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Mapping the Evolution of Foreign Language Anxiety Research (2010–2025): A Bibliometric Analysis

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Abstract

Foreign Language Anxiety (FLA) research has expanded beyond its traditional focus on classroom anxiety and language performance toward broader emotional, motivational, instructional, and technology-mediated dimensions. However, existing bibliometric studies provide limited field-level evidence on the recent transformation of FLA research, particularly its thematic evolution, disciplinary contributions, and scholarly collaboration. This study maps the development, thematic structure, and collaborative landscape of FLA research from 2010 to 2025 using bibliometric analysis. Bibliographic data were retrieved from Dimensions.ai, yielding a final dataset of 7,056 research articles. Descriptive bibliometric indicators and VOSviewer-based network analyses were used to examine publication and citation trends, research fields and publication sources, thematic structures, temporal thematic evolution, and co-authorship networks. The findings show that annual publications increased from 57 articles in 2010 to 1,381 in 2025, while citations increased from 11 to 33,610 over the same period. FLA research was concentrated in Language, Communication and Culture (3,967 articles), Education (3,170), and Psychology (897), with Frontiers in Psychology being the most productive publication source (242 articles). The thematic analysis identified five clusters encompassing anxiety and evaluation, positive emotions and motivation, instruction and technology, contextual factors, and conceptual or reflective research. The temporal analysis indicates a shift from traditional classroom and test anxiety toward technology, online learning, proficiency, and more complex analytical perspectives. The co-authorship analysis of 36 authors revealed several interconnected but relatively separate collaboration groups. Overall, the findings provide an updated field-level account of FLA research as an increasingly multidimensional, interdisciplinary, and context-sensitive domain.

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INTRODUCTION

Foreign Language Anxiety (FLA) is a context-specific emotional response that arises when learners study, communicate, or are evaluated in an additional language. Over the past two decades, FLA research has expanded beyond classroom performance to examine anxiety alongside enjoyment, self-efficacy, willingness to communicate, engagement, interpersonal relationships, and technology-mediated learning. This expansion has positioned FLA research at the intersection of applied linguistics, educational psychology, communication studies, and learning technology.

Consequently, examining the broader development of the field is important for understanding how FLA research has diversified over time.

Recent research syntheses demonstrate this diversification but remain focused on specific dimensions of FLA. Botes et al. (2022) examined the relationships among foreign language enjoyment, anxiety, willingness to communicate, and achievement, while Zhou et al. (2023) identified a strong negative relationship between FLA and self-efficacy. Xiong et al. (2024) synthesized evidence on anxiety-reduction interventions, whereas Huang & Liu (2025) reviewed the effects of technology on FLA, including both anxiety-reducing and anxiety-intensifying conditions. Related bibliometric evidence also shows increasing attention to the affective dimension of foreign language learning, with enjoyment, motivation, anxiety, and other positive psychological constructs emerging as prominent research themes (Asmayanti & Asriati, 2025). Although these studies provide detailed evidence on specific relationships, interventions, and learning environments, they do not offer an integrated field-level account of how these strands are connected.

Several recent studies have used bibliometric and science-mapping approaches to examine FLA research. Yu (2024) analyzed 49 FLA articles published in *System* between 2004 and 2023, while Xun & Wei (2025) examined 123 Web of Science publications on foreign language classroom anxiety from 2002 to 2024. Sevim et al. (2025) provided a broader analysis of 595 Web of Science records published between 1978 and 2024, focusing on growth, country contributions, co-authorship, citation influence, and keywords. However, these studies are limited by journal-specific or classroom-anxiety-focused corpora, coverage ending in 2024, or greater emphasis on general growth and network characteristics. They therefore provide limited evidence on the integrated temporal evolution, disciplinary contributions, and publication-source patterns of the wider FLA field.

Consequently, the research gap lies not in the absence of bibliometric studies on FLA, but in the need for an updated, period-focused, and multidimensional account of the field's recent transformation. Existing studies either end in 2024, use different definitions of the research domain, or focus on selected journals and relatively static indicators. They provide limited evidence on thematic changes associated with positive psychology, online and hybrid learning, artificial intelligence, and technology-mediated instruction. More importantly, publication and citation performance, disciplinary and source contributions, thematic structure, temporal evolution, and collaboration networks have not been fully integrated within a single analytical framework.

To address this gap, the present study analyzes FLA research published between 2010 and 2025, a period in which the field expanded from a predominantly performance- and classroom-oriented topic into an interdisciplinary domain encompassing emotion, motivation, communication, and digital learning. Its novelty lies in extending previous mappings through the inclusion of 2025 publications and the integrated examination of five dimensions: research growth and citation impact, research fields and publication sources, thematic structure, temporal thematic evolution, and scholarly collaboration. By combining performance analysis with conceptual, temporal, and social mapping, the study provides an updated account of how FLA research developed and diversified between 2010 and 2025.

