The Benefits of Formative Feedback for Critical Writing in EFL Context

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Kim, Eunjeo. (2018). The benefits of formative feedback for critical writing in EFL context. *The Linguistic Association of Korea Journal, 26*(1), 23-55. Although formative feedback has been shown to be beneficial in L1 writing classes, the benefits of formative feedback for critical writing in EFL context have not been widely explored. The aim of this study is to determine which factors are more effective in improving EFL students' critical writing. The study was conducted in an intensive English reading and writing program with 134 university students divided into two intermediate and two beginner level classes. The researcher provided formative feedback over the course of the semester. Analysis of the critical writing achievement test measured from writing collected at the beginning and end of the course revealed that the experimental group (EG), which received formative feedback focused on their critical writing, made more meaningful gains on the writing achievement test than the control group (CG), which had only corrective feedback during class. Results also demonstrated that students at the beginner level in the EG improved more than those at the intermediate levels on the writing achievement test. In addition, learners at the beginner level in the EG made gains in both micro and macro aspects of critical writing, while those at the intermediate level improved only macro aspects of their critical writing. Both the intermediate and beginner groups made similar gains in criticality.

Key Words: formative feedback, macro aspects of writing, micro aspects of writing, corrective feedback, critical writing, developmental feedback

1. Introduction

Where timing is concerned, formative feedback (i.e., developmental advising, consultative feedback, timely information giving, non-evaluative, shaping response, learner-sensitive advising, or susceptible feedback), less frequently used in second language (L2) writing classrooms than corrective feedback, has not been studied widely in delivering helpful feedback on students' critical writing. According to Shute (2008), formative feedback is not as the simple judgement of whether an answer is correct, but elaboration of the informational aspect that provides relevant clues to guide the learners toward a correct answer. Most feedback focuses solely on corrective response or evaluation of students' writing, as frequently occurred in summative feedback at the end of the program. In comparison, a formative feedback might be a series of ongoing feedback (Tomlinson, 1998). Formative feedback with a supporting range of micro (structure, vocabulary, and mechanics) and macro (organization, development, and cohesion & coherence, and criticality), depending on learners' writing procedure, fosters meaningful interactions with learners, greater openness to various ideas, and encourages different perspectives on the writing process (Anton & DiCamilla, 1998; Ferris, 2003; Nassaji & Swain, 2000).

Formative feedback can encompass both micro and micro aspects of writing: a bottom-up approach focusing on words, sentences, grammatical accuracy, punctuation etc., or top-down approach which views the broad, big pictures of texts. Essential issues relating to formative feedback, such as how to find time for individual students in large classes (Al-Jarf, 2006; Blatchford, Moriarty, Edmonds & Maritn, 2002; Lacasro, 2001), how to arrange feedback depending on their developmental stages (Merrill, 2002; Perkin, 1992; Poulos & Mahony, 2008; Rassaei & Moinzadeh, 2011), how to choose the types of instructional activities to conduct (e.g., Merrill, 1994; Ferris & Roberts, 2001), and how to deal with learner's preference for corrective feedback (Ferris & Hedgcock, 2005; Ferris & Roberts, 2001; Flower & Hayers, 1981) are contingent on the particular needs of the language learners involved. The diverse criteria available to English teachers when setting up formative feedback can be baffling, particularly since optimal feedback method also vary with the local circumstances. Thus, English teachers puzzle over what exactly formative feedback involves and the best manner to

employ it. Due to these challenges, some researchers argue that formative feedback is of controversial value, mistaking it as an assessment tool rather than a feed-forward strategy (Frey & Fisher, 2011: 132) in the L2 classroom (e.g., Clarke, 2003).

Many researchers, however, argue that formative feedback can be exceedingly efficient when used appropriately and timely (Frey & Fisher, 2011; Moss & Brookhart, 2009; Spendlove, 2009), particularly when L2 teachers are adequately trained (Hattie and Timperley, 2007; Frey & Fisher, 2011). Trained teachers can employ formative feedback to facilitate critical writing skills, and create appealing, learner-centered classes that encourage awareness of both micro and macro aspects of composition (Bitchener, Youg, & Dameron, 2005; Nguyen, 2016). Formative feedback also offers learners the chances to revise their use of language as a complex cognitive activity (Flower & Heyes, 1981; Freeman, 2002; Sturm & Rankin-Ericken, 2002), thus enhancing their writing ability at a micro level while also allowing them to examine their texts at a macro level (Brown, 2007; Geen, 2005; Robinson, 2001; Van Geert & Steenbeek, 2005). Formative feedback guides learners to an awareness of critical process approaches (Laksmi, 2006), cognitive mapping in the initial writing process (Freeman, 2002), and how to devise a writing plan by brainstorming, mapping, outlining, organizing, drafting, and revising (De La Paz & Graham, 2002). However, there are few studies on the value of formative feedback in promoting critical thinking for EFL learners, particularly in Korea context. While some studies have looked at self-correction during the revision stage of writing, none have investigated the effects of formative feedback with reference to organizing paragraphs with cohesion and coherence and criticality (Halliday & Husan, 2001; Husan, 1984). It is therefore important to encourage studies that focus on critical writing skill that learners may not be familiar with in their native tongue, but that are essential for successful language learning.

