Available online at www.ejal.info
http://dx.doi.org/10.32601/ejal.911526
*Eurasian Journal of Applied Linguistics, 8*(1) (2022) 149-161
EJAL Eurasian Journal of Applied Linguistics

# Summaries Writing to Enhance Reading Comprehension: Systematic Literature Review from 2014 to 2021

Aris Budianto[a,b*], Punaji Setyosari[c], Dedi Kuswandi[d], Saida Ulfa[e]

*a Universitas Negeri Malang, Indonesia*

*b Universitas Sebelas Maret*

*c Universitas Negeri Malang, Indonesia*

*d Universitas Negeri Malang, Indonesia*

*e Universitas Negeri Malang, Indonesia*

Received 03 March 2022 | Received in revised form 01 April 2022 | Accepted 02 May 2022

**APA Citation:**
Budianto, A., Setyosari, P., Kuswandi, D., Ulfa, S. (2022). Summaries Writing to Enhance Reading Comprehension: Systematic Literature Review from 2014 to 2021. *Eurasian Journal of Applied Linguistics, 8*(1), 149-161.
Doi: http://dx.doi.org/10.32601/ejal.911526

## Abstract
Summarizing strategy is one of the strategies used to develop reading comprehension; however, there is a dearth of literature reviews discussing this important subject. This study aimed to conduct a systematic review of the summarizing strategies used to enhance reading comprehension by EFL students. In addition, the study also identified the factors that influenced the success of writing a summary. A total of 3,178 raw articles were found in journals indexed by Scopus.com and Eric.ed.gov between 2014-2021. After the verification stage, 35 articles were used in this systematic review. The results of the study show that experimentation can positively influence and improve the results of summary writing and reading comprehension. This review found three types of summary writing strategies: use of a single strategy; use of the integration of 2 or more strategies; comparison of strategies in summary writing or reading comprehension. The results found that most of the studies on summarizing stated the influence of vocabulary knowledge, text structure awareness and prior knowledge on summary writing. The study recommends the use of ICT tools and online exercises to familiarize students with new techniques of summary writing. Teachers and peers should also provide intelligent feedback to improve summary writing.



***Keywords:*** Online Learning Environment (OLE); summary writing strategies; summary writing assessment; reading comprehension. Vocabulary knowledge

## Introduction

Reading has a critical role in knowledge acquisition, culture engagement, and future success (McGeown, Duncan, Griffiths, & Stothard, 2015). However, many intermediate-level students face challenges when reading their textbooks. The Program for International Student Assessment (PISA) periodically assesses reading, science, and math skills by the Organization for Economic Co-operation and Development (OECD). Based on a study

* Corresponding Author.
Email: aris.budianto.1801219@students.um.ac.id
http://dx.doi.org/10.32601/ejal.911526

conducted by PISA (OECD, 2018), problems in reading are experienced by students from both developing and developed countries. For example, nearly a quarter of eighth-graders in the United States score below the baseline in reading (National Center for Education Statistics, 2015). According to the 2009 PISA assessment issued by OECD (2010), 19% of students in Germany do not reach proficiency level II, or they cannot identify the main idea in a text. Students in Taiwan have low reading skills, and the results of the 2015 PISA showed student scores are ranked 11$^{th}$ among 20 Asian countries or 40$^{th}$ among 80 countries in the world in the English Proficiency Index (Yeh, Yang, & Chen, 2020).

In developing reading comprehension of EFL students, many studies have tried effective intervention strategies for its improvement (Jamshidifarsani, Garbaya, Lim, Blazevic, & Ritchie, 2019). Summarizing a text is one of the suitable methods to improve reading comprehension skills (Sung, Liao, Chang, Chen, & Chang, 2016). There is a close relationship between reading and writing skills. Therefore, some researchers use the summarizing strategy to improve writing skills and reading comprehension. The summary of writing strategy significantly improves the reading comprehension of EFL students after training (Zafarani & Kabgani, 2014). Therefore, one of the most efficient strategies to incorporate English reading comprehension while developing writing skills is to write a summary (Yeh et al., 2020). Many interventions have developed the ability to summarize reading texts to improve the reading comprehension of EFL students. However, writing summaries in learning is often done without a specific strategy. For example, EFL students are asked to summarize without explaining how to write a summary with a good strategy. On the other hand, some researchers use a strategy or a combination of several strategies in summary writing.

There are not many literature studies on summary writing. Only one systematic review was found that examined summary writing (Merchant & Nyamapfene, 2021), which provided an overview of the strategy and its effectiveness for medical students. The data sources for the current study were articles published between 2014 and 2021 and indexed in Scopus and Eric databases. The motivation of this research was to conduct a literature review to find out which summary writing strategy is most widely used and what factors influence summary writing. The two research questions framed for this study stated: Q1. What factors affect the ability to summarize texts of EFL students? Q2. What is the most effective strategy used for learning to write summaries for EFL students?

## Literature Review

A systematic literature review (SLR) is a study that finds, picks, and critically evaluates relevant studies. It also gathers and evaluates data from the studies that are part of the review. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) technique, was created by Moher, Liberati, Tetzlaff, Altman, and Group (2010). There are three steps to utilize this technique: Search strategy using a variety of keywords: selection criteria using the inclusion and exclusion criteria; and data analysis.

### *i.Search Strategy*

Right at the outset, raw data was obtained from journals indexed in Scopus and ERIC databases making use of 'AND/OR' and Quotation marks '"' to limit the search. A variety of keywords such as 'summarizing' AND/OR 'summary writing' with limitations to "reading comprehension" and "EFL students" were used to focus the search on summary writing strategies for EFL students. Several keyword combinations were tested in each database. In order for the literature review to be updated, the search for articles was limited from 2014-2021.

### *ii.Selection Criteria*

Both inclusion and exclusion criteria were used to initiate the search. The inclusion criteria in the search included: articles must be published in journals indexed in Scopus and ERIC data bases between 2014–2021; written in the English language; must only use the keywords "teaching and learning summary writing" since some writers used terms such as writing summaries, summary writing tasks, summary writing skills, or online summary writing; the study subjects should be EFL students, L2 Students or ESL students; and articles should discuss learning strategies and influential skills. The exclusion criteria included in the search were: studies that used key terms like "Automatic Text Summarization," "Automatic Summarization," or "Text Summarizations" as these keywords intersected and caused ambiguity in summary writing were excluded; articles that are not research studies but opinion summarization, event summarization or video summarization were excluded; studies using keywords like Extractive, Abstractive, Supervised, Unsupervised, Deep Learning, and Machine learning, which are a part of the Automatic Text Summarization, were also excluded; studies using summary writing strategy but not for EFL students were also excluded; studies using summary strategy but not for reading comprehension purposes, for example, to determine the effect of writing performance, were also excluded; articles that did not present methodology or demonstrated incomplete results also were excluded; and articles that were not in the English language. Figure 1 displays the PRISMA Flow diagram depicting various stages of selection of articles for the current study.

