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**| RESEARCH ARTICLE**

## **A Systematic Self Review of EFL Grammar Studies (2000–2025): Teaching, Technologies, and Learning Outcomes**

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**| ABSTRACT**

This systematic review (SR) synthesizes 28 empirical studies conducted by the author between 2000 and 2025 on the teaching, learning, and assessment of English grammar among Saudi EFL college students. The corpus comprises seven experimental and quasi experimental studies evaluating the effectiveness of instructional approaches, online platforms, and learning environments; six model building studies proposing pedagogical frameworks for using podcasts, online tasks, and iRubrics; and fifteen analytical studies documenting learners' grammatical weaknesses based on test responses and error corpora collected from assignments and projects. The studies were organized into four thematic clusters: teaching grammar with technology; grammar assessment and testing; grammar learning outcomes with three sub-clusters (morphological problems, grammatical difficulties in specialized contexts, and translation problems of grammatical structures); and factors influencing grammar learning outcomes. Across the four clusters, the findings reveal a coherent developmental trajectory in how Saudi EFL learners acquire, process, and apply grammatical knowledge under varying instructional, technological, and contextual conditions. Technology enhanced grammar instruction, whether through LMS platforms, online tasks, Elluminate sessions, or mind mapping, yielded significant gains when the tools were simple with an interactive learning community. Linguistically, students exhibited morphological weaknesses, particularly in plural formation and noun and adjective forming suffixes. Genre based studies showed difficulties in identifying syntactic features in advertisements, legal texts, and news discourse, while translation focused studies revealed challenges with collocations, pronouns, particles, SVO order, and agreement, indicating that grammatical difficulties extend beyond isolated forms to broader syntactic and discourse level processing. Findings from the fourth cluster demonstrate that pedagogical, technological, and socio cultural factors significantly shape grammar learning outcomes. Instructor qualifications, assessment practices, and instructional design influenced learners' grammatical accuracy; simple LMS designs (as Nicenet) facilitated participation, whereas platforms with complex design, as Moodle and WebCT, hindered engagement; and gender segregated online collaboration introduced socio cultural constraints that affected interaction and learning. Moreover, the content and focus of grammar instruction should vary depending on whether it targets general academic purposes or professional/occupational needs. This SR fills a gap in the literature by offering an integrated thematic synthesis that brings together technology mediated instruction, assessment practices, morphological and syntactic difficulties, translation related errors, and contextual factors affecting grammar learning within a unified analytical framework.

**| KEYWORDS**

Systematic review (SR), Al-Jarf research program, EFL grammar instruction, EFL grammar assessment, EFL grammar learning outcomes, online collaboration, success factors, morphological difficulties, translation related grammatical problems, technology enhanced language learning

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## **1. Introduction**

Grammar<sup>1</sup> is the system that determines how words, phrases, and clauses are formed and combined to convey meaning. In written English, grammar, usage, and mechanics function as essential conventions that support clarity and coherence. In linguistics, grammar refers to the underlying rule-governed system of a natural language as reflected in the performance of its speakers and writers. It encompasses phonology, morphology, and syntax, and is closely connected to phonetics, semantics, and pragmatics<sup>2</sup>. It can be studied through two major traditions: traditional grammar, that focuses on prescriptive rules, and theoretical grammar, that analyzes language as a structured system.

Teaching grammar<sup>3</sup> is a complex and multifaceted process that enables learners to read, write, and communicate with accuracy and authenticity. It involves teaching the rules, structures, and conventions that shape language use, including syntax, morphology, and punctuation. Effective instruction enhances learners' accuracy, comprehension, and communicative competence. When students understand how grammatical elements function, they can express ideas more clearly and fluently in spoken and written communication as well. Grammar instruction typically emphasizes several key dimensions<sup>4</sup>: (i) Accuracy, (ii) Communicative function, and (iii) Explicit vs. implicit learning. Teachers are also encouraged to consider the following principles<sup>5</sup>: context, use, economy, relevance, nurture, and appropriacy and ensuring that grammar instruction is meaningful, efficient, and aligned with learners' needs. Moreover, a variety of approaches are used in grammar teaching: (i) Deductive instruction which presents rules first, followed by practice. Inductive instruction guides learners to infer rules from examples, (ii) Contextualized instruction embeds grammar within authentic communication, reading, or writing tasks, and (iii) Communicative activities, such as discussions, role-plays, and collaborative tasks that allow learners to practice structures meaningfully, (iv) Error correction and editing, including revising writing for tense consistency or structural accuracy that reinforce learning (Zhang, 2023).

Research in second language (L2) grammar is essential because it informs pedagogical practices, enhances learner proficiency, and supports the development of communicative competence. Empirical studies consistently show that focused grammar instruction improves language acquisition outcomes, helping learners develop greater confidence, accuracy, and fluency in communication (Aguion, 2021).

Given the essential role of grammar in second language teaching and learning, a substantial body of research, including single empirical studies, systematic reviews (SRs), and meta-analyses (MAs), has examined diverse aspects of grammar instruction in EFL contexts. These reviews vary widely in scope, population, and methodological orientation, reflecting the multifaceted nature of grammar learning. The first group of SRs focused on grammar teaching in specific national or educational contexts, highlighting how local curricula, instructional traditions, and learner needs shape grammar pedagogy. Examples include English grammar teaching in the Korean context (Lee 2016), teaching English language skills for Saudi EFL students (Alsowat 2017), grammar teaching methodologies in the Saudi context (Althaqafi 2018), and problems in teaching and learning grammar in the EFL context (Waseel 2020).

A smaller set of SRs examined age-related differences in grammar acquisition, exploring how developmental factors influence L2 grammatical outcomes. These include age and second language grammar acquisition (Qureshi 2016) and shape of age effects in second language grammar acquisition (Qureshi 2021).

A large number of SRs and MAs investigated instructional methods, pedagogical strategies, and theoretical approaches to grammar teaching. These SRs cover a wide range of teaching techniques, such as grammar learning strategies (Kocadayıoğulları & Söylemez 2025), image schema based grammar instruction (Kidani & Kusanagi 2024), recasts and corrective feedback (Rassaei 2024), explicit vs. implicit instruction (Şahinkaya 2024), grammar translation vs. communicative language teaching (Nisha 2024), pedagogical translanguaging (Huang & Chalmers 2023), consciousness-raising tasks (Lee 2023), creative drama-based instruction (Geçici & Azizoğlu 2022), communicative grammar (Putra et al. 2021), corrective feedback timing and difficulty (Schenck 2020; Schenck 2021), grammar instructional methods (Ryu 2018), and earlier work on trends in grammar teaching (Hassan 2001).

Other reviews explored how grammar interacts with reading, writing, vocabulary, and cognitive skills, emphasizing grammar's role in broader language proficiency. These include studies on vocabulary-grammar relationships in reading comprehension (Asne & Estremera 2025), syntactic influences on reading (Bano 2025), higher-order thinking in writing (Zahra & Wijayatiningsih 2024),

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<sup>1</sup> [www.sadlier.com/](http://www.sadlier.com/)

<sup>2</sup> <https://en.wikipedia.org/wiki/Grammar>

<sup>3</sup> <https://www.studysmarter.co.uk/explanations/english/tesol-english/grammar-instruction/>

<sup>4</sup> [https://www.sadlier.com/school/teaching-](https://www.sadlier.com/school/teaching-grammar#:~:text=In%20upper%20elementary%20school%20(Grades,by%20Beverly%20Ann%20Chin%2C%20PhD.)

[grammar#:~:text=In%20upper%20elementary%20school%20\(Grades,by%20Beverly%20Ann%20Chin%2C%20PhD.](https://www.sadlier.com/school/teaching-grammar#:~:text=In%20upper%20elementary%20school%20(Grades,by%20Beverly%20Ann%20Chin%2C%20PhD.)

<sup>5</sup> <https://www.slideshare.net/slideshow/chapter3rulesofgrammarpptx/256912207>

grammatical knowledge and reading comprehension (Zheng et al. 2023), and the relative contribution of vocabulary and grammar to L2 reading (Choi & Zhang 2021).

A growing body of research examined technology-enhanced and game-based grammar learning. Examples include technological tools and pedagogical approaches in grammar teaching (Kamaruzaman & Sulaiman 2025), the effect of ProWritingAid tool on EFL students' writing accuracy (Damayanti & Santosa 2024), affordances and challenges of technology assisted grammar learning (Bahari & Gholami 2022), and several studies on game-based grammar learning (Aprilia & Nasekhah 2025; Manokaran et al. 2023; Putri et al. 2025; Taş & Keleş 2025).

Finally, a number of SRs investigated automated grammar checking and AI-supported feedback tools, such as grammar and plagiarism checking using Grammarly for English learners (Phuangsuwan et al. 2024), automated grammar checking in English language (Soni & Thakur 2018), and Grammarly as a medium for analyzing university students' grammar (Daroina et al. 2022).

