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A Systematic Review of Interventions Improving University Students' EFL Writing Competence

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Abstract. Writing competence in English as a Foreign Language (EFL) is a critical skill for university students, as it affects their academic and career success. However, many EFL university students are not capable of writing English compositions and face considerable challenges in developing their writing skills. To address these challenges, various interventions have been proposed, yet few studies have integrated them in recent years. This study employed PRISMA guidelines to analyze forty-two empirical studies on interventions improving university students' EFL writing competence based on peer-reviewed journals published between 2012 and 2022. The review identified the types of interventions, evaluated their effectiveness in improving students' writing competence, and provided recommendations for teachers and future researchers. Findings showed that teaching instruction, feedback, cooperative learning and modern technology were applied into teaching activities, which improved university students' EFL writing competence to various degrees. Teachers are required to select suitable interventions or combine different interventions to help university students to effectively solve problems in English writing. Furthermore, the findings will make a contribution to understanding recent interventions in EFL writing instruction in university settings, providing a reference for educators to develop evidence-based practices to enhance university students' EFL writing competence.

Keywords: Interventions; University students; English as a Foreign Language; writing competence

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1. Introduction

Writing is considered to be one of the most essential inventions and possessing a good proficiency in writing techniques is important in every aspect of life (Gilbert, 2010). With the ever-increasing interconnectedness between countries and international exchanges becoming more frequent, English, as the most widely spoken language, has occupied an increasingly important position in teaching and learning around the world; thus, English writing ability has been receiving more attention. Besides cultivating an ability to generate and organize ideas, English writing practice can foster students' analytical and critical thinking, reinforcing their learning and reflecting their ability to study (Khalil, 2018). "Writing well in English is not only an art rather the academic and social success of students is based on their proficiency and competency in writing skills" (Akbar et al., 2018, p. 7).

Despite its importance, English writing has always represented a weak link for college students in their English learning process. Research has shown that English writing remains a challenging task that causes problems for EFL students (Astrid et al., 2019; De Silva, 2015; Hanh & Tinh, 2022; Wang, 2015; Zaghlool, 2020). A large number of EFL college students encounter difficulties in making their language work in a paragraph, such as constructing a grammatically correct sentence, or choosing appropriate vocabulary to link and convey their ideas (Mukminin et al., 2015; Makmur et al., 2016).

To improve EFL students' writing competence, various approaches have been studied and applied to teaching activities. As the most acceptable method in EFL classes (Tang, 2012; Torto, 2014), the product approach is based on linguistic knowledge, placing great emphasis on the finished essay and requiring students to avoid errors in terms of writing, grammar, tense and spelling (Pincas, 1982, as cited in Hashemnezhad & Hashemnezhad, 2012; Tang, 2012). Due to the deficiency of the traditional product approach in fostering students' cognitive processes and expression (Silva, 1997), the process approach shifted the emphasis from the final written product to the writing process (Silva, 1997), which was regarded as a complicated process to deal with problems (Hashemnezhad & Hashemnezhad, 2012). Through brainstorming, group discussion and re-writing, teachers encouraged their students to participate in various classroom activities, paying attention to the whole language rather than individual sentences (Klimova, 2013). However, realizing the failure of the process approach in offering cultural and linguistic resources to students (Hyland, 2003; Johns, 2002), researchers introduced genre pedagogy, which focused on the social context where writing activities was conducted. Genres were employed with specific social purposes (Gibbons, 2002), such as stories, research reports, resumés and other forms, to help students succeed in particular settings (Paltridge, 2004). Meanwhile, to compensate for the deficiency of the above approach, the process-genre approach was introduced. It emphasized the advantages of both the process and genre when implemented in the classroom (Torto, 2014), combining the language, context, purpose, writing skills and the processes in the writing. Furthermore, modern technology also significantly

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promotes the teaching of writing, through the use of online writing tutorials and computer assisted language learning (CALL) programs (Zaini & Mazdayasna, 2014, 2015; Azari, 2017; Ismail et al., 2012; Suthiwartnarueput & Ratanakul, 2018). These interventions provide students with immediate feedback and allow them to practice writing in a supportive environment, which is effective to cultivate students' writing skills. Also, explicit instructions on teaching students specific writing skills, such as how to write an effective topic sentence or how to use transitions, were also used to improve students' writing competence (Alawerdy & Alalwi, 2022; Baghbadorani & Roohanik, 2014; De Silva, 2015; Zhang & Zhang, 2021).

In studying the plethora of interventions intended to improve EFL students' writing competence, researchers have grouped them into different categories, such as interventions that focus on summarizing (Selvaraj & Aziz, 2019). Since few studies have integrated interventions implemented to develop university students' EFL writing competence in the last decade, through a comprehensive analysis of empirical studies, this review sought to identify the types of interventions that have been used, summarize their effectiveness in improving university students' EFL writing competence, and provide recommendations for teachers and future researchers. Specifically, this paper was dedicated to answering the following questions:

- (1) What are the interventions that have been implemented to improve university students' EFL writing competence?
- (2) What impact did the interventions have on university students' EFL writing competence?

This study contains four sections. The first section provides a general introduction. Next, the second section describes the details of the review process before the third section presents the research results. Finally, the conclusion is presented in the fourth section.

2. Methodology

2.1 Search strategy

To synthesize and analyze literature on the interventions implemented to improve university students' EFL writing competence, the researcher performed a systematic review, which followed the PRISMA guidelines (Moher et al., 2009). Studies related to the relevant topic were selected in this paper.

The search was applied to electronic databases as follows: Scopus, ScienceDirect, Web of Science Core Collection as well as EBSCOhost Research Databases that covered Academic Search Ultimate, Art & Architecture Source, Business Source Complete, Communication & Mass Media Complete, Computers & Applied Sciences Complete, Humanities International Complete, MEDLINE, MEDLINE Complete, Psychology and Behavioral Sciences Collection and SocINDEX with Full Text, during the period from 2012 to 2022. Only journal article publications conducted worldwide and written in English were included. Keywords related to the topic of interventions implemented to improve university students' EFL writing competence were used for the search. Various

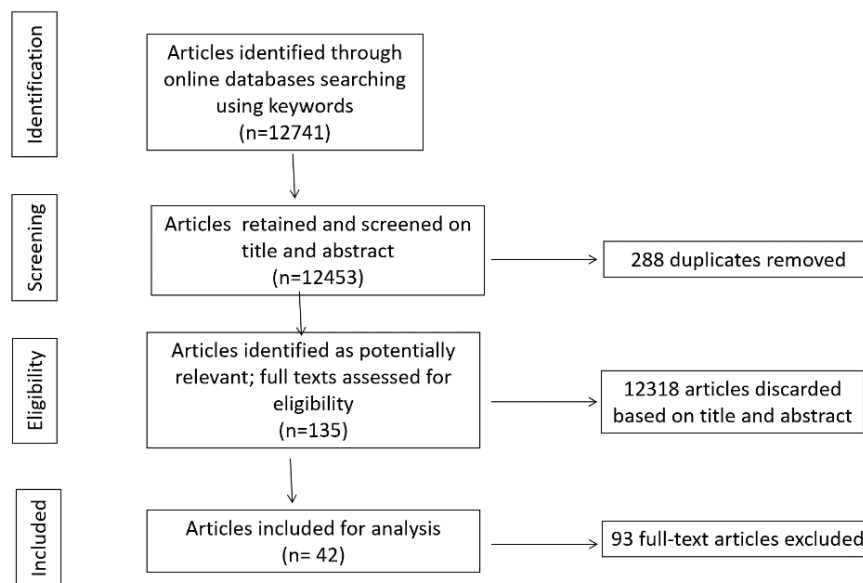
related keywords were included, such as university students, pedagogy, teaching, intervention, EFL writing, and ESL writing; these were combined with “OR” within each group of keywords, and with “AND” between those groups.

