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RESEARCH ARTICLE

Corpus-based Feedback in Elementary English Writing: Impacts on Performance and Learner Attitudes

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ABSTRACT

This study examines the impact of corpus-based feedback on elementary school students' English writing performance and attitudes. Forty-two fifth-grade students were assigned to either a research group (n = 22), which received data-driven learning (DDL) feedback using teacher-selected concordance examples, or a comparison group (n = 20), which received direct teacher feedback and explicit instruction. Across four instructional lessons, both groups participated in pre- and post-writing assessments, and qualitative data were collected through surveys and interviews. The results indicate that the corpus-based group demonstrated greater improvement in writing performance compared to the comparison group, with significant gains observed among both higher- and lower-proficiency learners when appropriate scaffolding was provided. While students generally responded positively to corpus-based feedback, some reported difficulties during the writing process. These findings suggest that corpus-based feedback can be an effective pedagogical approach in elementary writing instruction, offering a valuable alternative to conventional feedback methods.

Keywords: Corpus, data-driven learning, English writing, feedback

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Introduction

In line with the 2015 Revised English Subject National Curriculum, spoken language-based learning, such as listening and speaking, is predominantly practiced in elementary schools (Ministry of Education, 2015). However, in middle and high school, there is a sharp transition to written language, and many learners report a lack of confidence and difficulty in learning English. Especially in the context of English as a foreign language (EFL), writing is often perceived as more challenging than other areas due to the complexity of learning language forms (grammar), spelling, punctuation, and other elements. Nevertheless, writing plays an important role in overall communicative competence and develops other language skills such as reading, speaking, and listening (Brown, 2014). This emphasizes the need to systematically teach writing in the upper

elementary grades.

As a way of teaching writing, corpora, which can sufficiently represent the appearance and characteristics of a particular language through real and natural examples (McEnery & Wilson, 2001), are gaining attention. Johns (1991) developed Data-Driven Learning (DDL), a method of learning a target language by inductively analyzing language examples from a corpus and generalizing patterns (Boulton, 2021; Tribble & Jones, 1997).

This study aims to support learners' writing learning through DDL by providing corpus-based feedback on learners' writing products. Direct feedback, which is mainly utilized in the field, can lead to accurate correction by explicitly correcting errors by the teacher, but it is difficult to expect long-term learning effects because learners do not correct themselves (Ferris & Roberts, 2001; Lalande, 1982). In contrast, indirect feedback using corpora can promote autonomy by allowing learners to discover and correct their own errors. In particular, extracting example sentences from corpora that reflect context can compensate for the limitations of artificial teacher feedback (Sun, 2003).

Therefore, this study aims to explore the effect of providing corpus-based feedback on the English writing performance of fifth-grade learners, specifically focusing on the improvement of their writing skills as well as their perceptions and attitudes towards English writing. The research questions of this study are as follows: 1) What are the effects of corpus-based feedback on elementary school English learners' writing skills; 2) How does corpus-based feedback affect learners' English writing skills at different levels; 3) What are the effects of corpus-based feedback on learners' affective domains?

Theoretical Background

Corpus and Data-Driven Learning (DDL)

Sinclair (1991) defined a corpus as a collection of natural language materials that provide information about the context in which language is used in real-life situations. Among the various types of corpora, this study utilized a textbook corpus - which is a pedagogic corpus - because it can compensate for the limitations of general corpora by providing realistic examples of the target language that are appropriate to the learner's language ability and development level (Hunston, 2022; Lee, 2013; Lee & Lee, 2023).

Computer programs can be used to extract, compare, and analyze corpora, and the search engine used for this purpose is called a concordancer (Johns, 1986). The example sentences extracted by searching for a specific word or language form through a concordancer are called concordance lines (O'Keeffe & Farr, 2003). These are displayed in a KWIC (Key Word in Context) format with the key word in the center of each line to aid in the exploration and understanding of language patterns (Meyer, 2023).

Corpus linguistics is the investigation of linguistic research questions through the systematic analysis of the distribution of linguistic phenomena in a corpus, rather than relying on the introspective knowledge of researchers (Stefanowitsch, 2020; Zufferey, 2020). Corpora are widely used in language teaching for vocabulary, grammar, collocation, and writing because they provide a wealth of linguistic information through real-world examples. Corpora increase learners' contextual knowledge (Hunston, 2022; Tribble, 2002) and contribute to the development of academic literacy and writing skills (Flowerdew, 2002). In particular, DDL activities using corpora can lead to discovery learning and self-

directed learning by focusing on a variety of authentic examples. This results in input enhancement for the language items to be learned and allows learners to discover language features and generalize rules or patterns on their own (Lee, 2013; Meunier et al., 2011).

There are two types of DDL: the soft (weak) version and the hard (strong) version (Tribble & Jones, 1997). The soft version of DDL is teacher-mediated: the teacher selects the corpus, extracts the concordance lines, presents the material in the form of a worksheet, and manages the entire learning process, taking into account the learner's level (Gabrielatos, 2005). On the other hand, the hard version of DDL allows learners to access the corpus on their own, making use of concordances to extract examples of the language items they wish to learn. However, young learners may have difficulty utilizing a corpus due to their limited basic computer skills and lack of familiarity with corpus tools (Ma & Mei, 2021). Thus, the soft version of DDL is mainly effective for beginner-level learners, while the hard version is useful for learners with higher levels of language proficiency or development (Boulton, 2010; Lee, 2007; Meyer, 2023).