Although previous SRs and MAs have examined a wide range of issues related to grammar teaching and learning in EFL contexts, including national pedagogical practices, age-related differences, instructional strategies, integrated-skills approaches, technology-enhanced learning, and automated grammar checking, several important gaps remain. First, the existing reviews are highly fragmented, each focusing on a single dimension of grammar learning (age, corrective feedback, game-based learning, translanguaging, or vocabulary-grammar relationships) rather than offering a comprehensive synthesis of empirical evidence on how college-level EFL learners acquire and use grammar. Second, most prior reviews analyze heterogeneous populations, often combining children, adolescents, and adults, which limits the applicability of their findings to university-level learners.

Moreover, despite the abundance of SRs and MAs on specific instructional techniques, no existing review has synthesized research produced by a single scholar across multiple decades to trace consistent themes, methodological patterns, and pedagogical implications in adult grammar learning. No SR has integrated technology-based instruction, morphological challenges, grammar use in specialized texts, translation-related grammatical difficulties, and learner-related factors within a single coherent framework focused exclusively on adult EFL learners. This leaves a significant gap in understanding how these dimensions interact and how they collectively shape grammar learning outcomes in higher-education contexts. Therefore, the current study aims to conduct a systematic review (SR) of the author's studies on EFL grammar teaching and learning at the college level in the Saudi context conducted between 2000-2025. The current SR to fill this gap in the literature by analyzing 28 empirical studies conducted over a 25-year period, offering an integrated thematic synthesis that brings together technology use in teaching, learning and assessing grammar, morphological difficulties, grammatical problems in specialized texts, translation-related errors, and factors leading to ineffective instruction, role of qualifications, assessment and pedagogical practices, within a unified analytical framework.

This study is significant because it provides the first comprehensive synthesis of empirical research on grammar learning among college-level EFL learners, a population that has been largely overlooked in previous reviews. It also synthesizes research produced by a single scholar across multiple decades, allowing for the identification of consistent themes, methodological patterns, and pedagogical implications that are not visible in fragmented or topic-specific reviews. This longitudinal perspective provides a unique contribution to the field, highlighting how grammar learning challenges, instructional approaches, and learner needs evolve over time.

Furthermore, this SR advances the field by integrating six critical dimensions of adult grammar learning into a coherent thematic structure (see Study Corpus in 2.1). This multidimensional synthesis offers educators, curriculum designers, and researchers a clearer understanding of the complex interplay between linguistic, cognitive, and pedagogical variables that shape grammar learning in adulthood. By identifying effective instructional practices, common learner difficulties, and emerging technological tools, the study provides evidence-based insights that can inform curriculum development, assessment design, and classroom pedagogy. In doing so, it contributes to enhancing adult learners' grammatical accuracy, communicative competence, and overall language proficiency.

Finally, this SR is significant because it is part of a broader series of SR/MA projects by the author, that has so far cover the following: *social media in EFL teaching and learning (2008–2025) (Al-Jarf, 2026a)*; *teaching English for art education purposes to Ph.D. students (Al-Jarf, 2026b)*; *EFL reading instruction: Themes, methods, and pedagogical insights (Al-Jarf, 2026c)*; *educational evaluation domains (Al-Jarf, 2026d)*; *students' errors in English–Arabic and Arabic–English translation (Al-Jarf, 2026f)*; *Mobile apps for developing multiple language skills EFL (Al-Jarf, 2026g)*; *adult reading practices, interests, habits and challenges (Al-Jarf, 2026h)*; *pronunciation instruction and practice in L2 (2005–2025) (Al-Jarf, 2026i)*; *teaching reading in Arabic to grades 1–12 (Al-Jarf, 2026j)*; *Electronic searching studies (2002–2021) (Al-Jarf, 2026k)*; *EFL vocabulary Teaching, assessment, learning outcomes, and AI translation*

quality (Al-Jarf, 2026l); Principles and practices of specific-skill assessment studies: (Al-Jarf, 2026m); Arabic–English transliteration of personal names and public signages (Al-Jarf, 2026n); Children’s language acquisition and development in Saudi Arabia (Al-Jarf, 2026o); Classroom practices, writing enhancement and creativity among EFL struggling students (Al-Jarf, 2026p); Collaborative learning and teaching in digital environments (Al-Jarf, 2026q); Distance learning in the COVID-19 era and beyond (Al-Jarf, 2026r); Effect of mind-mapping on multiple English language skills (Al-Jarf, 2026s); Inadequate staffing and large class sizes in Saudi EFL and translation programs (Al-Jarf, 2026t); Innovative word formation and pluralization processes in Arabic (Al-Jarf, 2026w); Online videos and podcasts for language learning in the Saudi context (2010–2025) (Al-Jarf, 2026x); AI Arabic translation, linguistics and pedagogy (2024–2025) (Al-Jarf, 2026y); ESP innovation across specialized and underexplored domains (Al-Jarf, 2026z); LMS-supported EFL instruction (Al-Jarf, 2026aa);

## **2. Methodology**

The corpus for this SR consists of 28 studies on grammar teaching, learning and assessment. They constitute a closed, author-bounded body of research. Only studies authored solely by Al-Jarf between 2000-2025 were eligible for inclusion. The corpus encompasses a wide range of peer-reviewed journal articles, book chapters, and conference papers, all of which directly investigate aspects of English grammar learning, teaching, assessment, or translation in EFL contexts. The corpus reflects a focused and methodologically coherent body of work aligned with the review’s aims. The final set of studies was organized into four thematic clusters. Together, these clusters provide a structured framework for synthesizing 25 years of research on English grammar within Saudi EFL settings.

### **2.1 Study Corpus**

#### **Cluster 1: Teaching Grammar with Technology**

- 1) *Grammar podcasts for ESL college students in distance learning (Al-Jarf 2023c)*
- 2) *What teachers should know about online grammar tasks (Al-Jarf 2017)*
- 3) *Online grammar tasks in blended learning environments (Al-Jarf, 2011d)*
- 4) *Teaching Greek and Latin roots to premedical students with mind-mapping software (Al-Jarf, 2011b)*
- 5) *Integrating Elluminate webconferences in EFL grammar instruction (Al-Jarf 2013b)*
- 6) *The effects of online grammar instruction on low proficiency EFL college students' achievement (Al-Jarf 2005b)*
- 7) *Using three Online Course Management Systems in EFL instruction (Al-Jarf 2005e)* (Also classified under Cluster 4)
- 8) *Are WebCT, Moodle and Nicenet equally effective in EFL Instruction? (Al-Jarf 2006)* (Also classified under Cluster 4)

The (Al-Jarf 2005e; Al-Jarf 2006) studies were classified under both Cluster 1 and Cluster 4 because they examine LMS effectiveness while simultaneously identifying pedagogical and infrastructural factors that influence grammar learning. Their dual placement reflects the hybrid nature of their findings.”

#### **Cluster 2: Grammar Assessment & Testing**

- 1) *How EFL college instructors can create and use grammar iRubrics (Al-Jarf 2020a)*

#### **Cluster 3: Grammar Learning Outcomes**

##### **Sub-cluster A: Morphological Problems**

- 1) *Difficulties in learning English plural formation by EFL college students (Al-Jarf 2022b)*
- 2) *Freshman students' difficulties with English adjective-forming suffixes (Al-Jarf 2019a)*
- 3) *Acquisition of English suffixes by Saudi EFL students (Al-Jarf, 2016)*

##### **Sub-cluster B: Grammatical Problems in Specialized Contexts**

- 1) *Can ESL students identify emphatic features of advertisements? (Al-Jarf 2025a)*
- 2) *Problems of identifying lexical and syntactic features of legal documents by undergraduate EFL students (Al-Jarf 2023e)*
- 3) *EFL students' difficulties with lexical and syntactic features of news headlines and news stories (Al-Jarf 2021b)*
- 4) *Processing of advertisements by EFL Arab college students (Al-Jarf, 2007)*
- 5) *Processing of cohesive ties By EFL Arab college students (Al-Jarf, 2001).*
- 6) *Definite or indefinite? The case of Arabic product names as judged by student translators (Al-Jarf, 2024a)*

##### **Sub-cluster C: Translation Problems Related to Grammatical Structures**

- 1) *Issues in translating English and Arabic plurals (Al-Jarf 2020b)*
- 2) *Interlingual pronoun errors in English-Arabic translation (Al-Jarf 2010)*
- 3) *Undergraduate student-translators' difficulties in translating English word + preposition collocations to Arabic (Al-Jarf 2022e)*
- 4) *Word + particle collocation errors in English-Arabic translation (Al-Jarf 2009)*
- 5) *SVO word order errors in English-Arabic translation (Al-Jarf 2007b)*

- 6) Grammatical agreement errors in L1/L2 translation (Al-Jarf 2000)

#### Cluster 4: Factors Affecting Grammar Learning Outcomes

- 1) Teaching grammar for professional purposes (Al-Jarf 2009a)
- 2) Role of instructor qualifications, assessment and pedagogical practices in EFL students' grammar and writing proficiency (Al-Jarf 2022c)
- 3) Cultural issues in online collaborative instruction in EFL Classrooms (Al-Jarf, 2007a)
- 4) The role of grammar in developing EFL freshman students' writing skills (Al-Jarf, 2005d)
- 5) Using three Online Course Management Systems in EFL instruction (Al-Jarf 2005e) (Also classified under Cluster 1)
- 6) Are WebCT, Moodle and Nicenet equally effective in EFL Instruction? (Al-Jarf 2006) (Also classified under Cluster 1)

The (Al-Jarf 2005e; Al-Jarf 2006) studies were classified under both Cluster 1 and Cluster 4 because they examine LMS effectiveness while simultaneously identifying pedagogical and infrastructural factors that influence grammar learning. Their dual placement reflects the hybrid nature of their findings."