METHOD

Research Design

This study employed a bibliometric research design to examine the development of Foreign Language Anxiety (FLA) research published between 2010 and 2025. Bibliometric analysis enables the systematic examination of large bodies of scholarly publications and relationships among

publications, authors, topics, and other bibliographic elements (Öztürk et al., 2024). Asriati et al. (2024) further demonstrated the use of bibliometric analysis and VOSviewer to identify publication trends, citation patterns, keyword relationships, and the structure of a research field**.** Science mapping further helps reveal the structure and development of a research field over time (Hulland, 2024). Accordingly, the present study combines performance-oriented indicators with science-mapping approaches to provide a comprehensive account of the development and thematic structure of FLA research.

Beyond bibliometric methods, language education research also employs descriptive designs to examine learners' and teachers' experiences with instructional approaches. For example, Prabawati et al. (2021) examined students' perceptions of media used in English language instruction. Such methodological diversity reflects the broader range of approaches used in language education research. In this context, the present bibliometric approach provides a complementary macro-level perspective on the development of FLA research.

Research Analysis

The analysis addressed five dimensions corresponding to the research questions: (1) annual publication and citation trends; (2) the distribution of publications across research fields and publication sources; (3) the intellectual and thematic structure of FLA research based on term co-occurrence; (4) the temporal development and relative concentration of research themes; and (5) patterns of scholarly collaboration based on co-authorship networks. This framework integrates the two central components of bibliometric analysis identified by Donthu et al. (2021): performance analysis evaluates research output and influence through publication volume, citations, disciplinary fields, and publication outlets, while science mapping examines the conceptual, intellectual, and social relationships within the field. Term co-occurrence identifies major concepts and thematic clusters, temporal mapping traces their development, and co-authorship analysis reveals scholarly collaboration. Integrating descriptive indicators with network visualizations provides a comprehensive account of FLA research productivity, impact, thematic development, and collaboration. (Donthu et al., 2021).

Data Source and Search Strategy

Bibliographic data were retrieved from Dimensions.ai, selected for its coverage of scholarly publications across disciplines relevant to FLA research, particularly applied linguistics, education, psychology, and language studies, and its bibliographic and citation information for examining publication trends, citation patterns, research fields, publication sources, and authorship relationships (Hook et al., 2018). The search covered publications from January 2010 to December 2025, with data retrieved and exported on 26 April 2026. Records were identified using "Foreign Language Anxiety" in the title and/or abstract, yielding 8,711 records assessed according to predetermined publication-period, topical, and document-type criteria. Only eligible research articles were retained, while other document types were excluded, resulting in 1,655 exclusions and a final dataset of 7,056 articles. Because the search centered on "Foreign Language Anxiety," studies addressing related forms of language anxiety without using the expression may not have been captured; this boundary was retained to maintain a clearly defined and reproducible corpus.

Data Screening and Preparation

Data screening was conducted before the bibliometric analyses to ensure that the retained records were relevant, consistent, and aligned with the scope of the study. Establishing explicit inclusion and exclusion criteria is an important step in bibliometric research because broad database searches may retrieve records that are only partially related to the research question; therefore,

records should be screened against predefined criteria before analysis (Donthu et al., 2021;Marzi et al., 2025). In the present study, each record was evaluated based on publication period, document type, and the target Foreign Language Anxiety (FLA) terminology specified in the search strategy. This screening procedure was intended to maintain the relevance and internal consistency of the bibliographic corpus

The 7,056 eligible articles were subsequently exported from Dimensions for descriptive and network analyses. Data preprocessing and cleaning are particularly important in bibliometric research because bibliographic databases may contain inconsistencies in publication metadata, author names, terminology, and other fields that can influence subsequent analyses (Cheshmehsohrabi & Mashhadi, 2025). The exported bibliographic information included publication year, citation data, research-field classifications, publication sources, terms, and authorship information, all of which are among the metadata fields available in Dimensions and support descriptive, thematic, citation, and collaboration analyses (Visser et al., 2021).

Relevant examples include Foreign Language Anxiety/FLA, Foreign Language Classroom Anxiety, EFL learner/EFL learners, and willingness to communicate/WTC. Conceptually distinct constructs were retained separately to avoid artificially combining different research themes, while only normalization procedures applied to the analyzed dataset were considered. The data-selection process is summarized in Figure 1, with the identification stage yielding 8,711 records from Dimensions.ai. Following document-type screening, 1,655 records were excluded, leaving 7,056 articles in the final bibliometric dataset.