2. Literature Review

2.1. Benefits of Formative Feedback

One aspect of formative feedback that can facilitate extensive guidance, but that has rarely been explored experimentally in L2 writing studies, is metacognitive-based feedback at the macro level (organization, development, cohesion & coherence, and criticality). The macro level of feedback in terms of paragraph level production includes mapping, brainstorming, monitoring the organization of writing plans and outlines, and paying special attention to coherence and cohesion for both content and organization. Formative feedback at the macro level can lead to quality academic writing and success (Hyland, 2006; Halliday & Hansan, 2013; Oshima & Hogue, 2007). Developing writer's perspective at both macro and micro level may also support learners' ability to efficiently review their writing to find logical chasms, weakness in organization, and fallacious argumentation (Crewe, 1990; Granger & Tyson, 1996).

Such guidance may best be considered within the scaffolding (e.g., Vygotsky, 1986), which speculates that learners can only acquire knowledge within their zone of proximal development (ZPD). The goal of formative feedback is to help learners upgrade a higher level where they are able to examine their writing performance holistically. Precedent studies enumerate aspects of formative feedback (i.e., teacher's helping learners by providing developmental support) to clarify its efficiency (i.e., Carless, 2006; Iron, 2008; Sadler, 1989; Shute, 2008). For instance, Shute (2008) posits that formative feedback should be non-evaluative, supportive, timely, and specific. Students learn in response to that feedback. His study demonstrates how a variety of strategies such as verification of macro aspects of writing, explanation of the proper direction, hints, and examples of better work can be administered at various times (e.g., immediately after brainstorming, after some time of writing, after finishing the writing), while the teachers scaffold the learners' writing. Therefore, a significant finding of the study is that teachers have to differentiate perceptions of feedback as developmental process with scaffolding (Carless, 2006). Hence, formative feedback may benefit from developmental feedback. Feedback that depends on developmental process may effectively lead to the creation of better writing, or

at least writers who are able to reflectively examine their papers at micro and macro levels (Nguyen, 2008). One study that implied that this may be the case was performed by Poulos and Mahony (2008). They explored the effectiveness of feedback from the students' perspective, in which the participating learners suggested that developmental feedback helped them improve their individually different developmental stages. One issue that ensues from their research, however, is whether or not the teachers are aware of learners' respective developmental process, and, if so, what particular aspects of the learners' writing developed. Most research that has been conducted has not tried to present this issue. Instead, several studies have angled the spotlight on micro improvement in writing corrective feedback helped in L2 learners' writing ability (e.g., Chandleer, 2003; Ferris, 1999; Storch & Wigglesworth, 2010).

2.2. L2 Studies on Critical Writing in Formative Feedback

Studies of whether or not formative feedback supports the learners' critical writing have been explored in the L1 context, but not enough work concerning the role of instruction with respect to learners' developmental stages with the idea of criticality has been undertaken. Shute (2008) published a landmark review of educational research describing formative feedback as developmental frameworks for positive effects rather than dispensers of literature reviews, and subsequently, based on Shute's idea, other studies (e.g., Bailey, 2009; Irons, 2008; Frey & Fisher, 2011) have established that critical writing is a writing mode that examines and revises their writing from a critical point of view, (applied in the evaluation rubric of this study in section 5.4) with the assumption that formative feedback is construed as critical effort to improve writing performances (Balcazar, Hopkins & Suarez, 1985; Baron, 1993; Fedor, Davis, Maslyn & Mathieson, 2001) in areas such as organization, development, cohesion & coherence, structure, vocabulary, and mechanics. In this sense criticality can be defined as having compound features of being critical in everyday setting (Kim, 2017a, 2017b).

Several other studies (Bailey, 2009; Bain, Parker, Mills & Ballantine, 2002; Burns & Foo, 2011; Hatton & Smith, 1995; Jay & Johnson, 2002; Moon, 2008; Murphy & Cornell, 2010) argued that formative feedback, as developmental

reflection, allows learners to look critically at issues and writing itself, so learners who examine their compositions critically develop into better writers. Bailey (2009) discovered that L1 learners who learned how to reflect on their writing using critical perspectives showed incomparably greater gains than those who did not, and that the L1 learners reacted favorably to formative feedback. They concluded that L1 learners who were taught to critically reflect on their writing became better writers who brought critical perspectives to their writing and related issues, as measured by scores in their achievement test. One or more questions arose, however, as to what type of formative feedback that teachers provided actually helped students critically reflect on their work and therefore become better critical writers. Since teachers are in a unique position to provide ideal feedback according to learners' developmental stage, how they give feedback affects learners' ability to write with critical perspectives.

Two substantial studies explored critical writing approaches in terms of critical instruction. In particular, Canagarajah (2002:47) suggested teachers' self-reflection for increased critical awareness of the role they play, and he discovered that learners' motivation to examine their work may be geared by a teacher's feedback and interest not only in forms of language but also in how to negotiate the structures of writing in terms of ideological, cultural and social concerns. Campbell, Smith, and Brooker (1998) and Golding (2011) also explored this issue in their study in which students were provoked by questioning feedback and critical analysis to effectively demonstrate critical writing skills. They discovered that students who received provoking feedback and understood critical discourse analysis improved more than students who did not, once again suggesting that, for critical writing, formative feedback and awareness of critical discourse analysis are at least as significant, if not more significant than other aspects.

2.3. Need for L2 Research

Although these researchers offer preliminary information of the benefits of formative feedback on critical writing for higher academic education, there are still obstacles in assuming that these benefits would be identical in L2 writing, in which grammatical and textual structures and discourse culture may add

unexpected challenges (Canagarajah, 2002). Specifically, the L1 studies referred above did not consider complex challenges of L2 learners' language proficiency or cultural expectations. For instance, Stapleton (2002) found that Japanese students lacked critical thinking and language proficiency. Alagozlu (2007) remarked that Turkish students cannot express their critical point of view, hindering them from developing critical writing skills. Bengü (2015), Kim (2017), and Kim (2017a) investigated importance of critical awareness, the instructions of critical thinking skills, and critical discourse analysis for L2 learners and found positive results. Most significantly critical analysis affect students' ability to efficiently exhibit critical understanding in their writings.

