

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH

2025, Vol. 6, No. 7, 3493 – 3514

<http://dx.doi.org/10.11594/ijmaber.06.07.22>

Research Article

Code-Switching and Grammar: A Bibliometric Analysis on How Bilingual Students Use English Syntax in Writing

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Article history:

Submission 03 June 2025

Revised 31 June 2025

Accepted 23 July 2025

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ABSTRACT

Purpose. This study investigated how bilingual students employ English syntax in writing by examining code-switching practices.

Design/methodology/approach. A bibliometric analysis was conducted using Scopus-indexed articles from 1982 to 2025, employing tools such as VOSviewer and NVivo, software tools that are used to construct visuals of bibliometric connections and networks, to map trends and themes.

Findings. Results indicated that code-switching enhances grammatical development by fostering metalinguistic awareness, cognitive flexibility, and rhetorical strategy, though concerns remain about its impact on adherence to standard grammar norms in academic writing. Four major thematic clusters were identified: translanguaging pedagogy, biliteracy development, sociocultural identity, and discourse-based grammar instruction.

Practical implications. The findings can inform educators and curriculum developers on the syntactic challenges and patterns in bilingual writing and act upon them through the authorship of the school's language teaching policies.

Originality/value. This is the first bibliometric study to systematically examine the intersection of code-switching and English grammar in the academic writing of bilingual students, offering both theoretical and pedagogical contributions to multilingual education.

Word count: 9,171 words, excluding references.

Funding Statement: This research was undertaken without the benefit of external or institutional funding.

Ethical Compliance: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

How to cite:

Ravago, S. M., Quijano, V. J., & Santos, J. M. (2025). Code-Switching and Grammar: A Bibliometric Analysis on How Bilingual Students Use English Syntax in Writing. *International Journal of Multidisciplinary: Applied Business and Education Research*. 6(7), 3493 – 3514. doi: 10.11594/ijmaber.06.07.22

Data Access Statement: Research data supporting this publication are available from the <https://drive.google.com/file/d/1gFK3ekHkWKDIUQYPio3soxzCPloWknL6/view?usp=sharing>

Conflict of Interest declaration: The authors declare that they have no affiliations with or involvement in any organization or entity with any financial interest in the subject matter or materials discussed in this manuscript.

Author Contributions: Vincent Jelo F. Quijano contributed to the research by providing and gathering data, including analyzing the data presented. Shaira Mae Ravago handled the formatting of the paper, making sure it was consistent and followed the required style. Joseline M. Santos helped in gathering the necessary data using different tools and guided both researchers on how to navigate different data analysis tools.

Keywords: *Code-switching, Language mixing, Bilingualism, Bilingual students, English writing, English syntax, Grammar, Language theories*

Introduction

In multilingual societies, bilingual education has emerged as a significant strategy in fostering academic success and linguistic competence among students who speak more than one language. One of the most notable phenomena observed within bilingual education settings is code-switching or alternating between two or more languages within a discourse or communicative context. In classroom environments, especially those involving instruction in English as a second language (ESL), students often switch between their native language and English, consciously or unconsciously, to facilitate understanding, express complex ideas, or accommodate gaps in vocabulary. While it can serve as a tool for scaffolding learning, concerns have also been raised about its potential impact on grammatical accuracy and syntactic development in English writing. In this context, examining the influence of code-switching on English writing grammar is timely and crucial in refining teaching approaches and language policies within bilingual education frameworks.

Previous research into code-switching has addressed its occurrence across various domains of language learning, with particular attention given to spoken communication and classroom interaction. However, there is a

growing body of literature that explores its impact on written language, particularly in the context of academic writing. For instance, Canagarajah (2011) emphasized that bilingual writers often deploy code-switching as a rhetorical strategy to assert identity and negotiate meaning within their texts. This translingual practice can be empowering, especially for students who navigate multiple linguistic and cultural affiliations. Similarly, García and Wei (2014) introduced the concept of translanguaging, a pedagogical approach that views various languages as an asset rather than a hindrance to language development. They argue that when students can switch between languages fluidly, they can better process content, express complex ideas, and engage critically with texts. However, while the sociolinguistic value of code-switching is increasingly recognized, concerns remain about its effect on mastering standard English grammar, especially in formal academic writing. Studies such as those by Nero (2005) and Young (2014) suggest that habitual code-switching may lead to fossilization of non-standard syntactic forms, affecting students' ability to conform to academic writing conventions in English.

Moreover, the mental impact of code-switching has been a subject of extensive investigation in psycholinguistics. Research in this

area typically focuses on how bilingual individuals manage multiple linguistic systems within the brain, particularly during tasks that require linguistic production and comprehension. Bialystok (2009) found that bilingualism, including the ability to code-switch, enhances certain executive functions such as task-switching, inhibition, and working memory. However, other studies, such as those by Kroll and Bialystok (2013), indicate that constant shifting between languages might also lead to interference, especially in contexts requiring strict adherence to one language's grammatical norms. The dual activation of linguistic systems during the writing process may result in grammatical errors that reflect structures from the students' first language (L1), indicating a form of syntactic transfer or cross-linguistic influence. Therefore, understanding the cognitive underpinnings of code-switching is essential for assessing its potential benefits and drawbacks in developing English writing proficiency among bilingual students.

Language policy also plays a crucial role in shaping how code-switching is addressed in educational settings, particularly in the teaching of English writing. In many contexts, English-only policies prevail, emphasizing immersion and strict target language use. These policies are often based on the assumption that exclusive exposure to English fosters greater linguistic competence. However, such approaches have been criticized for marginalizing students' linguistic identities and disregarding the natural dynamics of bilingual communication. Scholars such as Cummins (2007) and Hornberger (2005) advocate for more inclusive policies that validate students' home languages and recognize the pedagogical value of code-switching. Integrating code-switching into writing instruction, whether as a brainstorming tool, a means of accessing prior knowledge, or a bridge to more complex English expressions, may enhance engagement and comprehension. Nonetheless, these pedagogical benefits must be balanced against the need for students to master formal written English, particularly for academic and professional success. Therefore, educational institutions and language educators face the challenge of

navigating these tensions through thoughtful, evidence-based language policies.

Given the complexity of code-switching's role in bilingual writing development, this study aims to conduct a bibliometric analysis to systematically examine the existing literature on the influence of code-switching on English writing grammar among bilingual students. Bibliometric analysis, which involves a quantitative assessment of published literature using citation data, provides a valuable method for identifying trends, gaps, and key contributors in a research field. By applying bibliometric methods, this study seeks to map the intellectual landscape of scholarship on this topic, highlight influential works and emerging themes, and offer insights into how researchers have approached the intersection of bilingualism, code-switching, and writing instruction. Specifically, this study will investigate the frequency and context of grammatical concerns in code-switching research, assess studies' regional and disciplinary distribution, and identify methodological patterns that characterize this body of literature.

To summarize, this study intends to answer the following questions:

1. What grammatical patterns emerge when bilingual students code-switch in English writing?
2. How do different writing contexts (academic, creative, and digital) influence the syntax choices of bilingual students?
3. What language cognitive theories are involved when bilingual students transition between languages in writing?
4. How do teachers perceive and address code-switching in bilingual students' writing?
5. How do bilingual students justify their grammatical choices when incorporating code-switching into their writing?