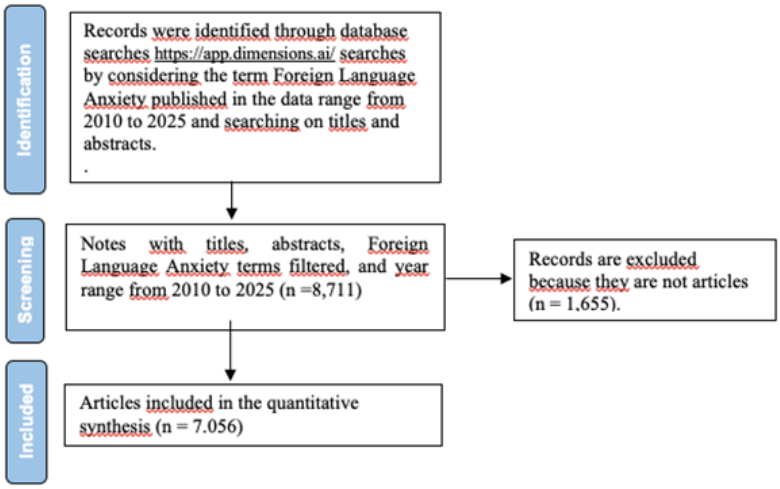


Figure 1. PRISMA flowchart

RESULT AND DISCUSSION

Result

Publication Trends

Figure 2 shows the annual publication trend on Foreign Language Anxiety (FLA) from 2010 to 2025, which generally increases over time, with a sharp rise in recent years.

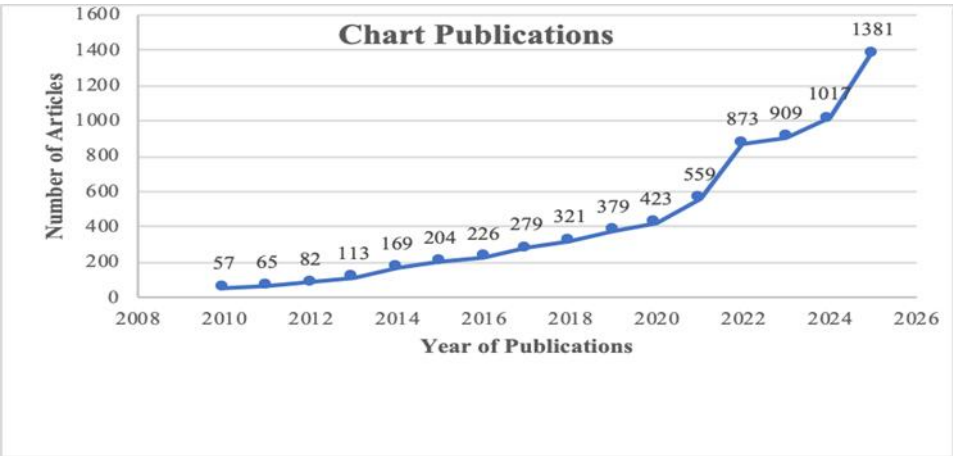


Figure 2. Number of Publications on the Topic of Foreign Language Anxiety from 2010 to 2025 (Data source: **https://app.dimensions.ai/**)

The publication development can be divided into three phases. In the initial phase (2010–2016), publications increased gradually from 57 to 226 articles, although some fluctuations occurred across individual years, reflecting the early development of FLA research. The second phase, from 2017 to 2021, shows a more stable increase, with annual output rising from 279 articles in 2017 to 559 in 2021, indicating that FLA research approximately doubled within five years. The most significant surge occurred after 2021, with publications increasing to 873 in 2022, 909 in 2023, 1,017 in 2024, and a peak of 1,381 in 2025. This progression marks a transition from gradual growth to substantial expansion in FLA research.

These publication patterns indicate that FLA has developed into an increasingly active research topic, with particularly substantial growth after 2021. The sustained increase in publication output suggests growing scholarly attention and an expanding body of research on FLA. However, publication data demonstrate only quantitative expansion and cannot determine the specific factors or research developments responsible for these increases. Further analysis of research themes, keywords, citation patterns, and collaboration networks is therefore needed to understand the field's development.

Citation Trends

Figure 3 shows the citation trend of FLA publications from 2010 to 2025.

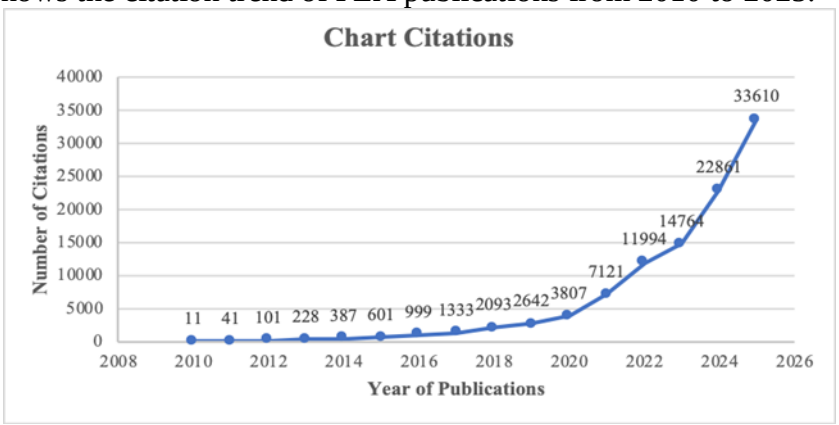


Figure 3. Number of citations for the Topic of Foreign Language Anxiety from 2010 to 2025 (Data source: **https://app.dimensions.ai/**)