2.2 Inclusion and exclusion criteria

- a. Included articles were those published between 2012 and 2022; those published before 2012 or after 2022 were not included.
- b. The articles had to contain longitudinal or empirical investigation and have a sample size that was statistically valid; studies analyzing the results of a single intervention or focusing on a few particular objects did not meet the inclusion criteria.
- c. The participants in the studies had to be undergraduates of EFL/ ESL learners in colleges or universities; graduate and postgraduate students, primary and middle school students, and native English speakers were excluded.
- d. The assessment approaches had to be objective, or both objective and subjective, evidenced by the writing score or the reduction of grammatical errors; studies with results from the students’ (or teachers’) subjective cognizance or perception only were not included.

2.3 Data extraction

The research was limited to peer-reviewed publications in English. By following the guidelines provided by the PRISMA flow chart, four important processes including identification, screening, eligibility and inclusion aided the selection of the required articles (Moher et al., 2009). During the identification process, 12741 articles were found in the databases using the search keywords mentioned above, which included 8794 from EBSCOhost Research Databases, 3162 from ScienceDirect, 401 from Scopus and 384 from Web of Science Core Collection. The identified studies were exported in ENDNOT(X9) (Hupe, 2019), with 288 duplications being removed prior to the screening process. Then, titles and abstracts of the 12453 identified studies in the electronic databases were screened for eligibility and any uncertainty over the inclusion criteria at this stage triggered a full-text review. Following the review, 135 articles remained and were carefully read and assessed against the eligibility criteria. As a result, 93 articles were removed as the participants were not undergraduate students in universities, or no control group was used, or the results were not directly related to writing competence. Finally, 42 articles remained, including 14 articles from EBSCOhost, 5 articles from ScienceDirect, 7 articles from Scopus and 16 articles from Web of Science Core Collection. The process of selecting the reviewed articles is shown in Figure 1. Data integration and analysis were managed in Microsoft Excel.



3. Results and discussion

3.1 Research design

Data relating to the included articles (n=42) are stated in Table 1. All forty-two studies included were designed as experiments and twenty-five of these [5, 8-10, 12-15, 17, 20-21, 23-24, 26-30, 32, 34, 36-38, 40-41] stated explicitly that the designs were quasi-experimental, with participants being segregated into one or two experimental groups (i.e. students receiving a particular intervention) to verify the influence of the target intervention on students' writing competence in various aspects, through comparison with a control group (i.e. students receiving no intervention). Furthermore, all of the studies reviewed included a pretest, treatment and posttest(s). Seven studies [10, 14, 23, 27, 30, 37, 40] employed both an immediate posttest and a delayed posttest for evaluating the development of students' writing competence after an extended period.

Of the selected studies, nineteen employed a mixed methods approach while the remaining twenty-three adopted a quantitative method. In addition to the writing test, which was used in all the studies, other instruments included (open-ended) questionnaires [1, 3-4, 6, 8-12, 14, 18, 21, 24, 27, 32, 35, 37, 40], interviews [4, 17, 19, 25, 26, 31- 33] students' task performances, logs, language samples from learning platform [5, 19, 21] as well as teachers' journals, notes and observation [21] to provide necessary data for analysis and discussion.

Though not all the studies reported the source of their test paper and most of the studies under review selected different test papers and rubrics for measurement, some of them shared the same. For instance, six studies [2, 6-7, 13, 20-21] used the Oxford Quick Placement Test to measure students' English proficiency level before the experiment and six studies chose IELTS writing tasks [8, 12, 20-21, 26, 35, 37] during the treatment. In addition, six studies [4, 6, 18, 23, 26, 41] employed the rubric from Jacobs et al. (1981) for measurement.

3.2 Participants

The forty-two studies in this review were all conducted in Asian countries stated in Figure 2, specifically China (n=10) [10, 15, 23, 25, 32, 36-37, 40-42], Iran (n=10) [6-7, 12-13, 20-21, 26, 28, 38, 39], Saudi Arabia (n=5) [2-4, 9, 34], Vietnam (n=3) [17, 31, 35], Taiwan China (n=2) [14, 24], Spain (n=2) [5, 16], Iraq (n=2) [1, 22], Yemen (n=1) [29], Thailand (n=1) [33], Sri Lanka (n=1) [11], Philippine (n=1) [8], Pakistan (n=1) [30], Malaysia (n=1) [18], Korea (n=1) [19], and India (n=1) [27]. Additionally, the participants in the included studies were mainly from the abovementioned countries.

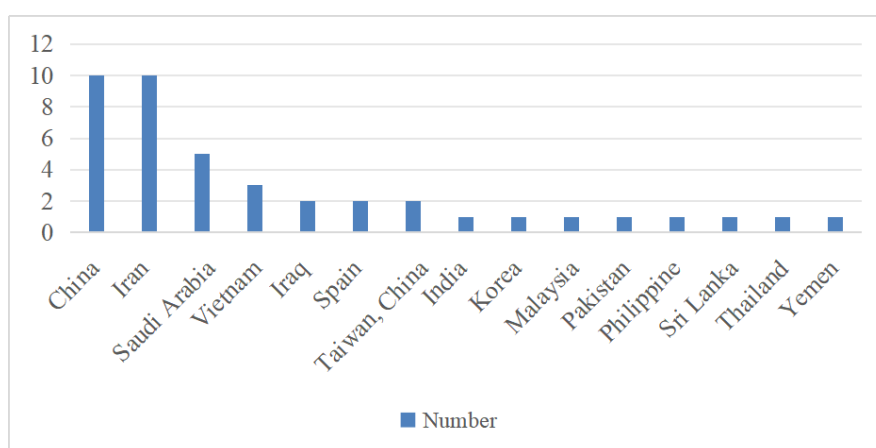


Figure 2: Diagram of the quantity of study conducted in each country

While four of the studies [11, 17, 38, 42] did not report any information related to participants' grades, and only nine studies [3, 9, 12-14, 21, 24, 30, 34] mentioned the participants' ages, which was approximately between 17 and 23, ten studies [2, 6, 8, 15-16, 19, 25, 28, 33, 36] involved participants in their first year of undergraduate study, eleven studies [10, 20, 23, 26, 27, 31, 32, 35, 37, 39, 40] focused on second-year students and seven studies [1, 5, 7, 18, 22, 29, 41] had participants who were senior students in their third year of study. Indeed, participants in Alharthi's (2021) [4] study were from various grades, including freshmen and sophomores as well as advanced EFL learners.