However, most of the researches do not utilize both quantitative and qualitative methods (i.e., they only quantitatively compare two groups), thus nor did these studies explore the types of progress L2 learners made, whether in macro or micro factors of writing. These complicated issues need to be explored before assuming that the findings of formative feedback can generate positive results. The demand to be aware of how teachers can maximize their formative feedback, combining to what extent Bengü (2015) and Kim (2017a)'s findings can be generalized to L2 critical thinking ability, led to the present study. Particularly, this study will investigate the following questions:

1. Do L2 learners who receive formative feedback improve their writing ability more than those who do not (for both beginning and intermediate students)?

2. If L2 learners who receive formative feedback do improve their writing ability more than those who do not, in which critical writing aspects (such as macro, micro and criticality) do they progress?

To the researcher's knowledge, no empirical studies on relationships between formative feedback and critical writing have been done in L2 research to demonstrate that formative feedback really does enhance L2 learners' ability to examine their own writing, an ability which is then extended into the learners' critical writing process, producing better writing at both macro and micro levels. This leaves a lacuna in the studies on formative feedback that if filled would benefit L2 critical writing teachers attempting to facilitate quality feedback to

their students. This study will enable them to reflect instructional frameworks and ways of offering feedback.

3. Methodology

3.1. Participants

The participants for both experimental groups (EG) and control groups (CG) in the study were one hundred thirty four (134) university learners registered in 15 sessions of reading and writing classes at a university located in Kyunggi province. At this university, learners are divided into three levels (beginnings, intermediate, and advanced) corresponding to their TOEIC MOCK test provided by YBM. Learners with a score less than 400 score belong to the beginnings level, learners gaining between 401 and 699 are assigned to the intermediate and learners gaining more than 700 belong to advanced level. The participants in both the experimental and control groups were beginning and intermediate level learners, since formative feedback appears to be most effective in earlier stage (Linquanti, Crane, & Huang, 2010). Formative feedback and critical analysis in the lessons were added to the regular curriculum in the EG (group A (n=27) and B (n=36)) while the CG (group C (n=35) and group D (n=36)) received the standard reading and writing curriculum in accordance to the rubric of the texts (*Unlock 1* and *2* published by Cambridge University Press). Class size ranged from twenty seven to thirty six. The students for both the EG and CG were from various majors such as economics, business, Korean, engineering, Japanese, and history, and 47% were male and 53% were female.

3.2. Procedure

As remarked above, the participating learners were divided into the CG and EG, based on in which class they were registered. EG group learners received formative feedback and instructions about critical discourse analysis, while CG learners received the regular curriculum. EG learning, therefore, was identical to that of the L2 writing studies, cited in section 2.3, where writing tutors provided

formative feedback and critical analysis instruction (Bengü, 2015; Kim, 2017).

Unlike in precedent studies, the researcher merged both formative feedback and critical thinking analysis in this experimental study. By having the two EGs receive formative feedback in class, the teacher/ research was able to deliver formative feedback when its benefits could be more efficacious, and when students could extend their ability to write critically effectively.

The specific procedures were as follows;

a. First Formative Feedback: EG learners received formative feedback twice in the semester, apart from summative feedback. The first formative feedback after three weeks of instruction focused on how to correct micro level of writing, in operation aspects in particular, (a) scopes of the topic, (b) what details to include for supportive sentences, (c) guide particular errors, (e) provide worked examples or give gentle guidance, since the first three weeks were allocated to writing a correct sentence and paragraph. For instance, the EG received feedback on how a brainstorming map can be reflected in paragraphing, what topic sentence can be proper for a paragraph, and how to develop subsequent paragraphs. Although this kind of instruction is a regular part of the writing curriculum, EG learners received formative feedback based on their individual developmental stages.

b. Critical Writing: EG learners were taught how to take a critical perspective on topics, the purpose of writing, the critical analysis framework techniques suggested by Fairclough's (1995) three dimensional frameworks, which are about whether learners use spoken or written language and how they are different, whether learners' critical writing is from producer's or consumer's perspectives, and description of discursive or social process of writing styles. Next, both EG and CG groups were given 8 topics (people, seasons, lifestyle, places, sport, jobs, homes and buildings, food and culture) for both pre/post writings. Along with the 8 essay topics, both groups were given the same text book from which they are able to get ideas about the topics. For instance, one of topics was about lifestyle corresponding to *Unit 3 Lifestyle* of Unlock 1. Learners in both EG and CG were allowed to choose more specific titles relevant to the lifestyle theme. Learners in the CG also received corrective feedback during the writing class that was allocated in the second half (50 minutes) of the each session. EG students received individual formative feedback in a separate meeting room.

c. Second Formative Feedback: The second formative feedback after six to seven weeks was how to reflect critically on their writing at the macro level. Learners in the EG were provided with formative feedback to improve their writing in the margins of their notebook or corrected or revised sentences in a different color. Thus, both EG and CG learners were asked to write about the same issues in their notebooks, but the learners in the EG were required to revise their writings while the learners in the CG were checked with feedback, but revision was not necessary. The essays in their notebooks were authentic learners' texts written within the last year and the researcher utilized these texts in order to investigate differences in their writing.

d. Using the same topics for essay writing and identical lesson plans: To make sure that both EG and CG learners were receiving identical lessons, except for the formative feedback and critical writing, the researcher used the lesson plans supported the reading and writing objectives at the university and which could be modified by the teachers at their discretion. Teachers could not use completely different lesson plans or text books. For instance, in one syllabus, the teachers were asked to instruct students how to write a paragraph using a topic sentence, supporting sentences, and a closing sentence. The teachers were also asked to explain and practice punctuation marks and how to write a main idea with detailed facts, and then support learners as the wrote a paragraph.