Writing Corrective Feedback

Feedback is the provision of a response or evaluation to an activity, and there has been a long-standing debate about the effectiveness of correcting learners' errors through writing feedback in English writing. Truscott (1999) found that the correction of second language learners' writing had a negative impact on their subsequent writing process. Ferris (1995), on the other hand, argued that teachers' writing feedback is essential and that learners' error correction through feedback is effective in improving writing accuracy.

Ellis (2008) categorizes feedback for correcting writing errors into six types, of which direct corrective feedback and indirect corrective feedback are commonly used in language classrooms. Direct feedback is a method in which the teacher explicitly corrects the error, while indirect feedback is a method in which the teacher points out the error but the learner corrects it on their own. In this study, corpus-based feedback - which is a combination of indirect feedback and computerized feedback - will be used. Corpus-based feedback is a method in which learners correct errors by referring to examples of concordance lines in a corpus stored on a computer. This method is more effective in correcting errors than using a dictionary or grammar book, and has the advantage of enhancing learner autonomy and motivating learning (Chambers & O'Sullivan, 2004; Lee, 2007).

Elementary English Writing Education

Elementary school English aims to enable learners to communicate in basic everyday situations like giving information or expressing feelings with interest and confidence (Ministry of Education, 2015). According to the 2015 Revised English Subject National Curriculum, students begin with basic writing activities centered on spelling, vocabulary, and phrases in grades 3 and 4, and progress to writing with reference to simple sentences and examples in grades 5 and 6. Teaching and learning are learner-centered and self-directed, and encourage the use of information and communication technology tools. It also emphasizes learners' self-correction of errors by providing individualized corrective feedback, as suggested by the new 2022 Revised English Subject National Curriculum (Ministry of Education, 2022). When it comes to assessment, learners are encouraged to view assessment as an extension of learning, providing

opportunities for self-reflection through feedback and using corpus programs to correct errors in spelling and language forms.

In line with these national curriculum directions for elementary English, this study creates and administers a writing performance assessment aligned with the achievement standards for grades 5 and 6. It then provides learners with corpus-based feedback materials on their writing, which learners use to check and correct their own errors and to re-learn. In this process, this study intends to explore whether learners have improved their writing skills cognitively and whether they have changed their perceptions and attitudes toward writing affectively.

Methods

Subjects

This study was conducted with 42 fifth-grade students at C Elementary School in Busan, Korea, who were divided into two groups: 22 students in the research group and 20 in the comparison group. The research group received corpus-based feedback on their lesson-by-lesson writing performance assessment results, while the comparison group received direct feedback from the teacher in the traditional way. To compare the effectiveness of feedback by proficiency level, each group was subdivided into upper and lower groups based on the learners' English proficiency.

Development of Teaching and Learning Materials

Building a Textbook Corpus

To build the textbook corpus, all five fifth-grade textbooks from the 2015 Revised English Subject National Curriculum (Daekyo, Dong-A, Genius, YBM (Kim), and YBM (Choi)) were used. All English words and sentences in the textbooks were saved as text files, and each lesson was categorized into reading (R), listening (L), speaking (S), and writing (W). Other test items were categorized as tests (T), and activities that did not contain words related to the four language skills were categorized as extra activities (EA) for convenience. Files were saved in the following format: 'Grade - Publisher's initials - First author's last name - Lesson - R/L/S/W/EA/T' (e.g., E5-CJ-H-L01-L).

Assessment Contents

In this study, the researcher conducted a lesson-by-lesson writing performance assessment and provided feedback on the results. The assessment items were selected from the contents of the Daekyo publishing company's textbook used by the school. Considering the curriculum instruction plan and the duration of the study, writing performance assessments were created for four lessons (Lessons 3 to 6), and the writing assessment items for each lesson are shown in Table 1.

Table 1. Writing assessment contents of Lesson 3~6

Unit	Textbook contents	
	Communicative functions	Key expressions
3	Expressing the taste of food	It's sweet.
	Offering food and responding	Please try some./ Help yourself. Do you want some more? -Yes, please./ No, thanks.
4	Asking and answering questions about your favorite subject	What's your favorite subject? -My favorite subject is music.
	Asking and answering questions about your favorite person	Who's your favorite musician? -My favorite musician is Mozart.
5	Asking and answering questions about your daily routine	What time do you get up? -I get up at 6.
	Agreeing	Same here.
6	Asking for permission and responding	Can I take a picture? -Yes(Sure), you can./ Of course./ Sorry, you can't.
	Responding to gratitude	No problem.

Feedback

The research group received corpus-based feedback, utilizing a soft version of DDL in which the teacher manually extracted concordance examples and presented them to the students. This was done to account for the elementary school students' level, to reduce their learning burden, and to control for differences in results due to software literacy (Kong & Yoon, 2010). AntConc 4.2.4 was used as a concordancer, and the concordance examples were sorted by frequency, with the expression retrieved through the KWIC function centered.