In terms of the participants' majors, most of them were English-related, including English majors (n=10) [4, 10, 15, 20-21, 31, 35, 40-42], English language and literature majors (n=4) [6, 23, 27, 39], English translation majors (n=2) [26, 28], Business English majors (n=2) [32, 37], teaching English as a foreign language (n=2) [13, 38], literature and applied linguistics majors [1] and students who were from the English department but whose major was not clearly defined (n=4) [1, 16, 22, 29], while non-English majors were only included in ten studies (with [25, 36] not specifically reporting), including engineering [14, 19, 33], management [14], materials [14], architecture [14], design [14], science [11, 19, 33], public administration [19], art [8, 19], nursing [33], and pharmacy [33], information technology [17], Vietnamese studies [17], primary education [17], Math pedagogy [17], and chemistry pedagogy [17], Psychology [30], Economic

[17], History [17], Islamic studies [17], and business [9]. The remaining studies (n=7) [2-3, 5, 7, 18, 24, 34] did not report the major subjects of the participants.

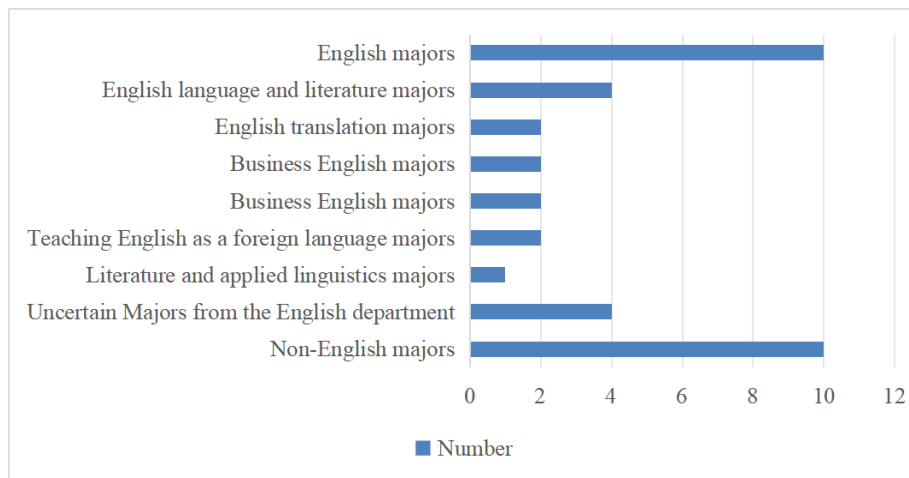


Figure 3: Diagram of the quantity of study conducted in each major

3.3 Intervention categories

Based on the focus of the implemented interventions, four categories were identified among the selected studies, which were teaching instruction intervention (n=13), feedback-based intervention (n=8), cooperative learning intervention (n=4), and modern technology-based intervention (n=17). A detailed analysis of the interventions is presented as follows.

Table 1: Literature matrix of relevant studies						
Authors	Country	Duration	Sampling method	Sample size	Intervention	Design
Abbas and Al-bakri (2018) [1]	Iraq	15 weeks	simple random sampling	IG: 40; CG: 38	Paired writing technique	quantitative research
Alawerdy and Alalwi (2022) [2]	Saudi Arabia	over 5 weeks	simple random sampling	IG: 21; CG: 22	Explicit instruction of conjunctions as cohesive devices	mixed research
Aldossary (2021) [3]	Saudi Arabia	8 weeks	simple random sampling	IG: 23; CG: 23	Collaborative writing	quantitative research
Alharthi (2021) [4]	Saudi Arabia	13 weeks	stratified random sampling	IG: 35; CG: 45	Free writing	mixed research
Andujar (2016) [5]	Spain	6 months	purposive sampling	IG: 40; CG: 40	Mobile instant messaging	mixed research
Azari (2017) [6]	Iran	not mentioned	convenience sampling	IG: 24; CG: 19	Weblog-based process approach	mixed research
Baghbadorani and Roohani (2014) [7]	Iran	not mentioned	stratified Random Sampling	IG: 30; CG: 30	Self-regulated strategy-based instruction	quantitative research
Barrot (2020) [8]	Philippine	one semester	convenience sampling	IG: 48; CG: 41	Facebook-based e-portfolio	mixed research
Chatta and Haque (2020) [9]	Saudi Arabia	not mentioned	cluster sampling	IG: 31; CG: 32	Flipped classroom instruction through Blackboard	mixed research
Cheng and Zhang (2021) [10]	China	9 weeks	convenience sampling	IG: 36; CG: 36	Provision of comprehensive written corrective feedback	quantitative research
De Silva (2015) [11]	Sri Lanka	6 months	stratified random sampling	IG: 36; CG: 36	Writing strategy instruction	quantitative research
Ebrahimi et al. (2018) [12]	Iran	one-educational-year	not mentioned	IG: 30; CG: 13	Emotional intelligence enhancement	quantitative research
Fathi and Rahimi (2022) [13]	Iran	one semester (about 16 weeks)	convenience sampling	IG: 27; CG: 24	Flipped classroom	quantitative research
Fu et al. (2019) [14]	Taiwan, China	18 weeks	convenience	IG: 38;	Mind mapping-based	mixed research

			sampling	CG: 36	contextual gaming approach	
Fu and Liu (2022) [15]	China	16 weeks	purposive sampling	IG1: 43; IG2: 21; CG: 24	Concept-based approach to teaching genre	quantitative research
Ghouali and Cecilia (2021) [16]	Spain	4 months	probability sampling	IG: 21; CG: 21	Moodle-based assessment	quantitative research
Hanh and Tinh (2022) [17]	Vietnam	10 weeks	purposive sampling	IG: 29; CG: 29	Peer-review checklist	mixed research
Ismail et al. (2012) [18]	Malaysia	over 8 weeks	cluster sampling	IG: 30; CG: 30	IQ-Write program	mixed research
Kang (2019) [19]	Korea	16 weeks	purposive sampling	IG: 11; CG: 13	Collocation learning through a Web-Concordancer	mixed research
Karami et al. (2018) [20]	Iran	Approx. 4 months	convenience sampling	IG: 67; CG: 67	Electronic portfolio	quantitative research
Karami et al. (2019) [21]	Iran	16 weeks	convenience sampling	IG: 84; CG: 67	Electronic portfolio	mixed research
Khalil (2018) [22]	Iraqi	not mentioned	cluster sampling	IG: 45; CG: 45	Cognitive prospective FLOW teaching strategy	quantitative research
Li and Zhang (2021) [23]	China	16 weeks	convenience sampling	IG: 24; CG: 24	Structured small-group student discussion	quantitative research
Lin et al. (2018) [24]	Taiwan, China	11 weeks	convenience sampling	IG: 35; CG: 33	A flipped contextual game-based learning approach	mixed research
Luo (2016) [25]	China	not mentioned	not mentioned	IG: 26; CG: 22	Data-driven learning activities with the assistance of BNCweb	mixed research
Mazloomi and Khabiri (2018) [26]	Iran	3 months	purposive sampling	IG: 30; CG: 30	Self-assessment	mixed research
Mekala and Ponmani (2017) [27]	India	14 weeks	purposive sampling	IG: 58; CG: 58	Direct written corrective feedback	quantitative research
Naghdiipour and Koc (2015) [28]	Iran	32 weeks	purposive sampling	IG: 33; CG: 35	Writing instruction within the process genre approach	mixed research
Nassar and Al Tameemy (2021) [29]	Yemen	not mentioned	simple random sampling	IG: 18; CG: 18	Written peer feedback	quantitative research
Nusrat et al. (2019) [30]	Pakistan	12 weeks	stratified random sampling	IG: 25; CG: 25	Indirect written feedback	quantitative research