Citations increased consistently throughout the study period, rising from 11 in 2010 to 601 in 2015, indicating growing scholarly attention to FLA publications. After 2015, citation growth became more pronounced, reaching 999 in 2016, 1,333 in 2017, 2,093 in 2018, 2,642 in 2019, and

3,807 in 2020. Growth accelerated further after 2020, reaching 7,121 in 2021 and 11,994 in 2022, before peaking at 14,764, 22,861, and 33,610 citations in 2023, 2024, and 2025, respectively. Overall, the parallel growth in publications and citations indicates increasing visibility and scholarly uptake of FLA research, although citation counts reflect academic visibility and use rather than research quality.

Research Fields

Figure 4 shows the distribution of FLA research fields based on the ANZSRC 2020 classification.

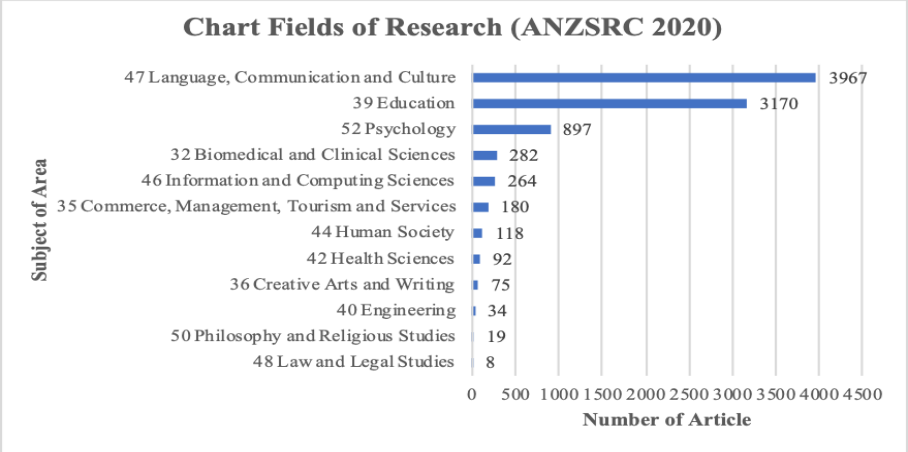


Figure 4. Number of Publications on the Topic of Foreign Language Anxiety Reviewed from the Research Field (Data source: https://app.dimensions.ai/)

The largest field is Language, Communication and Culture, with 3,967 articles, followed by Education, with 3,170 articles. These two fields form the main core of FLA research, reflecting its close connection with language learning and educational processes, while Psychology, with 897 articles, and smaller contributions from Biomedical and Clinical Sciences, Information and Computing Sciences, and Law and Legal Studies indicate its broader interdisciplinary reach. Overall, FLA is most frequently studied in language, education, and psychology, although it also appears across other disciplines, reflecting the multidisciplinary nature of the field. However, the totals cannot be summed directly because one article may belong to multiple categories.

Publication Sources

Figure 5 shows the journals that most frequently publish FLA research.

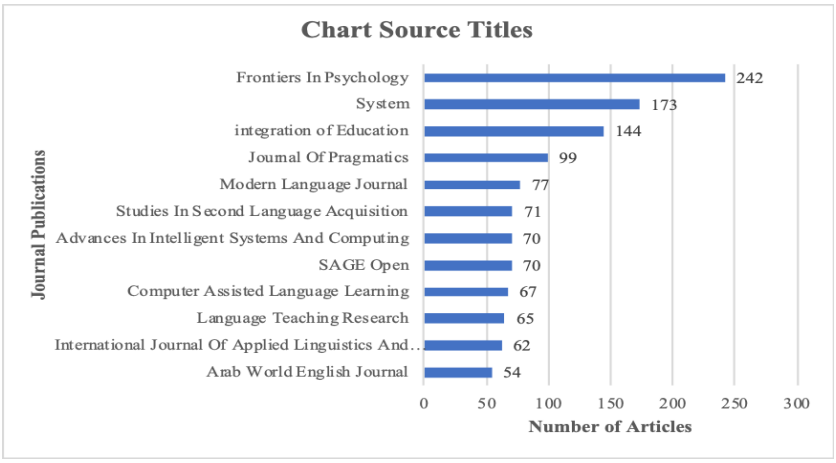


Figure 5. Number Of Publications on the Topic of Foreign Language Anxiety Reviewed from Journals (Data Source: Https://App.Dimensions.Ai/)