Formative feedback is flexible, based on learner's developmental stage, so that the reacher administered both micro and macro level of feedback, which allowed some more adaptability for the types of feedback (see Appendix B. for e.g.). After both EG and CG finished the sample essay work, teachers collected them for analysis, informing the students that their work would be used for research. To our knowledge, there were no complaints of different feedback, if any, since (as described above) most of the instructions and lesson plans for the EG and CG were similar. The only difference was whether they received formative feedback with critical discourse analysis instructions separately in other meetings or they have corrective feedback during the class. All the data were collected by researcher at the end of the sessions.

3.3. Evaluators

To evaluate their writing, EG and CG learners were asked to write a fifty minutes timed essay in the pre- and post-tests. These essays were rated by three teachers including the researcher (one male, two females) working as university teachers who were either current or past writing teachers with two to 10 years of previous teaching and grading experience. Three evaluators scored the learners' essays from the pre- and post-tests of data collection after discussing the evaluation criteria. It was appropriate to have the same rating rubric for the collected essays; therefore, we tried to assure reliability by having an evaluating rubric. In addition, as elucidated in the analyses below, discussions were conducted to assure that the evaluation scores were calibrated to be valid. Three evaluators' assessments were computed to reveal that there is no statically significant difference among the evaluation scores. The three evaluators rated essays of EG and CG learners, and the averages of the given scores were computed.

Table 1. Three evaluators' Reliability of the Tests

Evaluators	N	Mean	SD	F	Sig
A (male)	3	20.214	0.164	-11.74	.309
B (female)	3	19.917	0.461	-9.99	.318
C (female)	3	21.004	-0.625	-10.71	.320

$p < .001$

3.4. Evaluating Rubric

To evaluate the writing proficiency of EG and CG learners, a grading rubric (Paulus, 1999) was utilized (see Appendix A). The scale was utilized to evaluate the fifty-minute pre- and post-test. This scoring rubric was chosen due to its analytical evaluation of both the macro and micro aspects of writing. In addition, it provided a holistic evaluation score. The scoring rubric is based on a ten-point scale, and learners' essays were assigned from a score of 1 to 10 for the following critical writing aspects: organization, development, cohesion & coherence, criticality, structure, vocabulary, and mechanics. Appendix A shows the details for each aspect of the scale. The criteria on the evaluating rubric were

then averaged to assign a final score.

The researcher tried to assure the validity of the evaluating rubric in two ways. The first was to have evaluators practice using this rubric and find a similar score for randomly chosen learners' essays from the previous semester. These essays were evaluated by the same three evaluators, and then the evaluators compared their scores and discussed the reasons for the rating until all of three agreed on a given score. After repeated practice they were able to comfortably use this rubric.

Second, EG and CG learners' essays were graded by three evaluators and the three different scores were then averaged. Afterwards, the average scores were computed in ANOVA for statistics. This procedure for data analysis is described below.

3.5. Data Analysis

To investigate whether at the end of the semester EG learners improved their critical writing more than CG learners, each learner was asked to write a fifty minute timed essay which was collected on the third week of class. Another fifty minute timed essays was collected during the last week of the semester. These essays served as before and after tests for this study. The topics of the essays were assigned by the writing objectives of the lesson plan according to proficiency level.

The collected data as described above were sorted by proficiency level (beginning and intermediate) and group (CG and EG). The data included whole scores not only for pre- and post-test essays, but also for the 8 aspects of the writing rubric: overall, organization, development, cohesion & coherence, criticality, structure, vocabulary, and mechanics. Once the average scores of three evaluators were obtained from the EG and CG learners, ANOVA was run for the statistical analyses.

4. Results

The first research question was whether EG learners, who had formative

feedback on their writing achieved higher results in their writing scores from pre- test to post-test than did CG learners who had corrective feedback during the class. To reply to this research question, the researcher computed the pre- and post-test results in ANOVA in accordance with the eight writing aspects (overall, organization, development, cohesion & coherence, criticality, vocabulary, mechanics, and grammar), passed time (from pre-test to post-test) as within subject factors and experiment group (EG vs. CG) as between subjects factors. The analyses decided which of the two groups made significant results from pre- test to post-test, and the results were computed respectively for the beginning and intermediate levels of pre- and post-test differences. The second research question asked: if there are differences between the EG and CG, on which aspects of writing they were different (macro or micro aspects)? Post-hoc analysis of the eight writing aspects- overall, organization, development, cohesion & coherence, criticality, vocabulary, mechanics, and grammar- were computed to reply to this research question.

4.1. Beginning Learners

ANOVA was run on pre-test and post-test scores of the EG and CG according to the beginning and intermediate levels with eight writing aspects (overall, organization, development, cohesion & coherence, criticality, vocabulary, structure, and mechanics) and time (pre- vs. post-test) as within and experiment (EG vs. CG) as between subject factors. The analysis indicated a meaningful effect of time ($F(1,58) = 251.104$, $p < .0001$), a time × aspect ($F(1,7) = 8.81$, $p < .001$), and a experiment × time interaction ($F(1,7) = 29.216$, $p < .0001$), implying that both groups (EG and CG) progressed in several writing aspects, but that the EG had much greater results than the CG in several writing aspects. Further post-hoc investigation revealed that the EG of the beginning level had much more significant results overall and all four micro aspects including criticality than did the CG of the beginning level.

