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Tenses Teaching and Learning:
Emerging trends and insights

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Abstract
Emphasising the importance of grammar teaching and learning research, the academic study investigates the critical relevance of Grammar in scholarly communication. Using a bibliometric analysis of 297 papers from the Scopus database, the study investigates grammar teaching and learning, identifying developing trends, eminent authors, organisations, countries, and the main themes in grammar instruction and learning using innovative approaches. The study exposes trends and ongoing research topics using tools like Microsoft Excel, VOS Viewer, and Harzing, thus evaluating their influence. The classification of different clusters helps the study clarify overlooked research topics and offers intelligent suggestions for further grammar studies.

Keywords: Bibliometrics; Grammar, Teaching and Learning.

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1.0 Introduction
Grammatical tenses are essential for English language instruction and fostering learners' structural and communicative growth. Over time, various teaching methods have been developed and applied to optimise grammar teaching (Nadia, A. B. & Mar, G. C, 2020; Muñoz, C. et al., 2021). At the same time, studies in this area enrich the body of published works on teaching grammatical tenses with novel content (Mahamud, M. A., & Rahman, M. M. 2021, Sadeghi, B., & Richards, J. C. 2023). However, it appears that all the studies mentioned above focused on this matter sufficiently sparingly, and a synthesis which explores the tendencies and progressions in this topic is still in demand.

Teaching and learning Grammar these days includes blending with communicative language skills and language teaching, emphasising its usage outside the classroom. Critical methodologies include communicative language teaching, where Grammar is

learned while doing activities teachers assign, for example, role-playing; task-based language teaching; and task-based instruction, which includes the practice of Grammar. Content and Language Integrated Learning includes teaching the structure of social science subjects. In Focus on Form, centralisation on Grammar is done during interactional communication, while in Corpus, Teaching English Grammar is done through verbal materials. Instruction through the Flipped Classroom Model means that students understand Grammar's content before coming to the lessons. Thus, class time will be utilised for learning in practice what was learned at home. The methods are often described as complementary, as they focus on learning and doing things rather than learning only from the textbook. Bibliometrics, a method of acquiring information that involves statistical analysis of written articles, is a possible solution to measure and map the productivity of this research on grammar education, determine the most important themes, and present the cognitive interconnections related to grammar education. The method reconstructs where the field has been and where it currently stands and stresses the importance of identifying trends and new potential research areas.

The study aims to carry out a bibliometric analysis of the literature on the teaching and learning of Grammar tenses. While undertaking such a diversified portfolio of scholarly papers, the objective is to trace the trends in research activity, such as notable researchers, the number of publications made by countries and the primary research themes. Besides, the analysis will also allow an understanding of the evolution of the conducted research or how different pedagogical approaches led to the growth of specificity in their practice. The focus of our investigation is on four research questions:

RQ 1. What are the research trends in Grammar teaching and learning according to the year of publication?
RQ 2. Which authors are considered the most prominent in Grammar teaching and learning, and what is the citation count of their most cited works?
RQ 3. How many publications by country on Grammar teaching and learning research?
RQ 4. What are the prevailing research themes and countries in Grammar teaching and learning?

2.0 Literature Review

2.1 Grammar Teaching Approaches
One of the most common challenges faced by English language learners is a lack of knowledge about how to effectively use and master various grammar tenses, which can hinder their ability to make their communication time-bound (Alzahrani, M. 2022; Farid, M., & Parveen, S., 2021). Knowing the forms of verbs concerning time is beneficial for writing and speech. Scholars have been interested in teaching and learning grammar tenses, researching how to teach it (methods) and whether this style is effective.

Many traditional English grammar teaching methods focus on memorisation and repeated exercise. An example of such an approach is the Grammar-Translation Method (GTM), which uses translations from the mother tongue to the target language and vice versa. Indeed, critical criticisms of such methods are that they do not build up any form of practical communication ability and appreciation for the context in a situational sense implementation process. So, a new improvement method has been invented, which is more interactive and communicative. The communicative language teaching (CLT) method, for example, stresses the use of Grammar just as a support tool for real-life communication. Linking back to TBLT and CBI, Grammar is learned through language actions that can be found in context for a purpose, not as an isolated learning point. Using these techniques, it has been discovered that students become more likely to recall grammar forms, including structural conditions (Zhang, Y., 2023).