Frontiers in Psychology is the most productive journal, with 242 articles, followed by *System* (173) and *Integration of Education* (144), while other prominent outlets include *Journal of Pragmatics*, *Modern Language Journal*, and *Studies in Second Language Acquisition*. In addition, journals in educational technology, applied linguistics, and interdisciplinary education, such as *Computer Assisted Language Learning* and *SAGE Open*, indicate that FLA research extends beyond conventional language-learning and applied linguistics journals. The presence of these outlets reflects the growing connection of FLA with technology-mediated learning, digital communication, and broader social science and educational fields. Overall, the distribution of publications suggests that FLA intersects with technological, educational, psychological, and interdisciplinary research, although these outlets primarily indicate publication productivity and disciplinary breadth rather than journal quality or specific research trends, which require further examination of keywords, thematic clusters, and citation relationships.

Co-occurrence Network

Figure 6 shows a network of 167 terms in the FLA literature.

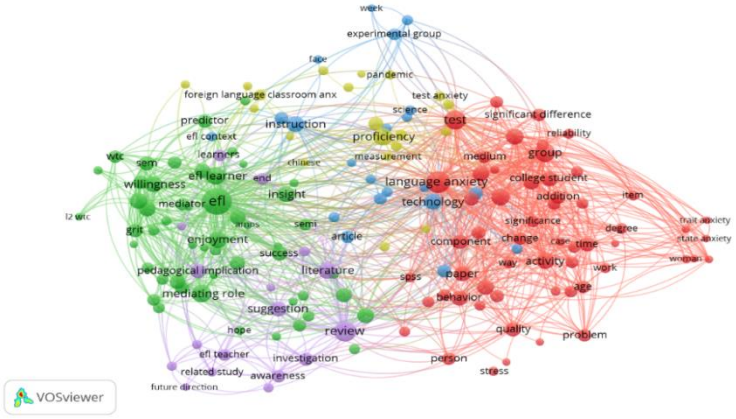


Figure 6. Network Visualization on the Topic of Foreign Language Anxiety
(Source: VOSviewer and https://app.dimensions.ai/)

The results reveal five main thematic clusters illustrating the multidimensional nature of Foreign Language Anxiety (FLA) research. The red cluster includes *language anxiety*, *test*, and *stress*, reflecting psychological and evaluative dimensions, particularly anxiety related to language assessment and stressful learning experiences. The green cluster contains *EFL*, *enjoyment*, *grit*, and *WTC* (willingness to communicate), indicating growing interest in FLA, learner motivation, positive emotions, and communication. The blue cluster focuses on *instruction*, *technology*, and *proficiency*, highlighting instructional practices, technology-mediated learning, and language outcomes, while the yellow cluster connects *classroom anxiety*, *pandemic*, and *Chinese*, pointing to context-specific investigations, particularly during the COVID-19 pandemic. In contrast, the purple cluster includes *review* and *future direction*, representing conceptual and reflective research focused on synthesizing knowledge and identifying future directions. Taken together, the clusters show that FLA literature encompasses established and emerging concerns: traditional themes of anxiety, stress, testing, and classroom experiences remain central, while newer areas address technology, motivation, positive emotions, willingness to communicate, and contextual factors. This diversity demonstrates that FLA is examined not only as a negative psychological experience but also through learner, instructional, technological, and contextual dimensions.

Overlay Visualization

Figure 7 shows the temporal development of terms in the network.

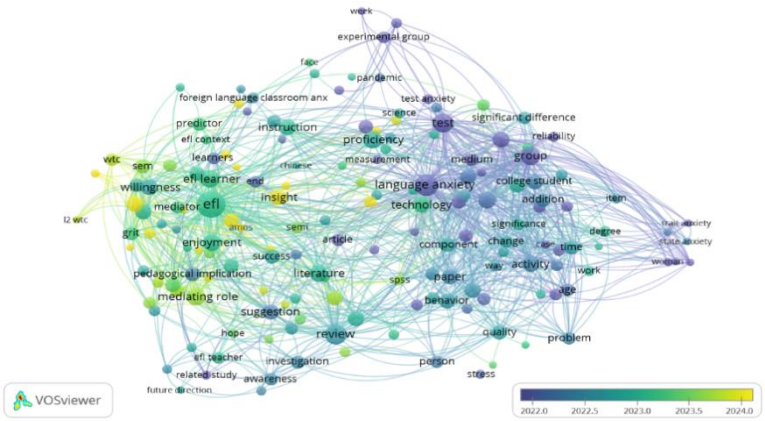


Figure 7. Overlay Visualization on the Topic of Foreign Language Anxiety
(Source: VOSviewer and https://app.dimensions.ai/)

Older terms such as *test anxiety* and *classroom anxiety* appear in blue, while newer terms such as *technology*, *pandemic*, and *proficiency* appear in yellow, indicating a shift from earlier concerns with classroom anxiety toward broader themes involving technology, learning contexts, and more complex analytical perspectives.