For each assessment item, students were provided with two to four example sentences related to the key expressions, choosing sentences with high frequency or from textbooks not used in the school. Complete sentences, rather than truncated KWIC forms, were presented, and key expressions in the example sentences were bolded. This prevents confusion for novice learners and makes the examples easier to understand (Gilquin & Granger, 2010; Lusta et al., 2023). In addition, difficult vocabulary words were translated into Korean to help students find patterns in the examples. At the end of the learning materials (worksheets), example sentences related to the key vocabulary of the lesson were presented, and their meanings were inferred to provide an opportunity to summarize the lesson. After the learners finished working individually, the teacher reviewed the generalized rules with them to reinforce and consolidate their understanding.

The specific stages of feedback are as follows. First, students' error types are identified through a pre-writing performance assessment conducted for each unit. For example, Fig. 1 shows an instance in which a student incorrectly used the expression 'What's' when responding to a question about their favorite person. Second, example sentences containing the correct usage are searched using the AntConc program. As shown in Fig. 2, various sentences using the correct form 'Who's your favorite person?' can be reviewed. Third, as illustrated in Fig. 3, a feedback worksheet is provided. Each model sentence is labeled with a number that corresponds to the test item, allowing students to easily locate the examples relevant to their own errors. Fourth, students analyze the model sentences to identify patterns and revise their errors independently. According to Fig. 4 and 5, the student recognized that the phrase 'Who's' is consistently used when asking about a favorite person, based on examples 11 to 13 in the worksheet, and successfully corrected the error.

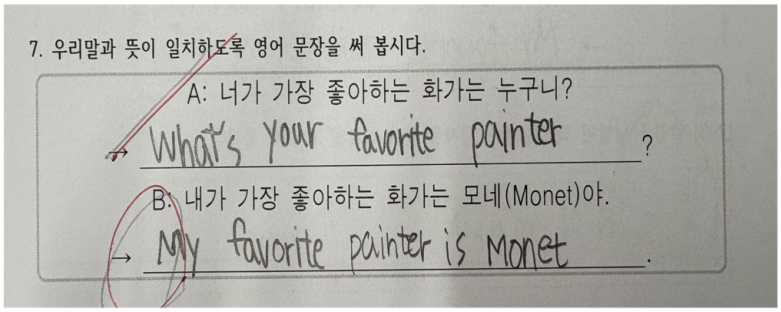

Fig. 1. An example of error

E5-DG-L-L0...	you? How about you? I like music. Who's your	favorite	musician? My favorite musician is Mozart. How about you?
E5-DG-L-L0...	favorite subject? My favorite subject is math. Who's your	favorite	musician? My favorite musician is Mozart. What's your
E5-DG-L-L0...	Minjun: (음악을 감상하며) It's Mozart. Jitae: Who's your	favorite	musician? Emily: My favorite musician is Beethoven. Emily: Oh,
E5-DG-L-L0...	B: My favorite subject is art. B: Who's your	favorite	musician? G: My favorite musician is Beethoven. A: What'
E5-DG-L-L0...	favorite subject is science. Who's your favorite painter? My	favorite	painter is van Gogh. Mission Project HELLO, WORLD!
E5-DG-L-L0...	favorite subject is science. Who's your favorite painter? My	favorite	painter is van Gogh. My favorite painter is Monet.
E5-DG-L-L0...	favorite painter. Minjun: Who's your favorite painter? Jitae: My	favorite	painter is van Gogh. (고흐의 '해바라기'를 가리키며) I
E5-DG-L-L0...	your favorite painter? My favorite painter is van Gogh. My	favorite	painter is Monet. Who's your favorite musician? My
E5-YBM-K-...	to draw pictures. I want to be a painter. My	favorite	painter is Vincent van Gogh. I want to draw