Ultimately, the findings of this bibliometric study will contribute to a more nuanced understanding of how code-switching influences English writing grammar, both positively and negatively. It will also provide a foundation for developing pedagogical strategies that leverage bilingual students' cognitive and linguistic strengths while supporting their mastery of academic English writing. By shedding light on

the research landscape through bibliometric analysis, the study aims to bridge theoretical insights with practical implications for educators, policymakers, and language learners in multilingual educational settings.

Methodology

This study employs a bibliometric analysis to examine scholarly literature on the influence of code-switching on the English writing grammar of bilingual students. The methodology aims to map the intellectual structure of existing research, identify prevailing trends, and determine the most influential works, authors, and themes in this domain. According to Aria & Cucurullo (2017), bibliometric analysis is a powerful quantitative method that uses statistical and computational techniques to assess academic publications, citation patterns, and keyword co-occurrence, offering a panoramic view of the research landscape.

To collect relevant data, the Scopus database was selected as the primary source of indexed scholarly materials due to its comprehensive coverage and robust search functionalities. The search was conducted using a carefully structured Boolean search string: "Code-Switching" OR "Language Switching" AND "Academic Writing" AND "Bilingual Students". This combination of keywords was chosen to ensure the inclusion of articles that specifically address the intersection of language alternation, bilingual student populations, and the development of English writing skills. Only articles published between the years 1980 and 2025 were included to reflect the earliest information regarding this language phenomenon until the most recent and relevant research developments in the field. Additional filters were applied to limit the subject area to social science, the document type to articles, and the language to English to maintain consistency in the data and ensure relevance to educational research.

After applying the search parameters, the final dataset consisted of 121 English-language articles. These records were then exported and analyzed using VOSviewer, a widely used bibliometric visualization software that enables the construction and graphical representation of bibliometric networks. VOSviewer facilitates

co-authorship analysis, co-citation mapping, and keyword co-occurrence clustering, allowing for a nuanced understanding of the structure and dynamics of the literature. Through VOSviewer, visual networks were generated to explore how themes related to code-switching and English syntax in bilingual writing are clustered and interconnected.

The bibliometric analysis was structured around three primary dimensions: citation analysis, co-citation analysis, and co-word analysis. Citation analysis was conducted to identify the most frequently cited works in the field, thereby highlighting foundational and highly influential studies that have shaped scholarly discourse. Co-citation analysis was employed to explore intellectual linkages among studies, revealing thematic clusters and academic subfields within literature. This method enabled the identification of four dominant research clusters, each emphasizing distinct aspects such as translanguaging pedagogy, sociolinguistic identity, biliteracy development, and digital multimodal composition. Co-word analysis, meanwhile, examined the frequency and relationships among keywords, identifying emerging themes and research trends. This layer of analysis uncovered the prominence of concepts such as writing, language learners, translanguaging, bilingual education, and sociocultural perspectives, all central to discussions about grammar development in bilingual writing.

The use of VOSviewer in this study allows for a robust visualization of bibliometric data and supports the interpretive analysis of how code-switching is situated in research on bilingual writing and grammar. Through this tool, the network maps of citations and keywords revealed not only the density and strength of scholarly connections but also the evolution of research focus over the selected period. The maps also identified leading contributors and institutions, suggesting where the scholarly momentum and influence are concentrated globally.

This methodological approach ensures a comprehensive and systematic examination of how code-switching has been addressed in recent literature on bilingual students' writing.

It not only foregrounds the academic conversation around bilingualism and English grammar but also informs educators, researchers, and policymakers about the most relevant frameworks and pedagogical strategies in addressing linguistic diversity in writing instruction. As a

result, this study contributes both a meta-analytical understanding of current research and a foundation for future empirical investigations into the grammatical implications of code-switching in academic English writing.

2.1 Search Strategy and Data Collection

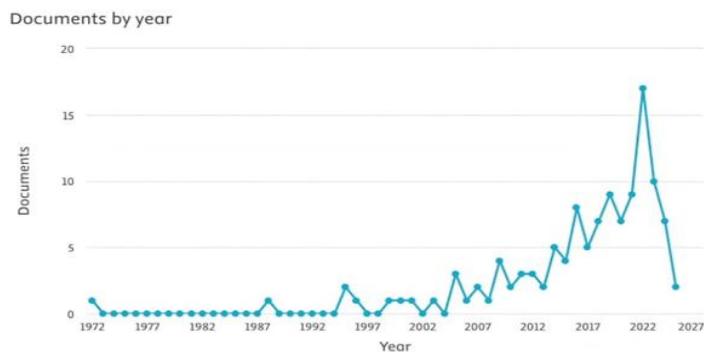
Table 1: Search string used for database search

Keyword	Justification
Code-Switching OR "Language Switching"	To identify literature on the influence of code-switching on bilingual students' English writing syntax
AND	
"Academic Writing"	
AND	
"Bilingual Students"	

Results and analysis

This section presents the key findings derived from a bibliometric analysis of 121 documents related to code-switching in the English writing of bilingual students. The findings demonstrate the temporal evolution and trends in scholarly publications, pinpoint the most frequently cited works that have substan-

tially shaped the discipline, and reveal the intellectual framework of the research domain through co-citation and co-word analytical approaches. These findings provide valuable insights into how code-switching influences the English writing and English syntax and grammar of students who are engaging in two different languages.



Source: Scopus

Figure 1. Number of publications and citations

The Scopus trend analysis of 121 documents on code-switching in English writing of bilingual students from 1980 to 2025 in Figure 1 shows an increasing interest regarding code-switching incorporated in writing. In 1987, the surfacing of code-switching or language switching in writing began with

approximately 3 documents. The following decades illustrated a consistent ascent of the graph on code-switching, retaining its demand up until the recent year.

The year 2017 kickstarted the higher numbers for English writing of bilingual students,

with an approximate 8 documents in total. The trend continues to rise between 2017 and 2024, indicating sustained academic engagement with additional access to technology and online resources to gather the necessary data and literature.

The trend reached its peak in 2024, with over 15 publications. This implies that further research on code-switching reveals that it plays a valuable role in the English writing development of bilingual students. Rather than being a sign of confusion, code-switching is a strategic tool that helps students express complex ideas, draw on their full linguistic resources, and enhance metalinguistic awareness.

Overall, research on code-switching in English writing grammar of bilingual students has grown significantly, peaking in 2025 with a noticeable demand on topics such as code-switching and bilingualism. The

significant drop in 2025 permits further investigation to determine whether it has something to do with a temporary data gap, a recent shift of the calendar year, or the decline of the linguistic phenomenon. Further bibliometric analyses of leading authors, institutions, and research themes could provide deeper insights into this evolving field.

Citation analysis

By applying document citation analysis, Table 2 presents the highest-cited publications within the dataset. The top three most frequently cited works were Velasco et al. (2014) with 295 citations, De Los Rios (2017) with 110 citations, and Smith (2021) with 94 citations. These citations indicate the influence and relevance of these studies to the academic community.