Density Visualization

Figure 8 shows the density of terms in the network.

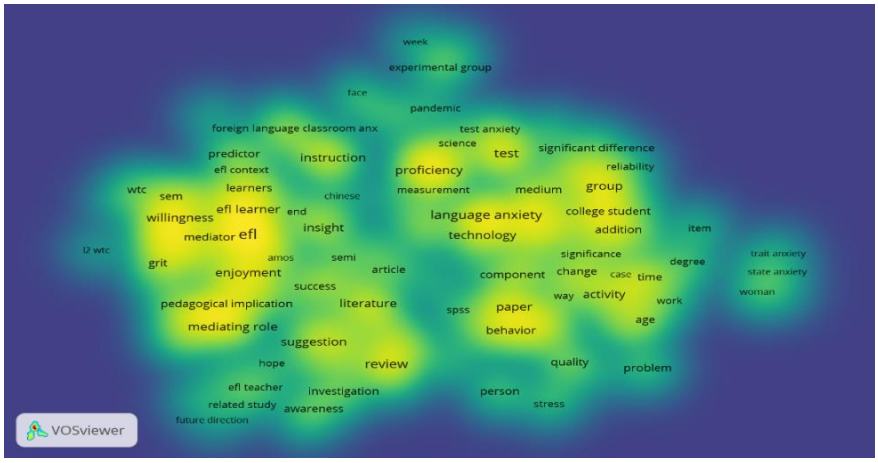


Figure 8. Density Visualization on the Topic of Foreign Language Anxiety
(Source: VOSviewer and https://app.dimensions.ai/)

Terms such as *language anxiety*, *EFL*, *technology*, and *proficiency* are located in the densest areas, indicating that they are frequently occurring and highly interconnected topics. Within this network, *enjoyment*, *grit*, and *WTC* (willingness to communicate) are also relatively dense, highlighting growing attention to positive emotions and learner-related psychological factors in FLA research. Their presence suggests that contemporary FLA research extends beyond anxiety as a negative experience to examine how positive psychological characteristics and emotional states interact with anxiety. Enjoyment may coexist with or influence anxiety, while grit reflects perseverance in language learning; similarly, WTC emphasizes learners' readiness to engage in communication and how emotional experiences may shape participation. The prominent position of these concepts indicates a broader shift toward examining relationships between negative and positive affective factors. Rather than treating FLA as an isolated construct, researchers increasingly

situate it within a complex emotional and motivational landscape involving enjoyment, persistence, communication willingness, and other learner characteristics. This development supports a more comprehensive understanding of FLA by recognizing both anxiety and positive psychological resources. Meanwhile, *pandemic* and *future direction* appear in less dense areas, although this does not necessarily indicate lower importance.

Co-authorship Network

Figure 9 shows a collaboration network of 36 authors.

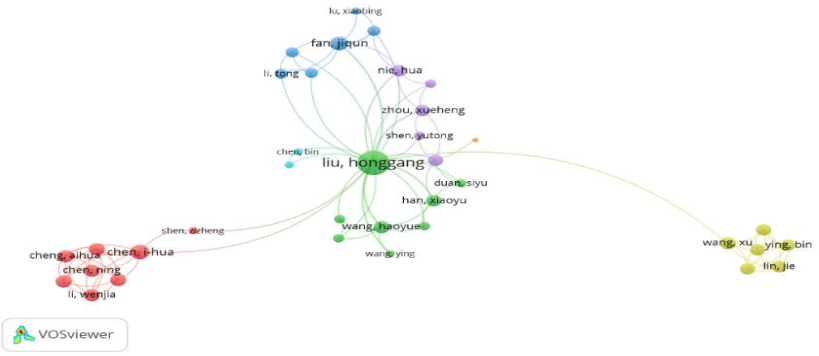


Figure 9. Network Visualization for Co-authorship on the Topic of Foreign Language Anxiety (Source: VOSviewer and https://app.dimensions.ai/)

The network shows several groups of authors collaborating with each other but not fully connected into a single large network. Some authors occupy more central positions and connect multiple groups, while others remain in more isolated clusters, indicating that collaboration in FLA research is still divided into several small communities. Overall, this structure suggests opportunities for broader collaboration and stronger connections among research communities in the future.

DISCUSSION

Growth and Disciplinary Consolidation of Foreign Language Anxiety Research

The bibliometric results indicate that Foreign Language Anxiety (FLA) research developed rapidly between 2010 and 2025. Publications increased gradually in the early years, followed by a sharp rise after 2021 and a peak in 2025, while citations showed a similar pattern. This suggests that FLA has evolved from a relatively specialized topic into an increasingly prominent field within second and foreign language research, although citation growth reflects academic uptake rather than research quality. Disciplinarily, FLA research is concentrated in Language, Communication and Culture; Education; and Psychology, reflecting its interdisciplinary nature across language learning, teaching, and learner psychology. The involvement of Information and Computing Sciences and Health Sciences further indicates the field's expanding interdisciplinary scope.