Fig. 2. Sample concordance lines extracted from the corpus

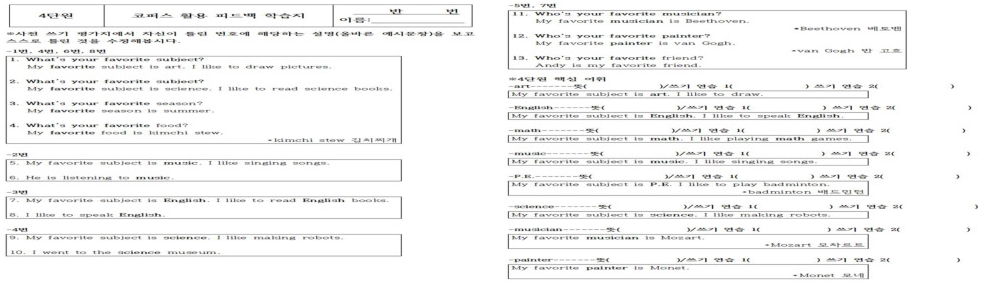

Fig. 3. An example of corpus-based feedback worksheet

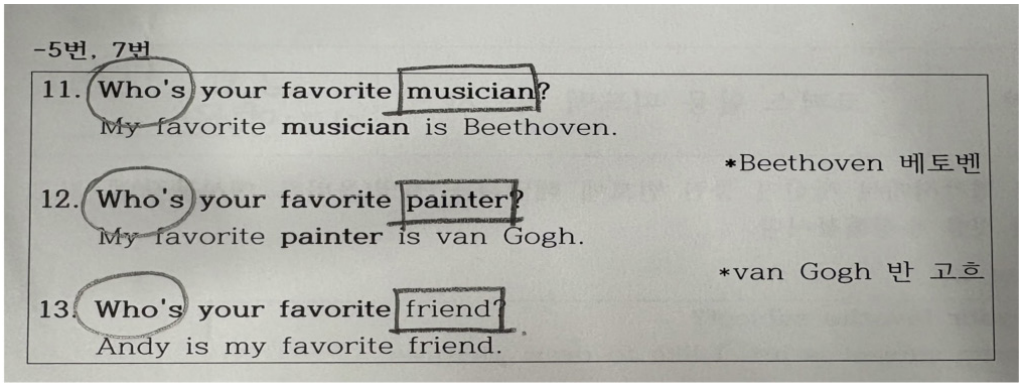

Fig. 4. An example of student's worksheet

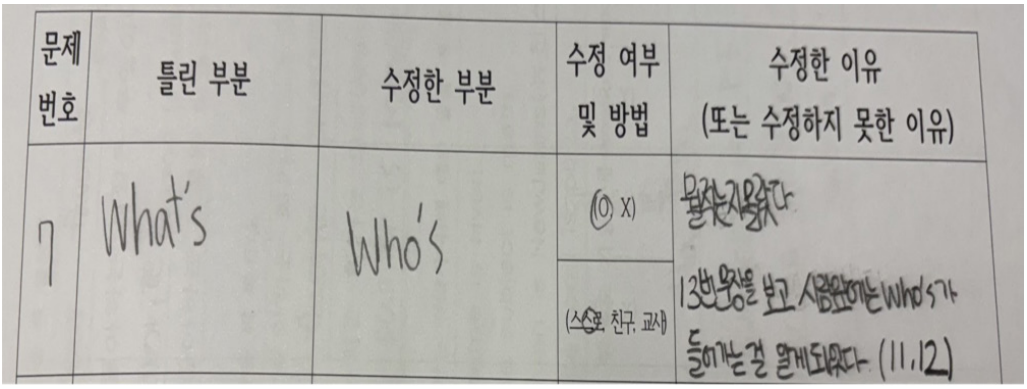

Fig. 5. An example of student's error correction worksheet

Direct feedback was provided to the comparison group, who were given an answer sheet to check their responses and correct their errors in the same amount of time as the research group. At the bottom of the worksheets, key vocabulary words and their meanings in Korean language were presented to aid in re-learning, and at the end, the teacher provided explicit instruction on the key vocabulary words and key expressions of the lesson. The direct feedback worksheets are shown in Fig. 6.

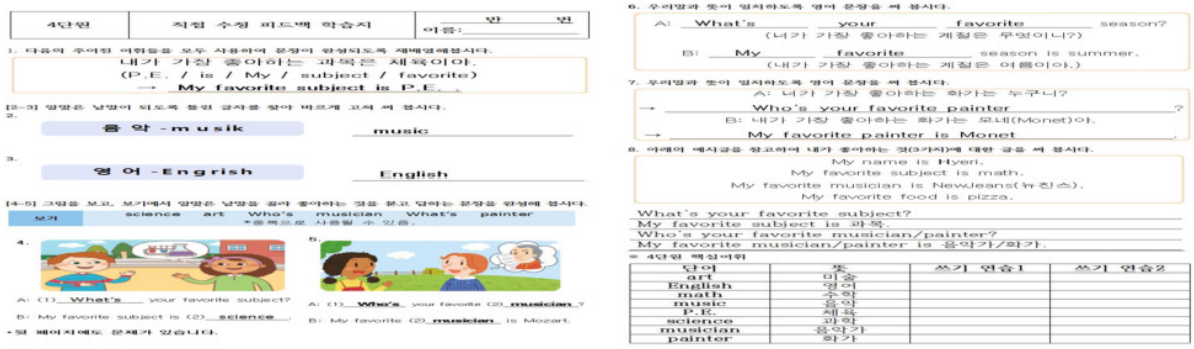

Fig. 6. An example of direct feedback worksheet

Tools and Procedures

The experiment was conducted over three months, from May to July 2024, and the research instruments and procedures are shown in Table 2. A preliminary questionnaire was administered to a total of 154 fifth-grade learners in four regions of Korea to determine their overall English writing and error correction practices. Then, a pre-writing assessment was conducted based on the fourth-grade curriculum content to verify the homogeneity of the research and comparison groups and to distinguish the proficiency levels within each group. There was no statistically significant difference in the pre-writing assessment scores between the two groups ($t(40) = -0.31$, $p = .762$). Therefore, it can be concluded that the two groups were homogeneous in terms of their English writing ability.

Beginning in June, four lesson-specific pre-writing performance assessments were administered at the end of each lesson—Lessons 3 through 6. The pre-writing and lesson performance assessments were based on sample items from

the assessment support portal (https://stas.moe.go.kr/) and the teacher's site (http://www.teachinglab.co.kr) provided by the Daekyo textbook publisher. The results of the writing performance assessments were presented in one period per lesson, with the research group receiving corpus-based feedback and the comparison group receiving direct feedback. As they corrected their own errors, the research group filled out an error correction sheet, which included explanations of why and how they corrected their errors, to ensure that the learners identified the correct patterns in the concordance examples.