The study results of ANOVA indicated that both the EG and CG had better results in at least several of their writing aspects (overall, organization, development, cohesion & coherence, and criticality) from pre- test to post-test, but that the beginning levels had better results than did the intermediate levels

for both the EG and CG. One matter to consider from the results is that the beginning level of EG's pre-test scores come out lower than those for the beginning level of CG (see Table 2). A two-way (experimental factor × writing aspect) ANOVA computed on the pre-test scores of the EG versus CG indicated a main effect of formative feedback ($F(1,68) = 9.503$, $p < .004$), suggesting that CG had better scores on the pre-test than EG. This would raise doubts if the EG did not have higher post-test scores than CG, since it would imply that the differences stemmed only from the different pre-test scores. However, an identical analysis was computed on the post-test scores which showed that the EG had higher post-test scores than CG (significant effect of formative feedback: $F(1,71) = 16.491$, $p < .0001$), and moreover this occurred for both macro and micro aspects ($F(1,51) = .131$, $p > .05$). That is to say, the EG started lower in pre-test scores than CG but outperformed CG on post-test scores (shown in Table 2).

Such discovery indicates that, at the very least for the beginning group, providing formative feedback appears to improve critical writing ability more than learning writing with corrective feedback. Furthermore, the analysis demonstrated that the beginning EG learners outperformed CG learners in both the macro and micro writing aspects.

Table 2. Pre- and post-tests for the beginning EG and CG

	CG			EG		
	Pre-test	Post-test	Diff.	Pre-test	Post-test	Diff.
Overall	2.96	3.79	0.83	**2.73**	**4.45**	**1.70**
Organization	3.20	4.16	0.96	**2.93**	**4.58**	**1.65**
Development	3.15	3.91	0.76	**3.12**	**4.31**	**1.19**
Cohesion & Coherence	2.67	3.78	1.11	**2.44**	**4.65**	**2.21**
Criticality	2.45	3.01	0.56	**2.14**	**5.25**	**3.11**
Vocabulary	2.91	3.67	0.76	3.14	4.86	1.72
Structure	3.19	4.04	0.85	2.85	4.49	1.64
Mechanics	3.17	4.01	0.84	2.54	4.03	1.49

*$p < .001$ (significant differences in bold).

The *t*-statistic, presented in Table 3, t = 3.185, and p = 0.003, a significant results occurred, which means that the formative feedback improved critical writing skills for the beginning EG.

Table 3. Paired Samples Test for the beginning EG

	Paired Differences							
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pre- Post Writing	4.014	2.103	.721	.618	3.512	3.185	18	0.003

4.2. Intermediate Learners

ANOVA was computed on the intermediate learners' scores (for both pre-test and post-test) in accordance with eight writing aspect (overall, organization, development, cohesion & coherence, criticality, vocabulary, structure, and mechanics) and time (pre- vs. post-test) as within and formative feedback (EG vs. CG) as between subject matters. The analysis indicated a telling effect of time (F(1,69) = 8.902, p = .005) but no effect of formative feedback (F(1,75) = .418, p > .05) nor formative feedback time interaction (F(1,73) = 2.81, p > .05), implying that EG and CG learners did improve from pre-test to post-test on several writing aspects, but that the difference between EG and CG was not stunning. Extra post-hoc analyses showed that both the EG and CG in the intermediate groups improved in some of the macro levels i.e.: organization, development, and criticality, but not in cohesion & coherence, and vocabulary, and structure (See Table 4).

Table 4. Pre- and post-tests for the intermediate EG and CG

	CG			EG		
	Pre-test	Post-test	Diff.	Pre-test	Post-test	Diff.
Overall	4.38	4.90	0.52	**4.22**	**5.67**	**1.44**
Organization	4.76	5.17	0.17	**4.14**	**6.76**	**2.62**
Development	4.62	4.79	0.30	**4.85**	**5.49**	**0.64**
Cohesion & Coherence	4.80	5.10	1.30	**4.15**	**5.83**	**1.68**
Criticality	3.69	4.99	0.47	**3.44**	**7.25**	**3.81**
Vocabulary	4.14	4.61	0.50	4.35	4.58	0.23
Structure	4.19	4.69	0.50	4.17	4.92	0.75
Mechanics	4.48	4.98	0.52	4.46	4.81	0.35

*p < .001 (significant differences in bold)

It is possible that there were no dramatic differences between the EG and CG at the intermediate levels because some language aspects requiring complex cognitive functions (Krashen, Butler, Birnbaum, & Robertson, 1978) and interlanguage processes in the long term (Corder 1981) need extra effort and time to improve.

To check what phenomena occurred at the intermediate levels, a similar analysis was conducted on the intermediate EG and CG learners' pre-test and post-test scores. A two-way (formative feedback × writing aspects) ANOVA was computed on the rest results from pre-test to post-test of EG and CG. The analysis exposed a substantial effect of formative feedback ($F(1,27) = 5.48$, $p < .05$), suggesting that those learners who had formative feedback made greater progress. Post-hoc analyses indicated that it was identical mainly for macro aspects of writing such as the overall, organization, development, cohesion & coherence, and criticality. However, when the equivalent analysis was computed on EG and CG learners' scores, no meaningful differences were revealed ($F(1,56) = .897$, $p > .05$) in micro aspects such as vocabulary structure and mechanics.

From the t-statistic between CG post-test and EG post-test, presented in Table 4, it occurred $t = 3.218$, and $p = 0.004$, a significant results, which means that the formative feedback improves critical writing skills for the intermediate EG.