#### 2.2 Eligibility (Inclusion & Exclusion) Criteria

Studies were excluded from the corpus if they met any of the following criteria:

- **Duplicate or earlier versions of included studies such as** Earlier or alternative versions of studies already represented in the corpus, were excluded to avoid duplication. These include: *Issues in translating English and Arabic plurals* (Al-Jarf, 2019b); *Empowering EFL Teachers and Students with Grammar iRubrics* (Al-Jarf, 2011c); *Acquisition of adjective-forming suffixes by EFL freshman students* (Al-Jarf, 2008); *Teaching Grammar to EFL College Students Online* (Al-Jarf, 2005c); and *Plural acquisition by EFL freshman college students* (Al-Jarf, 2006b); and *comparative study of online course management systems in EFL grammar instruction* (Al-Jarf 2005a).
- **Studies in which grammar was only a partial or incidental component** as in the following: *Mobile apps in the EFL college classroom* (Al-Jarf, 2020c); *Online Video Lessons for EFL Instruction* (Al-Jarf, 2012c); *Learning English on Facebook* (Al-Jarf, 2012a); *A model for communicative error correction in Saudi EFL freshman students' writing* (Al-Jarf, 2021a); *Correcting students' writing errors: The role of communicative feedback* (Al-Jarf, 2011a); *Multimodal teaching and learning in the EFL college classroom* (Al-Jarf, 2024g); *A multiple-associations approach to teaching technical terms in English for specific purposes courses* (Al-Jarf, 2022a); *Mobile technology and student autonomy in oral skill acquisition* (Al-Jarf, 2012b); and *Guidelines for an integrated, communicative approach to teaching English for polytechnic purposes* (Al-Jarf, 2022d).
- **Studies on Arabic word formation, morphology and pluralization.** These include: *Derivation of verbs from loanwords in Arabic according to Arabic derivational paradigms* (Al-Jarf, 2024b); *Exploring rule-based and idiosyncratic loanword plural forms in Arabic* (Al-Jarf, 2024c); *Gemination and degemination before the feminine sound plural suffix* (Al-Jarf, 2024f); *Feminine sound plural endings in /ya:t/ and /yya:t/* (Al-Jarf, 2024d); *Feminine sound plurals with /h+a:t/* (Al-Jarf, 2024e); *Derivation from native and loan acronyms in Arabic* (Al-Jarf, 2023b); *Ambiguity in Arabic negative polar questions* (Al-Jarf, 2023a); *Arabic word formation with borrowed affixes* (Al-Jarf, 2014); *Lexical hybridization in Arabic: word formation with foreign affixes* (Al-Jarf, 2023d); *Pluralization of borrowed social media terminology in colloquial Arabic* (Al-Jarf, 2023f); and *Word formation with foreign lexemes: the case of hybrid compounds in Arabic* (Al-Jarf, 2023h).
- **Studies on grammar and syntax in non-instructional contexts. Examples are:** *Semantic and syntactic anomalies of Arabic-transliterated compound shop names in Saudi Arabia* (Al-Jarf, 2023g); *Verses of impossibility in the Holy Quran: A grammatical and rhetorical analysis* (Al-Jarf, 2024); and *DeepSeek, Google Translate and Copilot's Translation of Arabic Grammatical Terms Used Metaphorically* (Al-Jarf, 2025).
- **Studies on teaching Arabic grammar to AFL learners as:** *a proposed framework for teaching Arabic grammar to non-native speakers of Arabic* (Al-Jarf, 2013a).
- **Non-empirical grammar studies and instructional materials.** Examples are: *English and Arabic derivation for translation students* (Al-Jarf, 2015a); *English and Arabic inflectional systems for translation students* (Al-Jarf, 1994); *English and Arabic word-formation processes for translation students* (Al-Jarf, 1990a); *Teaching English word-formation processes to translation students* (Al-Jarf, 2011e); *A contrastive analysis of English and Arabic morphology* (Al-Jarf, 1990b); *English and Arabic compounds*

for translation students (Al-Jarf, 2015b; Al-Jarf, 2004); and Contrastive analysis for translation students (Al-Jarf, 2002; Al-Jarf, 1995).

- **Studies on AI translation of Arabic and English metaphorical expressions, fixed expressions, and compound terms** were excluded because they address grammatical and syntactic errors only as a secondary component of broader translation inaccuracies rather than as primary objects of grammatical inquiry. These studies are not also about students' errors. Examples include: *AI translation of the Gaza–Israel war terminology* (Al-Jarf, 2025b); *Copilot's English translation of contrastive emphatic negation in Arabic discourse* (Al-Jarf, 2025c); *DeepSeek, Google Translate and Copilot translation of Arabic grammatical terms used metaphorically* (Al-Jarf, 2025d); *Translations from five languages into English and Arabic by Google Translate (2012–2025)* (Al-Jarf, 2025e); *Human vs AI translation of common names of chemical compounds and Arabic expressions of impossibility* (Al-Jarf, 2025f; Al-Jarf, 2025g); *English and Arabic "sleep" terms and formulaic expressions* (Al-Jarf, 2025h); *Translation of zero-expressions by Microsoft Copilot and Google Translate* (Al-Jarf, 2025i); *medical terms by AI: A comparative linguistic study of Microsoft Copilot and Google Translate* (Al-Jarf, 2024h) and *Google's English–Arabic translation of technical terms* (Al-Jarf, 2021b).

### **2.3 Corpus Characteristics**

The final corpus consisted of 28 studies authored by Al-Jarf between 2000 and 2025. Although diverse in purpose and methodology, the studies form a coherent research program centered on English grammar learning, teaching, assessment, and learning outcomes in Saudi EFL contexts. Methodologically, the corpus comprises three major categories: (i) 7 experimental and quasi-experimental studies investigated the effectiveness of different instructional approaches, online platforms, and learning environments in teaching grammar. (ii) 6 studies proposed instructional models, i.e., offering frameworks for using podcasts, online tasks, and teaching grammar for professional purposes, and using iRubric as an assessment tool, or linguistic analysis. These model-building studies contribute conceptual structure to the corpus by articulating principles, procedures, and pedagogical guidelines that inform grammar instruction and assessment. (iii) 15 studies analyzed students' grammatical weaknesses using error corpora derived from test responses, error corpora collected from students' assignments, graduation projects and product names from shops and pharmacies. These studies document recurrent learner difficulties in morphology, syntax, agreement, tense, prepositions, and sentence structure, providing empirical evidence of the linguistic challenges faced by Saudi EFL learners. Together, these 3 methodological strands create a comprehensive and internally coherent corpus. The experimental studies reveal how instructional conditions shape grammar learning outcomes; the model-proposing studies offer theoretical and pedagogical frameworks; and the error-analysis studies supply detailed descriptions of learner performance. This triangulation enables a rich, multi-layered understanding of grammar learning in EFL contexts and forms a robust foundation for the synthesis presented in this review.

### **2.4 Information Sources**

Because this review synthesizes a closed, author-bounded corpus, the information sources were limited to the complete set of 28 studies published by Al-Jarf between 2000 and 2025. All studies were retrieved from academic platforms that index the author's full scholarly output, including Google Scholar, ResearchGate, Semantic Scholar, Academia.edu, SSRN, ERIC, EBSCO, ProQuest, and institutional repositories. These platforms provide comprehensive coverage of the author's publications across journals, book chapters, conference proceedings, reports, and digital repositories. No external database search was required, as the aim of this SR was not to identify global studies on grammar learning, but to synthesize all grammar-related studies within a single, coherent research program. All records were manually verified to ensure accuracy, remove duplicates, and confirm alignment with the inclusion criteria described in Section 2.2.

