing apprehension in EFL learners' writing performance. *LET: Linguistics, Literature and English Teaching Journal*, *6*(2), 1-14. https://doi.org/10.18592/LET.V6I2.1459

Nugroho. (2014). *Menjadi penulis kreatif* [Becoming a creative writer]. Notebook.

Özen, N. E., & Duran, E. (2021). Developing a story writing attitude scale for secondary school students. *International Journal of Contemporary Educational Research, 8*(1), 84-93. https://doi.org/10.33200/ijcer.788115

Parmawati. (2013). *The efffectiveness of Think-Pair-Share (TPS) to teach writing viewed from students creativity* [Unpublished doctoral dissertation]. Universitas Negeri Surakarta. https://digilib.uns.ac.id/dokumen/detail/35709/The-efffectiveness-of-Think-Pair-Share-TPS-to-Teach-Writing-Viewed-From-Students-Creativity

Pham, V. P. H. (2021). The effects of collaborative writing on students' writing fluency: An efficient framework for collaborative writing. *SAGE Open, 11*(1), 1-11. https://doi.org/10.1177/2158244021998363

Plomp, R. (1990). The significance of the number of highly cited papers as an indicator of scientific prolificacy. *Scientometrics 19*, 185–197. https://doi.org/10.1007/BF02095346

Putri, N., & Aminatun, D. (2021). Using facebook to practice writing skill: What do the students think? *Journal of English Language Teaching and Learning, 2*(1), 45-50. https://doi.org/10.33365/jeltl.v2i1.852

Sadiku, L. M. (2015). The importance of four skills reading, speaking, writing, listening in a lesson hour. *European Journal of Language and Literature*, *1*(1), 29–31. https://doi.org/10.26417/EJLS.V1I1.P29-31

Sakkir, G., & Dollah, S. (2019). Measuring students' writing skills using Facebook group application in EFL context. *International Journal of Humanities and Innovation*, *2*(3), 69–74. https://doi.org/10.33750/IJHI.V2I3.43

Shulgina, G., Costley, J., Shcheglova, I., Zhang, H., & Sedova, N. (2024). Online peer editing: the influence of comments, tracked changes and perception of participation on students' writing performance. *Smart Learning Environments*, *11*(1), 30. https://doi.org/10.1186/s40561-024-00315-8

Stout, D. E. (2014). A business communication module for an MBA managerial accounting course: A teaching note. *Accounting Education*, *23*(2), 155–173. https://doi.org/10.1080/09639284.2013.847330

Sun, Y., & Lan, G. (2023). A bibliometric analysis on L2 writing in the first 20 years of the 21st century: Research impacts and research trends. *Journal of Second Language Writing*, *59*, 100963. https://doi.org/10.1016/J.JSLW.2023.100963

Syahid, A., & Qodir, A. (2021). Journal of Language and Linguistic Studies: A fifteen-year bibliometric quest for a bigger impact. *Journal of Language and Linguistic Studies*, *17*(1), 290–314.

Swales, J. M., & Feak, C. B. (2012). *Academic writing for graduate students: Essential tasks and skills.* University of Michigan Press.

Tannen, D. (1998). *The argument culture: Moving from debate to dialogue.* Random House.

Tolchinsky, L. (2016). From text to language and back again: The emergence of written language. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (2nd ed., pp. 144–159). Guilford Press.

Wale, B. D., & Bogale, Y. N. (2021). Using inquiry-based writing instruction to develop students' academic writing skills. *Asian-Pacific Journal of Second and Foreign Language Education*, *6*, 1-16. https://doi.org/10.1186/s40862-020-00108-9

Wang, Y. C. (2014). Promoting collaborative writing through wikis: a new approach for advancing innovative and active learning in an ESP context. *Computer Assisted Language Learning, 28*(6), 499–512. https://doi.org/10.1080/09588221.2014.881386

Wang, Y. H. (2017). Exploring the effectiveness of integrating augmented reality-based materials to support writing activities. *Computers & Education*, *113*, 162–176. https://doi.org/10.1016/J.COMPEDU.2017.04.013

Whai, M. K. G., Wei, W., & Man, C. K. (2013). *Writing difficulties faced by politeknik kuching sarawak commerce diploma students in doing their assignments* [Writing difficulties faced by politeknik kuching sarawak commerce diploma students in doing their assignments]. *The Asian Journal of English Language & Pedagogy*, *1,* 90-101. https://ojs.upsi.edu.my/index.php/AJELP/article/view/783

Williams, J. (2006). *Style: Lessons in clarity and grace* (8th ed.). Pearson.

Xu, L., Ding, K. & Lin, Y. (2022). Do negative citations reduce the impact of cited papers? *Scientometrics, 127*, 1161–1186. https://doi.org/10.1007/s11192-021-04214-4

Yusuf, Q., Jusoh, Z., & Yusuf, Y. Q. (2019). Cooperative learning strategies to enhance writing skills among second language learners. *International Journal of Instruction, 12*(1), 1399-1412. https://doi.org/10.29333/iji.2019.12189a