Table 5. Paired Samples Test For the Intermediate EG

	Paired Differences							
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pre- Post Writing	4.050	2.817	.651	.718	3.614	3.218	19	0.004

The gains for the overall scores for EG and CG learners in both pre- and post-test are presented in Fig. 1. The analyses, shown in Fig. 1, represent in which aspects of critical writing EG learners made incomparable improvements and whether they were mostly macro or micro aspects. Expecially, the effect of formative feedback was clear EG learners' development and criticality, enhanced from pre-test to post-test. It also demonstrates that macro aspects of critical writing improved widely, while CG did not show significant gains.

The analyses of the beginning levels in Table 1 and the intermediate levels in Table 2 show that EG beginning level learners had more notable results in micro aspects than EG intermediate students, and EG intermediate level learners made more significant gains in macro aspect than CG beginning level learners. Interestingly, criticality improved significantly in EG learners at both the beginning and intermediate levels. Another interesting point is that beginning level learners had meaningful gains, while the intermediate level learners did not, even though they showed improvement, particularly in macro level aspects of language.

It may be possible that the results investigated for the EG were gains from criteria other than formative feedback, such as teaching focus, individual students' preferences, performance, different experiences from the pre-test to the post-test. Even though the factors mentioned above cannot be entirely disregarded, it is more likely that formative feedback across the EG and CG contribute to the different results.

First, the findings show that EG learners, particularly beginning level learners, clearly made greater improvements than the CG. Second, the results also show notable improvement in identical kinds of macro writing aspects of both the beginning and intermediate levels of EG. Furthermore, the improvements are

connected to how formative feedback can be helpful in terms of writing development. Lastly, it was astonishing for the EG of intermediate level to have much more improvement between pre-test and post-test, particularly in criticality: beginning levels (Diff. = 3.11) and intermediate levels (Diff. = 3.81).
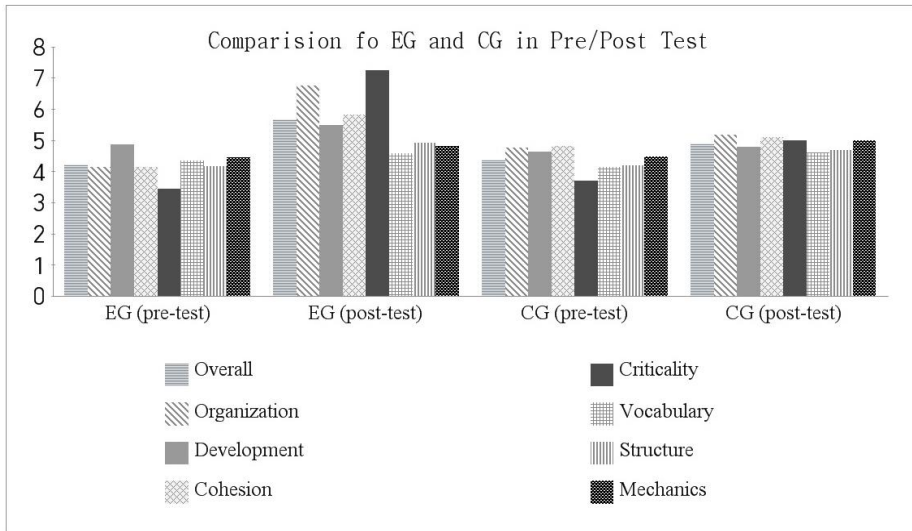

Fig. 1. Intermediate EG and CG learners' pre- and post test score.

5. Discussion and Conclusion

The findings of the study suggest that L2 learners can improve their writing ability through formative feedback. In addition, the findings also showed that learners who had formative feedback improved in their criticality more than learners who did not. The results seem to concur with previous studies of both L1 (e.g., Anton, DiCamilla, 1998; Balcazar, Hopkins, & Suarez, 1985; Sager, 1973) and L2 (e.g., Bengü, 2015; Kim, 2017; Stapleton, 2002) studies. One reason that formative feedback enhances macro aspects of writing may be that EG learners learn by developing their writing in ways consistent to their developmental level, which leads to appropriate revisions (Chiharu, 2007). Macro features of writing may be revised when learners have proper feedback based on their writing development, as was the case for EG learners of this study.

The findings of this study also present a new possibility to lead L2 learners to critical perspectives. It is possible that L2 learners improve criticality more than CG learners because developmental feedback guides them to the next step where L2 learners' critical perspective of how to write occurs. Specifically, developmental feedback often determines what micro or macro aspects of writing the L2 learner will focus on and most likely facilitate critical feedback. Hence EG learners may be more able to develop criticality from the developmental feedback they had than the CG. In the current study the development of criticality occurred due to its inclusion in the macro aspects of writing, which was different from previous research. Certainly, upcoming studies should include how criticality in micro writing aspects helps L2 learners improve their writing and will probably manifest even greater gains than occurred in this study.