### **2.5 Data Extraction and Synthesis**

Data extraction was conducted manually using a structured template designed for this review, capturing publication year, research purpose, instructional or linguistic focus, participant characteristics, methodological design, data collection tools, analytical procedures, major findings, and each study's alignment with one of the four thematic clusters. Because the corpus includes diverse methodological orientations, ranging from *experimental interventions* to *error-analysis studies* and model-proposing studies, the extracted data varied accordingly. For the six model-proposing studies, extraction focused on conceptual frameworks and pedagogical principles rather than empirical results. For the seven experimental and quasi-experimental studies, emphasis was placed on pre/post testing, treatment conditions, and statistical procedures such as descriptive statistics, t-tests, ANOVA, and correlations. The fifteen error-analysis studies provided quantitative data on error types and frequency patterns, reported consistently as percentages, whether derived from controlled tests or authentic learner work. This unified extraction process enabled a qualitative synthesis that compared findings within and across clusters, revealing recurring patterns, developmental trajectories, and conceptual linkages that collectively illuminate how grammar is learned, processed, and taught across technological, morphological, genre-based, and translation-related contexts.

## **2.6 PRISMA Flow Description**

Because this review is based on a closed, author-bounded corpus, the PRISMA flow (Preferred Reporting Items for SRs and MAs) reflects a streamlined identification and screening process rather than a traditional multi-database search. All publications authored by Al-Jarf between 2000 and 2025 were retrieved from academic platforms that comprehensively index the author's scholarly output, including Google Scholar, ResearchGate, Semantic Scholar, Academia.edu, SSRN, ERIC, and institutional repositories. This initial identification stage yielded the complete set of studies relevant to the author's research program. During the screening and eligibility stages, all publications were examined to determine their relevance to English grammar learning, teaching, assessment, error analysis, or related linguistic difficulties and technologies. Titles and abstracts were first reviewed to exclude studies that did not address grammar-related constructs or that duplicated previously identified publications. Full-text review was then conducted for the remaining studies to confirm methodological suitability. Publications were excluded if they lacked a grammar component, if they were purely descriptive without pedagogical or linguistic relevance, or if they fell outside the scope of the research program. After applying these criteria, a total of 28 studies were retained for inclusion. The final corpus therefore, represents a complete and coherent set of the author's work on grammar instruction, learning outcomes with a focus on grammar-related error analysis, and model-building in EFL contexts. The PRISMA flow documents a linear progression from the initial identification of all publications within the author's record, through relevance screening and eligibility assessment, to the final inclusion of studies that directly contribute to the aims of this review.

## **3. Results**

### **3.1 Study Characteristics**

#### **Cluster 1: Teaching Grammar with Technology**

##### ***Grammar podcasts for ESL college students in distance learning (Al-Jarf 2023c)***

The study gives examples of English grammar podcasts, how to download and use grammar podcasts, grammatical structures and topics covered by podcasts. Grammar podcasts contain 2-5-minute-long audio explanations of a particular grammatical point or structure, a lesson script, exercises, quizzes with an answer key, and/or an English grammar help where answers are given to problematic grammatical points. Students can download podcasts, print the script, do the exercises and score their answers themselves. Elementary, intermediate, and advanced level grammar podcasts can be downloaded depending on the students' needs and proficiency level. Students can listen to grammar podcasts anywhere, anytime and as many times as they need. Classroom discussions on a grammar podcast can be performed in pairs, small groups or even whole class. End-of-semester grammar tests can be given to find out improvements in the students' grammatical knowledge/achievement as a result of integrating grammar podcasts in EFL grammar courses.

##### ***What teachers should know about online grammar tasks (Al-Jarf 2017)***

##### ***Online grammar tasks in blended learning environments (Al-Jarf, 2011d)***

The two studies show the types of online grammar tasks that can be integrated into blended grammar instruction for EFL college students. They should be related to the grammatical structures covered in class and should focus on a single grammatical structure such as information questions, tag questions, negative questions, a single verb tenses, a modal, complex sentences (noun, adjective and adverb clauses), verb conjugation, phrasal verbs, prefixes and suffixes or singular and plural forms. They should include pre- and post-instruction self-assessment, error correction, production, and remedial, self-improvement, study skills, test anxiety, and electronic searching tasks, a daily grammar lesson and a Quiz Center. Websites used should provide definitions, explanations, examples, supplementary exercises for extra practice and provide students with instant feedback. Online grammar tasks can be performed individually, in pairs or in small groups; interactively or collaboratively; synchronously or asynchronously. Comparisons of grammar pre- and post-test results showed significant improvement in grammar skills of students who were exposed to the above-mentioned types of online tasks.

##### ***Teaching Greek and Latin roots to premedical students with mind-mapping software (Al-Jarf, 2011b)***

This study illustrates how mind-mapping software can support premedical students in learning, retaining, and applying medical terminology derived from Greek and Latin roots. By visually organizing prefixes, roots, and suffixes into branching networks, the mind-mapping software enables learners to combine multiple affixes with a single root, link different roots to the same prefix or suffix, and classify terms according to their morphological components. Through this structured visualization, students can sort, group, and interpolate elements of medical terms while observing how related forms radiate from a central concept. The approach helps learners build interconnected morphological knowledge, facilitating deeper understanding and long-term retention of medical terminology.

***Integrating Elluminate Webconferences in EFL grammar instruction (Al-Jarf 2013b)***

Two groups of college students enrolled in an English grammar course majoring at the College of Languages and Translation (COLT), King Saud University participated in the study. The control group received face-to-face in-class grammar practice; whereas the experimental group received synchronous online practice using Elluminate Live, associated with Blackboard LMS. Results of the posttest showed significant differences between the experimental and control groups in grammar mastery, in favor of the Elluminate grammar practice sessions. Students who participated in the Elluminate sessions developed positive attitudes towards web-conferencing and grammar practice.

***The effects of online grammar instruction on low proficiency EFL college students' achievement (Al-Jarf 2005b)***

Two groups of freshman students at COLT participated in the study. The control group used textbook-based instruction only whereas the experimental group used a textbook-based and online instruction using Nicenet LMS. Pre-test means scores showed no significant differences between the experimental and control groups in their grammatical knowledge at the beginning of the semester. However, at the end of the semester, significant differences were found between the experimental and control groups in grammar achievement as measured by the post-test, suggesting that achievement in the experimental group improved as a result of blending online and in-class instruction. This means that use of online instruction as a supplement to in-class instruction proved to be a powerful tool for improving students' achievement in grammar. Active participants made higher gains than passive participants, who in turn made higher gains than students in the control group.

***Using three Online Course Management Systems in EFL instruction (Al-Jarf 2005e)***

***Are WebCT, Moodle and Nicenet equally effective in EFL Instruction? (Al-Jarf 2006a)***

The two studies investigated the use of three online course management systems (LMS) (Nicenet, WebCT, and Moodle) in teaching grammar to EFL freshman students at the College of Languages and Translation (COLT), King Saud University. Students were divided into three groups, each used a different LMS. The three groups used identical textbook-based instruction. The same questions, discussion threads, grammar websites, daily grammar lessons, exercises and quizzes were posted in the three LMSs. The study analyzes student participation, achievement, and attitudes based on observations, questionnaires, and pre/post-tests. Daily observations of student reactions, questions and discussions as well as responses to post-treatment questionnaires, showed that Nicenet was the most popular. In 4 weeks, the students posted 183 posts, compared to only 4 posts in Moodle and WebCT. The effective use of Nicenet was attributed to its ease of use, simple language, and supportive social atmosphere. In contrast, students faced challenges using Moodle and WebCT, such as complex forum designs, limited IT skills, and lack of internet access.

***Cluster 2: Grammar Assessment & Testing***

***How EFL college instructors can create and use grammar iRubrics (Al-Jarf 2020a)***

This study demonstrates how grammar iRubrics can be designed and implemented within RCampus LMS to assess students' performance in grammar courses. Two rubrics—a word-level and a sentence-level rubric—were developed, validated, and refined based on colleagues' feedback. Each iRubric consists of specific grammatical categories/structures in the vertical column and descriptions of the performance levels (Excellent, Average and Poor) for each specific grammatical category/structure in the rows, with the marks assigned to each performance level (2 marks for the Excellent, 1 mark for the Average, and 0 marks for Poor performance). The study illustrates the practical steps instructors need to follow when creating digital rubrics in iRubric, including entering performance criteria and levels, previewing and editing the rubric, applying it to assignments, scoring students' work, viewing gradebooks, and sharing assessments with students and colleagues. The article highlights how digital rubrics enhance transparency, consistency, and efficiency in grammar assessment.