Table 2. Tools and procedures

Tool	Period	Subject
Pre-survey	May	154 fifth-grade students
Pre-writing test	May	Both groups
Pre and post writing performance assessment	June~July	Both groups
Error correction worksheet	June~July	Research group
Post-survey	July	Research group
In-depth interview	July	Research group

A week after the feedback period, a lesson-specific post-writing performance assessment was administered, using the same type of test items as the pre-assessment, but with slight differences to accurately assess the impact of the feedback. Finally, a post-survey was carried out to the research group to investigate their overall perceptions and attitudes toward corpus-based feedback, and in-depth interviews were conducted with six learners to explore their affective responses in depth. All research instruments were piloted with five learners who were not involved in the experiment to ensure validity and reliability.

Data Analysis

In this study, the results of the pre- and post-writing performance assessments were analyzed using SPSS version 21 at a significance level of 5%. First, a paired-sample *t*-test was conducted to determine the effect of feedback by lesson within each group. For the last Lesson 6, an analysis of covariance was used to compare the differences in pre- and post-assessment results between groups. In addition, to examine the effectiveness of feedback based on learner proficiency level, a paired-sample t-test was used to compare pre- and post-test differences in Lesson 6 by level within each group. The questionnaires were analyzed using frequency analysis, and the error correction sheets and in-depth interviews were analyzed qualitatively.

Results and Discussions

The Effects of Corpus-based Feedback on English Writing

Comparison of Pre- and Post-assessment Results within the Group

To investigate the effect of corpus-based feedback on the writing performance of the learners in the research group, a paired sample *t*-test was conducted on the pre- and post-writing performance assessment results for each lesson, and the results are shown in Table 3.

Table 3. Pre- and post-assessment results of the research group (N=22)

Unit	Period	Number of Students	Mean	Standard Deviation	*t*	*p*
3	Pre	22	61.73	33.34	-3.68	.001**
	Post		74.73	27.07		
4	Pre	22	67.23	32.07	-1.31	.203
	Post		70.59	29.66		
5	Pre	22	70.59	32.25	-3.00	.007**
	Post		78.68	31.25		
6	Pre	22	56.77	26.39	-7.89	.000***
	Post		80.41	22.46		

$p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

All four lessons showed an increase in the average post-assessment score, and except for Lesson 4, the pre- and post-assessment results showed statistically significant differences in the other three lessons. This suggests that corpus-based feedback is effective in improving learners' writing skills, which is similar to such previous studies as Lee and Lee's (2023), Lee et al.'s (2020), and Luo and Liao's (2015).

To examine the effect of direct feedback on the writing performance of the comparison group, paired-samples *t*-tests on the pre- and post-assessment results for each lesson were conducted, and the results are shown in Table 4. Similar to the research group, mean scores increased on the post-assessment compared to the pre-assessment in all four lessons. However, while there was a significant difference in Lessons 3 and 6, the results for Lessons 4 and 5 were not significant. With no significant results for two of the four lessons, it can be concluded that the effect of direct feedback was not significant.

Table 4. Pre- and post-assessment results of the comparison group (N=20)

Unit	Period	Number of Students	Mean	Standard Deviation	*t*	*p*
3	Pre	20	60.95	33.28	-2.89	.009**
	Post		70.40	28.10		
4	Pre	20	63.95	33.56	-1.27	.220
	Post		68.35	33.06		
5	Pre	20	68.20	30.29	-1.92	.071
	Post		75.90	28.80		
6	Pre	20	57.65	31.32	-2.30	.033*
	Post		66.75	27.31		

$p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Comparison of Pre- and Post-assessment Results between Groups

To rigorously compare the effects of the two types of feedback, an analysis of covariance on the pre- and post-assessment results of the Lesson 6 writing performance assessment was carried out. The results of the mean corrected post-score, controlling for pre-score as a covariate, are shown in Table 5.

Table 5. Comparison of pre- and post-assessment results using analysis of covariance

(N=42)

Group	Number of Students	Pre-assessment Mean	Post-assessment	Pre-assessment Mean	*F*	*p*
Research	22	56.77	80.41	80.71	11.11	.002**
Comparison	20	57.65	66.75	66.42		

$p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

The pre-writing performance assessment scores for Lesson 6 were slightly higher for the comparison group, but the post-scores were higher for the research group than for the comparison group. The difference between the two groups' mean scores was further widened by the analysis of covariance, and the difference between the post-assessment scores of the research and comparison groups was found to be statistically significant ($F(1, 39) = 11.11$, $p < 0.01$). Therefore, unlike in Fauzanz et al. (2022), it can be concluded that corpus-based feedback has a more positive effect on improving English writing skills than direct feedback. Lee and Lee (2020) found that corpus-based error correction was more effective than direct instruction in improving grammar skills, and the results of this study suggest that corpus utilization is effective for overall writing skills beyond grammar.

Comparison of Pre- and Post-assessment Results by English Level

To examine the effect of feedback based on learner level, each group was divided into upper and lower groups. Table 6 shows the results of a paired-samples *t*-test for the pre- and post-assessment of writing performance in Lesson 6 for the research groups, based on learner level.