2.2 Current trends in research focus on the teaching and learning of grammar tenses.
In recent years, some bibliometric studies have explored trends in research in language instruction (Zhang, X. & Zou, D., 2021; Martínez, R. & López, M., 2022; Nguyen, T.T. & Pham; T. N., 2023). In the last few years, interest has been turning more and more to Corpus Linguistics development, which means studying the actual usage of language through an extensive corpus. This method gives us much information about how often we use them and in which context.

While we have come a long way in learning about tenses, there are still more areas for exploration. This, more generally, calls for better long-term tracking of students in longitudinal studies (or otherwise) as they progress over extended periods. There is also a cultural dimension and further research into how Grammar comes to be in the way each culture does or does not understand it requires investigation. Further studies could delve deeper and examine the utilisation of emerging technologies like artificial Intelligence in Virtual Reality to improve grammar teaching. While significant progress has been made in understanding tenses, much more remains to explore. This calls for a broader approach, including better long-term tracking of students through longitudinal studies. However, a more cautious view is warranted, as extensive longitudinal studies can be resource-intensive and may yield limited practical insights.

Additionally, the cultural dimensions of grammar understanding require careful investigation, as views on Grammar vary widely across different contexts. Furthermore, the potential benefits of emerging technologies like Artificial Intelligence in Virtual Reality for grammar teaching still need to be determined, and rigorous empirical evaluation is required before widespread adoption. A balanced approach that weighs the costs and benefits of different research directions is needed to advance our understanding of tenses and grammar instruction.

3.0 Methodology
Bibliometrics is bibliographic data from scholarly publications in an integrated format (Verbeek A. et al., 2002). Apart from conventional descriptive statistics focusing on publication journals, publication years and primary author classification, the

study also adopts advanced methods like document co-citation analysis. A systematic approach, including identifying relevant keywords, conducting a comprehensive literature search and performing an in-depth reading of the selected literature, is pivotal for a compelling journey through reviewing current knowledge. This technique is important for a reliable bibliography and accurate results (Fahimnia. B., et al., 2015). The section discusses selecting search terms and evaluating initial results based on articles' reference lists and journal titles. Among these stakes, scientific publications that cite the Clarivate Analytics Journal Citation Reports (JCR) impact factor are highlighted as an effective quality measure by Meier (2011). Consequently, the principal aim of this research was to focus on critical papers that could provide important information about theoretical underpinnings in terms of setting up a more comprehensive framework for studies. In the study, Di Stefano and colleagues used data from the Thomas ISI Web of Science (Scopus) database, as stated before. In addition, to ensure the integration of valid data sources, scholarly literature was heavily focused on here, specifically academic publications that have undergone a rigorous review process performed by other specialists within the given field. The final methodology filtered out books and conference proceedings.

The study used a screening strategy to identify keywords for the relevant documents. A preliminary investigation was started on the Scopus database by searching for the "Grammar and technology" entry in Title, Abstract and Keywords. Our search was expanded with TITLE-ABS-KEY (Grammar AND teaching AND learning). The search terms were finally reviewed, and the query string was modified to put weighting on "Grammar teaching and learning", reflecting students as learners. With this approach, 297 results were found. These themes were further analysed in a bibliometric study. Studies included were all the research articles related to Grammar teaching and learning retrieved from the Scopus database throughout 2015–2023.

3.1 Data Analysis
The Data sets were downloaded from the Scopus database, including Publication year, Article title, Author Name, Journal, Citation and Keyword. The researchers used version 1.6.15 of VOSviewer software to analyse data sets from 2015 and projected for several years (2023). The software program used VOS clustering and mapping technologies to analyse data and generate maps. Here, VOSViewer is a viable replacement for the Multidimensional Scaling (MDS) approach designed by (Van Eck, N. J. & Waltman; L., 2010). The method's goal is similar to MDS's since both try to place objects in a low-dimensional space to faithfully represent their relationships (and similarities) by distances among them (Appio et al., 2014). Unlike the MDS, where more attention is paid to calculating similarity measures (Jaccard indices, cosine) in many cases, the VOS method applies a better strategy for normalising co-occurrence frequencies (Van Eck & Waltman, 2007). This method uses association strength (ASij) and is configured by using the following Formula:

The equation ASij equals Cij multiplied by Wiwj.