***Cluster 3: Grammar Learning Outcomes***

***Sub-cluster A: Morphological Problems***

***Difficulties in learning English plural formation by EFL college students (Al-Jarf 2022b)***

Freshman students at the COLT received direct instruction in plural formation, then took an immediate test and a delayed test. 3099 errors were collected from both tests. No significant differences were found in the amount and types of errors made by the students on the immediate and delayed tests. Freshman students tended to regularize English plural formation and overgeneralize regular English plural morphemes (63.28%). They deleted the suffix -s or -es (35.37%) or added -s & -es to words that do not have it (27.91%). They confused singular and plural endings of Latin words (15.07%); confused the singular and plural forms of the same Latin word or added a faulty Latin suffix to a Latin word or even a non-Latin word. The most difficult plurals were of words that end with an -s or -es but have no singular form such as measles, news (28.85%); words with Latin plurals (21.85%); non-count nouns such as "information," "salmon" with no plural form (21.4%), and words that have a plural, but they thought they have no plural form such as "nation," "illness" (8.55%). Interference among the English plural morphemes themselves and confusing plural formation rules caused most errors.

**Freshman students' difficulties with English adjective-forming suffixes (Al-Jarf 2019a)**

English as a Foreign Language (EFL) freshman students at COLT received direct instruction in adjective-forming suffixes, then took an immediate and a delayed test. Error analysis showed that 36% of the responses were left blank or the subjects duplicated the stimulus word. In 32% they mismatched the word and suffix, in 36%, they made spelling mistakes; in 15% they spelled words phonetically, and in 15% they added a noun- or an adverb-forming suffix. Significant differences were found in the number of errors made by the students on both tests. The number of errors made correlated with the students' vocabulary knowledge. A hierarchy of difficulty in attaching adjective-forming suffixes, faulty strategies used in adjective morphology and possible causes of students' difficulty in adjective suffix acquisition are given.

**Acquisition of English suffixes by Saudi EFL students (Al-Jarf, 2016)**

Pre-test results revealed incorrect associations between suffixes and parts of speech, confusion between noun- and adjective-forming suffixes, overgeneralization of familiar endings, failure to apply spelling changes, confusion between similarly pronounced suffixes, deletion of base letters, and production of invented forms. These errors persisted across four groups of students despite prior exposure in vocabulary and reading courses. To address these difficulties, students received explicit instruction using textbook exercises supplemented with mind-maps, vocabulary websites, online games, and Blackboard discussion threads. These tools helped students visualize relationships among derived forms and practice suffixes in meaningful contexts. Post-test results revealed significantly higher accuracy among students who received supplementary digital and mind-mapping practice compared to those who relied on the textbook only. The study concludes that structured morphological instruction combined with multimodal practice enhances learners' ability to produce accurate derived forms.

**Sub-cluster B: Grammatical Problems in Specialized Contexts****Can ESL students identify emphatic features of advertisements (Al-Jarf 2025a)**

Sixty ESL college students in 5th semester at COLT enrolled in a Stylistics course took a test that asked them to identify the emphatic features of the Mazda advertisement. Analysis of students' responses showed that the emphatic structures that were correctly identified are: Balanced sentence structure (53%), repeating key words (53%), arranging ideas in the order of climax, (45%), using active voice (33%), changing sentence length abruptly (33%), placing important words at the end of the sentence (32%), using periodic sentences (30%), placing emphatic words after a colon or a dash (27.5%), putting a word or phrase out of its usual order (23%) and identifying intensifiers, extraposition, exclamatory sentences, using anticipatory 'it', and changing sentence types together (20%). Emphatic structures in the Mozart ad proved to be difficult to recognize because the ad draws an analogy between Mozart's musical genius and the Mazda car-making philosophy, emphasizing how both creations are driven by emotion, vision, and craftsmanship. The ad employs multiple emphatic techniques simultaneously. It immerses the reader in an emotional experience through syntactic and lexical emphasis. Instead of focusing on emphatic structures, the students were probably more engaged in decoding the poetic message and understanding the content rather than analyzing how structural elements shape emphasis.

**Problems of identifying lexical and syntactic features of legal documents by undergraduate EFL students (Al-Jarf 2023e)**

Sixty EFL junior students enrolled in a Stylistics course at COLT took a test which consisted of an English legal (notarial) text that asked them to identify its lexical and syntactic features. Analysis of the subjects' responses showed that the features that they could identify were: Use of legal verbs (69%); prefixing and suffixing of prepositions (63%); prepositional/adverbial phrases (57%); long complex sentences (52%); coordination of synonyms (doublets) (52%); statements (22%); no adjectives (10%); few pronouns (8%); use of technical vocabulary and emphatic auxiliaries (7% each); use of passive structures, relative clauses and scarce use of pronoun reference (5% each); use adverbs and putting adverbs in an unusual position (3% each); rare pronoun reference, descriptive adjectives, few adjectives, long words, sentence with unusual order, and long nominal clauses (1.6% each). These percentages reflect the difficulty level of the different lexical and syntactic features of the legal text and features with which the students have comprehension difficulties. The lower the percentage, the more difficult the feature is. Difficulties

**EFL students' difficulties with lexical and syntactic features of news headlines and news stories (Al-Jarf 2021b)**

Sixty-eight undergraduate students in the 5<sup>th</sup> semester at COLT received direct instruction in the features of news headlines and news stories. A week later, they took a test that required them to identify the syntactic and lexical features of a sample of news headlines and news stories, supply deleted words, and substitute punctuation marks, infinitives, and block language by their meanings. Results showed that 75% of the subjects could identify initials, 72% recognized surnames and infinitives used instead of the 'future', 51% recognized deleted articles, 49% identified block language, 21% identified passive without agent, 19% recognized instances where the verb "to be" was deleted, and 6% identified ellipted words. Incorrect responses revealed syntactic

and semantic/lexical problems, lack of knowledge of current world events, and insufficient ability to apply features of newspaper language to news headlines and news stories unseen before.

***Processing of advertisements by EFL Arab college students (Al-Jarf, 2007)***

This study investigated EFL students' ability to recognize syntactic features in English advertisements. Results of a test with sixty-six EFL students in the 5<sup>th</sup> semester at COLT showed that students who could correctly identify the syntactic ad features were: faulty capitalization (61%), faulty punctuation (27%), use of parallel structure (80%), use of complex sentences (44%), use of long sentences (26%), use of ellipsis (26%), use of balanced sentence structure (9%), use of incomplete sentences (7.5%), use of emphasis (7.5%), use of pronouns (4.5%), and use of extraposition (4.5%) respectively. Students who failed to recognize the syntactic features were as follows: evaluative adjectives (6%), intensifiers (28%), questions (3%), faulty sentences (3%), using exclamatory sentences (9%), using short sentences (11%), using simple sentences (15%), and giving the wrong number of paragraphs in the ad (35%), using ellipsis (61%). The higher the percentage, the more difficult the feature.

***Processing of cohesive ties By EFL Arab college students (Al-Jarf, 2001)***

Fifty-nine EFL students in semester 5 at COLT took a cohesion test in which they identified four types of cohesive ties in a reading text. Incorrect responses showed that substitution was the most difficult to process, followed by reference and ellipsis, whereas conjunction was the easiest. In resolving the cohesion relationships, the students used the following faulty strategies: An anaphor was associated with the closest noun, whether intersentential or intrasentential. When preceded by two potential antecedents, an anaphor was associated with the farther antecedent if it was salient or more familiar; an anaphor was associated with a synonym. In addition, the students matched an anaphor with a word that was identical in pronunciation or punctuation. It was found that cohesion anomalies were caused by poor linguistic competence, especially poor syntactic and semantic awareness, and poor or inaccurate knowledge of the cohesion rules.

***Definite or indefinite? The case of Arabic product names as judged by student translators (Al-Jarf, 2024a)***

A sample of undergraduate student translators made judgments about the correctness of the definiteness and indefiniteness in a sample of 187 product names (food, teas, coffee, herbs, spices, supplements, and beauty products) collected from supermarkets, shops, and pharmacies. A product name was confirmed as definite or indefinite if it received the same response from 70% of the participants. Results showed that 60% of the product names are definite and 40% are indefinite. 49% were judged correct ((38% indefinite and 11% definite) as توت مشكل mixed berries. 51% were judged incorrect (49% definite and 2% indefinite) as الزنك \*the zinc). In some cases, definite and indefinite forms of the same product names are used due to differences in the manufacturer. Few faulty indefinite forms should be definite (بهارات السمك fish spices instead of سمك), and few definite forms were considered correct (توابل المشويات BBQ spices). The highest frequency of faulty {al-} occurred in two-word product names. It seems that manufacturers are unaware of the rules of making product names definite/indefinite, especially those with a generic and ubiquitous reference as opposed to those referring to specific and unique entities as in oil names. Analysis revealed no transfer of definiteness/indefiniteness from English, in which product names are usually indefinite.