Pham (2021) [31]	Vietnam	not mentioned	convenience sampling	IG: 35; CG: 27	Collaborative writing based on writing process approach	mixed research
Sun and Fan (2022) [32]	China	16 weeks	convenience sampling	IG: 39; CG: 34	An AWE-aided assessment approach	mixed research
Suthiwartnarueput and Ratanakul (2018) [33]	Thailand	1 month	simple random sampling	IG: 80; CG: 80	Using line as an alternative channel	mixed research
Swamy et al. (2019) [34]	Saudi Arabia	not mentioned	cluster sampling	IG: 42; CG: 38	De Bono's six thinking hats activity	quantitative research
Truong (2022) [35]	Vietnam	9 weeks	convenience sampling	IG: 19; CG: 19	Process-genre approach	quantitative research
Xu (2021) [36]	China	18 weeks	purposive sampling	IG: 66; CG: 30	Digital multimodal composing (DMC)	quantitative research
Yang et al. (2022) [37]	China	over 15 weeks	purposive sampling	IG: 35; CG: 35	Self-regulated learning-based teacher feedback	quantitative research
Zaini and Mazdayasna (2014) [38]	Iran	1 semester	not mentioned	IG: 20; CG: 24	Computer-assisted language learning	quantitative research
Zaini and Mazdayasna (2015) [39]	Iran	1 semester	not mentioned	IG: 24; CG: 20	Computer-based instruction	quantitative research
Zhang and Cheng (2021) [40]	China	16 weeks	convenience sampling	IG: 36; CG: 36	Comprehensive written corrective feedback	mixed research
Zhang and Zhang (2021) [41]	China	8 weeks	convenience sampling	IG: 24; CG: 22	Fostering stance-taking as a sustainable goal	quantitative research
Zhou (2017) [42]	China	16 weeks	convenience sampling	IG: 32; CG: 32	Connectivism model in online course platform within blended learning mode	quantitative research

IG=Intervention

Group;

CG=Control

Group

3.4 Research outcomes

3.4.1 Teaching instruction intervention

Thirteen studies explored the influence of interventions related to teaching instruction; these can be divided into the macro instruction intervention group (n=7) and the micro instruction intervention group (n=6).

3.4.1.1 The macro instruction

The macro instruction intervention referred to the traditional or improved teaching approach during the teaching process.

Truong (2022) [35] revealed that the process-genre approach helped students achieve better writing performance, especially in the dimensions of “coherence and cohesion” and “grammatical range and accuracy”; furthermore, it strengthened their general writing self-efficacy from the perspective of conventions, writing ideation as well as self-regulation, enhancing both awareness and behaviors of their writing autonomy.

Fu et al. (2019) [14] used a contextual gaming approach on the basis of mind mapping, which helped students generate diverse ideas and produce positive thoughts and feelings. It also led to improved writing performance in fluency and elaboration although this had limited effect. On the whole, it was considered to be beneficial and interesting.

Highlighting the necessity of engaging students to share their interpretation and application of concepts in class, the full concept-based instruction (CBI) intervention was employed by Fu and Liu (2022) [15] to teach genre in their study. Their findings revealed that the intervention generated significant improvements in learners’ grasping of genre, theoretical thinking and writing achievement; it also enhanced learners’ conceptual development. With coherent and pedagogically adequate explanations of genre, learners were prevented from focusing excessively on forms and considered their language selection on the basis of different social contexts.

Khalil (2018) [22] taught using the FLOW strategy, which helped students make considerable progress in using writing skills to modify their compositions, and other skills acquired through creative thinking abilities, such as fluency and originality, thereby strengthening learners’ ability to write essays.

For enhancing students' initiative in classroom activities and helping create an active atmosphere, six thinking hats activity was employed and commended in the study of Swamy et al. (2019) [34]. Moreover, the strategy assisted students to comprehend a topic from different perspectives, employ creative thinking skills and draw logical conclusions, improving their writing, speaking and cognitive skills.

When integrating digital multimodal composing(DMC) in the activities of EFL teaching, Xu (2021) [36] found that students showed marvelous progress in the following five aspects when learning L2 writing – “text length, mean length per T-unit, task requirement, content, and comprehensibility”(p. 1). However, few significant improvements were discovered in terms of coherence and cohesion.

Baghbadorani and Roohani (2014) [7] followed the model of self-regulated strategy development (SRSD) and found it significantly effective to cultivate EFL learners’ persuasive writing ability, such as “the format and content, organization and

coherence, sentence construction and vocabulary in writing” (p. 235). In particular, it helped them understand writing strategies, use metacognitive knowledge and self-regulation skills to monitor, and obtain an optimistic sense of self-efficacy in writing.

3.4.1.2 The micro instruction

The micro instruction group mainly focused on small or specific aspects, such as the strategy [11], conjunctions as cohesive devices [2], stance-taking [41] and others [4, 12, 28].

After conducting writing strategy instruction, De Silva (2015) [11] concluded that students were trainable to efficiently use writing strategies, as their ability to use these strategies as well as their writing performance (such as the overall organization and cohesion) increased significantly after being taught the strategy.

Following input on the explicit instruction centered on the usage of conjunctions in the study of Alawerdy and Alalwi (2022), particularly focusing on the guidelines for cohesion [2], students improved significantly in understanding and applying conjunctions that belonged to the cohesiveness concept, and achieved huge progress in paragraph writing.

Emphasizing the skill of stance-taking as a sustainable goal, Zhang and Zhang (2021) [41] stated that explicit stance instruction enhanced students’ comprehension and selection of stance in their writing, boosting their academic writing performance. Students reportedly exhibited progress in “challenges concerning stance-taking, such as single-voiced, subjective, and underuse of expansive stance” (p. 16), but this was limited in terms of the regulation of external voices.