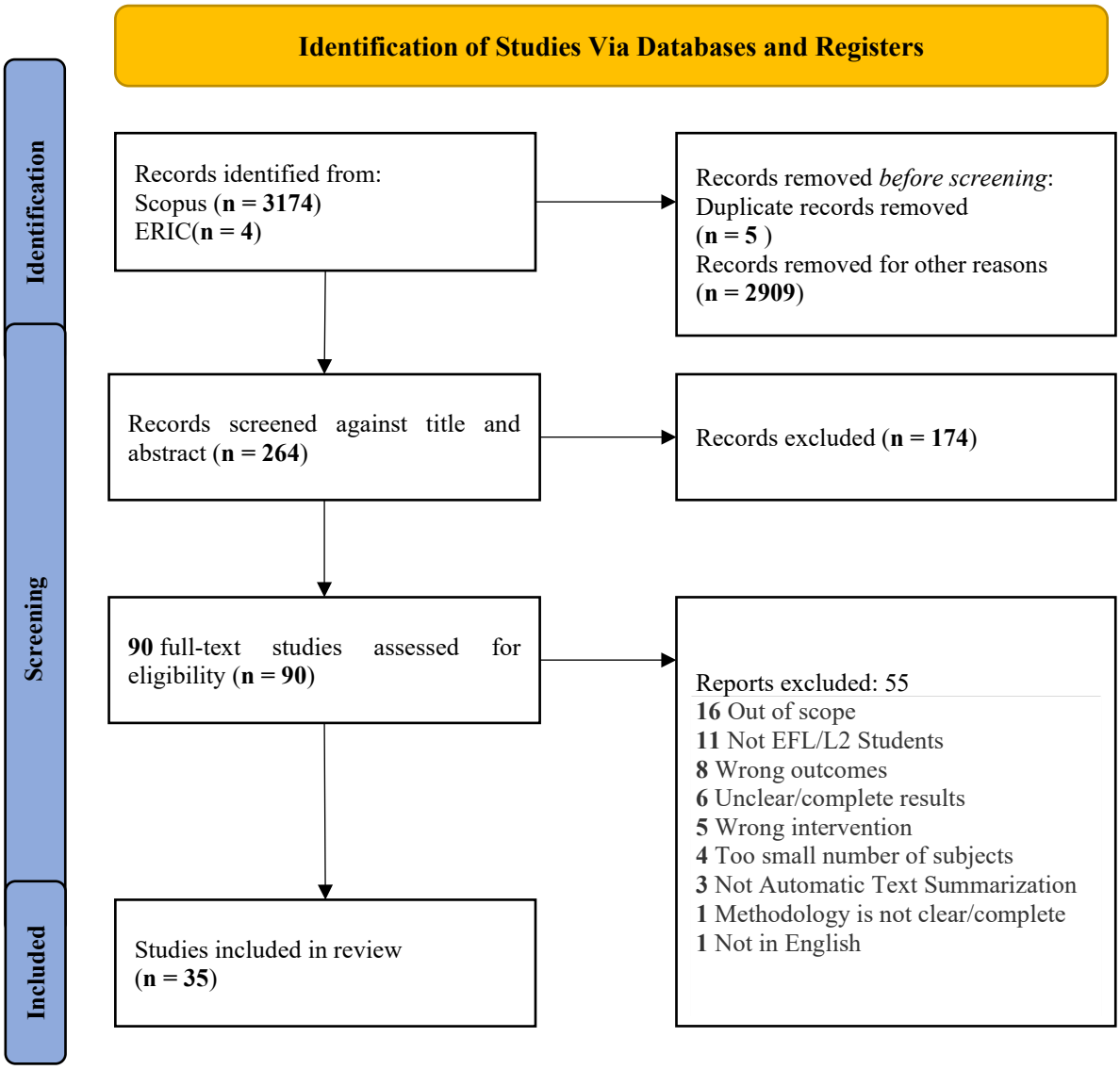


Figure 1 *PRISMA Flow Diagram* (Moher et al., 2010)

### *iii.Data analysis*

This systematic review used the PRISMA (Moher et al., 2010) model to filter and select articles to be included in this study. The initial search raw data obtained 3178 articles from both the selected databases. After keyword refinements, 269 articles were found that focused on summary writing strategies and factors that influenced summary writing. Mendeley was used to detect whether there were duplicate search results articles. A total of 5 duplicate articles were removed, leaving 264 articles for title and abstract screening using Covidence, a web tool popularly used in systematic reviews. The web tool Covidence involves steps like citation screening, title and abstract screening, full text review, and risk of bias evaluation. Based on these screening, 90 full-text studies were found eligible thus excluding 174 records.

In the final step of using the exclusion criteria, 55 records were excluded for following reasons: Out of scope, research subjects not EFL/L2 students; unclear/incomplete results, wrong intervention, too small number of subjects, Automatic Text Summarization (not Summary Writing), wrong outcomes, methodology not clear/complete, and not in English. After this exclusion, there were 35 articles left for the analysis in the current review. These articles were published mostly in journals related to Computer Assisted Language Learning, Southern African Linguistics and Applied Language Studies, system with 2 articles each. Other articles came from other journals with an average of 1 article each. The research locations for writing the EFL summary mostly came from Taiwan (as many as 8 articles), 6 articles from China, Turkey, Iran, Hong Kong and Malaysia.

All 35 articles were published between 2014 and 2021, with a majority of articles from 2014 and 2016 (7 articles each) and the least were from 2021 (2 articles). With an average of 4.3 articles per year, 3 articles (8.6%) were taken from conference proceedings, and 32 (91.4%) were from journals different journals. These details are summarized in Table 1 and Figure 2.

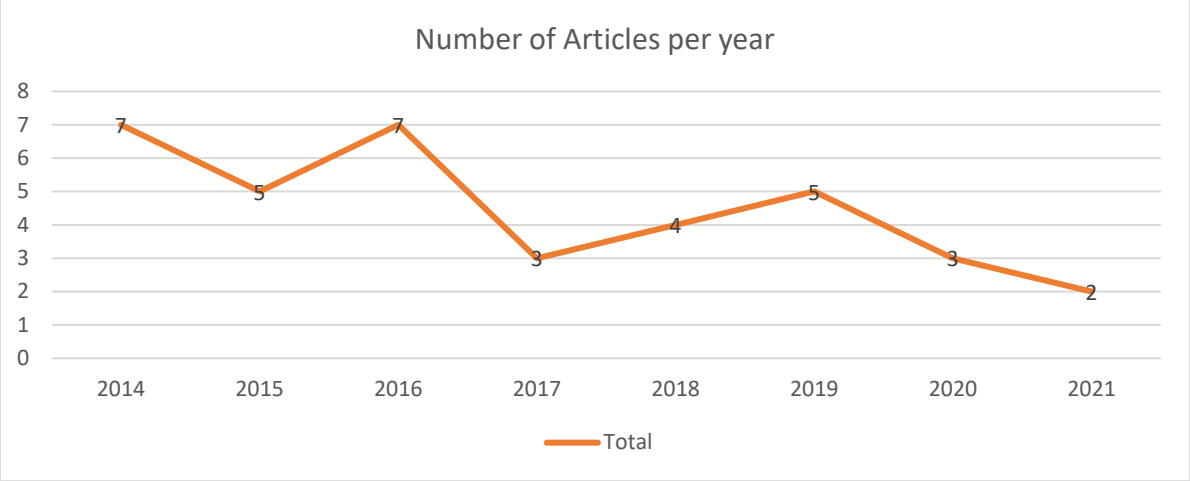


Figure 2 *Number of Articles per year*

Table 1 *Source of Articles selected*

| No | Publication Type | Count | Percentage |
|---|---|---|---|
| 1 | Journal | 32 | 91.4 |
| 2 | Conference Proceedings | 3 | 8.6 |
| | Total | 35 | 100 |