Van Eck and Waltman's 2010 research delved into measures directly linked to the ratio of actual co-occurrences versus expected independent occurrences between variables i and j. Therefore, VOSviewer utilises an indexing strategy that minimises the total weighted distance sums between all object pairs. This mapping tactic crafts a visual representation as a knowledge map. These revealings unravelled patterns stemming from mathematical relationships. Several examinations were also conducted, such as keyword co-occurrence and co-author analyses. Connections between topics were also uncovered through visual inspection.

4.0 Findings and Discussion

4.1 RQ1: What are the research trends in Grammar teaching and learning according to the year of publication?
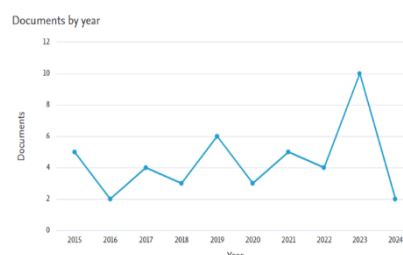

Fig. 1: Document by year of publication
(Source:) Scopes webpage

Figure 1 illustrates the fluctuating trend in grammar-related publications over the past years. Between 2015 and 2016, there was a decline from five to two publications. The number rose slightly to four in 2017 but dipped again to three in 2018. A modest increase was observed in 2019, with six publications recorded. However, this was followed by another drop to three publications in 2020. The trend improved marginally in 2021, with five publications, but declined again to four in 2022. The highest point was reached in 2023, with a

peak of ten publications, before experiencing a sharp decline to just two in 2024. The number of grammar publications has gone up and down over the past 10 years. The highest number was in 2023, which may show a strong interest during that year. However, the significant drop in 2024 suggests that this interest did not last, possibly due to shifting research priorities or limited funding.

4.2 RQ 2: Which authors are considered the most prominent in Grammar teaching and learning, and what is the citation count of their most cited works?

Table 1: Top 10 Citation

Authors	Title	Year	Source Title	Cited by	Affiliations
Matsumoto Y.; Dobs A.M.	Pedagogical Gestures as Interactional Resources for Teaching and Learning Tense and Aspect in the ESL Grammar Classroom	2017	Language Learning	62	University of Pennsylvania, United States; Pennsylvania State University, United States
Darus S.; Subramaniam K.	Error analysis of the written English essays of secondary school students in Malaysia: A case study	2009	European Journal of Social Sciences	61	School of Language Studies and Linguistics, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor, Malaysia
Carrell P.L.; Konneker B.H.	POLITENESS: COMPARING NATIVE AND NONNATIVE JUDGMENTS	1981	Language Learning	57	Southern Illinois University at Carbondale, Carbondale, United States
Marsden E.; Chen H.-Y.	The roles of structured input activities in processing instruction and the kinds of knowledge they promote	2011	Language Learning	49	The University of York, United Kingdom
Meunier F.; Littre D.	Tracking Learners' Progress: Adopting a Dual 'Corpus cum Experimental Data' Approach	2013	Modern Language Journal	40	Université catholique de Louvain, Centre for English Corpus Linguistics, Louvain-la-Neuve, 1, Place Blaise Pascal, 1348, Belgium
Gánem-Gutiérrez G.A.; Harun H.	Verbalisation as a mediational tool for understanding tense-aspect marking in English: An application of concept-based instruction	2011	Language Awareness	34	Department of Language and Linguistics, University of Essex, Wivenhoe Park, Colchester, United Kingdom
Williams L.; Abraham L.B.; Negueruela-Azarola E.	Using concept-based instruction in the L2 classroom: Perspectives from current and future language teachers	2013	Language Teaching Research	34	Department of World Languages, Literatures, and Cultures, University of North Texas, Denton, TX 76203, 1155 Union Circle #311127, United States; Columbia University, United States; University of Miami, United States
Macrory G.; Stone V.	Pupil progress in the acquisition of the perfect tense in French: The relationship between knowledge and use	2000	Language Teaching Research	33	The Manchester Metropolitan, University Institute of Education, United Kingdom
Pan S.C.; Tajran J.; Lovelett J.; Osuna J.; Rickard T.C.	Does interleaved practice enhance foreign language learning? The effects of training schedule on Spanish verb conjugation skills.	2019	Journal of Educational Psychology	31	Department of Psychology, University of California, Los Angeles, CA, United States
Kallander G.L.	Salvation through dissent: Tonghak heterodoxy and early modern Korea	2013	Salvation Through Dissent: Tonghak Heterodoxy and Early Modern Korea	31	Weatherhead East Asian Institute, Academy of Korean Studies, Columbia University, Seoul, United States