Naghdi-pour and Koc (2015) [28] incorporated instruction on genre-based strategies by stressing the combination of reading activities with writing classes, which contained targeted guidance, sufficient opportunities for practice and periodic feedback. Their study demonstrated significant development in learners' writing abilities in the dimensions of fluency, accuracy and quality, reducing their reliance on or unnecessary transfer from their L1.

Ebrahimi et al. (2018) [12] improved students’ writing through enhancing their emotional intelligence, stating that writing skill is dependent upon the writer’s emotions throughout the whole writing process. Writing about their emotions and incorporating frequent use of emotional words via consciousness-raising regarding their feelings helped students understand their own feelings and consequently increased their EQ, significantly improving their writing skills.

Finally, Alharthi (2021) [4] explored free writing, which enabled EFL learners to make connections between their ideas by choosing their own topics, while improving students’ writing performance in grammatical aspects, such as subject-verb agreement, vocabulary selection, spelling and punctuation. The strategy helped them write effortlessly while focusing only on the writing conventions and improving their writing skills.

3.4.2 Feedback-based intervention

Four studies contained peer feedback [19, 30] or teacher feedback [26, 38] during the intervention while the other groups contained direct feedback [27], indirect feedback [30] and comprehensive feedback [10, 40].

3.4.2.1 Peer feedback and teacher feedback

With regard to peer feedback, Nassar and Al Tameemy (2021) [29] concluded in their study that when focusing on the writing process, written peer feedback not only improved students' writing skills in terms of unity and coherence, but also enhanced students' critical analysis skills. Hanh and Tinh (2022) [17] found that a peer-review checklist helped students make excellent progress in accomplishing tasks and using vocabulary, reducing spelling mistakes. Besides, it offered students opportunities to get feedback and recommendations about word use, which was well-received by students.

Furthermore, Mazloomi and Khabiri (2018) [26] combined teacher feedback with self-assessment (SA). With proper feedback and instructions from the teachers, SA greatly assisted students to improve their writing ability and language proficiency, helping them optimize learning process and establish goals for future study. Similarly, Yang et al. (2022) [37] turned to self-regulated learning-based (SRL-based) teacher feedback, which was found to positively promote EFL students' use of SRL writing strategies "with goal-oriented monitoring, knowledge rehearsal, feedback handling, interest enhancement, text processing, idea planning, motivational self-talk, and emotional control" (p. 1). Also, it seemed to play a more effective role in the content, language and vocabulary than in language use.

3.4.2.2 *Direct feedback, indirect feedback and comprehensive feedback*

Direct written feedback is preferred by both teachers and students (especially low proficiency learners), as it enables students to recognize the errors in their compositions and master the accurate target language structures, improving their writing proficiency (Mekala & Ponmani, 2017) [27]. On the other hand, indirect written feedback is not explicit enough, and only helps learners notice their errors rather than understanding them. Furthermore, it improves their accuracy only in the short term and is insufficient to develop their implicit knowledge, especially for low proficiency learners. Nusrat et al. (2019) [30] added that working in pairs, teams or groups to manage indirect written feedback would ultimately teach students to be independent and self-reliant.

Two of the selected studies [10, 40] concurred that comprehensive feedback helps students to perform better in writing accuracy and fluency, with a statistically significant correlation over time, but does not promote their sentence complexity. Additionally, Cheng and Zhang (2021) [10] reported that WCF also has a limited effect on improving content and organization in students' compositions.

3.4.3 Cooperative learning intervention

Four studies included methods of cooperative learning, exploring the function of the paired writing technique [1], collaborative writing framework [3, 31] and structured small-group student discussion [23] for improving students' writing competence.

According to Abbas and Al-bakri (2018) [1], the paired writing technique could effectively improve the quality and quantity of EFL students' compositions, as well

as speaking and communication, and lessened their writing anxiety to some extent, as it provided students with additional opportunities to share and learn from peer review and feedback.

Conducting research on collaborative writing, Li and Zhang (2021) [23] found that the effect of cooperative prewriting discussions was statistically crucial in promoting students' progress in EFL writing in terms of "the content, organization, vocabulary and language use" (p. 1), but not in the mechanics. Similarly, Pham (2021) [31] proposed that collaborative writing facilitated students' writing fluency by motivating them to write more words collaboratively compared to individual writing. Moreover, students expressed positive attitudes towards the approach and asserted that they could learn more good ideas and writing styles by contributing to the shared essays, while also enjoying a more motivating classroom environment.

In addition, Aldossary (2021) [3] focused on the function of structured small-group student discussion, reporting that small groups could have a more considerable knowledge base and greater language resources to learn, which provided students with beneficial and enjoyable activities that were conducive to their writing improvement.

3.4.4 Modern technology-based intervention

Modern technology has been used in various aspects of society and plays an essential role in everyday life. Among the selected studies, seventeen of them targeted modern technology. In particular, two studies [5, 33] focused on the use of apps on a mobile phone as a channel of communication, two studies [16, 32] focused on assessment, three studies [9, 24, 13] used a flipped classroom, four studies [6, 8, 20, 21] applied an electronic portfolio, and six studies [18, 25, 19, 38, 39, 42] were based on the assistance of computers or computer programs in writing.

3.4.4.1 Mobile message intervention

Andujar (2016) [5] studied mobile instant messaging and emphasized syntactic complexity and lexical diversity in the teaching process, concluding that it improved students' accuracy in writing in a second language in terms of grammar, lexicon and mechanics. Additionally, language-related episodes (LREs) in the application provided feedback and helped in negotiating meaning, constituting a fundamental source of knowledge for second language development.

Instead of mobile instant messaging, Suthiwartnarueput and Ratanakul (2018) [33] used Line as an alternative channel in teaching. With Line, students were able to share knowledge and feedback to use appropriate words and correct sentence structure and mechanics to create well-organized paragraphs. They reported that this resulted in a significant improvement in students' proficiency in learning vowels, phonemes, and syllables, which also increased their learning motivation and confidence.

3.4.4.2 Electronic portfolio intervention

According to Karami et al. (2018) [20], applying electronic portfolio in teaching activities left a magnificent effect on promoting learners' writing proficiency, with no difference between genders. Again, Karami et al. (2019) [21] verified the magnificent effect of the e-portfolio on students' writing proficiency and described the self-regulated strategies they used in teaching. Barrot (2020) [8] used Facebook as the

basis of an electronic portfolio and described its positive effects on L2 writers' writing performance "in terms of coherence and cohesion, lexical resource, grammatical range and accuracy" (p. 11). As a result of its interactive characteristic, students were exposed to social pressure when using the Facebook-based e-portfolio, which also strengthened "students' awareness of the purpose, target audience, tone and level of formality, persona as a writer, and writing process" (p. 13), improving students' motivation and interest in writing.

3.4.4.3 Computer-based writing intervention

Ismail et al. (2012) [18] utilized the IQ-Write Program Online Composing Guide (IQ-WCG), combining the online learning tools and resources into language teaching instruction, which boosted the students' interest in writing and made them inquisitive as well as critical in the writing process, improving their overall writing performance.