## Results and Discussion

This review focused on summary writing strategies used to improve reading comprehension skills. In addition, the study also discussed the factors that influenced the success of the summary writing process. The summary writing strategy as found in the review articles used different terms such as summary writing, summaries writing, writing summary and summary writing tasks. The summary writing strategy of EFL students is related to several factors, including self-regulated learning, self-efficacy, prior knowledge and others, which were focused in the selection of articles. A few keywords became distractors such as Automatic text summarization, opinion summarization, event summarization, text summarization, and automatic summarization. Other keywords that often appeared as distractors were extractive or abstractive summarization, machine learning, deep learning, corpus, and code summaries. All these distractors were considered during the screening process.

This result section explains the analysis of the two research questions of the study, viz., What factors affect the ability to summarize texts of EFL students? What is the most effective strategy used for learning to write summaries for EFL students? The first question of *identifying* factors that affect the ability to summarize texts of EFL students revealed capabilities or internal factors that influence the success of summary writing. These are summarized as follows:

1. L2 writing self-efficacy is a set of beliefs about one's own ability to learn and expectations about how learning will affect one's life (Bandura, 1997). Some research teams included self-efficacy as part of Self-Regulated Learning (SRL) (Zimmerman, 2002). Self-efficacy was found mentioned in 2 articles (5.7%) as a variable that affected success in writing a summary. Bulut (2017) revealed that writing attitudes and views on self-efficacy directly and considerably impacted summary writing. The findings of this study showed how self-efficacy beliefs influenced students' performance in summary writing in a positive way (Golparvar & Khafi, 2021).
2. Self-Regulated Learning (SRL) is a cycle in which people set goals, work toward them, and then assess their own behavior in order to reach those goals (Zimmerman, 1998). The literature review found five articles (14.3%) that stated that SRL was a predictor of student success in learning summary writing. Self-Regulated Learning can improve the writing skills of young L2 pupils and assist them in structuring main ideas from sources (Teng, 2019). Self-regulatory attitudes support students' metacognitive management of cognitive processing in their summary writing and goal actions and accomplishments (Golparvar & Khafi, 2021).
3. Prior knowledge, which some researchers call background knowledge, is the knowledge that already exists before learning takes place (Mayer, 2009). The literature review found 12 articles (34,3%) which stated that prior knowledge/background knowledge was a variable that influenced the results of summary writing. Prior knowledge was used to perform cognitive operations on the information read and evaluated whether the information was included in the summary or deleted. This prior knowledge enabled students to read and write texts more effectively (Chew et al., 2019). The role of background knowledge, being a more powerful predictor of performance, was an integral component of comprehension in academic reading (Lin & Chern, 2014).

4. Vocabulary knowledge does not only imply the definition of a word but also implies how that word fits into the world (Hiebert & Kamil, 2005). Vocabulary knowledge consists of the breadth of vocabulary (the number of words known) and depth of vocabulary (the richness of word knowledge) (Li & Kirby, 2015). Twenty-four articles (68.6%) mentioned the role of knowledge about vocabulary knowledge in influencing the quality of the summary. Results showed that vocabulary depth significantly affects reading comprehension as measured by summary writing (Ramírez-Echeverry, Olarte Dussán, & García-Carillo, 2016). Although not so good as oral reproduction, summary writing helps improve the long-term retention of target words (Kamali, Behjat, & Bagheri, 2020).
5. Another factor emphasized in these articles was the awareness to avoid plagiarism in writing. Students used their own words or paraphrasing to avoid plagiarism when writing a summary (Shang, 2019). However, not many studies mentioned plagiarism awareness, only 1 article (2.9%) mentions it in summary writing.
6. The next factor present in these articles was the text structure awareness, which refers to the awareness of the organization of the text in sentences that are useful in determining the main idea and explanatory elements. Awareness of text structure improves reading comprehension and information recall (Grabe, 2008). The study found 13 articles (37.1%) which stated that text structure skills were one of the variables that affected the success of summary writing. Text structure positively affects the results of summary writing (Diliduzgun & Genc, 2015). Increased text structure awareness of L2 students improved their reading comprehension (Mbirimi-Hungwe, 2016).
7. Students' creativity is a form of intelligence, a problem-solving capacity, an unconscious process of assembling and disassembling mental representations, and a high-order intellectual skill that involves divergent and convergent thinking (Susnea, Pecheanu, Dumitriu, & Cocu, 2017). In the current systematic review, it was found that two articles (5,7%) discussed how the student creativity variable influenced the results of writing a summary. Preliminary experimental data also showed a good correlation between creative intelligence and summary writing skills (Susnea et al., 2017).
8. A good writing attitude is an effective regulation which causes writers to feel happy or unhappy during writing activities. Students' writing attitude affects their writing achievement (Bulut, 2017). There were 5 articles (14.3%) in the literature review which stated that writing attitude was one of the predictors of success in summary writing. There is a positive and very high correlation between writing attitude and summary writing score (Bulut, 2017). Students' performance in writing summaries is influenced by the effectiveness of learning strategies of the teacher and other student-related variables such as attitudes, verbal abilities, gender, and cognitive style (Olagbaju, 2020).
9. Cognitive styles determines how individuals perceive, receive, and process information differently (Olagbaju, 2020). The study results revealed that cognitive style was effective at improving students' achievement in summary writing (Olagbaju, 2020). Only 1 aticle was found (2,9%) that mentioned the cognitive style variable as a variable that affected the results of summary writing.
10. Gender is one of the predictors that affect the results of summary writing. The study's results found 11 articles (31.4%) that mentioned gender as a predictor in summary writing. The study result revealed that students' gender is effective at improving students' achievement in summary writing (Olagbaju, 2020). Moreover, gender is the sociodemographic variable that makes a significant effect on student performance (Chew et al., 2019).