(Source:) Software Harzing's Publish or Perish

Table 1 above shows the top 10 citations based on the study title, "The Bibliometric Analysis of Grammar Tenses Teaching and Learning: Trends and Developments". The results of a total of 160 publications that have been analysed show that articles by Matsumoto Y., Dobs A.M. from the University of Pennsylvania, and Pennsylvania State University, with the title "Pedagogical Gestures as Interactional Resources for Teaching and Learning Tense and Aspect in the ESL Grammar Classroom" in Journal Language Learning (2017) is the most cited article which is 62 times, the second most cited with a total of number of 61 citations is "Error analysis of the written English essays of secondary school students in Malaysia: A case study" by Darus S.; Subramaniam K. from the Universiti Kebangsaan Malaysia in the European Journal of Social Sciences (2009). This was followed by the title "Politeness: Comparing Native and Nonnative Judgments" by Carrell P.L.; Konneker B.H. 57 times, in the journal Language Learning (1981). It is also seen that the title "The Roles of structured input activities in processing instruction and the kinds of knowledge they promote" by Marsden E.; Chen H.-Y. and "Tracking Learners' Progress: Adopting a Dual 'Corpus cum Experimental Data' Approach" by Meunier F.; Littre D., each has 49 and 40 citations. Moreover, it was written in the Language Learning and Modern Language Journal. As seen from the table, the lowest citation, which is 31 times, was found in 2 journals, namely the Journal of Educational Psychology in 2019 and the journal Salvation Through Dissent: Tonghak Heterodoxy and Early Modern Korea in 2013, with the title of the study "Does interleave practice enhance foreign language learning? The effects of training schedule on Spanish verb conjugation skills." by Macrory G.; Stone V (2019) and "Salvation through dissent: Tonghak heterodoxy and early modern Korea" by Kallander G.L. The analysis also revealed that the most cited journal was the Language Learning journal in 2017 (62 cited), 2011 (49 cited) and 1981 (57 cited), while the Language Teaching Research journal had two citations in 2013 (34 cited) and 2000 (33 cited), it can be seen that the most popular written articles were published between 2017 and 2000 except for 1981, and the most recent one in the top 10 was published in 2019.

4.3 RQ 3: How many publications by country on Grammar teaching and learning research?
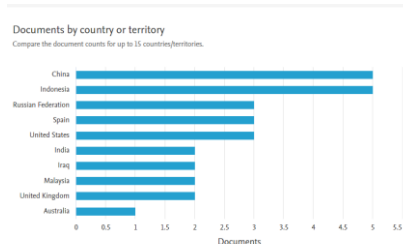

Fig. 2: Document by country
(Source:) Scopes webpage

Figure 2 shows the bar chart with the heading "Documents by country or territory" that compares the number of documents created by people from a maximum of 10 different countries or territories. The statistics provide the following information: China and Indonesia have

published the most publications, with approximately five publications each, indicating that they are the primary authors among the countries listed. The Russian Federation, Spain, and the United States have provided three documents. India, Iraq, Malaysia and the United Kingdom have around two publications each. Australia has the lowest number of publications, with around one. China and Indonesia are the leading producers in this group, far surpassing the other countries regarding the number of documents produced. The Russian Federation, Spain, and the United States are considered moderate contributors, while India, Iraq, Malaysia, and the United Kingdom have slightly lower numbers of publications. Australia has the lowest contribution of listed countries, with only one publication. The data indicate solid research production from China and Indonesia, while the other countries are moderate or lower contributors.

4.4 RQ 4: What are the prevailing research themes and countries in Grammar teaching and learning?
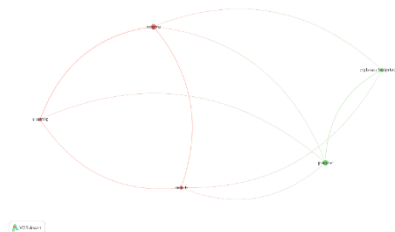

Fig. 3: Keyword Co-Occurrence Analysis Using Network Visualisation
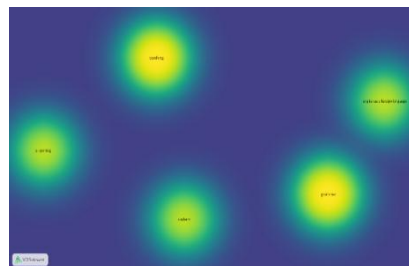(Source:) *VOSViewer*