Luo (2016) [25] adopted data-driven learning activities with assistance of BNCweb, helping students to perform significantly better in writing fluency and accuracy but not in writing complexity, toward which learners showed a positive attitude.

Kang (2019) [19] explored collocation learning through a Web-Concordancer, with which students were exposed to diverse contexts and demonstrated full comprehension of these contexts, which promoted self-regulated learning.

Zaini and Mazdayasna (2014) [38] explored computer-assisted language learning (CALL) instruction, which helped students improve their writing competence with appropriate language use, producing paragraphs of higher quality. Later in their study in 2015, besides reconfirming the function of the CALL instruction in improving students' writing skills, they revealed that the automatic feedback through Microsoft Word, along with the instructor's evaluations and recommendations on students' writing performance, activated their common sense, language abilities, and logic to correct their writing errors, helping improve their writing competence.

Azari (2017) [6] applied a weblog to the process approach and demonstrated its positive effect on the content and the organization, although it was less successful in improving language use, vocabulary, and the mechanics of writing. It also helped students more easily find their learning paths but did not transform them into fully autonomous learners. More research was recommended to confirm the relation between students' autonomous learning and writing performance development.

Zhou (2017) [42] studied the use of the connectivism model on an online course platform within blended learning mode, which helped to promote a self-learning environment and constant interaction, significantly improving students' English writing competence "in terms of content relevance, content sufficiency, organization structure and language expression" (p. 1060) as well as strengthening students' critical thinking.

3.4.4.4 Flipped classroom intervention

Lin et al. (2018) [24] employed the flipped contextual game-based learning approach, which enhanced students' EFL writing achievement in terms of learner performance, autonomy, and community, helping students reduce writing errors. Similarly, Chatta

and Haque (2020) [9] took flipped classroom instruction (FCI) through Blackboard (an E-Learning portal) and found that FCI enabled student-centered classes, in which learners cultivated an interest in language acquisition, becoming active, enthusiastic, motivated and autonomous, and writing better paragraphs. Moreover, Fathi and Rahimi (2022) [13] revealed that the flipped classroom approach significantly assisted EFL students to improve their overall writing achievement and writing fluency, yet its efficiency on language complexity and accuracy in EFL writing was not statistically significant.

3.4.4.5 Assessment intervention

As a flexible and interactive platform, Moodle-Based Assessment was used by Ghouali and Cecilia (2021) [16] to boost students' motivation to learn. The provision of feedback and exposure to extra online materials through Moodle improved students' writing abilities in terms of coherence, cohesion, punctuation, spelling, capitalization, and grammar, enabling them to assess themselves. By frequently reflecting on their mistakes, students gradually took more control over their learning. Similarly, Sun and Fan (2022) [32] chose AWE-aided assessment and found that it could improve students' writing ability in terms of organization and linguistic accuracy and organization in the long term. Despite the decrease of students' avoidance behaviour due to the method, there was little mediation effect of writing anxiety discovered between the AWE-aided approach and writing achievement.

3.5 Summary and Recommendations

According to the analysis of the research outcomes, all four types of interventions improved university students' EFL writing competence to various extents, from language use to learning motivation and confidence, though limited effects were also observed with certain tools or instructing mediums in researches. When choosing approaches to instruct EFL university students develop their writing competence, educators should take into account the particular situation of their students, choosing suitable approaches and applying them flexibly. On the other hand, combining the approaches may also make them more effective. Furthermore, it would be useful for researchers to conduct more studies to identify more effective interventions or to further explore how to use or optimize the current interventions to increase their positive impact on students. It is expected that researchers and educators, especially university instructors, can benefit from this review, which not only offers guidance and insight to help university teachers take effective measures to improve their students' writing competence but also recommends areas for further related and in-depth research to be conducted in the future.

4. Conclusion

Traditional approaches to writing instruction were identified as not meeting the needs of learners and teachers (Grabe & Kaplan, 1996), so researchers have been exploring various ways to help improve learners' writing competence. This systematic review identified research articles from the last decade that have studied interventions aimed at improving university students' EFL writing competence and found that the traditional teaching methods are no longer simply followed. Based on the review, four different types of interventions were classified, most of which have been reported as having a positive effect on students' writing in terms of content and format, organization and coherence, vocabulary and sentence construction. Furthermore, such interventions have strengthened students' autonomous learning, cooperative ability and critical thinking, though some have shown limited effects on

certain aspects. Knowledge of the interventions applied in a range of studies over the last decade, and particularly their impact, could provide valuable insights to educators, especially higher education English teachers, enabling them to select appropriate and effective measures to help their students to improve their writing competence. Furthermore, it is hoped that this review will provide inspiration to educators or researchers to conduct further related and in-depth experiments to explore more effective measures to help students improve their EFL writing.

5. References

- Abbas, S. H., & Al-bakri, S. A. (2018). The effect of pair writing technique on Iraqi EFL university students' writing performance and anxiety. *Arab World English Journal*, 9(2), 23-37. <http://doi.org/10.24093/awej/vol9no2.2>
- Akbar, M., Pathan, H., & Ali Shah, S. W. (2018). Problems affecting L2 learners' English writing skills: A study of public sector colleges Hyderabad city, Sindh, Pakistan. *Language in India*, 18(5), 7-26.
- Alawerdy, A. S., & Alalwi, F. S. (2022). Enhancing English as a foreign language university students' writing through explicit instruction of conjunctions as cohesive devices: An experimental study. *Frontiers in Psychology*, 13. <http://doi.org/10.3389/fpsyg.2022.1053310>
- Aldossary, K. S. (2021). The impact of collaborative writing on EFL learners' writing development: A longitudinal classroom-based study in Saudi Arabia. *Arab World English Journal*, 12(3), 174-185. <http://doi.org/10.24093/awej/vol12no3.12>
- Alharthi, S. (2021). From instructed writing to free-writing: A study of EFL learners. *SAGE Open*, 11(1). doi:10.1177/21582440211007112
- Andujar, A. (2016). Benefits of mobile instant messaging to develop ESL writing. *System*, 62, 63-76. <http://doi.org/10.1016/j.system.2016.07.004>
- Astrid, A., Marzulina, L., Erlina, D., Harto, K., Habibi, A., & Mukminin, A. (2019). Teaching writing to EFL student teachers: Teachers' intervention and no teachers' intervention through peer feedback writing techniques. *Universal Journal of Educational Research*, 7(9), 1901-1908. <http://doi.org/10.13189/ujer.2019.070908>
- Azari, M. H. (2017). Effect of weblog-based process approach on EFL learners' writing performance and autonomy. *Computer Assisted Language Learning*, 30(6), 529-551. <http://doi.org/10.1080/09588221.2017.1329214>
- Baghbadorani, E. A., & Roohani, A. (2014). The impact of strategy-based instruction on L2 learners' persuasive writing. *Procedia - Social and Behavioral Sciences*, 98, 235-241. <http://doi.org/10.1016/j.sbspro.2014.03.412>
- Barrot, J. S. (2020). Effects of Facebook-based e-portfolio on ESL learners' writing performance. *Language, Culture & Curriculum*, 34(1), 95-111. <http://doi.org/10.1080/07908318.2020.1745822>
- Chatta, B. S., & Haque, M. I. (2020). Improving paragraph writing skills of Saudi EFL university students using flipped classroom instruction. *Arab World English Journal (AWEJ) Special Issue on CALL* (6). 228- 247. <http://doi.org/10.24093/awej/call6.15>
- Cheng, X., & Zhang, L. J. (2021). Sustaining university English as a foreign language learners' writing performance through provision of comprehensive written corrective feedback. *Sustainability*, 13(15). <http://doi.org/10.3390/su13158192>
- De Silva, R. (2015). Writing strategy instruction: Its impact on writing in a second language for academic purposes. *LANGUAGE TEACHING RESEARCH*, 19(3), 301-323. <http://doi.org/10.1177/1362168814541738>
- Ebrahimi, M. R., Khoshshima, H., & Zare-Behtash, E. (2018). The impacts of emotional intelligence enhancement on Iranian intermediate EFL learners writing skill. *International Journal of Instruction*, 11(1), 437-452. <http://doi.org/10.12973/iji.2018.11130a>
- Fathi, J., & Rahimi, M. (2022). Examining the impact of flipped classroom on writing