To the second research question about the most effective strategy used for learning to write summaries, the articles selected in this systematic review produced a few summary writing strategies as shown in Table 2 and summarized below:

1. **Macrostructure strategies.** This strategy is generally associated with (Kintsch & Van Dijk, 1978), who referred Macrostructures to an organization of propositions forming the gist of the text; in such cases, it is usually not explicitly stated in the text (Turcotte, Berthiaume, & Caron, 2018). This strategy consists of several steps, namely: 1. Do not delete important information; 2. Remove redundant information; 3. Superordinate or replace some terms with their superordinate; 4. The selection determines the main idea of a paragraph; and 5. Invention, if a paragraph does not contain a topic, we can make a sentence containing the main idea. Macrostructure strategy was mentioned in 18 articles (51.4%), but this strategy was not a single strategy. Macrostructure is used in an integrated manner with other strategies. Furthermore, only five articles (14.3%) mentioned the use of macrostructure independently.
2. **Pre-Task before summary writing.** A Pre-Task before summary writing assists learners in preparing the intended task outcome, reducing attentional demands during an actual task, and improving writing performance (Abrams & Byrd, 2016). Four articles (11.4%) used pre-tasks, including mind-mapping and chronological sequencing pre-tasks. The results showed that the pre-task positively influenced writing a summary of L2 students. In addition, pre-tasks significantly affected the number of words and ideas students write and added to their texts' linguistic richness (Abrams & Byrd, 2016).
3. **Concept mapping.** Concept mapping was considered as one of the best advanced organizing strategies for learning summary writing (Yang, 2015). Five articles (14,3%) were found to use a concept mapping strategy in combination with other methods. Chang, Sung, and Chen (2002) and H.-C. Yang (2014) argue that the concept mapping strategy improves the ability to summarize and understand the text. Concept mapping is useful for activating prior knowledge so as to facilitate summary writing performance (Chew et al., 2019).

4. **Text structure.** A most classified text structure is seen as a sub-skill that must be mastered in summarizing (Diliduzgun & Genc, 2015). Three articles (8.6%) included text structure as a strategy in summary writing. The use of text structure instructions (TSI) has a greater impact on the quality of the written summary strategies compared to the use of other strategies (Teng, 2019). The use of text structure instructions (TSI) encourages students to be more careful in determining, classifying, and ordering macro rules when writing a summary. The use of TSI is significant in developing summarizing skills (Diliduzgun & Genc, 2015).
5. **Transactional Strategy Instruction (TSI).** It is a teaching method that emphasizes the thinking process, finding answers, and student involvement (Casteel, Isom, & Jordan, 2000). TSI effectively improves students' English summary reading and writing skills (Brown, 2008). Wichadee (2014) uses TSI to improve students' reading and writing skills. The results showed that those who studied with strategies had higher scores than those who studied traditionally. Not many used TSI in writing a summary, it was found that only 1 article (2.9%) used TSI.
6. **Blended learning.** It refers to a strategic and systematic approach to combining the time and the modes of learning, integrating the best aspects of face-to-face and online interactions for each discipline, using appropriate ICT (Saliba, Rankine, & Cortez, 2013). We found blended summary writing in two articles (5.7%). Yang (2016) and (Yang, 2015) recommend combining the onsite model and online model while writing a summary. These researches are assisted by the Computer-Supported Collaborative Learning (CSCL) system. This result stated that blended learning strategies could improve writing summaries and reading comprehension.
7. **Think-aloud.** It is a technique for identifying cognitive and metacognitive processes in which participants are asked to speak aloud while they are thinking, solving problems, or learning (Hu & Gao, 2017). The literature review found two articles (5.6%) that used the think-aloud strategy or combined think-aloud with other strategies. These articles emphasize that a teacher uses a thinking aloud model to encourage students to engage in rhetorical analysis. L2 students are motivated to summarize main ideas from sources, produce more accurate, complete, and detailed arguments, and write more syntactically correct sentences (Teng, 2019).
8. **Computer-assisted language learning (CALL).** This technique was developed as a medium to increase collaboration and interaction in language learning to complement traditional face-to-face learning in a classroom (Jeong, 2017). Twelve articles (34.3%) in the literature review used computer-assisted language learning (CALL) in writing summaries. In addition, the literature review on summary writing found that CALL was **integrated** with other learning strategies **as a learning aid** with different learning strategies such as Collaborative Summary Writing (CSW), Selecting, Organizing, and Integrating (SOI), or concept mapping. SW-PAL was created to assist ESL students in improving their summary writing skills by activating prior knowledge while reading texts, modeling summary tactics, and providing feedback during the summarizing process. The results showed that SW-PAL was able to improve students' summary performance (Chew et al., 2019).
9. **Feedback**. Feedback has a positive impact on the performance of the summary (Strobl, 2015). It can help students identify strengths and weaknesses in their summary writing (Becker, 2016). Of the articles reviewed, 18 (50%) articles examined the provision of feedback in summarizing. The feedback comes from the teacher, the peers or the system. There were 9 studies (out of 18) that dealt with the teachers' feedback. The advantages of feedback from teachers include better consideration of coherence, brevity, grammar, readability, and content. While the weakness of feedback from the teacher is that it takes a long time (Sung et al., 2016). The second type of feedback given by peers provides and receives summary feedback from peers, wherein graduates are able to recognize the key elements in well-organized academic texts, as well as, clarify illogical sentences and text misunderstanding (Yang, 2016). Three articles (16,7%) were found that used the method of peer feedback. The third type of feedback from the system was found in six articles (33,3%). A progressive improvement is often recorded in summary writing during the practice phase in a system (Sung et al., 2016).
10. **Automatic Summary Assessment.** It is also known as Automatic scoring, which is a summary scoring system that considers the similarity of the summary results with the source text. This system usually ignores students' ability to paraphrase texts and formulate ideas in their own words (Susnea et al., 2017). Automatic Summary Assessment or automatic feedback was found in 6 articles (15.8%). Latent Semantic Analysis (LSA) is the method used to provide summary scores and semantic feedback. The results showed the application effectively improved students' summary writing skills (Sung et al., 2016). Automatic assessment to evaluate the students' summary writing improvement after receiving peer feedback (Yang, 2016).
11. **Trans-languaging.** It is a pedagogical approach that uses more than one language simultaneously for language teaching and learning (García & Wei, 2014). Translanguaging was found in only one article (2.8%). Using translanguaging during reading, summarizing, and class discussions until the main ideas are understood can improve reading comprehension and summary writing in a L2 class (Mbirimi-Hungwe, 2016).