Table 2. Top 10 highest-cited documents

No	Authors	Title	Citations
1	Velasco et al. (2014)	Translanguaging and the Writing of Bilingual Learners	295
2	De Los Rios (2017)	Toward a corridista consciousness: Learning from one transnational youth's critical reading, writing, and performance of Mexican corridos	110
3	Smith (2021)	Emergent Bilingual Students and Digital Multimodal Composition: A Systematic Review of Research in Secondary Classrooms	94
4	Seltzer (2019)	Performing ideologies: Fostering raciolinguistic literacies through role-play in a high school English classroom, <i>Journal of Adolescent and Adult Literacy</i>	79
5	Rowe (2018)	Say It in Your Language: Supporting Translanguaging in Multilingual Classes	71
6	Soltero-Gonzales (2012)	Changing teachers' perceptions about the writing abilities of emerging bilingual students: Towards a holistic bilingual perspective on writing assessment, <i>International Journal of Bilingual Education and Bilingualism</i>	32
7	Bauer (2017)	Writing through partnership: Fostering translanguaging in children who are emergent bilinguals	62
8	Kibler (2010)	Writing through two languages: First language expertise in a language minority classroom	59
9	Brisk (2010)	"We've Let Them in on the Secret": Using SFL Theory to Improve the Teaching of Writing to Bilingual Learners	48

No	Authors	Title	Citations
10	Athanases (2019)	Exploring Linguistic Diversity from the Inside Out: Implications of Self-Reflexive Inquiry for Teacher Education	31

Trends and Emerging Themes in Bilingual Education

The top-cited studies on code-switching in bilingual education collectively underscore its multifaceted role in enhancing language acquisition, cognitive development, and pedagogical effectiveness. Velasco et al. (2014) highlight how translanguaging practices empower bilingual learners to navigate complex writing tasks by drawing upon their full linguistic repertoire. Kharkhurin and Wei (2015) further this notion by demonstrating that habitual code-switching correlates with increased creativity, suggesting that bilingual individuals' ability to switch between languages may foster innovative thinking. Gort (2012) examines how young bilinguals employ code-switching during writing-related discussions, facilitating meaning-making and problem-solving across languages. Cahyani et al. (2016) explore teachers' code-switching in bilingual classrooms, revealing its pedagogical functions in clarifying concepts and managing classroom dynamics. Wang (2017) investigates how children's code-switching aids in their socialization processes, facilitating communication and cultural adaptation in bilingual environments. Gwee and Saravanan (2016) assess the extent and functions of code-switching by teachers in multilingual classrooms, emphasizing its importance in curriculum access and student-teacher rapport. Olitres (2023) explores the dual impact of code-switching on oral communication skills, noting both positive and negative effects on students' language proficiency. Quinto and Kitani (2022) investigate the perceptions of English major students and professors regarding code-switching in higher education, highlighting its role in facilitating comprehension and expression. Mortega (2022) examines how code-switching in online classrooms influences student engagement and motivation, suggesting its potential to enhance learning experiences. Grosjean (1989) challenges traditional views of bilingualism, advocating for a

more integrated understanding of bilingual individuals' cognitive and linguistic capabilities.

Citation Distribution and Implications of Code-Switching on Bilingual Students' Education

The practice of code-switching, where bilingual individuals alternate between languages within a conversation or discourse, has significant implications for the education of bilingual students. The articles you've mentioned provide valuable insights into how code-switching and translanguaging (the fluid use of multiple languages in communication) affect bilingual learners' writing development and educational experiences.

The study's translanguaging in writing development by Velasco and García (2014) explores the role of translanguaging in the academic writing of bilingual students. They analyze written texts from young bilingual writers, highlighting how translanguaging serves as a self-regulating mechanism during the writing process. Their findings suggest that allowing students to use their full linguistic repertoire during writing enhances their ability to plan, draft, and produce texts more effectively. This approach not only supports the development of writing skills but also fosters a stronger sense of voice and identity in students' work.

Bauer, Presiado, and Colomer (2017) examine how peer partnerships in a dual-language classroom setting can promote translanguaging among emergent bilinguals. By pairing students strategically, the study creates an environment where students feel safe to take linguistic risks and engage in translanguaging. The findings indicate that such an environment benefits emergent bilinguals by valuing their home languages and encouraging flexible language use, leading to improved writing skills and academic development.

The synthesis of these studies reveals several emerging trends in bilingual education:

Translanguaging as a Pedagogical Strategy: Educators are increasingly recognizing the value of translanguaging in facilitating bilingual students' writing and comprehension skills; Cognitive Benefits of Code-Switching: Research indicates that habitual code-switching can enhance cognitive flexibility and creativity among bilingual individuals; Teacher-Led Code-Switching: Teachers' strategic use of code-switching is seen as an effective tool for clarifying concepts and engaging students in bilingual classrooms; Code-Switching in Digital Learning Environments: The integration of code-switching in online education settings is being explored to improve student interaction and motivation and Cultural and Linguistic Identity: Studies emphasize the role of code-switching in expressing and negotiating bilingual students' cultural and linguistic identities.

Co-citation analysis on Code-Switching in English Writing

The top 10 most co-cited documents in the field of bilingual education and code-switching reflect a deeply interconnected scholarly landscape focused on translanguaging, biliteracy, sociolinguistic equity, and emergent bilingual writing. These works have high total link strength in co-citation networks, indicating their foundational status and widespread influence on contemporary research, especially regarding the impact of code-switching on bilingual students' English writing.

At the core of this scholarly network is García's (2009) *Bilingual Education in the 21st Century*, which sets the groundwork for understanding bilingualism as a dynamic, socially situated practice. Her later collaboration with Li Wei (2014) further develops this idea through

Translanguaging: Language, Bilingualism and Education, presenting translanguaging as both a pedagogical strategy and a lens to view bilingualism as fluid and identity-affirming. These ideas directly influence studies such as Velasco and García (2014), which explore how translanguaging supports bilingual students' writing development, allowing them to draw on their full linguistic resources.

Additionally, Edelsky (1986) and Gort (2006) provide empirical grounding through classroom-based research that illustrates how code-switching and interliteracy naturally emerge in bilingual writing tasks. Meanwhile, Flores and Rosa (2015) introduce the concept of raciolinguistic ideologies, challenging deficit perspectives on bilingual students' language practices and arguing that these students are often judged against monolingual norms of "appropriateness."

In similar studies, the works of Escamilla et al. (2014) and August & Shanahan (2006) focus on biliteracy and literacy instruction for second-language learners, with Escamilla's Literacy Squared model showing how bilingual writing develops holistically across two languages. In parallel, Grosjean's (1989) seminal warning, "The bilingual is not two monolinguals in one person," has become a rallying point for rejecting outdated dichotomies in bilingual research.

Together, these co-cited works represent key trends and emerging themes: The shift from monolingual bias to a translanguaging paradigm, the integration of sociocultural and raciolinguistic perspectives in bilingual education, A growing emphasis on biliteracy from early education, and the recognition of code-switching as strategic, not problematic, in bilingual writing.