The analysis of publication sources further supports this development. Journals such as *Frontiers in Psychology*, *System*, and *Integration of Education* are among the most productive outlets, while *The Modern Language Journal* and *Computer Assisted Language Learning* highlight connections between FLA, applied linguistics, language education, and learning technologies. Overall, the growth of FLA is reflected not only in publication volume but also in the expanding disciplinary and publication scope of the field.

From Anxiety-Centered Research to a Multidimensional Affective System

The co-occurrence analysis reveals a shift in how FLA is conceptualized. Classical terms such as *language anxiety*, *test anxiety*, and *stress* remain dominant but now co-occur with *FLE*, *WTC*, *grit*, *enjoyment*, and *mediating role*, indicating that anxiety is increasingly viewed within a broader emotional and motivational system. The network identifies five thematic clusters: the first centers on *language anxiety*, *test*, and *stress*, reflecting psychological and evaluative concerns; the second brings together *EFL*, *enjoyment*, *grit*, and *WTC*, indicating connections between FLA, positive emotions, and motivation; the third links *instruction*, *technology*, and *proficiency*; the fourth connects *classroom anxiety*, *pandemic*, and contextual characteristics; and the fifth contains *review* and *future direction*, reflecting a conceptual and reflective strand. These clusters demonstrate a multidimensional structure in which traditional anxiety concerns coexist with positive psychological, instructional, technological, and contextual dimensions.

This thematic structure is supported by previous research examining relationships among anxiety, motivation, and learning engagement. Chen et al. (2025), Alshammri (2023), Xiang-feng & Yan-ping (2023) emphasize learning context and student engagement, while Bal (2021) and Pavelescu (2023) demonstrate relationships between motivational self-concept and willingness to communicate. Ma (2022) and Wang et al. (2023) further highlight interactions among anxiety, enjoyment, and motivation. Related research shows that motivation in English learning is shaped by intrinsic factors such as personal interest and enjoyment, as well as extrinsic and social factors including teacher encouragement and peer or family support (Lumbantobing et al., 2024). The same pattern is evident in the cluster containing *grit*, *enjoyment*, and *WTC*, consistent with studies showing that positive psychological factors interact with anxiety in shaping language-learning experiences (Shirvan et al. (2021); Pan (2022); and Liu & Wang (2021)). Together, these studies provide empirical context for our co-occurrence findings and help explain the growing connection between FLA and positive psychological resources rather than viewing anxiety solely as a negative outcome to be reduced.

Beyond psychological factors, the network also demonstrates that FLA is connected to instructional and contextual factors. The presence of *instruction*, *technology*, *classroom anxiety*, *pandemic*, and related contextual terms is consistent with studies emphasizing classroom climate, social interaction, student engagement, teacher-related factors, technology, and social relationships (Hosseini et al., 2022; Li et al., 2022; Wang, et al., 2023; Chen et al., 2025; Sun et al., 2025; Yan, 2025). These studies help interpret the contextual and instructional dimensions identified in our network. Overall, our findings indicate that FLA research has developed into a multidimensional domain in which anxiety is examined through interconnected psychological, motivational, instructional, social, and technological perspectives.

Technology-Mediated Learning and the Post-Pandemic Expansion of FLA Research

The temporal analysis shows that technology has become an increasingly visible theme in recent FLA research. Terms such as *technology*, *AI*, and *online learning* appear more prominently in the recent research landscape, indicating growing attention to digitally mediated language-learning contexts. Zhang & Liu (2025), Wang & Wang (2025) and Demirci et al. (2025) highlight this growing attention to AI and technology-based language learning, while as Jin (2023) and Cheng & Sun, (2025) compare anxiety experiences across face-to-face and online environments. Dong et al. (2022) further shows that technology can influence motivation, self-efficacy, and anxiety simultaneously. Related research indicates that digital media can also support language-learning engagement; Babilonia et al. (2023), for example, found that exposure to YouTube children's songs supported learners' engagement, concentration, memory, and task involvement.

These findings provide contextual support for the technology-related pattern identified in our temporal analysis, suggesting that technology-mediated learning has become increasingly relevant to understanding FLA.

However, our findings do not suggest that technology consistently reduces anxiety, as its effects may depend on learners' attitudes and readiness. While technology may reduce direct-interaction pressure, it can also introduce challenges related to adaptation and digital system use. The emergence of *pandemic* in our temporal analysis further indicates a shift in research context, as online learning during and after COVID-19 transformed students' emotional experiences (Violić-Koprivec & Tolj, 2024). Thus, the temporal pattern suggests that the pandemic functioned as a transitional context that increased attention to online learning and technology-mediated FLA research rather than constituting a simple "research gap."