Table 2 *Summary writing strategies*

| No | ID | Country | Time spent on experiment | Number of participants | Strategies | Results |
|---|---|---|---|---|---|---|
| 1 | (Zhang, 2019) | China | 1 Session | 60 participants | Comparing continuation writing task with summary writing task. | Compared to the summary writing group, the continuation writing group utilized more complex terminology and inventive grammatical constructions. To increase reading comprehension, continuation writing exercises are preferable to summary writing exercises. |
| 2 | Yeh et al. (2020) | Taiwan | 11 weeks | 20 students | SOI strategy assisted by Online writing system. | The outcomes demonstrated that the approach worked to scaffold students' integrated reading and writing with the SOI features, giving them chances for recurrent review of the chosen vocabulary, core concepts, and crucial sentences. |
| 3 | Yang (2015) | Taiwan | 18 weeks | | Online peer feedback | The three essential components of a CSCL system were integrated, which improved summary writing. These crucial components were learning the fundamentals of main concepts by asking for keywords as scaffolding, observing the writing processes of more experienced peers while giving and getting peer critique, and rewriting their own summaries in response to peer criticism. |
| 4 | Yang (2016) | Taiwan | 18 Weeks | 107 university students | Online Concept mapping | The pupils' reading comprehension and summary writing skills improved more noticeably. After receiving the three-layer concept maps, they might, for instance, determine the key idea from each paragraph and clarify relationships between paragraphs. |
| 5 | Y.-F. Yang (2014) | Taiwan | 18 weeks | 214 college students | Blended summary writing | The necessity for new instructional strategies and abilities that are distinct from those utilized in on-site courses was brought on by the blended setting of summary writing. |
| 6 | H.-C. Yang (2014) | Taiwan | 3 weeks | 315 students | Macrostructure | The capacity for producing summaries was not directly impacted by the use of cognitive or metacognitive methods. Instead, through the use of discourse synthesis and source use strategies, they had a considerable and favorable indirect effect on the capacity to write summaries. |
| 7 | Sung et al. (2016) | Taiwan | 6-week period | 154 sixth-grade students | Online summary assessment and feedback | Significant improvement and proof of the proposed system's ability to help students become better summary writers. Students are encouraged to engage in improving their work by giving prompt comments. |
| 8 | Ramírez-Echeverry et al. (2016) | Colombia | | 177 students | Elaborating and textual production | After engaging in the instruction, practice, and feedback processes on cognitive factors connected to writing summaries, students promoted positive gain with technical writing competence in various proportions. |

| No | ID | Country | Time spent on experiment | Number of participants | Strategies | Results |
|---|---|---|---|---|---|---|
| 9 | Puhner and Fojkar (2018) | Slovenia | | 64 students | Peers summary writing | The majority of students effectively create a summary that is organized and addresses the key elements of the story's content. |
| 10 | Mbirimi-Hungwe (2016) | South Africa | 1 Semester | 161 participants | Trans-languaging | As can be seen from the summaries they wrote, the use of translanguaging also aided students in negotiating meaning and extrapolating the key points of texts. |
| 11 | Mauludin (2018) | Indonesia | 4 weeks | 44 Students | Dynamic assessment. | Comparatively speaking, students who were exposed to the dynamic assessment approach did better. This is due to the fact that the dynamic assessment gives students the chance to speak with their teacher and work together to address a writing-related issue. |
| 12 | Marzec-Stawiarska (2016) | Poland | six months | | Macrostructure | Summarizing looks to be an excellent way to improve reading comprehension. |
| 13 | Li and Kirby (2015) | China | Two sessions | 64 EFL learners | Think-aloud protocols while summarizing | The study's findings support the significance of the roles both reading and writing play in summarizing, but writing contributed more to task success. |
| 14 | Harada and Kashihara (2020) | Japan | | 8 participants | Text structure | A thorough summary can be constructed using a graphic organizer more quickly and with fewer resources. |
| 15 | Diliduzgun and Genc (2015) | Turkey | 7 session | 25 students | Individuals and groups wrote a summary | The summary writing instruction elicited a statistically significant change in writing summary texts |
| 16 | Chew, Wu, Idris, Loh, and Chua (2020) | Malaysia | 10 Session | 53 Student | Summary writing tool on students' summary writing | 1. Quantitative results showed that the SW-PAL greatly enhanced students' proficiency in summary writing.<br>2. Qualitative: According to the users, SW-PAL is a motivating, difficult, and self-learning instrument. |
| 17 | Chen, Manalo, and She (2019) | China | 1 hour | 73 students | comparing diagramming task vs summary writing task. | In order to lessen cognitive load, it would be beneficial to offer assistance concerning diagram use, especially to students who are unfamiliar with the topic. Diagrams are useful for detecting and encoding key information when learning. |
| 18 | Benzer, Sefer, Oren, and Konuk (2016) | Turkey | 4 Weeks | 43 students | Summary feedback and evaluation rubrics development | Students who have received instruction in text summary writing strategies are better able to summarize without using direct quotes from the original text, which saves time. |
| 19 | Abrams and Byrd (2016) | German | 10 weeks | | Comparing pre-tasks before summary writing | The findings showed that pre-tasks significantly improved student writing in terms of the number of words and concepts they use, as well as the lexical richness of their compositions. Through repeated activities, L2 learners can create summaries that are meaningful and elevate the standard of their writing, giving students essential experience and practice with the L2. |

## Discussion

*i. Use of a single instructional strategy or a combination of several instructional strategies.*

The study found that out of the 35 articles reviewed, 26 articles talked about instructional strategies in summary writing. Eight articles (30,8%) used a single strategy in writing the summary, while 15 articles (57,7%) used a combination of several instructional strategies. In addition, 3 articles (11,5%) compared instructional strategies for writing a summary. The first type of using single strategies included the use of Macro rules, Transactional Strategy Instruction (TSI), and Text Structure Instruction (TSI as single instructional summary strategies. The Macro rules comprised three macro operations to summarize effectively: deletion, generalization, and construction (Kintsch & Van Dijk, 1978). Macro rules have been used by several researchers, among others (H.-C. Yang, 2014) and (Ramírez-Echeverry et al., 2016). The second type of Transactional Strategy Instruction (TSI) is a teaching method that emphasizes the thinking process, finding answers, and student involvement (Casteel et al., 2000). TSI is recommended by Wichadee (2014), to improve students' reading and writing skills. The third type of Text Structure Instruction (TxSI) writing encourages students to be more careful in choosing words. As a result, TxSI implementation impacts summary quality better than other strategies (Diliduzgun & Genc, 2015; Teng, 2019).

The second group of writings dealt with integration of several summary writing strategies. The first example was the integration of summary writing and online feedback tasks. The results of such an integration obtained overall satisfactory learning outcomes in writing a summary (Strobl, 2015). The second example found was integration of Macrostructure and scaffolding into three-layer concept maps. The students of the experimental group made more significant improvements in reading comprehension and summary writing by making use of this integration (Yang, 2015). The third example was integration of summary feedback and rubrics. Students are able to summarize without using direct quotations from the main text, spend less time writing summaries, and write shorter summaries, and nearly all students agreed that summary writing education was beneficial (Benzer et al., 2016). The last example was integration of CALL and SOI. With the SOI functions, the system was able to scaffold students' integrated reading and writing, allowing them to review the selected vocabulary, main ideas, and important sentences multiple times (Yeh et al., 2020).

The third group of writings dealt with comparison of summarizing strategies. We found 4 studies that compared several summarizing strategies. This comparison aimed to determine which strategy had a more significant effect on the results of writing a summary or on improving reading comprehension. The first example of this type was found in Abdali and Fatemipour (2014), which compared 4 strategies, namely Topic Writing (TW), Summary Writing (SW), Graphic Writing (GW), and Picture Writing (PW). The results showed that SW was superior to other strategies. The second example compared strategies of Oral Reproduction (OR), Summary writing (SW), and Reading only (RO) (Kamali et al., 2020). The third example compared pre-task strategies in the form of mind mapping pre-tasks or chronological order pre-tasks (Abrams & Byrd, 2016). The last type of comparison was the comparison of continuation task with summary writing tasks. The results showed that the continuation task outperformed the summary writing, especially in building mastery of vocabulary and grammar (Zhang, 2019).