- complexity, accuracy, and fluency: A case of EFL students. *Computer Assisted Language Learning*, 35(7), 1668-1706. <http://doi.org/10.1080/09588221.2020.1825097>
- Fu, Q.-K., Lin, C.-J., Hwang, G.-J., & Zhang, L. (2019). Impacts of a mind mapping-based contextual gaming approach on EFL students' writing performance, learning perceptions and generative uses in an English course. *Computers and Education*, 137, 59-77. <http://doi.org/10.1016/j.compedu.2019.04.005>
- Fu, Z., & Liu, Y. (2022). Promoting L2 writing development via a concept-based approach to teaching genre: A sociocultural intervention study in Chinese EFL writing classrooms. *Language Teaching Research*. <http://doi.org/10.1177/13621688221114363>
- Gibbons, P. (2002). Scaffolding language, scaffolding learning. Portsmouth, N. H: Heinemann.
- Gilbert, J., & Graham, S. (2010). Teaching writing to elementary students in Grades 4–6: A national survey. *Chicago Journals*, 110(4), 494–518. <http://doi.org/10.1086/651193>
- Ghouali, K., & Cecilia, R. R. (2021). Towards a Moodle-based assessment of Algerian EFL students' writing performance. *Porta Linguarum*, (36), 231-248. <http://doi.org/10.30827/portalin.v0i36.17866>
- Grabe, W., & Kaplan, R.B. (1996). Theory and practice of writing. New York, NY: Longman.
- Hashemnezhad, H. & Hashemnezhad, N. (2012). A Comparative Study of Product, Process, and Post-process Approaches in Iranian EFL Students' Writing Skill. *Journal of Language Teaching and Research*, 3(4), 722-729. <http://doi.org/10.4304/jltr.3.4.722-72>
- Hanh, L. T. T., & Tinh, B. T. (2022). Applying peer-review checklist to improve Vietnamese EFL university students' writing skills. *International Journal of Learning, Teaching and Educational Research*, 21(5), 166-181. <http://doi.org/10.26803/ijlter.21.5.9>
- Hyland, K. (2003). Genre-based pedagogies: A social response to process. *Journal of Second Language Writing*, 12 (1), 17-29. [http://doi.org/10.1016/S1060-3743\(02\)00124-8](http://doi.org/10.1016/S1060-3743(02)00124-8)
- Ismail, N., Hussin, S., & Darus, S. (2012). The Effects of IQ-write program online composing guide towards ESL tertiary students' writing performance and interest. *International Journal of Technology, Knowledge & Society*, 8(4), 107-117.
- Jacobs, H. L., Zingraf, S. A., Wormuth, D. R., & Hartfiel, V. F. (1981). Testing ESL composition: A practical approach. Rowley: Newbury House.
- Johns, A. M. (Ed.). (2002). Genre in the classroom: Multiple perspectives. Mahwah: Lawrence Erlbaum
- Kang, N. (2019). Effectiveness of collocation learning through a web-concordancer in a Korean EFL university course. *Multimedia-Assisted Language Learning*, 22(1), 41-84. <http://doi.org/10.15702/mall.2019.22.1.41>
- Karami, S., Sadighi, F., Bagheri, M. S., & Riasati, M. J. (2018). The potential impact of the application of electronic portfolio on Iranian EFL learners' writing performance seeking their gender role. *Cogent Social Sciences*, 4(1), 1-1. <http://doi.org/10.1080/23311886.2018.1562509>
- Karami, S., Sadighi, F., Bagheri, M. S., & Riasati, M. J. (2019). The impact of application of electronic portfolio on undergraduate English majors' writing proficiency and their self-regulated learning. *International Journal of Instruction*, 12(1), 1319-1334. <http://doi.org/10.29333/iji.2019.12184a>
- Khalil, E. R. (2018). Investigating the effect of FLOW teaching strategy on EFL learners' writing achievements. *Annals of the Faculty of Arts*, 46(Part A), 73–133. <https://search-ebsohost-com.libezp2.utar.edu.my/login.aspx?direct=true&db=asn&AN=137964172&site=ehost-live&scope=site>
- Klimova, B. F. (2013). Approaches to the teaching of writing skills. *Procedia - Social and Behavioral Sciences*, 112, 147-151. doi: 10.1016/j.sbspro.2014.01.1149
- Hupe, M. (2019). EndNote X9. *Journal of Electronic Resources in Medical Libraries*, 16(3–4), 117–119. <https://doi.org/10.1080/15424065.2019.1691963>
- Li, H. H., & Zhang, L. J. (2021). Effects of structured small-group student talk as collaborative prewriting discussions on Chinese university EFL students' individual writing: A