Table 3. Top 10 documents with the highest co-citation and total link strength

Documents	Citation	Total link strength
Garcia O., Bilingual Education in the 21 st century: A Global Perspective, (2009)	13	16
Garcia O., Wei L., Translanguaging: A Language, Bilingualism, and Education, (2014)	12	15
Velasco P., and Garcia O., Translanguaging and the Writing of Bilingual Learners, (2014)	10	10

Documents	Citation	Total link strength
Edelsky C., Writing in a bilingual program: Habia una vez., (1986)	8	9
Flores N., Rosa J., Undoing appropriateness: Raciolinguistic ideologies and language diversity in education, (2015)	7	8
Escamilla K., Hopewell S., Butvilofsky S., Sparrow W., Soltero-Gonzalez L., Ruiz-Figueroa O., Escamilla M., Biliteracy from the Start: Literacy Squared in Action, (2014)	5	7
Grosjean F., Neurolinguists, beware! The bilingual is not two monolinguals in one person, (1989)	5	7
Grosjean F., Neurolinguists, beware! The bilingual is not two monolinguals in one person, (1989)	5	7
August D., Shanahan T., Developing literacy in second-language learners: Report of the national literacy panel on language-minority children and youth, (2006)	5	5
Gort M., Strategic codeswitching, interliteracy, and other phenomena of emergent bilingual writing: Lessons from first grade dual language classrooms, (2006)	6	5

Source: Author interpretation based on VOSviewer analysis

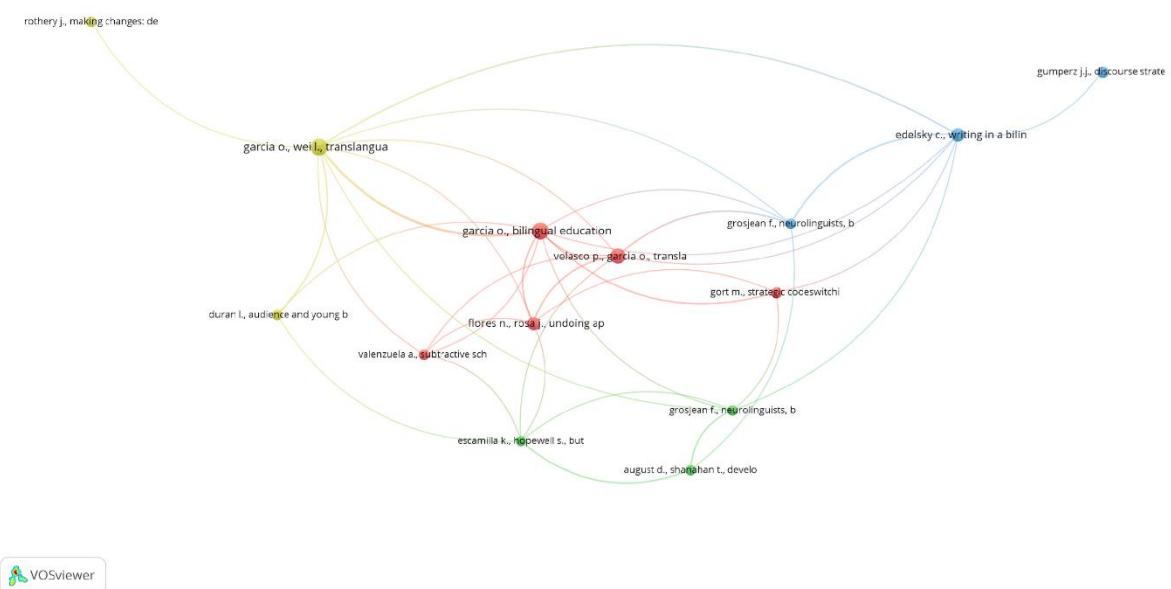


Figure 2. Co-citation analysis on the Influence of Code-Switching on English Writing Grammar of Bilingual Students

Based on network visualization, co-citation analysis produced four distinct clusters. Figure 2 shows the network structure of co-citation analysis. Each cluster was labelled and characterized based on representative publications according to the author's inductive interpretation and understanding based on the four clusters.

The co-citation analysis visualized in the image reveals how various scholars and themes cluster together in the study of code-switching and its influence on the English writing and grammar of bilingual students. Each color represents a thematic cluster of frequently co-cited works, pointing to shared academic conversations and influences.

The red cluster dominated by García (2009) centers on critical perspectives in bilingual education. Combining the authors in this cluster, raciolinguistic ideologies, translanguaging, and sociocultural factors create the center theme of the cluster. The green cluster led by Escamilla et al. (2014) focuses on the developmental, cognitive, and pedagogical aspects of bilingual students' literacy and grammar acquisition. Combining the authors in this cluster, the scholars provide empirical support for how code-switching and bilingualism enhance cognitive flexibility, grammar skills, metalinguistic awareness, and development of writing ability.

The blue cluster, prominently dominated by Edelsky (1986), explores sociolinguistic theory and discourse analysis in bilingual writing. Combining the authors' ideation in this cluster, the studies investigate how context, audience, and power shape language use and literacy practices in multilingual classrooms. The yellow cluster, dominated by García and Wei (2014), emphasizes classroom-based approaches to bilingual writing. Combining the author's idea in this cluster, there are inclusions of genre theory, authentic writing practices, and writing for varied audiences. They focus on instructional strategies that make space for students' home languages and cultural knowledge.

Together, these clusters illustrate that the influence of code-switching on English writing and grammar among bilingual students is multifaceted, rooted in critical theory, cognitive development, sociolinguistics, and pedagogical practice. Each cluster brings a unique lens to how code-switching not only supports language development but also affirms identity and challenges dominant norms in writing education.

- Cluster 1 (Red): Cluster 1 includes raciolinguistic ideologies, translanguaging, and bilingual education. Led by García (2009), bilingualism in language introduces translanguaging as both a theory and a practice, framing bilingual students' language use as dynamic and interdependent rather than separate. Flores and Rosa (2015) critique dominant language ideologies that equate "appropriate" English with whiteness and monolingual norms, an

aspect that heavily affects socioculturalism in code-switching. In the context of your research, Gort (2006) explores how young bilingual learners use code-switching strategically in writing, revealing a sophisticated understanding of audience, content, and grammar. Valenzuela (1999) critiques the Western education system's tendency to devalue the cultural and linguistic knowledge of Mexican American students. Lastly, Velasco and García (2014) provide direct examples of how bilingual students incorporate translanguaging into their writing, blending languages in syntactically meaningful ways. Their works focus on challenging traditional norms in English grammar and writing, advocating for code-switching and translanguaging as legitimate and powerful strategies in bilingual writing pedagogy.

- Cluster 2 (Green): Cluster 2 supports a developmental view of bilingual writing. Escamilla et al. (2014), leading study in the green cluster, presents the Literacy Squared model, a pedagogical framework that promotes the development of biliteracy, simultaneous literacy in both English and a student's native language. August and Shanahan (2006) synthesize research on the literacy development of language-minority students, emphasizing the unique challenges and strengths of bilingual learners. While Grosjean (1989) challenges the misconception that bilinguals function as two monolinguals in one brain. Their work emphasizes bilingual cognitive processes, the benefits of biliteracy, and how code-switching can scaffold English grammar acquisition.
- Cluster 3 (Blue): Cluster 3 includes foundational voices in discourse analysis and sociolinguistics in connection to language switching in writing. Led by Edelsky (1986), her ethnographic study explores how bilingual students write in both English and Spanish within a dual-language classroom. Grosjean's (1989) influential article challenges traditional views of bilingualism, arguing that bilinguals use language in context-sensitive and unified ways. Lastly, Gumperz's (1982) sociolinguistic work on

code-switching as a discourse strategy is foundational in understanding how language functions in interaction. Their work helps frame code-switching as a contextual, interactional practice that shapes writing conventions and narrative structures, especially in bilingual environments.