A total of 17 studies (73.9%) showed the implementation of using both single and integrated strategies for summary writing and recorded improvement of summary writing results. Meanwhile, 15 studies (65.2%) with qualitative research design and 5 studies (30.4%) with mixed methods research reported a positive impact on summary writing process. Regarding the comparison of summary writing strategies with other strategies, it was reported that summary writing was superior to Topic Writing (TW), Graphic Writing (GW), and Picture Writing (PW) strategies (Abdali & Fatemipour, 2014). However, different results were obtained by Kamali et al. (2020), which found oral reproduction better than summary writing in improving reading comprehension skills. A similar result was also obtained by Zhang (2019), that Continuation writing task outperformed summary writing in improving reading comprehension ability.

*ii. Use of Computer-assisted language learning (CALL) in writing a summary.*

Computer-assisted language learning (CALL) has been found useful to improve language teaching and learning through online methods (Jeong, 2017), so it easily complements face-to-face learning in the classroom. Out of 35 articles, 12 articles (34,3%) used CALL combined with Online Learning Environment (OLE) in learning summary writing. There were no specific studies that used smartphone devices in summary writing. The computer-assisted SOI strategy helped select vocabulary, identify main ideas, and construct summaries. In addition, it also helped in process selecting, organizing, and integrating reading comprehension and summary efficiency to achieve a desired impact (Yeh et al., 2020).

*iii. Use of Automatic summary writing system.*

Seven out of 35 articles (20%) used the automated system in summary writing. However, out of these 7 articles, there was only 1 article that used Artificial Intelligence (AI) (Sung et al., 2016). The term 'automatic' in these articles referred to a kind of scaffolding concept, and used as affix to several concepts such as *automatic*

*keywords*, which means that the system will provide keywords from a text that is presented to be summarized, with the objective to help users when summarizing (H.-C. Yang, 2014); *automatic concept map*, which referred to the scenario when each paragraph is automatically provided with supporting ideas in the form of a concept map after students fill in some key phrases for each paragraph (Chew et al., 2019); or *automatic scoring* or *automatic assessment*, which meant that an automatic scoring was provided by the system to help students understand how good their summaries were and how to check the improvement of summary results (Sung et al., 2016; Yang, 2015); or *automatic vocabulary*, which meant the system provided scaffolding in the form of new vocabulary or during the learning process, students might add new or important vocabulary (Chew et al., 2019); or *automatic text structures*, which meant to automatically generate text structure of a summary from TOC to present (Harada & Kashihara, 2020); and *automatic feedback,* which referred to as a positive influence on the results of the student summary. The existence of automatic feedback systems might also lessen teachers' workload when they taught summary writing. SW-PAL was created to assist ESL students in improving their summary writing skills by activating prior knowledge while reading texts, modeling summary tactics, and providing feedback during the summarizing process. The results showed that SW-PAL was able to improve student summary performance (Chew et al., 2019).

### *iv.Factors that influence summary writing result*

In summary writing, a number of factors were found influencing summary writing, such as L2 writing self-efficacy; Self-Regulated Learning (SRL); Prior knowledge; Vocabulary knowledge; Plagiarism awareness, Text structure awareness; Students' creativity; Writing attitude; Cognitive styles; and Gender. Out of these factors, 4 factors were very frequently mentioned in the articles reviewed, namely: (1) Vocabulary knowledge that is known to affect the ability to write summaries (Puhner & Fojkar, 2018). Vocabulary knowledge consists of the breadth of vocabulary and depth of vocabulary. Summary writing requires more depth of vocabulary for deeper processing in reading comprehension (Li & Kirby, 2015). Students with limited vocabulary mastery and low grammar skills tend to plagiarize. Meanwhile, students with good grammar and vocabulary will focus on how to write with cohesiveness and good rhetoric; (2) Text structure awareness, which is the ability to understand the organization of the text in sentences that are useful in determining the main idea and explanatory sentence. Text structure has a positive effect on the results of summary writing (Diliduzgun & Genc, 2015); (3) Prior knowledge, generated from the learning process, reading results, and other experiences. Students with prior knowledge tend to read and write more effectively, and their background knowledge proves a more powerful predictor of summary performance in summary writing (Lin & Chern, 2014); (4). Gender is one of the predictors that affect the results of summary writing. It acts as a sociodemographic variable that has a significant effect on student performance (Chew et al., 2019).

## Conclusions, Recommendations and Limitations

This systematic review examined strategies and factors that influenced the success of summary writing. First, the review resulted in categorizing summary writing strategy in three groups: (1) the use of a single strategy in summary writing; (2) the integration of 2 or more strategies in summary writing; (3) comparison of 2 or more strategies in writing a summary or reading comprehension. The results of the study showed that experiment can positively influence and improve the results of summary writing and reading comprehension. Second, it presented the results of a literature review that discussed the factors influencing the success of writing a summary. The study found that most of the articles screened stated that what influenced the results of writing a summary was knowledge of vocabulary, awareness of text structure, and prior knowledge.

The study recommends strongly the use of Information and Communication Technologies (ICT) in any phase of the proposed method of literature reviews (Chew et al., 2020; Ramírez-Echeverry et al., 2016), and appropriate training in the use of ICT tools and sufficient examples of exercises should be provided to familiarize students with new techniques so that they get maximum results (Shang, 2019; Sung et al., 2016). It is also important to provide feedback from teachers or peers to improve summary writing (Yeh et al., 2020), particularly in SW-PAL to enhance summary writing performance (Chew et al., 2019). It is also recommended to improve language skills and vocabulary knowledge (Li & Kirby, 2015), paraphrasing (Yeh et al., 2020), word reading accuracy and pseudo-word reading (Li & Kirby, 2015), as these are crucially required in summary writing. The researchers must also reduce disturbing aspects such as anxiety (Mok & Chan, 2016) and intrinsic load (Chen et al., 2019) to obtain maximum summary writing results. Researchers also need to encourage self-efficacy and other affective factors in summary writing in a computer-assisted environment (Strobl, 2015) or not (Golparvar & Khafi, 2021). Finally, future research could examine students of a greater range of levels, vocabulary knowledge, disciplines and numbers (Kamali et al., 2020);

There are several limitations in our review of research that need to be addressed. First, only two database sources were used namely Scopus and ERIC, which limited the availability of raw data. Second, the results and discussion in the literature review are based on only 35 studies that passed inclusion criteria, so some studies have the potential to be included.

**Declaration of Conflicting Interest:** No potential conflict of interest was reported by the authors.
**Funding:** The authors received no financial support for the research, authorship, and/or publication of this article.