Fig. 4: Keyword Co-Occurrence Analysis Using Overlay Visualisation
(Source:) *VOSViewer*

Figures 3 and 4 show keyword co-occurrence using network visualisation and overlay visualisation. This result shows the relationship between terms. Relationships in network visualisation are depicted in a network or line that comes from one term to another (Al Husaeni, D. F., & Nandiyanto, A. B. D., 2021). Figure 3 shows the clusters in each of the researched topic areas. Based on the analysis in the VOSViewer software, two main keyword clusters exist among the 160 documents analysed. The 2 clusters are Cluster 1 (red colour), which has three items: e-learning, students and teaching, and Cluster 2 (green colour), which has two items related to English as a foreign language and Grammar.

Figure 4 shows an overlay visualisation that shows the relationship between the terms included and the updated research time (Al Husaeni, D. F., & Nandiyanto, A. B. D., 2021). This figure shows the relationship of Grammar with other terms. Grammar is related to 4 other terms. Terms associated with the grammar keyword include English as a foreign language, teaching, e-learning, and students, which shows the trend from 2015 to 2024 in research related to the research topic.

5.0 Discussion

The findings show that research on grammar tenses in English language teaching has not followed a steady path over the past 10 years. Some years have published more studies, like 2023, while others have had fewer, like 2024. Changes in research focus or the availability of research funds may cause this up-and-down trend.

The citation analysis shows that some studies have had a significant impact, especially those from well-known universities and published in respected journals like Language Learning. Most of the highly cited studies were published between 2000 and 2017, which shows that older works still influence current research.

Regarding country contributions, China and Indonesia led with the most documents, showing a strong interest in grammar research. Other countries like the US, Spain, and Malaysia contributed less but are still involved. Keyword analysis revealed two main themes: one related to teaching, students, and e-learning, and another focusing on Grammar and English as a foreign language. Recent research connects Grammar with digital tools and student engagement, reflecting modern teaching methods.

The findings demonstrate that grammar instruction is becoming more digital and hands-on, which is in line with how education is changing these days. This change could help students be more interested and motivated, especially when technology makes learning easier, such e-learning platforms, online games, and interactive tools. Teachers are also exploring new ways to present grammar using multimedia content, which can make abstract grammar concepts easier to understand. The focus on student-centred learning also

reflects a move away from traditional, lecture-based grammar lessons toward more practical, real-life applications. As technology evolves, future grammar research and teaching methods will likely become even more innovative and accessible to a broader range of learners.

6.0 Conclusion & Recommendations

In conclusion, grammar tenses remain an important topic in language education, though the number of studies changes yearly. The most influential works come from top researchers and are often shared in major journals. More consistent studies should be encouraged to improve future research, especially in underrepresented countries. Researchers should also explore how technology can support grammar teaching, as this trend is growing. Funding agencies and institutions can help by supporting projects that connect grammar learning with digital tools and real classroom needs.

The findings of this study highlight the need for more balanced and sustained research efforts in grammar tenses, especially in regions with fewer contributions. The strong link between Grammar, e-learning, and student engagement suggests that educators and curriculum designers should consider integrating technology-based approaches in grammar instruction. Additionally, identifying influential works and key journals provides a valuable reference for future researchers aiming to build on existing knowledge. This study also suggests that grammar teaching is evolving, and keeping up with current trends may help improve teaching practices and student outcomes. One limitation of this study is that it focused only on publications indexed in the Scopus database, which means some relevant studies may have been missed, especially those in less accessible or local journals. The research also mostly looked at publishing patterns, citation counts, and keywords without looking carefully at the actual content or results of the studies. It would be helpful for future studies to look at how digital tools and methodologies are utilised in the classroom to teach grammar tenses. Researchers might also examine how well the previous and new grammar teaching methods work in various nations or learning settings. For future research, exploring how digital tools and methods are used in classrooms to teach grammar tenses would be helpful. Researchers could also compare the effectiveness of traditional and modern grammar teaching approaches in different countries or learning environments. Profound insights into what works best for different learners can be seen.

Paper Contribution to Related Field of Study

The contribution of this paper is related to the field of teaching and learning.

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