Nonetheless, it still holds that EG learners in this study were better in critical writing than those in the CG. Such findings are crucial since they imply that formative feedback may be even more valuable than previously believed. It is not only level appropriate feedback, but also an extra critical perspective on their writing that helped improve L2 learners' critical awareness of language features and their impact. The findings of this study that formative feedback improves L2 writing match earlier research trials, which showed that critical review is beneficial in other aspects of L2 learning (i.e., Bengü, 2015; Canagarajah, 2002; Kim, 2017; Stapleton, 2002)

Results from the current study demonstrate that those learners who had formative feedback improved in specific areas of writing even more than those who only had corrective feedback. Since the aim in the current study was to determine whether or not EG learners improved in macro aspects of critical writing, the researcher speculated that EG having formative feedback would improve more on the macro aspects than the CG. In actuality, the study results showed this to be the case for both beginning and intermediate level. Notably, in macro writing aspects, the beginning learners in the EG improved more than the CG in all macro writing aspects (organization, development, cohesion & coherence, and criticality). In addition, the intermediate level of EG learners also made much greater gains than CG learners, although overall findings did not show meaningful difference between the CG and EG. These findings may imply

that formative feedback supports L2 learners' macro aspects of writing more than others. It is also certain that formative feedback develop L2 learners' criticality for both beginning and intermediate levels. However, since the beginning level showed more signigicant gains than the intermediate levels, the critical writing curriculum with formative feedback should start earlier at the beginning levels. Additionally, as the improvement of EG learners occurred in macro aspects of writing, lesson plans for critical writing should be designed to include more micro aspects of writing, such as structure, vocabulary, and mechanics.

The researcher also examined whether proficiency level influenced on the degree to which formative feedback improved L2 learners writing ability differently depending on their levels. From the analyses of the results, it was discovered that most of the differences between the EG and CG were apparent in the beginning level learners of the EG, who made more convincing gains than the CG. Although the beginning learners of the CG improved significantly in both macro and micro aspects of writing, both the EG and CG made particular improvements in organization, criticality, and vocabulary from pre-test to post-test.

The beginning learners' greater gains in overall writing aspects could be expounded to mean that learners at intermediate levels do not gain as much from formative feedback as do the beginning levels. A few reasons may explain this difference of writing improvement between the beginning and intermediate students. One possible reason is that since their language ability is less developed, learners at the beginning level have more scope for progress than do the intermediate level learners, and therefore, the influences of formative feedback was revealed more in both the micro and macro level of language ability. Also, EG learners at the intermediate level may have had more chance to reflect on their writings after formative feedback than CG learners, driving them further along the learning curve. This could indicate that the less advanced L2 learners receive greater initial benefits from formative feedback, and therefore, their progress seems more significant relative to the level at which they started. Furthermore, the intermediate level learners may be developing micro skills, but those skills take longer than 15 sessions to improve since micro aspects of language can be easily fossilized; thus the benefits of formative feedback were greater for the beginning level than intermediate level. This later interpretation seems plausible since a further analysis showed both beginning and

intermediate level students of the EG outperformed well in criticality, a skill that neither group had been exposed to previously and therefore could not have become fossilized. Previous study also demonstrated that critical ability is more beneficial for all level of L2 learners (Canagarajah, 2002).

Another interpretation for the greater progress at the beginning level may be that beginning learners are still in the learning phase of how to move on with formative feedback. Therefore, the macro aspects of their writing was influenced more from formative feedback than corrective feedback. Formative feedback may be a process that demands L2 learners to become aware of how to organize sentences and paragraphs in critical perspectives. Indeed, Irons (2008) and Frey and Fisher (2011) discovered that L2 learners who had formative feedback improved more in writing ability, since formative feedback has a specific action plan for the next step. Therefore, both beginning and intermediate learners may have focused on revision aspects of their writings.

The findings of the current study suggest that formative feedback is a viable and significant strategy to improve L2 learners' critical writing. Beginner levels shows improvement in micro aspect of language, while both beginner and intermediate level students demonstrated improvement macro aspects, which is identical to some of previous studies (Frey & Fish, 2011; Irons, 2008; Sadler, 1989). By participating in the study, learners developed critical ability by examining their own writing topics, organization, development, cohesion & coherence and criticality, which allowed them self-reflect and significantly improves their critical writing skills. It is crucial, however, to be reminded that in this study the EG received criticality feedback on their writing. This was done so that formative feedback could involve critical ability. By including a criticality factor into formative feedback, the conditions of formative feedback were dissimilar to typical formative feedback. Henceforth, to support the results of this study, additional research should investigate the effects of formative feedback in a qualitative study that specifically identifies which factors L2 learners are interested in while receiving formative feedback and whether in their subsequent work the same factors improved in their critical writing. Such researches would supplement the quantitative analysis presented in this study and would additionally spotlight how formative feedback improves L2 learners critical writing.

Appendix A

A. Critical Essay-scoring rubric

	1	2	3	4	5	6	7	8	9	10
Organization	No organization evident; ideas random, related to each other but not to task; no paragraphing; no thesis; no unity	Suggestion of organization; no clear thesis; ideas listed or numbered, often not in sentence form; no paragraphing/grouping; no unity	Some organization; relationship between ideas not evident; attempted thesis, but unclear; no paragraphing/grouping; no hierarchy of ideas; suggestion of unity of ideas	Organization present; ideas show grouping; may have general thesis, though not for persuasion; beginning of hierarchy of ideas; lacks overall persuasive focus and unity	Possible attempted introduction, body, conclusion; obvious, general thesis with some attempt to follow it; ideas grouped appropriately; some persuasive focus, unclear at times; hierarchy of ideas may exist, without reflecting importance; some unity	Clear introduction, body, conclusion; beginning control over essay format, focused topic sentences; narrowed thesis approaching position statement; some supporting evidence, yet ineffective at times; hierarchy of ideas present without always reflecting idea importance; may digress from topic	Essay format under control; appropriate paragraphing and topic sentences; hierarchy of ideas present; main points include persuasive evidence; position statement/thesis narrowed and directs essay; may occasionally digress from topic; basically unified; follows standard persuasive organizational patterns	Definite control of organization; may show some creativity; may attempt implied thesis; content clearly relevant, convincing; unified; sophisticated; uses organizational control to further express ideas; conclusion may serve specific function	Highly effective organizational pattern for convincing, persuasive essay; unified with clear position statement; content relevant and effective	Appropriate native-like standard written English
Development	No development	Development severely limited; examples random, if given.	Lacks content at abstract and concrete levels; few examples	Underdeveloped; lacks concreteness; examples may be inappropriate, too general; may use main points as support for each other	Underdeveloped; some sections may have concreteness; some may be supported while others are not; some examples may be appropriate supporting evidence for a persuasive essay, others may be logical fallacies, unsupported generalizations	Partially underdeveloped, concreteness present, but inconsistent; logic flaws may be evident; some supporting proof and evidence used to develop thesis; some sections still undersupported and generalized; repetitive	Acceptable level of development; concreteness present and somewhat consistent; logic evident, makes sense, mostly adequate supporting proof; may be repetitive	Each point clearly developed with a variety of convincing types of supporting evidence; ideas supported effectively; may show originality in presentation of support; clear logical and persuasive/convincing progression of ideas	Well-developed with concrete, logical, appropriate supporting examples, evidence and details; highly effective/convincing; possibly creative use of support	Appropriate native-like standard written English