Methodological Development and the Context-Dependent Nature of FLA

The analysis also indicates methodological development in FLA research, with terms such as *SEM*, *mediation*, and *predictor* suggesting increasing use of multivariate models to explain relationships among variables. Studies such as Deng et al. (2022), Wang et al. (2025), and Xiong et al. (2024) demonstrate the use of more complex models to examine relationships between anxiety, motivation, and learning outcomes. However, statistical complexity does not necessarily imply higher quality, as validity still depends on research design and model interpretation. Anxiety is also influenced not only by language proficiency but by learning context, with factors such as online environments, social interaction, and teacher support affecting anxiety levels (Simsek & Çapar, 2024; Zhao, 2022; Estrella, 2022). Overall, FLA should be understood as a highly context-dependent phenomenon. Learners with similar language proficiency may experience different levels of anxiety depending on motivation, social environment, and instructional conditions.

Scholarly Collaboration and Future Development of the Field

The co-authorship analysis shows that FLA research consists of several relatively separate but interconnected collaboration clusters, with no single dominant network but multiple parallel research communities. This structure suggests that FLA research remains dispersed across academic communities, potentially reflecting differences in context, institutions, and research focus, although this interpretation is limited to visualization-based data.

The findings also indicate the need for broader scholarly collaboration, particularly to expand the contextual scope of research, as areas such as young learners, multilingual environments, and teacher anxiety remain relatively underexplored. Overall, FLA research has developed into an increasingly complex and multidimensional field, extending beyond anxiety as a barrier to its interaction with motivation, positive emotions, technology, and learning contexts. This development creates opportunities for more integrated, collaborative, and context-sensitive research in the future.

CONCLUSION

This bibliometric study mapped the development, thematic structure, and collaborative landscape of Foreign Language Anxiety (FLA) research from 2010 to 2025 based on 7,056 articles indexed in Dimensions.ai. The findings demonstrate substantial growth in publication output and scholarly attention, particularly after 2021. The thematic analysis further shows that FLA research has expanded beyond traditional concerns with classroom anxiety, language performance, testing, and evaluation toward a broader research agenda involving Foreign Language Enjoyment (FLE), grit, willingness to communicate (WTC), motivation, technology-mediated learning, online

environments, and multivariable explanatory models. Overall, the findings indicate that FLA has developed into a multidimensional and increasingly interdisciplinary research field involving psychological, motivational, instructional, social, and technological perspectives.

The findings have several implications for researchers and practitioners in foreign and second language education. First, the connection between FLA and positive psychological constructs such as enjoyment, grit, and willingness to communicate suggests that anxiety should be examined within learners' broader emotional and motivational experiences. Second, the growing visibility of technology, AI, and online learning highlights the need to consider how technology-mediated environments may both alleviate and create new forms of language anxiety. Third, the contextual nature of FLA underscores the importance of classroom conditions, teacher support, social interaction, learner characteristics, and instructional environments. For researchers, these findings encourage integrated models examining interactions between anxiety and affective, motivational, instructional, and technological variables. For language educators, they emphasize supportive learning environments that address anxiety while strengthening learners' motivation, enjoyment, confidence, and willingness to communicate.

Despite its contribution, this study has several limitations. First, reliance on a single bibliographic database, Dimensions.ai, may not represent the full body of FLA scholarship available in other databases. Second, the search centered on "Foreign Language Anxiety" within specified bibliographic fields, so studies using alternative terminology or related concepts may have been missed. Third, citation counts are influenced by publication age, database coverage, and retrieval date and should not be interpreted as direct measures of research quality or intellectual significance. Finally, VOSviewer patterns depend on keyword selection, term normalization, inclusion thresholds, and network settings. Therefore, co-occurrence patterns and network structures represent the analyzed corpus rather than causal relationships or absolute research importance.

Future research can extend the present bibliometric findings by incorporating multiple bibliographic databases and broader search strategies to examine whether the identified publication and thematic patterns remain consistent across different sources. Longitudinal and cross-contextual studies are also needed to investigate how FLA interacts with enjoyment, grit, motivation, social support, language proficiency, and emerging technologies across different learner populations, languages, educational levels, and instructional settings. Particular attention should also be given to comparatively less visible areas in the current research landscape, including teacher-related anxiety, young learners, multilingual environments, and longer-term emotional responses to technology-mediated language learning. In addition, future studies could combine bibliometric evidence with systematic reviews, meta-analyses, or empirical research to provide deeper explanations of the relationships identified in the bibliometric network. Such approaches would help move the field beyond mapping publication patterns toward a more theoretically integrated, methodologically rigorous, and contextually diverse understanding of Foreign Language Anxiety.

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