Table 6. Comparison of pre- and post-assessment results of the research group by English level

(N=22)

Group	Period	Number of Students	Mean	Standard Deviation	*t*	*p*
Upper	Pre	11	74.55	16.66	-4.36	.001**
	Post		93.82	9.38		
Lower	Pre	11	39.00	22.14	-7.38	.000***
	Post		67.00	24.00		

$p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Pre- and post-assessment results for the upper group show statistically significant differences ($t(9) = -4.36$, $p < 0.01$). The lower group also showed significant differences when comparing pre- and post-assessments ($t(9) = -7.38$, $p < 0.001$). Thus, like in Lin (2021), both the upper and lower levels of the research group improved their English writing skills through corpus-based feedback. It is worth noting that, unlike in Shin (2013), the lower-level students showed more significant gains, suggesting that the use of corpora can be extended to younger learners and students with lower language proficiency.

Table 7. Comparison of pre- and post-assessment results of the comparison group by English level

(N=20)

Group	Period	Number of Students	Mean	Standard Deviation	*t*	*p*
Upper	Pre	10	80.30	15.17	-.88	.400
	Post		86.00	10.25		
Lower	Pre	10	35.00	26.46	-2.67	.026*
	Post		47.50	25.41		

$p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Table 7 shows the results of a paired-samples *t*-test for the pre- and post-assessment of writing performance in Lesson 6 for the comparison groups, based on learner level. The pre- and post-assessment results for the upper group do not show a statistically significant difference (t (8) = -.88, p = .400), while the lower group shows a significant difference (t (8) = -2.67, $p < 0.05$). In other words, in the comparison group, only lower-level students benefited from direct feedback. In the corpus-based feedback group, the feedback was also effective for upper-level students, suggesting that upper-level students benefit from student-centered feedback that gives them the opportunity to think for themselves rather than teacher's explicit direct feedback.

Analysis of Error Correction Process Using Corpus

The research group was asked to fill out error correction sheets to examine which example sentences they referenced for concordance lines, which language form patterns they recognized, and how they corrected their errors. Most of the upper-level group students corrected their errors on their own by referring to example sentences that were appropriate for the errors they made. Table 8, an excerpt from the error correction sheets of the upper-level students, indicates that students were able to identify rules and grammatical patterns by examining the example expressions on their own and often corrected their spelling errors.

Table 8. An example of error correction worksheet for an upper-level group

Question number	Error	Correction	Whether and how it was corrected	Reasons for the correction
8	chaerin	Chaerin	(O) (independently)	Example 8 helped me realize that names should start with a capital letter.
7	Help your self.	Help yourself.	(O) (independently)	I realized from the example sentence that 'yourself' should not be written with a space.
4	do your homework	do my homework	(O) (independently)	Example 6 helped me understand that when the subject is 'I', the correct form is 'do my homework.'.
8	I dance class at 2:40.	I have dance class at 2:40.	(O) (independently)	The yoga class example in Example 8 helped me understand that the verb 'have' should be used.
7	What thim do you get up?	What time do you get up?	(O) (independently)	I realized from the example sentences in Examples 4 and 6 that it should be 'time', not 'thim'.

Students in the lower group mostly corrected their errors with the help of peer students or teacher. They were also less likely to write down the reasons for their corrections than the upper-group students. Table 9 shows that spelling errors were corrected by the lower-level students with the help of example sentences, but for more sophisticated language items, such as vocabulary meanings and grammatical errors, students relied on the help of teachers and peers to infer meanings or discover rules and patterns from example sentences.

Table 9. An example of error correction worksheet for an lower-level group

Question number	Error	Correction	Whether and how it was corrected	Reasons for the correction
3	(Blank)	picture	(O) (independently)	I learned the correct spelling of 'picture' from the example sentence.
7	Yes, you can.	Of course.	(O) (friend)	I learned the meaning of 'Of course.' from the example.
4	Who's	What's	(O) (teacher)	Like the example sentence, 'Who's' should be followed by a person, but I wrote 'Who's' where it wasn't referring to a person.
6	(Blank)	Of course.	(O) (independently)	I learned that '괜찮다' can be expressed as 'Of course.' (*Teacher provided additional guidance.)
7	(Blank)	(Blank)	(X)	I don't know. (*Teacher provided additional guidance.)

Students' Responses to the Corpus-based Feedback

Results of Pre-survey

Before conducting the study, it was determined that it was necessary to conduct a preliminary survey on the perceptions of fifth grade elementary school students nationwide about their usual English writing learning and writing error correction in order to design a research that is suitable for actual elementary English classrooms. The pre-survey was administered to 154 fifth-grade students in a variety of school districts, including large, medium, small, and rural areas for representativeness. The survey consisted of 12 questions and explored their perceptions of learning English in general, learning to write, and correcting writing errors.