- quasi-experimental study. *PLoS ONE*, 16(5): e0251569.
<http://doi.org/10.1371/journal.pone.0251569>
- Lin, C.-J., Huang, G.-J., Fu, Q.-K., & Chen, J.-F. (2018). A flipped contextual game-based learning approach to enhancing EFL students' English business writing performance and reflective behaviors. *Journal of Educational Technology & Society*, 21(3), 117-131.
- Luo, Q. (2016). The effects of data-driven learning activities on EFL learners' writing development. *SpringerPlus*, 5(1), 1-13. <http://doi.org/10.1186/s40064-016-2935-5>
- Makmur., Mukminin, A., Ismiyati, Y., & Verawati. (2016). In search of good student teachers in writing skill: The impact of different task variance of EFL writing proficiency. *International journal of academic research in education*, 2(1).
<http://doi.org/10.17985/ijare.45901>
- Mazloomi, S., & Khabiri, M. (2018). The impact of self-assessment on language learners' writing skill. *Innovations in Education & Teaching International*, 55(1), 91-100.
<http://doi.org/10.1080/14703297.2016.1214078>
- Mekala, S., & Ponmani, M. (2017). The impact of direct written corrective feedback on low proficiency ESL learners' writing ability. *IUP Journal of Soft Skills*, 11(4), 23-54.
<https://search.ebscohost.com.libezp2.utar.edu.my/login.aspx?direct=true&db=bth&AN=127283084&site=ehost-live&scope=site>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine*, 151(4), 264-269. <http://doi.org/10.7326/0003-4819-151-4-200908180-00135>
- Mukminin, A., Ali, R. M., & Ashari, M. J. F. (2015). Voices from within: Student teachers' experiences in English academic writing socialization at one Indonesian teacher training program. *The Qualitative Report*, 20(9), 1394-1407.
<http://nsuworks.nova.edu/tqr/vol20/iss9/2>
- Naghdipour, B., & Koc, S. (2015). The evaluation of a teaching intervention in Iranian EFL writing. *Asia-Pacific Education Researcher*, 24(2), 389-398. doi:10.1007/s40299-014-0191-4
- Nassar, H. M., & Al Tameemy, F. A. (2021). The impact of written peer feedback on the writing skills of EFL university students in Yemen. *Asian ESP Journal*, 17(2), 290-311.
<https://www.scopus.com/record/display.uri?eid=2-s2.0-85101933327&origin=resultslist&sort=plf-f&src=s&st1=The+Impact+of+Written+Peer+Feedback+on+the+Writing+Skills+of+EFL+University+Students+in+Yemen&sid=ea3e92d9c12e96d61e5b6931d3362921&stot=b&sdt=b&sl=108&s=TITLE-ABS-KEY%28The+Impact+of+Written+Peer+Feedback+on+the+Writing+Skills+of+EFL+University+Students+in+Yemen%29&relpos=0&citeCnt=0&searchTerm=>
- Nordin, S., & Mohammad, N. (2006). The best of two approaches: Process/genre-based approach to teaching writing. Universiti Teknologi, Petronas
- Nusrat, A., Ashraf, F., Khan, S., Aziz, S., & Jabeen, R. (2019). Is indirect written feedback valuable? A study targeting ESL university students in Pakistan. *International Journal of English Linguistics*, 9(5), 340-350. <http://doi.org/10.5539/ijel.v9n5p340>
- Paltridge, B. (2004). Approaches to teaching second language writing. University of Sydney, Adelaide.
- Pham, V. P. H. (2021). The effects of collaborative writing on students' writing fluency: An efficient framework for collaborative writing. *SAGE Open*, 11(1), 1-11.
<http://doi.org/10.1177/2158244021998363>
- Selvaraj, M., & Aziz, A. A. (2019). Systematic review: Approaches in teaching writing skill in ESL classrooms. *International Journal of Academic Research in Progressive Education and Development*, 8(4), 450-473. doi:10.6007/IJARPED/v8-i4/6564

- Silva, T. (1997). On the ethical treatment of ESL writers. *TESOL Quarterly*, 31(2), 359-363. <http://doi.org/10.2307/3588052>
- Sun, B., & Fan, T. (2022). The effects of an AWE-aided assessment approach on business English writing performance and writing anxiety: A contextual consideration. *Studies in Educational Evaluation*, 72, 101123. <http://doi.org/10.1016/j.stueduc.2021.101123>
- Suthiwartnarueput, T., & Ratanakul, S. (2018). Using Line as an alternative channel for improving English writing ability of Thai EFL students. *Journal of Institutional Research South East Asia*, 16(1), 46-69.
- Swamy, B. C., Haque, M. I., Koppada, V., & Kumar, N. S. (2019). The effect of conducting De Bono's six thinking hats activity on developing paragraph writing skills of university students in the Kingdom of Saudi Arabia. *International Journal of English Linguistics*, 9(6), 186-197. <http://doi.org/10.5539/ijel.v9n6p186>
- Tang X. (2012). Discussion on the improvement of college English writing classroom teaching. *Journal of Changchun Normal University*, 31(11), 170-171.
- Torto, G. A. (2014). An examination of the approaches adopted by English language teachers in teaching composition writing in cape coast basic schools, Ghana. *Language in India*, 14(1), 117-138. <http://languageinindia.com/jan2014/examinationghana.pdf>
- Truong, H. M. (2022). Impacts of process-genre approach on EFL sophomores' writing performance, writing self-efficacy, writing autonomy. *Journal of Language and Education*, 8(1), 181-195. <http://doi.org/10.17323/jle.2022.12165>
- Wang, Y. C. (2015). Promoting collaborative writing through wikis: A new approach for advancing innovative and active learning in an ESP context. *Computer Assisted Language Learning*, 28(6), 499-512. <http://doi.org/10.1080/09588221.2014.881386>
- Xu, Y. (2021). Investigating the effects of digital multimodal composing on Chinese EFL learners' writing performance: A quasi-experimental study. *Computer Assisted Language Learning*. <http://doi.org/10.1080/09588221.2021.1945635>
- Yang, L. F., Liu, Y., & Xu, Z. (2022). Examining the effects of self-regulated learning-based teacher feedback on English-as-a-foreign-language learners' self-regulated writing strategies and writing performance. *Frontiers in Psychology*, 13, 1027266. <http://doi.org/10.3389/fpsyg.2022.1027266>
- Zaghlool, Z. D. (2020). The impact of using CALL online writing activities on EFL university students' writing achievement. *Theory and Practice in Language Studies*, 10(2), 141-148. doi:10.17507/tpls.1002.01
- Zaini, A., & Mazdayasna, G. (2014). The effect of computer assisted language learning on the development of EFL learners' writing skills. *Procedia - Social and Behavioral Sciences*, 98, 1975-1982. <http://doi.org/10.1016/j.sbspro.2014.03.631>
- Zaini, A., & Mazdayasna, G. (2015). The impact of computer-based instruction on the development of EFL learners' writing skills. *Journal of Computer Assisted Learning*, 31(6), 516-528. doi:10.1111/jcal.12100
- Zhang, L. J., & Cheng, X. (2021). Examining the effects of comprehensive written corrective feedback on L2 EAP students' linguistic performance: A mixed-methods study. *Journal of English for Academic Purposes*, 54, 101043. <http://doi.org/10.1016/j.jeap.2021.101043>
- Zhang, L., & Zhang, L. J. (2021). Fostering stance-taking as a sustainable goal in developing EFL students' academic writing skills: Exploring the effects of explicit instruction on academic writing skills and stance deployment. *Sustainability*, 13(8). <http://doi.org/10.3390/su13084270>
- Zhou, C. (2018). Empirical study on the effectiveness of teaching model of college English writing within blended learning mode. *Educational Sciences: Theory & Practice*, 18(5), 1060-1076. <http://doi.org/10.12738/estp.2018.5.009>