- Cluster 4 (Yellow): Cluster 4 features external factors that influence bilingual students' writing. Dominated by Garcia and Wei (2014), the study emphasizes translanguaging as a fluid, dynamic process through which bilingual individuals draw on their full linguistic repertoire in communication. Rothery (1999) addresses

how educational practices can be informed by an understanding of linguistics, focusing on language development and the role of education in shaping linguistic practices. Lastly, Duran (2017) explores the importance of leveraging bilingual students' linguistic strengths, particularly in a writing context. This cluster reflects a pedagogical focus on genre, audience, and classroom writing practices. These works examine how code-switching can be harnessed to teach grammar and writing more effectively, especially when students write for authentic audiences or use varied genres.

Table 4. Co-citation clusters on the Influence of Code-Switching on English Writing Grammar of Bilingual Students

Cluster	Cluster label	Number of articles	Representative publications
1 (Red)	Critical Approaches to Bilingual Education: Raciolinguistic Ideologies, Translanguaging, and Equity	5	Flores N., & Rosa J. (2015), Garcia O. (2009), Gort M. (2006), Valenzuela A. (1999), Velasco P., & Garcia O. (2014)
2 (Green)	Biliteracy Development and Inclusive Literacy Practices for Bilingual Learners	3	Velasco P., & Garcia O. (2014), Escamilla K., Hopewell S., Butvilofsky S., Sparrow W., Soltero-Gonzalez L., Ruiz-Figueroa O., & Escamilla M. (2014), Grosjean F. (1989)
3 (Blue)	Holistic Perspectives on Bilingualism and Discourse in Educational Contexts	3	Edelsky C. (1986), Grosjean F. (1989), Gumperz J.J (1982)
4 (Yellow)	Translanguaging and Educational Linguistics: Empowering Bilingual Writers	3	Duran L. (2017), Garcia O., & Wei L. (2014), Rothery J. (1996)

Cluster 1 (Red) “Critical Approaches to Bilingual Education: Raciolinguistic Ideologies, Translanguaging, and Equity” critiques traditional perspectives on bilingual education by foregrounding how raciolinguistic ideologies shape educational practices and student experiences. Flores and Rosa (2015) argue that dominant language ideologies pathologize the language practices of racialized bilingual students by framing them as deficient compared to monolingual norms. This lens, known as the raciolinguistic perspective, calls for reimagining language assessment and pedagogy to challenge these systemic biases. García (2009) extends this critique by introducing

translanguaging, a pedagogical and theoretical approach that recognizes the fluid linguistic repertoire of bilinguals rather than categorizing their language use into fixed codes. In educational spaces, translanguaging allows students to leverage their full linguistic resources, challenging the deficit views imposed by rigid language policies.

Furthermore, Velasco and García (2014) explore translanguaging within writing instruction, illustrating how bilingual students effectively draw from their entire linguistic repertoire to construct meaning, thereby defying grammar norms rooted in monolingual ideologies. Gort (2006) similarly emphasizes the

importance of sociocultural contexts in bilingual writing, advocating for instructional practices that value linguistic diversity rather than constrain it. Valenzuela (1999) adds a critical sociological layer, examining how subtractive schooling marginalizes Mexican American youth by devaluing their cultural and linguistic backgrounds, perpetuating academic inequities.

Together, these works synthesize a powerful critique of the monolingual bias in education and provide a framework for more equitable, culturally sustaining pedagogies. They collectively argue that understanding bilingual students' grammar and writing through translanguaging practices and raciolinguistic awareness is crucial for fostering genuine educational equity.

Cluster 2 (Green) "Biliteracy Development and Inclusive Literacy Practices for Bilingual Learners" focuses on how biliteracy development and inclusive literacy practices shape the writing and grammatical development of bilingual students, especially within the context of code-switching. At the core is a call to move beyond monolingual instructional norms and embrace pedagogies that recognize bilingualism as an asset. Grosjean's (1989) seminal work dismantles the "two monolinguals" myth, asserting that bilinguals use their languages in integrated, dynamic ways. This perspective challenges the deficit view of code-switching and reframes it as a natural, functional aspect of bilingual communication.

Building on this, Escamilla et al. (2014) present the Literacy Squared model, which emphasizes simultaneous biliteracy development in both Spanish and English. Their research highlights how students' use of code-switching in writing can reflect a deep understanding of both languages, rather than interference. Through authentic bilingual literacy practices, students are better able to develop grammatical accuracy and fluency in both languages. Code-switching, in this model, becomes a bridge for metalinguistic awareness, not a barrier to English proficiency.

Similarly, August and Shanahan (2006), in their comprehensive review, underscore that effective literacy development in second-

language learners is most successful when instruction builds upon the learner's first language. They advocate for pedagogical practices that integrate both linguistic systems, which can enhance grammatical development and writing skills in English.

Together, these works advocate for inclusive, asset-based literacy instruction. They demonstrate that supporting bilingual learners' entire linguistic repertoire, including code-switching, fosters richer grammatical understanding and more meaningful writing development.

Cluster 3 (Blue) Holistic Perspectives on Bilingualism and Discourse in Educational Contexts presents a holistic and discourse-oriented view of bilingualism, emphasizing the integrated, context-dependent nature of language use among bilingual students. The foundational work by Grosjean (1989) challenges the "monolingual bias" by arguing that bilinguals are not simply two monolinguals in one body. Instead, they operate from a unified linguistic system, dynamically drawing on their full repertoire depending on context. This insight is crucial for understanding code-switching in writing, as it reframes it not as interference, but as a strategic and natural bilingual behavior.

Similarly, Edelsky (1986), in her study of a bilingual writing program, demonstrates how bilingual students engage in rich, meaningful literacy practices when they are allowed to use both languages fluidly. Her findings support the idea that writing development cannot be fully understood through rigid grammatical frameworks alone. Instead, students' bilingual identities and discourse strategies must be central to how writing and grammar are assessed and taught.

Moreover, Gumperz (1982) contributes a sociolinguistic lens through his theory of discourse strategies, emphasizing how language choices—such as code-switching—are socially and contextually driven. His work underscores that language use in classrooms is deeply tied to interactional meaning-making and that code-switching serves rhetorical and relational functions in educational discourse.

Together, these works in Cluster 3 advocate for viewing bilingualism through a discourse- and context-sensitive framework. They emphasize the importance of embracing bilingual students' linguistic realities in educational settings to better support their writing development and grammatical competence.

Cluster 4 (Yellow) "Translanguaging and Educational Linguistics - Empowering Bilingual Writers" emphasizes the transformative potential of translanguaging and educational linguistics in supporting and empowering bilingual writers. Central to this cluster is García and Wei's (2014) groundbreaking work on translanguaging, which reconceptualizes bilingualism as the fluid, dynamic use of an integrated linguistic repertoire. They argue that bilingual students do not switch between separate language systems but instead mobilize all their linguistic resources to construct meaning. This perspective challenges rigid English-only approaches, advocating for inclusive pedagogies that recognize translanguaging as essential to bilingual students' academic and grammatical development.

Building on this, Durán (2017) focuses on how bilingual students engage audiences in writing by drawing on their cultural and linguistic strengths. His research shows that when students are allowed to write for authentic purposes and audiences use both languages, their writing becomes more meaningful,

grammatically accurate, and rhetorically powerful. Durán's work reinforces the idea that translanguaging supports both the cognitive and communicative aspects of grammar in bilingual writing.