## References

Abdali, A., & Fatemipour, H. (2014). The impact of different writing tasks on intermediate EFL learners' writing performance. *Theory and Practice in Language Studies, 4*(4), 730-735. doi: https://doi.org/10.4304/tpls.4.4.730-735

Abrams, Z. I., & Byrd, D. R. (2016). The effects of pre-task planning on L2 writing: Mind-mapping and chronological sequencing in a 1st-year German class. *System, 63*, 1-12. doi: https://doi.org/10.1016/j.system.2016.08.011

Bandura, A. (1997). Theoretical Perspectives: the nature of human agency. In *Self-efficacy: The exercise of control* (Vol. 3). doi: https://doi.org/10.1007/SpringerReference_223312

Becker, A. (2016). Student-generated scoring rubrics: Examining their formative value for improving ESL students' writing performance. *Assessing Writing, 29*, 15-24. doi: https://doi.org/10.1016/j.asw.2016.05.002

Benzer, A., Sefer, A., Oren, Z., & Konuk, S. (2016). A student-focused study: Strategy of text summary writing and assessment rubric. *Egitim ve Bilim, 41*(186), 163-183. doi: http://doi.org/10.15390/eb.2016.4603

Brown, R. (2008). The road not yet taken: A transactional strategies approach to comprehension instruction. *The Reading Teacher, 61*(7), 538-547. doi: https://doi.org/10.1598/RT.61.7.3

Bulut, P. (2017). The effect of primary school students' writing attitudes and writing self-efficacy beliefs on their summary writing achievement. *International Electronic Journal of Elementary Education, 10*(2), 281-285. doi: https://doi.org/10.26822/iejee.2017236123

Casteel, C. P., Isom, B. A., & Jordan, K. F. (2000). Creating confident and competent readers: Transactional strategies instruction. *Intervention in school and clinic, 36*(2), 67-74. doi: https://doi.org/10.1177/105345120003600201

Chang, K.-E., Sung, Y.-T., & Chen, I.-D. (2002). The effect of concept mapping to enhance text comprehension and summarization. *The Journal of Experimental Education, 71*(1), 5-23. doi: https://doi.org/10.1080/00220970209602054

Chen, O., Manalo, E., & She, Y. (2019). Examining the influence of expertise on the effectiveness of diagramming and summarising when studying scientific materials. *Educational Studies, 45*(1), 57-71. doi: https://doi.org/10.1080/03055698.2017.1390444

Chew, C. S., Idris, N., Loh, E. F., Wu, W. C. V., Chua, Y. P., & Bimba, A. T. (2019). The effects of a theory-based summary writing tool on students' summary writing. *Journal of Computer Assisted Learning, 35*(3), 435-449. doi: https://doi.org/10.1111/jcal.12349

Chew, C. S., Wu, W.-C. V., Idris, N., Loh, E. F., & Chua, Y. P. (2020). Enhancing summary writing of ESL learners via a theory-based online tool: system development and Evaluation. *Journal of Educational Computing Research, 58*(2), 398-432. doi: https://doi.org/10.1177/0735633119837765

Diliduzgun, S., & Genc, S. (2015). Improving the Summarizing Skills Through Text Structure-Based Strategies. *The Anthropologist, 20*(1-2), 69-76. doi: https://doi.org/10.1080/09720073.2015.11891725

García, O., & Wei, L. (2014). Language, bilingualism and education. In *Translanguaging: Language, bilingualism and education* (pp. 46-62): Springer. doi: https://doi.org/10.1057/9781137385765_4

Golparvar, S. E., & Khafi, A. (2021). The role of L2 writing self-efficacy in integrated writing strategy use and performance. *Assessing Writing, 47*, 100504. doi: https://doi.org/10.1016/j.asw.2020.100504

Grabe, W. (2008). Reading in a second language: Moving from theory to practice. In *The Oxford Handbook of Applied Linguistics* (pp. 88–99): Cambridge University Press. doi: https://doi.org/10.1093/oxfordhb/9780195384253.013.0006

Harada, O., & Kashihara, A. (2020). A graphic organizer for supporting summary writing in web-based investigative learning. In *The 17th International Conference on Cognition and Exploratory Learning in Digital Age (CELDA 2020)* (pp. 257-264). Retrieved from http://www.iadisportal.org/components/com_booklibrary/ebooks/202014L033.pdf

Hiebert, E. H., & Kamil, M. L. (2005). *Teaching and learning vocabulary: Bringing research to practice*. Lawrence Erlbaum Associates, Inc. doi: https://doi.org/10.4324/9781410612922

Hu, J., & Gao, X. A. (2017). Using think-aloud protocol in self-regulated reading research. *Educational Research Review, 22*, 181-193. doi: https://doi.org/10.1016/j.edurev.2017.09.004

Jamshidifarsani, H., Garbaya, S., Lim, T., Blazevic, P., & Ritchie, J. M. (2019). Technology-based reading intervention programs for elementary grades: An analytical review. *Computers & Education, 128*, 427-451. doi: https://doi.org/10.1016/j.compedu.2018.10.003

Jeong, K.-O. (2017). Preparing EFL student teachers with new technologies in the Korean context. *Computer Assisted Language Learning, 30*(6), 488-509. doi: https://doi.org/10.1080/09588221.2017.1321554

Kamali, M., Behjat, F., & Bagheri, M. S. (2020). Examining the effects of oral reproduction and summary writing vocabulary tasks on L2 word learning: Technique feature analysis on trial. *Cogent Education, 7*(1), 1795966. doi: https://doi.org/10.1080/2331186X.2020.1795966

Kintsch, W., & Van Dijk, T. A. (1978). Toward a model of text comprehension and production. *Psychological review, 85*(5), 363-394. doi: https://doi.org/10.1037/0033-295X.85.5.363

Li, M., & Kirby, J. R. (2015). The effects of vocabulary breadth and depth on English reading. *Applied Linguistics, 36*(5), 611-634. doi: https://doi.org/10.1093/applin/amu007

Lin, Y.-H., & Chern, C.-L. (2014). The effects of background knowledge and L2 reading proficiency on Taiwanese university students' summarization performance. *Contemporary Educational Research Quarterly, 22*(4), 149-186. doi: https://doi.org/10.6151/CERQ.2014.2204.04

Marzec-Stawiarska, M. (2016). The influence of summary writing on the development of reading skills in a foreign language. *System, 59*, 90-99. doi: https://doi.org/10.1016/j.system.2016.04.006

Mauludin, L. A. (2018). Dynamic assessment to improve students' summary writing skill in an ESP class. *Southern African Linguistics and Applied Language Studies, 36*(4), 355-364. doi: https://doi.org/10.2989/16073614.2018.1548296

Mayer, R. E. (2009). *Multimedia learning, 2nd ed* (2nd ed.). New York, NY, US: Cambridge University Press. doi: https://doi.org/10.1017/CBO9780511811678

Mbirimi-Hungwe, V. (2016). Translanguaging as a strategy for group work: Summary writing as a measure for reading comprehension among university students. *Southern African Linguistics and Applied Language Studies, 34*(3), 241-249. doi: https://doi.org/10.2989/16073614.2016.1250352

McGeown, S. P., Duncan, L. G., Griffiths, Y. M., & Stothard, S. E. (2015). Exploring the relationship between adolescent's reading skills, reading motivation and reading habits. *Reading and writing, 28*(4), 545-569. doi: https://doi.org/10.1007/s11145-014-9537-9