***Sub-cluster C: Problems in Translating Grammatical Structures***

***Issues in translating English and Arabic plurals (Al-Jarf 2020b)***

Results of an English and Arabic plural translation test showed that translation students at COLT had difficulty translating Arabic plurals with a singular English equivalent, (مجوهرات /mujawharaat/ jewellery); Arabic duals with two different singular stems (الرافدان the Tigris and Euphrates); multiple Arabic plurals (دجاج /dajaaj/ chicken, دجاجات /dajaajaat/ a number of hens); stems with two plurals and different usages, (اقتصاديات /iqtisadiyyaat/, economies اقتصادات /iqtisadaat/); compound plurals (معالجات الصور /muʔaalijaat aʕsuwar/); English nouns ending in -ies that have the same singular and plural form, e.g., series, species; singular and plural forms of the same base when the base could assume two parts of speech, e.g., rich and riches; foreign/Latin singular and plural forms, e.g., indices, larvae; and names of tools and articles of dress consisting of two parts ending in -s, e.g., مقصات /miqaʕs/, scissors. The students made more errors in Arabic-English than English-Arabic, made more interlanguage than interlanguage errors, had more morphological than semantic difficulties in Arabic-English translation, and had more semantic difficulties in English-Arabic translation. They tended to translate imitatively rather than discriminately. Literal translation was the most common strategy. When they could not access the meaning of a noun, they provided an equivalent that was phonologically close, or offered a paraphrase, an explanation, or an extraneous equivalent. Students transferred a noun's morphological features from the source to the target language, regardless of whether the source language was Arabic (L1) or English (L2).

***Interlingual pronoun errors in English-Arabic translation (Al-Jarf 2010)***

An error corpus of faulty uses of Arabic independent subject pronouns was collected from the translation projects of senior students majoring in translation at COLT. It was found that students translate imitatively rather than discriminately. Since English sentence begins with a subject pronoun such as I, he, they, the students used an independent subject pronoun followed by a verb+

pronominal suffix in declarative, affirmative statements, without realizing that the subject is contained in the verb, and use of /?ana/ or /huwa/ is redundant. Implications for increasing students' awareness of pragmatic, discursal and syntactic constraints in translating English pronouns into Arabic are provided in the study.

#### ***Undergraduate student-translators' difficulties in translating English word + preposition collocations to Arabic (Al-Jarf 2022e)***

A corpus of faulty word+ preposition collocations was collected from students' graduation projects. Results showed that in 84% of the errors, the students substituted a preposition in the translation by a faulty one, in 13%, they added a preposition after an Arabic word that does not require a preposition, and in 3% they deleted a preposition from a translation that requires use of a preposition. In addition, 19% of the errors were interlingual (transfer errors from English) and 81% were intralingual due to inadequate competence in L1 (Arabic). 44% were extraneous errors, 21% were due to ignorance of Arabic language rules of preposition use and 18% were due to faulty common use of the preposition in the students' local dialect. 86% were syntactic; 11% were semantic and 3% were stylistic errors.

#### ***Word + particle collocation errors in English-Arabic translation (Al-Jarf 2009)***

Analysis of faulty Arabic Word+ Particle collocations collected from the translation of English texts to Arabic by senior student-translators at COLT revealed that the students substituted certain particles by faulty ones (84%), added a particle after an Arabic word that does not require a particle in English (13%) or deleted a particle from a collocation that requires use of a particle in English (3%). Interlingual errors (from L2) constituted 19% whereas intralingual errors (from L1) constituted (81%). Intralingual errors were due to faulty common use by Arabic speakers (16%), ignorance of rule (21%) and extraneous errors (44%). The students produced the in the following syntactic contexts: confusing *li* and *ila* (16%), adverbs of place (13%), set phrases and PP expressions (12%), words followed by different prepositions (12%); misuse of the more than (7%), parallel structure (6%), using a faulty preposition after *that* (4%), and inserting a particle after a derived noun when the verb does not require one (4%). The study recommends that Word+Particle collocations be part of the Arabic language grammar course that the students take. A contrastive analysis of word+particle collocations in English and Arabic, with examples of similarities and differences.

#### ***SVO word order errors in English-Arabic translation (Al-Jarf 2007b)***

An error corpus of deviant SVO structure was collected a test in which 32 senior student translators at COLT translated 10 stretches of discourse from English to Arabic. Analysis of students' responses rendered 55% SVO sentences in which the subject was misplaced before the verb, although all the English stretches of discourse on the test required an Arabic translation with a VSO order. Similarly, examination of the 472 deviant SVO structures in Arabic collected from the translation projects of senior student translators at COLT showed that students calqued the English SVO order. These findings show interference from L2 to L1. They used strategies that sought structural equivalence between English and Arabic.

#### ***Grammatical agreement errors in L1/L2 translation (Al-Jarf 2000)***

159 grammatical agreement errors collected from the translation projects of nine Saudi student translators were analyzed. A grammatical agreement error was defined as the incorrect inflection of nouns, verbs, adjectives, anaphoric pronouns, and determiners to show a mismatch in singular, dual, or plural forms or a mismatch in masculine and feminine gender in correspondence with a subject, modified noun or antecedent. There were more disagreeing verbs than pronouns or adjectives and there were more gender than number agreement errors and more interlingual than intralingual. 27% of the errors were due to incorrect gender assignment to the controller or target, 3% were due to inability to determine the number of the controller or target, 24% were due to inability to associate the verb, pronoun or adjective with its correct referent. There were more agreement errors when the controller was singular and plural, when the plural controller was non-human and when the controller was feminine.

#### ***Cluster 4: Factors Affecting Grammar Learning Outcomes Teaching grammar for professional purposes (Al-Jarf 2009a)***

The proposed model focuses on content selection, presentation, practice and error correction, extension activities, and assessment. It also recommends teaching English grammatical structures common in the written texts in the students' major. New structures should be directly taught, compared and contrasted. Categorization, association, and visualization skills and mnemonic approaches are emphasized. Tenses are connected with real-life situations. Graphic organizers are used. Brief rules are taught, avoiding too many exceptions. Students verbalize rules orally, practice the new structure and do exercises in class under the instructor's supervision, with communicative feedback. They circle verbs, break the sentence into its constituents, and pay attention to clues.

They verbalize steps for producing a structure. Free production, out of class listening, speaking, reading and writing activities, Internet websites, a class forum, and blogs are used for practice. The Students are given weekly quizzes that focus on application and avoid mechanical production of answers, varying question format from quiz to quiz, and testing structures in a different context and examples.

***Role of instructor qualifications, assessment and pedagogical practices in EFL students' grammar and writing proficiency (Al-Jarf 2022c)***

Three groups of EFL freshman students were concurrently enrolled in a grammar and a writing course. One group was taught the grammar and writing courses by the same instructor; the other two groups were taught grammar and writing by two different instructors using the same textbook but different instructional and assessment techniques. Comparisons of the grammar and writing post-tests showed significant differences between the three groups in the writing and grammar post-test mean scores. The group that received a combination of writing and grammar instruction by the same instructor (Instructor A) had the highest performance. The relationship between grammar and writing instruction seems to be reciprocal: writing instruction affects grammatical competence and grammatical knowledge affects writing skill development. Better achievements were made when both courses were taught by the same instructor, as she can make the right connections between what is taught in both courses. The instructors' qualifications, pedagogical system, educational and professional experience, the integration of online instruction, the type of error correction and instant feedback given to the students and the formative assessment technique used were significantly more effective than writing/grammar instruction that depended on the textbook alone. These variables enhanced the grammatical knowledge and writing quality of unskilled, low ability EFL students.

***Cultural issues in online collaborative instruction in EFL Classrooms (Al-Jarf, 2007a)***

This study examined an online collaborative grammar course shared between female freshman students at COLT and male freshman students at the English Department, Umm Al-Qura University using the Makkah eLearning Moodle platform. The course required students to participate in weekly grammar-focused discussion threads, explore grammar websites, and contribute links or posts. Despite encouragement and extra credit, participation was extremely low, with only a few students registering and minimal interaction taking place. The experiment proved to be a total failure due to cultural and social factors: female students were hesitant to participate, attempted to conceal their identities, and perceived cross-university online interaction as inappropriate or similar to chat-rooms. Gender segregation in Saudi education, limited familiarity with online learning, and the belief that the internet is for entertainment rather than academic work further reduced engagement. Participation was optional and not tied to course grades, leading to passive behavior and lack of motivation. As the only instructor using online instruction at COLT, the author could not ensure consistent engagement, and students did not take the online component seriously.

***The role of grammar in developing EFL freshman students' writing skills (Al-Jarf, 2005d)***

This study investigated the contribution of grammar instruction to EFL freshman students' writing development by comparing five groups of freshman students at COLT who differed in whether grammar and writing were taught by the same instructor. Five instructional configurations were compared: Groups 1 and 2 received both grammar and writing instruction from the author; Group 3 received writing instruction from the author but grammar from another instructor; Groups 4 and 5 received grammar instruction from the author but writing from other instructors (See Image 1). All groups completed grammar and writing pretests, which showed similar grammatical knowledge but significant variation in writing ability at entry. Throughout the semester, groups received instruction using the same grammar textbook and writing materials, but with different teaching configurations. Post-test results revealed significant differences among the groups in both grammar and writing performance, with strong correlations between the two skills. Students taught by the same instructor in both grammar and writing achieved the highest gains, demonstrating stronger mastery of grammatical structures and producing longer, more coherent essays. Qualitative analysis showed improvements in sentence complexity, idea organization, spelling, punctuation, and capitalization among the highest-performing groups. The findings indicate a reciprocal relationship between grammar and writing: explicit grammar teaching supports writing improvement, while writing practice reinforces grammatical competence (See Image 2). The study concludes that integrating grammar and writing instruction, preferably delivered by the same instructor, enhances learners' ability to transfer grammatical knowledge to extended written discourse.