Moreover, Rothery (1996) adds a theoretical dimension by calling for the development of educational linguistics, a discipline that bridges linguistic theory with pedagogical practice. Her contribution to systemic functional linguistics provides tools to analyze how meaning is made in texts, which aligns with translanguaging as a meaning-making practice. Together, these works argue for a shift in writing instruction: from correction and conformity to empowerment and expression.

Overall, Cluster 4 highlights how embracing translanguaging and educational linguistics fosters deeper grammar learning and positions bilingual students as competent, creative authors.

Co-word analysis

A co-word analysis was applied to the same database. From the 121 keywords, 10 met the minimum of five occurrences, resulting in four clusters. The keywords with the highest co-occurrence were writing (83), language learners (37), and human (35). Table 5 summarizes the top 15 co-occurring keywords with their number of occurrences and total link strength.

Table 5. Top 15 keywords in the co-occurrence of keywords analysis

Ranking	Keyword	Occurrences	Total link strength
1	Writing	20	83
2	Language Learners	4	37
3	Human	5	35
4	Childhood	3	31
5	Instructional Strategies	3	31
6	Methods and Materials	3	31
7	English Language Learners	4	30
8	English Learners	5	25
9	Language	5	25
10	English as Second Language	3	24
11	Humans	3	23
12	Adolescent	4	22
13	Language (L1, L2, etc.) < Language Learners	2	22

Ranking	Keyword	Occurrences	Total link strength
14	Second-Language Learners < Language Learners	2	22
15	Sociocultural < Theoretical Perspective	2	22

The co-word analysis of the top 15 keywords provides a structured view of key thematic intersections in research on the Influence of Code-Switching on English Writing Grammar of Bilingual Students. The most frequent and strongly linked term, "Writing" (20 occurrences, 83 total link strength), indicates that written expression is the core research focus. Its centrality suggests a consistent interest in how bilingual and multilingual learners navigate writing in academic contexts, particularly regarding grammar and syntactic accuracy.

Building upon this foundation, keywords such as "Language Learners" (4, 37), "English Language Learners" (4, 30), "English Learners" (5, 25), and "Second-Language Learners" (2, 22) show the central role of learner identity in this body of work. These terms often co-occur with pedagogical concepts, highlighting an educational orientation that emphasizes the unique challenges and strengths of bilingual students.

In addition, the inclusion of "Instructional Strategies," "Methods and Materials" (each with 3 occurrences and 31 link strength) points to a focus on practical, classroom-based interventions that support bilingual writing development. These strategies are closely tied to theories of bilingual education and literacy.

Furthermore, keywords such as "Sociocultural < Theoretical Perspective" (22 link strength) suggest a theoretical grounding in sociocultural and constructivist models, reinforcing the idea that language learning is shaped by context, culture, and interaction, principles foundational to translanguaging and code-switching research.

Finally, age-specific terms like "Childhood" and "Adolescent" signal targeted studies within developmental stages, while the presence of "Language" and "English as a Second Language" underlines the broader linguistic framework of these studies.

Overall, the co-word network reveals a balanced integration of theory, pedagogy, and learner-centered inquiry.

Figure 3 presents a network map of the co-word analysis. The map produced five clusters, which were classified and labeled based on the author's inductive interpretation of the occurring words. All clusters were closely related and partially integrated.

Cluster 1 (Red) centers on terms such as bilingual education, English language learners, second language, and early childhood, emphasizing the educational frameworks and learner demographics central to bilingual instruction. Garcia (2009) emphasizes critical approaches to bilingual education. The language phenomenon of bilingualism signifies the educational tendency during the early childhood education of students. In this context, this cluster reflects the pedagogical environment where bilingual students learn to navigate between languages and underpins how institutional and academic settings shape syntactic choices and code-switching practices in writing.

Cluster 2 (Green) key terms like second language writing, spelling, phonological awareness, and assessment indicate a focus on linguistic mechanics and skill acquisition. Grosjean (1989) indicates the common misconceptions of having two independent languages operating inside one brain. However, the study emphasizes dual languages as co-existing languages in one person; hence, under the application of language mixing in one's studies, as per English subject activities, the output tends to be significantly good. This relates to analyzing how code-switching influences English syntax in various writing contexts. The emphasis on mechanics also supports how grammar instruction can be adapted for bilingual learners who code-switch.

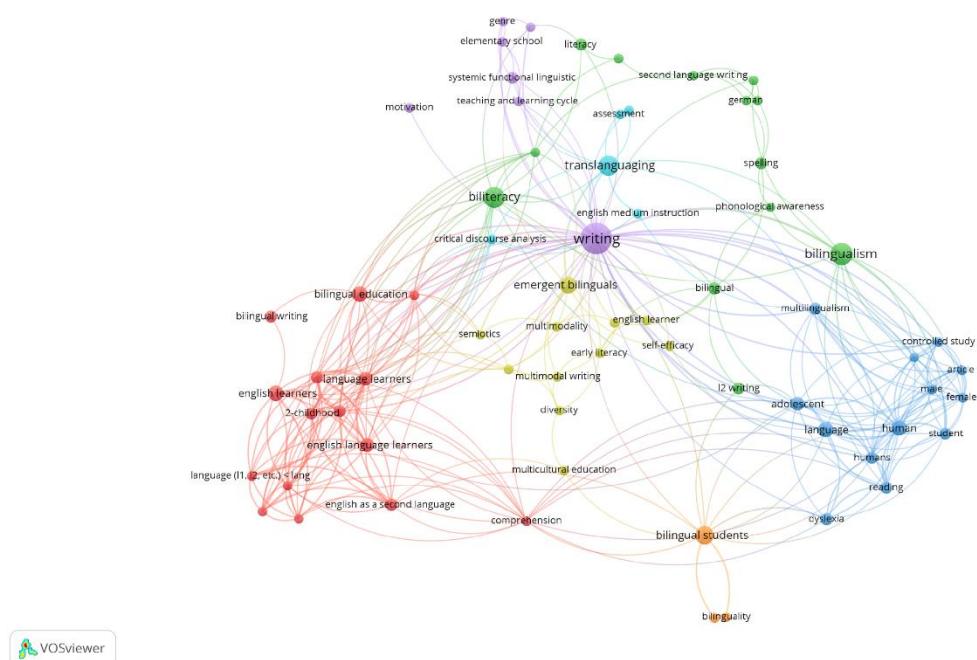


Figure 3. Co-word analysis on the Influence of Code-Switching on English Writing Grammar of Bilingual Students

Cluster 3 (Blue) includes terms like bilingualism, language, reading, adolescent, and controlled study, focusing on linguistic competence, cognitive development, and empirical analysis. Escamilia et al. (2014) focus their studies on the cognitive development of the language acquisition of the students, from their early childhood education until high school level of education, particularly in the pedagogical aspects of bilingual students' literacy. This cluster aligns well with the concurrent investigation on the cognitive processes involved in code-switching and syntactic decision-making. Moreover, this cluster suggests a strong interest in how bilingualism affects reading and language comprehension, which are foundational to written expression and grammar use. Terms like translanguaging, biliteracy, and critical discourse analysis dominate this cluster, pointing to fluid language practices and theoretical perspectives. It encompasses how students navigate between languages in writing, how they perceive and negotiate these transitions, and how syntax is shaped by the blending of linguistic systems. Translanguaging theory provides a robust lens

for interpreting the grammatical phenomena associated with code-switching

Cluster 4 (Yellow) features terms like early literacy, diversity, multimodal writing, and semiotics, which point toward varied literacy practices and identity expression. Garcia and Wei (2014) highlight the different approaches to teaching in terms of the students' writing skills, putting multilingualism and bilingualism into consideration for action plans. Sugiharto's (2015) findings on connections between

bilingualism and code-switching or language switching suggest that there is an apparent link between bilingual students engaged in code-switching and coping strategies in writing. It ties to the study's objective, which is to seek to understand students' perceptions of their grammar choices, as multimodal environments often reflect personal linguistic identities and decisions. It also focuses on connecting the theoretical and cognitive aspects of writing and language mixing, also known as code-switching.