To explore their perceptions of their overall English learning, students were asked which of the four skills of English-listening, speaking, reading, and writing - they were most interested in, confident in, or thought they were weak in. Sixty-seven students (43.5%) said speaking was the area they were most interested in, followed by listening, writing, and reading. Similarly, the areas in which they were most confident were speaking, listening, writing, and reading. This shows that most students are more interested in spoken English than written English, and that interest leads to confidence. Writing was selected by 72 students (46.8%) as the area in which they felt least confident or behind, citing difficulty spelling vocabulary and not knowing grammar and patterns as reasons for their lack of confidence in writing at the sentence level.

To investigate perceptions of learning to write in English, students were asked if they actively participate in English writing activities, and 57 (37%) responded "very much so". When asked how important English writing is to them, 66 students (42.9%) responded "very important". This shows that many students recognize the importance of writing in English and are actively engaged in learning to write. Next, students were asked to identify their self-perceived writing proficiency using the 2015 Revised English Subject National Curriculum's performance standards for grades 3 through

6 as an option. While the majority of students thought their skills met the performance standards for grades 5-6, there were 49 students (31.8%) who were still at the level of grades 3 and 4. When asked about the most common errors or difficulties they had in writing English, 62 students (40.3%) cited "spelling correctly" as the most challenging factor.

Finally, to investigate their perceptions of correcting writing errors, students were asked how they corrected errors after writing in English. Students were most likely to correct errors on their own, followed by correcting them with the help of a teacher. When asked which method would be more effective if a teacher were to correct them, 48 students (31.2%) chose to have the teacher correct them directly. Only 26 students (16.9%) thought it would be effective for the teacher to mark the incorrect expression and provide a correct example sentence related to the expression. Similar to the studies of Lee (2007) and Lee and Lee (2023), this is likely due to the fact that elementary learners prefer teacher intervention and assistance, and that students have not been exposed to corpus-based feedback before.

Results of Post-survey

A 20-item post-survey was administered to the research group. It asked about their overall perceptions of learning to write in English, DDL in general, cognitive and affective effects, and corpus-based feedback. The survey results for learning to write in English are shown in Table 10. The majority of students recognize the importance of writing in English and are actively engaged in writing activities. For writing interest, the percentage of positive opinions was lower than for the other questions, and in-depth interviews revealed that some students found the activities in this study interesting, but still struggled with the writing domain.

Table 10. Survey results on English writing (N=22)

Question \ Division	Disagree	Somewhat Disagree	No opinion	Somewhat Agree	Agree
Writing is important in learning English.	0.0%	4.5%	13.6%	45.5%	36.4%
Writing English is fun and enjoyable.	9.1%	4.5%	36.4%	22.7%	27.3%
I actively participate in English writing activities.	0.0%	9.1%	13.6%	50.0%	27.3%

Table 11 shows the students' perceptions of the DDL utilized in the study. Unlike the previous studies of Lee (2007) and Quinn (2015), where learners reported that the use of a corpus was time-consuming, the learners in this study did not find it difficult in terms of learning time or effort. Considering the level of elementary school students, this study applied a soft version of DDL (Lee, 2007, 2013; Lee & Lee, 2023; Leech, 1997; Meunier et al., 2011) in which the teacher extracts concordance examples that match the learning content and presents them as worksheets. Therefore, it can be seen that the soft version of DDL activity is effective for lower-grade students and learners with lower English proficiency levels.

Table 11. Survey results on DDL (N=22)

Question \ Division	Disagree	Somewhat Disagree	No opinion	Somewhat Agree	Agree
I have some difficulty in using the corpus based materials due to time and effort spent on analysing the data.	31.8%	45.5%	0.0%	9.1%	13.6%
I have some difficulty in using the corpus based materials due to unfamiliar vocabulary in many examples.	59.1%	22.7%	13.6%	4.5%	0.0%
I have some difficulty in using the corpus based materials due to sentences difficult to understand.	59.1%	27.3%	4.5%	4.5%	4.5%
I have some difficulty in discovering patterns in many examples.	63.6%	18.2%	9.1%	9.1%	0.0%
I have some difficulty in using the corpus-based materials due to too many examples.	50.0%	22.7%	27.3%	0.0%	0.0%

Next, students' perceived cognitive and affective effects of corpus-based feedback were investigated, and they are shown in Table 12. Indeed, the majority of students responded positively to the question of whether corpus-based feedback helps them learn English writing, grammar, and vocabulary, as evidenced by the increase in their post-assessment scores. On the other hand, the question about whether corpus-based feedback helps long-term memory was answered with a higher percentage of neutral or negative responses than the other questions.

As the pre-survey results show, students still seem to struggle with spelling vocabulary and memorizing grammar. In actual elementary schools, direct feedback has been mostly used as feedback for English assessments. However when comparing the effectiveness of corpus-based feedback to direct feedback, the majority of students said that corpus-based feedback was more effective. When asked if the corpus feedback improved their confidence in English writing, grammar, and vocabulary use, the overall results were lower than the cognitive effects, which is consistent with the findings of Yoon and Hirvela (2004). In-depth interviews revealed that students perceive the effectiveness of corpus-based feedback but still find English writing difficult and lack confidence. However, as in many previous studies (Lee, 2007; Luo & Liao, 2015), the students' interest in corpus-based feedback was very high, and they were willing to use a corpus in the future.