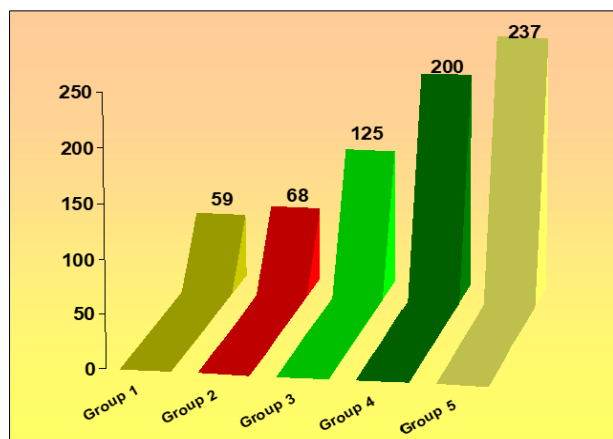


Image 1: Number of Participants in Each Group

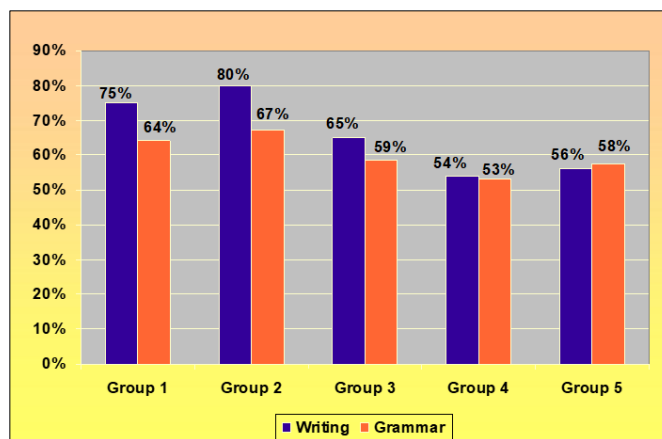


Image 1: Results of Writing and Grammar Posttest Mean Scores

**Using three Online Course Management Systems in EFL instruction (Al-Jarf 2005e)  
Are WebCT, Moodle and Nicenet equally effective in EFL Instruction? (Al-Jarf 2006a)**

(See summary for both studies under Cluster 1 in the Results section above).

**4. Discussion**

**4.1 Meta-Conclusion**

The corpus reveals three distinct types of grammar learning outcomes: persistent morphological problems, grammatical problems in specialized contexts, and translation problems related to six grammatical structures. Across the four thematic areas, the studies collectively present a coherent developmental picture of how Saudi EFL learners acquire, process, and apply grammatical knowledge under different instructional, technological, and contextual conditions.

Technology-enhanced grammar instruction—whether through LMS platforms, podcasts, online tasks, Elluminate sessions, or mind-mapping—consistently produced significant gains when the tools were simple, structured, and with an interactive learning community. At the linguistic level, learners showed morphological weaknesses in plural formation and noun- and adjective-forming suffixes. Genre-based studies demonstrated difficulties in identifying syntactic features embedded in advertisements, legal texts, and news discourse, while translation-focused studies revealed problems with collocations, pronouns, particles, SVO order, and agreement, indicating that grammatical challenges extend beyond isolated forms to discourse-level and cross-linguistic processing.

Findings related to factors affecting grammar learning further show that pedagogical practices, technological design, and socio-cultural norms shape learners’ grammatical development. Instructor qualifications and assessment practices influence accuracy; simple LMS designs (as Nicenet) facilitate participation, whereas complex platforms (as Moodle, WebCT) hinder engagement; and gender-segregated online collaboration introduces socio-cultural constraints that affect interaction and learning. Additionally, the content and focus of grammar instruction change depending on whether it serves general academic purposes or professional/occupational needs.

Taken together, the corpus demonstrates that grammar learning improves when instruction is explicit, technologically supported, contextually grounded, and sensitive to learners’ linguistic, pedagogical, and socio-cultural realities.

**4.2 Meta-Interpretation**

The experimental studies in the corpus employed control and experimental groups with pretest–posttest designs to evaluate the effectiveness of technology-enhanced grammar instruction. Across platforms such as Nicenet and Elluminate, experimental groups receiving a combination of textbook-based instruction and online activities consistently outperformed control groups receiving textbook-only instruction, with statistical analyses (t-tests, ANOVA, correlations) confirming significant gains in grammatical accuracy. However, three studies did not yield positive results. In two comparative LMS studies, the simplicity of Nicenet facilitated engagement while the complexity of Moodle and WebCT reduced participation and learning gains; and in a third quasi-experimental study, gender-segregated online collaboration between male and female students resulted in complete failure

due to socio-cultural constraints despite structured tasks, encouragement, and extra credit. Other experimental findings highlight the role of instructor qualifications: whether grammar is taught alone or integrated with writing, significantly shapes learning outcomes. In the assessment domain, the iRubric study demonstrates how digital scoring rubrics can be constructed for word-level and sentence-level grammar assessment, with clearly defined categories, performance levels, and mark allocations that enhance transparency and consistency.

The grammar learning outcomes cluster reveals three distinct patterns. First, morphological problems, such as plural formation and derivational suffixes, show that learners rely heavily on overgeneralization and faulty analogies, indicating that morphological development is shaped by cognitive shortcuts rather than explicit rule awareness. Second, grammatical problems in specialized contexts arise from cognitive overload and limited exposure to authentic discourse structures, as seen in difficulties identifying syntactic features in legal texts, advertisements, and news headlines and news stories. Third, translation problems related to grammatical structures reveal that translation accuracy or inaccuracy is influenced by L1–L2 contrasts, limited syntactic awareness, and reliance on literal strategies, leading to systematic errors in collocations, pronouns, particles, SVO order, and agreement.

Together, these patterns suggest that grammar learning is shaped by the interaction of technological design, instructional clarity, linguistic complexity, and socio-cultural context, and that learners benefit most when instruction supports noticing, reduces cognitive load, and provides structured opportunities to internalize grammatical patterns across tasks and environments.

### ***4.3 Cross-Cutting Insights***

Several insights cut across the diverse methodological strands. First, learners' grammatical weaknesses, whether in morphology, syntax, or translation, are remarkably stable, indicating that surface-level instruction does not automatically transfer to new genres or tasks. Second, the studies consistently show that students perform better when instructional tools are simple and use simple language, provide immediate, structured feedback, as seen in the success of Nicenet, and Illuminate sessions. Third, the corpus demonstrates that grammatical competence is deeply interconnected with reading, writing, stylistic awareness, and translation, suggesting that grammar cannot be treated as an isolated skill. Fourth, genre-based and translation studies reveal that students struggle most when grammatical structures interact with discourse-level meaning, such as in legal syntax, news ellipsis, cohesive ties, and emphatic constructions. Finally, the findings collectively highlight the importance of integrating grammar instruction with authentic texts, explicit modelling, and scaffolded technological support to bridge the gap between rule knowledge and real-world language use.

### ***4.4 Implications***

The collective findings of this SR point to several pedagogical and curricular implications. First, the recurrent morphological, syntactic, and translation-related weaknesses indicate that grammar instruction must be explicit, sustained, and distributed across the semester rather than delivered through brief, isolated lessons. Second, the consistent success of simple technological tools suggests that digital platforms used for grammar instruction should prioritize cognitive simplicity, clear navigation, and structured feedback rather than feature-heavy designs. Third, the strong interdependence between grammar, writing, reading, and stylistic awareness highlights the need for integrated curriculum design in which grammar is taught through meaningful texts and writing tasks rather than as separate, decontextualized components. Fourth, learners' difficulties with discourse-embedded structures point to the importance of incorporating genre-based grammar instruction that exposes students to authentic linguistic patterns in legal, journalistic, and persuasive texts. In specialized translation courses, the discourse-level lexical and syntactic features of the target genre should be made explicit from the outset, drawing students' attention to the grammatical structures that recur across translated texts and training them to notice how these structures function within extended discourse. Fifth, the findings underscore the need for assessment practices that make grammatical expectations transparent—such as analytic rubrics—and for instructional policies that consider socio-cultural constraints. Online collaborations, in particular, should be socially and culturally acceptable to participating students; instructors should solicit students' views before initiating such collaborations to avoid investing time and effort in activities that are unlikely to be pedagogically beneficial. Together, these implications highlight the need for instructional approaches that are explicit, contextually grounded, technologically appropriate, and sensitive to learners' linguistic and socio-cultural realities.