In Cluster 5 (Orange), with terms like bilingual students, bilinguality, and multicultural education, this cluster focuses on identity,

cultural background, and student-centered perspectives. Edelsky (1986) explores sociolinguistic theories behind language mixing and analyzes a multitude of discourses to come up with conclusions about bilingualism in writing. It is especially relevant to study the main objectives, as it considers how external social factors and personal perceptions influence

grammatical choices when switching languages. The identity lens is crucial in understanding grammar as not only a technical skill but also a personal and cultural expression.

Table 6 summarizes the co-word analysis represented by the cluster label, number of keywords, and representative keywords

Table 6. Co-word analysis on the influence of code-switching on the English writing grammar of bilingual students

Cluster No and color	Cluster label	Number of keywords	Representative Keywords
1 (Red)	Code-switching in the language education of the students	15	bilingual education, bilingual writing, comprehension, english as a second language, english language learners, english learners, instructional strategies, language (l1, l2, etc.) < language learners, language learners, methods and materials, second-language learning < language learners, socio-cultural, sociocultural < theoretical perspectives, teaching strategies < strategies, methods, and materials
2 (Green)	Code-switching on the English syntax of the students	13	bilingual, bilingualism, biliteracy, classroom interaction, discourse analysis, german, l2 writing, literacy, orthography, phonological awareness, second language writing, spelling, turkish
3 (Blue)	Code-switching on cognitive development and language acquisition	18	adolescent, article, controlled study, dyslexia, female, human, human experiment, humans, language, male, multilingualism, reading, students, assessment, critical discourse analysis, english medium instruction, language ideologies, translanguaging
4 (Yellow)	Code-switching in developing students' writing skills	7	elementary school, genre, motivation, systemic functional linguistics, writing, teacher education, teaching and learning cycle
5 (Orange)	Sociolinguistics on the enactment of Code-Switching	14	diversity, early literacy, english learner, multicultural education, multimodal writing, multimodality, new literacies, self-efficacy, semiotics, translingual, bilingual students, bilinguality, coping strategies

Implications of the Study

The findings of this bibliometric analysis offer important insights into both the theoretical and practical relevance of code-switching in bilingual students' English writing. Language

advancements transcended traditional teaching methodologies in terms of English writing and grammar, considering not just the first language, but also the second language of the students in teaching. This study contributes to the

academic community in terms of understanding the language phenomenon of code-switching and bilingualism in classroom settings. This is also beneficial to the academic institutions in deriving school policies or instructional policies regarding the handling of bilingual students in teaching English literacy skills. The following section outlines the key theoretical and practical implications of this analysis.

Theoretical Implications

The findings of this bibliometric analysis offer significant theoretical contributions to the fields of bilingual education, sociolinguistics, applied linguistics, and language acquisition. Most notably, the study reinforces the growing shift from monolingual, deficit-based models of language learning to dynamic, integrative, and asset-based frameworks such as translanguaging theory, raciolinguistic perspectives, and sociocultural learning theory. The co-citation clusters and keyword analyses consistently reveal that bilingual students' use of code-switching is not indicative of linguistic confusion or interference but rather a complex, strategic, and context-sensitive cognitive process that bridges multiple linguistic systems.

One key implication centers on the theoretical validation of translanguaging as both a pedagogical and cognitive framework. As revealed by works like García and Wei (2014) and Velasco and García (2014), bilingual students draw on their full linguistic repertoire to enhance their writing fluency and grammatical accuracy. This supports the notion that language systems in bilingual minds are not compartmentalized but function as an integrated resource. Translanguaging theory challenges rigid language boundaries and prescriptive grammar norms, highlighting instead how students fluidly navigate between languages to make meaning, particularly in writing. This challenges the traditional assumption that grammatical competence in English must develop independently of the students' native language(s).

Furthermore, the sociocultural theory of learning, particularly Vygotsky's emphasis on social interaction and scaffolding, is strongly reflected in the analysis. The prominence of keywords such as "classroom interaction,"

"peer feedback," and "teaching strategies" suggests that grammatical development in bilingual writing is deeply influenced by the learning context. Code-switching is shown to function as a tool of mediation, facilitating metalinguistic awareness, syntactic experimentation, and meaning negotiation. Thus, theoretical models of language acquisition must extend beyond individual cognition to encompass socially situated language practices.

The co-word and cluster analyses also underscore the role of Systemic Functional Linguistics (SFL) in reframing grammar as a resource for meaning-making rather than a rigid set of prescriptive norms. As seen in the studies by Brisk (2010) and Rothery (1996), code-switching within writing is not necessarily a grammatical deficiency but a manifestation of genre adaptation, audience awareness, and rhetorical strategy. This supports a genre-based, functional approach to grammar instruction that aligns more closely with how bilingual writers naturally organize their thoughts and linguistic choices.

Additionally, this bibliometric analysis contributes to bilingual cognitive theory by illustrating how code-switching enhances metacognitive control and executive function. References to researchers like Grosjean (1989) and Bialystok (2009) validate that bilingual individuals possess heightened cognitive flexibility, enabling them to switch languages strategically and maintain syntactic control across different linguistic systems. Code-switching is thus framed not as a limitation, but as a demonstration of advanced cognitive-linguistic coordination, a concept that further challenges monolingual norms of grammar mastery.

In summary, the theoretical implications of this study converge on a transformative re-thinking of bilingualism and grammar in writing. Rather than viewing grammar as a fixed and monolithic system tied to a single language, the findings endorse a view of grammar as dynamic, contextual, and deeply interwoven with identity, cognition, and pedagogy. The synthesis of translanguaging, raciolinguistic, sociocultural, and systemic-functional theories provides a holistic framework for understanding how bilingual students navigate and construct grammatical meaning through code-switching.

This has far-reaching implications for how we theorize, research, and teach grammar in multilingual educational settings.

Practical Implications

The results of this bibliometric analysis yield multiple practical implications for educators, curriculum designers, policymakers, and teacher training programs, particularly in multilingual and bilingual educational settings. As the findings suggest, code-switching is not merely a linguistic occurrence but a powerful pedagogical tool that, when understood and appropriately integrated into instruction, can significantly enhance bilingual students' English writing and grammatical development.