Merchant, H., & Nyamapfene, T. (2021). An evaluation of educational interventions aimed at preparing medical students for discharge summary writing: a rapid review of the literature. *Irish Journal of Medical Science, 190*(2), 523-530. doi: https://doi.org/10.1007/s11845-020-02325-0

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, P. (2010). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *International journal of surgery (London, England), 8*(5), 336-341. doi: https://doi.org/10.1016/j.ijsu.2010.02.007

Mok, W. S. Y., & Chan, W. W. L. (2016). How do tests and summary writing tasks enhance long-term retention of students with different levels of test anxiety? *Instructional Science, 44*(6), 567-581. doi: https://doi.org/10.1007/s11251-016-9393-x

National Center for Education Statistics. (2015). The Nation's Report Card: Reading 2015 State Snapshot Reports for Grade 4. Retrieved from https://nces.ed.gov/nationsreportcard/pubs/stt2015/20160084.aspx

OECD. (2010). *PISA 2009 results: Overcoming social background: Equity in learning opportunities and outcomes (Volume II)*. OECD Publishing Paris. doi: https://doi.org/10.1787/19963777

OECD. (2018). *PISA 2018 Results (Volume I): What Students Know and Can Do*. OECD Publishing Paris. Retrieved from https://www.oecd.org/education/pisa-2018-results-volume-i-5f07c754-en.htm

Olagbaju, O. O. (2020). Cognitive styles and gender as predictors of students' achievement in summary writing in selected secondary schools in ibadan, Nigeria. *Education Research International, 2020*. doi: https://doi.org/10.1155/2020/8462368

Puhner, N., & Fojkar, M. D. (2018). Developing EFL Writing with Year 5 Pupils by Writing Summaries. *ELOPE: English Language Overseas Perspectives and Enquiries, 15*(2), 97-113. doi: https://doi.org/10.4312/elope.15.2.97-113

Ramírez-Echeverry, J. J., Olarte Dussán, F. A., & García-Carillo, A. (2016). Effects of an educational intervention on the technical writing competence of engineering students. *Ingeniería e Investigación, 36*(3), 39-49. doi: https://doi.org/10.15446/ing.investig.v36n3.54959

Saliba, G., Rankine, L., & Cortez, H. (2013). *The Fundamentals of Blended Learning*. University of Western Sydney.

Shang, H.-F. (2019). An investigation of plagiarism software use and awareness training on English as a foreign language (EFL) students. *Journal of Computing in Higher Education, 31*(1), 105-120. doi: https://doi.org/10.1007/s12528-018-9193-1

Strobl, C. (2015). Attitudes towards online feedback on writing: Why students mistrust the learning potential of models. *ReCALL, 27*(3), 340-357. doi: https://doi.org/10.1017/S0958344015000099

Sung, Y.-T., Liao, C.-N., Chang, T.-H., Chen, C.-L., & Chang, K.-E. (2016). The effect of online summary assessment and feedback system on the summary writing on 6th graders: The LSA-based technique. *Computers & Education, 95*, 1-18. doi: https://doi.org/10.1016/j.compedu.2015.12.003

Susnea, I., Pecheanu, E., Dumitriu, L., & Cocu, A. (2017). Exploring the connection between the students' creativity and summary writing skills. In *2017 IEEE Global Engineering Education Conference (EDUCON)* (pp. 347-350): IEEE. doi: https://doi.org/10.1109/EDUCON.2017.7942871

Teng, F. (2019). A comparison of text structure and self-regulated strategy instruction for elementary school students' writing. *English Teaching: Practice & Critique, 18*(3), 281-297. doi: https://doi.org/10.1108/ETPC-07-2018-0070

Turcotte, C., Berthiaume, R., & Caron, P.-O. (2018). Description and interactions of informative text structure knowledge and skills of french-speaking grade 6 students. *Reading and Writing, 31*(9), 2147-2164. doi: https://doi.org/10.1007/s11145-018-9875-0

Wichadee, S. (2014). Developing reading and summary writing abilities of EFL undergraduate students through transactional strategies. *Research in Education, 92*(1), 59-71. doi: https://doi.org/10.7227/RIE.0005

Yang, H.-C. (2014). Toward a model of strategies and summary writing performance. *Language Assessment Quarterly, 11*(4), 403-431. doi: https://doi.org/10.1080/15434303.2014.957381

Yang, Y.-F. (2014). Preparing language teachers for blended teaching of summary writing. *Computer Assisted Language Learning, 27*(3), 185-206. doi: https://doi.org/10.1080/09588221.2012.701633

Yang, Y.-F. (2015). Automatic scaffolding and measurement of concept mapping for EFL students to write summaries. *Journal of Educational Technology & Society, 18*(4), 273-286. Retrieved from https://www.jstor.org/stable/jeductechsoci.18.4.273

Yang, Y.-F. (2016). Transforming and constructing academic knowledge through online peer feedback in summary writing. *Computer Assisted Language Learning, 29*(4), 683-702. doi: https://doi.org/10.1080/09588221.2015.1016440

Yeh, H.-C., Yang, S.-H., & Chen, G.-L. (2020). Exploring Students' Integrated Reading and Summary Writing Processes Through an Online System. *English Teaching & Learning, 44*(1), 21-43. doi: https://doi.org/10.1007/s42321-019-00026-1

Zafarani, P., & Kabgani, S. (2014). Summarization strategy training and reading comprehension of Iranian ESP learners. *Procedia-Social and Behavioral Sciences, 98*, 1959-1965. doi: https://doi.org/10.1016/j.sbspro.2014.03.629

Zhang, L. (2019). Alignment effects of the continuation task on L2 Chinese writing. *Chinese as a Second Language Research, 8*(2), 227-247. doi: https://doi.org/10.1515/caslar-2019-0009

Zimmerman, B. J. (1998). Academic studing and the development of personal skill: A self-regulatory perspective. *Educational psychologist, 33*(2-3), 73-86. doi: https://doi.org/10.1080/00461520.1998.9653292

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into practice, 41*(2), 64-70. doi: https://doi.org/10.1207/s15430421tip4102_2

**AUTHOR BIODATA**

**Aris Budianto** is Ph.D student at Instructional Technology, Universitas Negeri Malang, Indonesia. His research focuses on Learning Technologies, Computer Vision, Artificial Intelligence in Education, Computer Assisted Learning, Educational Technology.

**Punaji Seyosari** is a professor in the post Graduate program of the Department of Instructional Technology, Universitas Negeri Malang, Indonesia. His research interests include research methodologies, evaluation and assessment, instructional media, problem-based learning, and collaborative learning.

**Dedi Kuswandi** is a lecturer in the Department of Instructional Technology at the Universitas Negeri Malang, Indonesia. His research interests include instructional media and learning strategies.

**Saida Ulfa** is a lecturer in the Department of Instructional Technology, Universitas Negeri Malang, Indonesia. Her research interests include mobile learning, instructional media, and learning engineering.