### ***4.5 Positioning This SR Within SRs on Global Grammar Teaching and Learning***

Within the global landscape of grammar teaching and learning research, this SR occupies a distinctive position by integrating multiple strands that are rarely examined together in international reviews. Global SRs typically focus on narrow themes—such as the effectiveness of explicit versus implicit instruction, corrective feedback, mobile-assisted grammar learning, or the role of consciousness-raising tasks—while treating grammar as a set of discrete structures. In contrast, the present SR synthesizes a uniquely broad and internally coherent body of work that spans technology-enhanced grammar instruction, morphological acquisition, genre-based syntactic awareness, cohesion processing, and translation-related grammatical difficulties. The corpus includes comparative evaluations of LMS platforms, synchronous web-conferencing, podcasts, and online grammar tasks—tools

that global SRs often mention but seldom analyze in relation to learner cognition, usability, and achievement. It also incorporates detailed morphological studies on plural formation and adjective-forming suffixes, as well as genre-specific investigations of legal syntax, news discourse, advertisements, and cohesive ties—domains largely absent from international grammar reviews. Furthermore, the translation studies provide a cross-linguistic dimension that global SRs rarely address, revealing how grammatical competence interacts with L1–L2 contrasts in collocations, pronouns, particles, SVO order, and agreement. By bringing these strands together, this SR offers a more integrated and contextually grounded perspective than global reviews, positioning grammar not as an isolated skill but as a linguistic system that operates across morphology, syntax, discourse, and translation.

#### **4.6 How This SR Connects to the Author's Previous SRs**

This SR extends the author's long-standing research program by foregrounding grammar as the structural thread that runs through many of her earlier systematic reviews. Previous SRs examined diverse domains, reading instruction, pronunciation pedagogy, mobile-assisted learning, ESP innovation, stylistics, transliteration, AI-assisted translation, distance learning, and social-media-mediated EFL instruction, but grammar consistently appeared as an underlying determinant of learner performance across these areas. The present SR brings this implicit thread into explicit focus by synthesizing studies that directly investigate grammatical acquisition, morphological difficulties, syntactic awareness in specialized genres, cohesion processing, and translation-related grammatical errors. It also connects to the author's earlier work on instructional technologies by showing how LMS platforms, podcasts, online tasks, Elluminate sessions, and mind-mapping software shape learners' engagement with grammatical structures. Likewise, it complements previous SRs on assessment and evaluation by incorporating research on digital iRubrics and instructor-related factors influencing grammar achievement. In this sense, the SR does not stand apart from the author's earlier reviews but consolidates and extends them, demonstrating how grammar functions as a unifying axis across two decades of research on EFL learning, technology integration, stylistic analysis, and translation pedagogy. It therefore strengthens the coherence of the author's scholarly trajectory and situates grammar at the center of her broader contributions to applied linguistics.

#### **4.7 Limitations**

Despite the breadth and internal coherence of this author-bounded corpus, several limitations must be acknowledged. First, the technological range represented in the studies is limited. The corpus relies on early tools, LMS platforms, grammar podcasts, online tasks, Elluminate sessions, mind-mapping software, and digital rubrics, while excluding recent technologies that currently shape grammar pedagogy, including adaptive grammar systems, AI-driven platforms, mobile applications, multimodal learning environments, and analytics-based feedback systems. This narrow technological base restricts the corpus's relevance to present-day instructional contexts.

Second, the linguistic coverage is skewed toward morphological problems. Although the studies offer detailed analyses of plural formation and derivational suffixes, they do not cover sentence-level grammar structures. More advanced structures, such as conditional sentences, mixed conditionals, subjunctive mood, passive structures, fronting structures, cleft sentences, reduced relative clauses, noun complement clauses, verb complementation patterns, nominalization, complex noun phrases, discourse markers, elliptical constructions, non-finite clauses, complex coordination, scope of negation, and others, were not covered by the author's studies. Similarly, translation-focused studies addressed 6 grammatical structures (plural, collocations, pronouns, particles, SVO order, agreement) without engaging broader syntactic or discourse-level translation challenges or tracing grammatical development across proficiency levels. This results in a corpus that is linguistically informative but structurally incomplete. Different types of multi-word and metaphorical expressions were the subject of research by the author.

Third, the grammatical problems in specialized contexts are limited to a narrow set of genres—legal texts, advertisements, news discourse, and cohesive ties. Key genres such as scientific, literary, educational, social, medical, military, political, and Islamic discourse remain unexamined, limiting the applicability of the findings to wider discourse environments.

Finally, because the corpus is limited to published studies by a single author, it reflects a consistent methodological orientation but does not capture alternative research traditions, multi-author perspectives, or cross-institutional comparisons. These limitations define the boundaries of the present SR and highlight opportunities for expanding future research into more diverse technologies, grammatical domains, genres, and collaborative contexts.

### **5. Recommendations**

The findings of this SR offer several pedagogical recommendations and point to new avenues for future research. Instructionally, teachers should continue to employ technologies that are simple, structured, and cognitively manageable, such as Nicenet, Elluminate, grammar podcasts, and focused online tasks that are currently available on the web, as these tools proved effective by the author's studies, not because of technological sophistication but because they provide clear channels for practice, interaction, and feedback. Modern LMSs can be tried out by grammar instructors such as: Canvas LMS, Blackboard Learn, Google Classroom, Microsoft Teams for Education, Schoology, Brightspace and D2L Brightspace.

In addition, instructors and learners may integrate modern technologies like platforms that personalize grammar practice, virtual tutors that generate instant explanations, systems that detect and explain errors, conversational bots offering grammar-focused dialogue, writing tools that provide syntactic feedback, gamified grammar environments, AR-based tasks, speech-driven grammar practice, micro-learning grammar apps, corpus-exploration tools, automatically generated grammar tasks, spaced-repetition systems, visual grammar mapping tools, and intelligent grammar modules embedded in LMS environments.

Recent advances in AI have made it possible for instructors to offer students to try human-like conversational grammar coaches, often designed with friendly female names and natural voices, that simulate tutor-learner dialogue and reduce speaking anxiety. Their real-time corrective feedback makes them promising tools for improving sentence accuracy and syntactic control during oral communication. Teachers and students may experiment with these tools, and future research should examine their effectiveness by comparing learners who receive AI-based conversational feedback with those receiving traditional oral grammar instruction.

Since COLT students are trained to be translators, grammar instruction should include a wider range of structures that are essential for translation accuracy or authentic texts, such as conditional sentences, subjunctive mood, inversion after negative adverbials, fronting structures, cleft sentences, reduced relative clauses, noun complement clauses, verb complementation patterns, nominalization, complex noun phrases, concession clauses, comparative clauses, complex prepositional phrases, correlative conjunctions, discourse markers, elliptical constructions, non-finite clauses, complex coordination, scope of negation, focus particles, and others. Translation courses should explicitly compare and contrast these structures in English and Arabic, given students' recurring errors in collocations, pronouns, particles, SVO order, and agreement. Research is needed to evaluate instructional strategies, technologies, assessment practices, and the effectiveness of teaching such structures.

Moreover, genre-based instruction should expand beyond legal, advertising, and news texts to include scientific, literary, educational, social, medical, military, political, and Islamic genres, as well as academic essays, workplace communication, and conversational grammar as in movies and commercials. Researchers can investigate learners' syntactic, lexical, and pragmatic comprehension across these genres and identify persistent challenges that student translators face. Translation-focused studies should also explore how grammatical competence develops across proficiency levels and how learners process complex syntactic structures during translation tasks. Cross-institutional and multi-author research would further strengthen generalizability and situate Saudi EFL grammar research within broader international trends.

## **6. Conclusion**

This SR synthesizes a uniquely comprehensive and internally coherent body of research on grammar learning, teaching, assessment, and translation within Saudi EFL contexts. By integrating studies on LMS platforms, podcasts, online tasks, Elluminate sessions, and mind-mapping software, the review demonstrates that technology enhances grammar learning when it is simple, structured, and pedagogically aligned. The corpus also reveals persistent morphological difficulties, genre-specific syntactic challenges, and systematic translation-related grammatical errors, highlighting the need for explicit instruction that connects grammar to real linguistic contexts. The findings underscore the importance of integrating grammar with reading, writing, stylistics, and translation, rather than treating it as an isolated component of the curriculum. Although the corpus is limited in technological diversity and grammatical scope, it offers a rich, longitudinal account of how learners engage with grammatical structures across modalities, genres, and tasks. Ultimately, this SR positions grammar as a central, unifying dimension of the author's broader research program and provides a foundation for future work that is more technologically diverse, linguistically comprehensive, and contextually expansive.

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