Table 12. Survey results on cognitive and affective effects of corpus-based feedback (N=22)

Question \ Division	Disagree	Somewhat Disagree	No opinion	Somewhat Agree	Agree
Corpus-based feedback is helpful for English writing.	0.0%	0.0%	9.1%	40.9%	50.0%
Corpus-based feedback is helpful for English grammar.	0.0%	0.0%	4.5%	40.9%	54.5%
Corpus-based feedback is helpful for English vocabulary.	0.0%	0.0%	18.2%	18.2%	63.6%
Studying the concordance lines helps me memorize some expressions better.	4.5%	4.5%	27.3%	18.2%	45.5%
Corpus-based feedback is more effective than direct feedback.	0.0%	4.5%	13.6%	31.8%	50.0%
Corpus-based feedback has increased my confidence in writing English.	0.0%	9.1%	27.3%	36.4%	27.3%
Corpus-based feedback has increased my confidence in English grammar.	0.0%	4.5%	31.8%	31.8%	31.8%
Corpus-based feedback has increased my confidence in English vocabulary.	4.5%	4.5%	22.7%	31.8%	36.4%
Corpus-based feedback was an interesting experience.	0.0%	4.5%	13.6%	22.7%	59.1%
I will use the corpus-based feedback in English classes in the future.	4.5%	4.5%	18.2%	27.3%	45.5%

Finally, students' opinions on the advantages and disadvantages of corpus-based feedback were investigated, and the most frequently mentioned advantage was that it allows students to self-correct their own errors and self-direct their learning. Like the findings of Lee's (2007) and Lee and Lee's (2023) studies, they also said that the DDL method is interesting and helps them to understand and memorize the learning content. On the other hand, many students mentioned the process of filling out the error correction sheet as a disadvantage, and in the in-depth interviews, they said that it was difficult and time-consuming to explain the reasons for their corrections in writing. There were also five students (22.7%) who said there were no disadvantages, suggesting that corpus-based feedback can be applied to elementary learners.

Results of In-depth Interview

In order to determine the depth of affective responses to corpus-based feedback, semi-structured interviews with six randomly selected students, three from each of the upper and lower levels, were carried out. Students in the upper group were able to identify and internalize patterns from the example sentences and correct errors on their own. Like the findings of Crosthwaite and Steeples (2024), they felt that the corpus feedback improved their overall writing skills, and their confidence and interest in the writing activity were generally high. Since the teacher did not provide corrected expressions directly, they were able to identify the types of errors they made and the reasons for those errors, and correct them on their own, which led to meaningful learning.

On the other hand, the lower-group students needed additional help from teachers and peers to correct errors. Although they felt that the corpus-based feedback strengthened their vocabulary-level writing skills, their confidence and interest in writing activities remained low. This study found that corpus-based feedback was effective for this lower group as well, as they were able to learn vocabulary naturally while correcting their own errors with the help of the teacher and peers, which improved their writing skills.

Conclusions and Implications

This study aimed to explore the effectiveness of corpus-based feedback on elementary school learners' English writing skills and their affective responses. The following are the findings of the study along with their pedagogical implications.

First, the corpus-based feedback group improved their English writing skills more than the group that received direct teacher feedback. This improvement occurred because learners' self-directed learning led to self-correction of errors by looking for patterns in the concordance examples, which promoted long-term retention and meaningful learning. Therefore, it is necessary to move away from traditional methods and provide meaningful opportunities for learners to correct their own errors, such as through corpus-based feedback. Additionally, when providing feedback, it is important to consider the learning environment, content, and learner characteristics, and to apply appropriate feedback methods.

Second, corpus-based feedback helped both upper- and lower-level groups improve their English writing skills. With appropriate additional support from peers or teachers, corpus-based feedback was found to be effective even for learners with lower levels of language proficiency. It can be suggested that the use of corpora in English education should be expanded regarding who uses them, how they are used, and to what extent. There are many ways in which corpora can be used in the English classroom, such as using soft versions of DDL activities to help elementary learners learn to read

and write, or creating spoken language corpora to help them improve their listening and speaking skills.

Third, learners' affective responses to corpus-based feedback were generally positive. Since we made use of a soft version of DDL in this study, learners did not experience much difficulty with this new approach to DDL. They felt that the corpus-based feedback helped them with their writing skills, such as vocabulary and grammar, and that it was more effective than the direct feedback to which they were accustomed. However, they still did not feel confident in writing, which they found to be more difficult than other English skills. Therefore, it is necessary to develop useful and effective writing instruction methods, such as DDL and corpus-based feedback, and to apply them in the classroom. In particular, such teacher-student interaction activities should be implemented consistently rather than applied for only a short period, to help students alleviate the burden of English writing.

This study demonstrated the effectiveness of corpus-based learning through a direct comparison with traditional methods by providing corpus-based feedback to help learners correct their own errors, rather than simply using the corpus to analyze errors. In particular, it is significant that, unlike previous studies, this study was conducted with elementary school learners and found that corpus-based feedback is effective even for learners with low English language proficiency. However, it is expected that future studies will address the limitations of the current study by investigating various aspects of writing skills beyond accuracy or by using think-aloud protocols to explore learners' error correction processes in detail. In addition, since the research was conducted during regular class hours within the curriculum of the school where the researcher worked, there was a limitation in that random assignment of participants was not achieved.

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