First and foremost, the study calls for a shift in classroom pedagogical practices toward embracing code-switching and translanguaging as legitimate strategies that support bilingual learners' expression and syntactic development. Teachers are encouraged to create inclusive learning environments where bilingual students are allowed and even encouraged to draw upon their full linguistic repertoires. Writing tasks, for instance, can incorporate opportunities for students to brainstorm or draft ideas using both their first language (L1) and second language (L2), which has been shown to enhance metalinguistic awareness and writing fluency. Such an approach aligns with the findings of Velasco and García (2014), who demonstrate that bilingual students strategically use code-switching in writing to bridge conceptual gaps and enhance clarity.

Secondly, the study supports the development of biliteracy-oriented curricula, particularly in contexts where students are acquiring English as a second or additional language. Instead of enforcing rigid English-only writing policies, curriculum planners should design instructional materials and assessments that recognize the value of linguistic hybridity. Integrating bilingual texts, dual-language writing prompts, and collaborative writing activities that leverage peer-to-peer translanguaging practices can foster both confidence and grammatical accuracy. The work of Escamilla et al. (2014) underscores the importance of early and sustained biliteracy development, reinforcing the idea that supporting both

languages concurrently leads to stronger writing outcomes.

In terms of assessment practices, this analysis suggests the need for more flexible and culturally responsive evaluation frameworks. Traditional rubrics that penalize students for code-switching or syntactic variation rooted in L1 interference may inadvertently stigmatize bilingual expression and limit students' engagement with writing. Instead, assessment should be formative, focusing on growth, rhetorical effectiveness, and the students' ability to negotiate meaning across languages. Teachers should be trained to recognize the difference between productive linguistic innovation and genuine grammatical errors, especially in drafts or exploratory writing.

Another significant implication relates to teacher education and professional development. The analysis highlights the critical role of educators' beliefs and knowledge about bilingualism in shaping writing instruction. Programs that prepare ESL and content-area teachers should incorporate training in translanguaging pedagogy, systemic functional linguistics (SFL), and sociolinguistic diversity. As emphasized in the works of Athanases (2019) and Brisk (2010), self-reflexivity and a critical understanding of language ideologies are essential in equipping teachers to support bilingual learners effectively. Teachers must not only understand how grammar operates within a bilingual framework but also appreciate the socio-cultural dimensions of language use in writing.

Moreover, the findings suggest that digital tools and multimodal platforms offer promising avenues for supporting bilingual writing development. The studies of Smith (2021) and Williams (2018) show that incorporating multimodal composition, such as video, audio, and visual texts, can enhance students' engagement and allow for more flexible linguistic expression. Educators can leverage digital storytelling, blogging, and multilingual multimedia projects as platforms for students to explore their identities and practice grammatical constructions across languages in creative and authentic ways.

From a policy standpoint, the research supports advocating for linguistically inclusive language education policies. School administrators and policymakers should recognize the pedagogical value of code-switching and translanguaging and revise institutional guidelines that stigmatize non-standard English usage. Policies should explicitly allow for flexible language use in writing classrooms, especially in contexts with high linguistic diversity. This also includes providing resources for bilingual materials, hiring teachers with cross-linguistic competencies, and supporting research initiatives that explore effective strategies for multilingual writing instruction.

Lastly, this study encourages ongoing collaboration between researchers and practitioners. The insights from bibliometric mapping, including emerging themes such as biliteracy, genre-based pedagogy, digital composition, and cultural identity, should inform the development of evidence-based teaching models. Educators are urged to engage with current research, adapt proven frameworks such as the Literacy Squared model, and participate in action research to tailor writing instruction to their students' linguistic needs.

The summation is the practical implications of this bibliometric study underscore the importance of recognizing code-switching as an integral part of bilingual students' writing development. Instructional strategies that value linguistic flexibility, culturally responsive pedagogy, and student voice can bridge the gap between grammatical mastery and meaningful written expression. Embracing these practices can foster more equitable, empowering, and effective learning environments for bilingual students striving to master English writing grammar.

Conclusion, Limitations, and Future Recommendations

This bibliometric analysis has provided a comprehensive overview of the educational status concerning the influence of code-switching on the English writing grammar of bilingual students. The findings stated the recognition of code-switching not as a linguistic hindrance but as a meaningful and strategic component of bilingual students' writing

processes. Using VOSviewer and data from the Scopus database, this study identified key themes, influential authors, and prevailing theoretical frameworks that addressed code-switching, translanguaging, and English grammar development.

The analysis revealed four dominant thematic clusters through co-citation and co-word analyses, each offering unique perspectives: critical theories and raciolinguistic ideologies, biliteracy development, discourse-based approaches, and translanguaging pedagogies. These clusters reflect a view of how code-switching intersects with identity, pedagogy, grammar instruction, and cognitive development. Importantly, the study affirms that code-switching can enhance syntactic fluency, metalinguistic awareness, and overall writing competence when appropriately integrated into bilingual education settings.

In practical terms, the results suggest a need for teaching-approach innovation, teacher education reform, and more inclusive language policies that acknowledge the diverse linguistic resources students bring into the classroom. Rather than penalizing code-switching, educators and institutions are encouraged to embrace it as a tool that empowers bilingual students to express complex ideas and develop grammatically sound writing in English.

The study has its existing limitations that future scholars might address. The following are:

1. Database restriction, as the study utilized only the Scopus database for data collection. Although Scopus is comprehensive, it excludes potentially relevant articles indexed in other databases such as Web of Science, ERIC, or Google Scholar, which could offer broader insights into regional or less-cited research.
2. Keyword and time range constraints, as the search was limited to publications between 2020 and 2025 and used a specific combination of keywords. While this ensured relevance to recent studies, it may have excluded earlier foundational works or studies that used different terminologies (e.g., "language alternation" instead of "code-switching").

3. Subject area limitation, as the study focused on articles within the social sciences, which may have excluded important interdisciplinary work from linguistics, cognitive psychology, or education technology that could further inform the relationship between code-switching and grammar.
4. Language bias, as only articles published in English were included in the analysis, potentially overlooking significant contributions in other languages, especially from regions where bilingual education is prevalent.
5. Analytical scope as bibliometric analysis offers a macro-level view of research trends but does not provide in-depth qualitative insights into the actual grammatical features, classroom practices, or student experiences associated with code-switching in writing.

Considering these limitations and findings, several directions for future research are recommended:

1. Expand Database Sources: Future bibliometric studies could include multiple databases such as Web of Science, ERIC, or JSTOR to provide a more comprehensive and interdisciplinary view of the literature on code-switching and writing grammar.
2. Longitudinal and Comparative Studies: Researchers should consider longitudinal designs or comparative studies across different regions, age groups, and educational systems to examine how code-switching influences English grammar development over time.
3. Incorporate Qualitative Analyses: While bibliometric analysis identifies trends and clusters, future studies should pair it with content analysis, classroom observation, or student writing samples to provide richer insights into how code-switching specifically shapes grammatical choices in writing.
4. Investigate Policy Impacts: More research is needed to examine how institutional policies regarding language use influence students' writing development and classroom participation. Studies should explore the outcomes of inclusive versus restrictive language policies in bilingual education.

5. Focus on Teacher Training: Future investigations should assess how teacher preparation programs are equipping educators to respond to linguistic diversity, including their attitudes toward code-switching and their knowledge of translanguaging strategies.
6. Explore Technological Integration: As digital and multimodal platforms become increasingly central to education, future research should investigate how these tools can support or hinder code-switching and grammar development in bilingual writing contexts.

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