cohesion & coherence and coherence								
Not coherent; no relationship of ideas evident	Not coherent; ideas random/ unconnected; attempt at transitions may be present, but ineffective; few or unclear referential ties; reader is lost.	Partially coherent; attempt at relationship, relevancy and progression of some ideas, but inconsistent or ineffective; limited use of transitions; relationship within and between ideas unclear/non-exist ent; may occasionally use appropriate simple referential ties such as coordinating conjunctions	Partially coherent, main purpose somewhat clear to reader; relationship, relevancy, and progression of ideas may be apparent; may begin to use logical connectors between/ within ideas/paragraphs effectively; relationship between/ within ideas not evident; personal pronoun references exist, may be clear, but lacks command of demonstrative pronouns and other referential ties; repetition of key vocabulary not used successfully	Partially coherent; shows attempt to relate ideas, still ineffective at times; some effective use of logical connectors between/within groups of ideas/paragraphs; command of personal pronoun reference; partial command of demonstratives, deictics, determiners	Basically coherent in purpose and focus; mostly effective use of logical connectors, used to progress ideas; pronoun references mostly clear; referential/anaph oric reference may be present; command of demonstratives; beginning appropriate use of transitions	Mostly coherent in persuasive focus and purpose, progression of ideas facilitates reader understanding; successful attempts to use logical connectors, lexical repetition, synonyms, collocation; cohesive devices may still be inconsistent/ ineffective at times; may show creativity; possibly still some irrelevancy	Coherent; clear persuasive purpose and focus; ideas relevant to topic; consistency and sophistication in use of transitions/ referential ties; effective use of lexical repetition, derivations, synonyms; transitional devices appropriate/ effective; cohesive devices used to further the progression of ideas in a manner clearly relevant to the overall meaning	Coherent and convincing to reader; uses transitional devices/referentia l ties/logical connectors to create and further a particular style	Appropriate native-like standard written English

1	2	3	**4**	5	6	7	8	9	**10**

Criticality

Does not attempt to or fails to identify and summarize accurately.
Approach to the issue is in egocentric and sociocentric terms. Does not relate to other contexts.
Analysis is grounded in absolutes, with little acknowledgement of own biases. Does not recognize context and underlying ethical implications.
Position is clearly adopted with little consideration. Addresses a single view of the argument, failing to clarify the position relative to one's own. Fails to justify own opinion or hypothesis is unclear or simplistic.
No evidence of selection or source evaluation skills. Repeats information without question or dismisses evidence without justification. Does not distinguish between fact and opinion. Evidence is simplistic, inappropriate or not related to topic.
Deals with a single perspective and fails to discuss others' perspective. Adopts a single idea with little question. Alternatives are not integrated. Ideas are obvious. Avoids discomforting ideas. Treats other positions superficially. No evidence of self-assessment.
Fails to identify conclusions, implications, and consequences, or conclusion is a simplistic summary. Conclusions are absolute, and may attribute conclusion to external authority.

Summarizes issue, though some aspects are incorrect or confused. Nuances and key details are missing or glossed over.
Presents and explores relevant contexts and assumptions, although in a limited way. Analysis includes some outside verification, but primarily relies on authorities. Provides some consideration of assumptions and their implications.
Presents own position, which includes some original thinking, though inconsistently. Justifies own position without addressing other views or does so superficially. Position is generally clear, although gaps may exist.
Demonstrates adequate skill in selecting and evaluating sources to meet information need. Use of evidence is selective, discerns fact from opinion and may recognize bias. Appropriate evidence is provided although exploration is routine.
Begins to relate alternative views. Rough integration of multiple viewpoints. Ideas are investigated in a limited way. May overstate conflict or dismiss alternative views hastily. Analysis of other views mostly accurate. Some evidence of self-assessment.
Conclusions consider evidence of consequences extending beyond a single issue. Presents implications that may impact other people or issues. Presents conclusions as only loosely related to consequences. Implications may include vague reference to conclusions.

Clearly identifies the challenge and subsidiary, embedded, or implicit aspects of the issue. Identifies integral relationships essential to analyzing the issue.
Analyzes the issue with a clear sense of scope and context, including an assessment of audience. Identifies influence of context.
Questions assumptions, addressing ethical dimensions underlying the issue. Position demonstrates ownership.
Appropriately identifies own position, drawing support from experience and information not from assigned sources. Justifies own view while integrating contrary interpretations. Hypothesis demonstrates sophisticated thought.
Evidence of source evaluation skills.
Examines evidence and questions accuracy and relevance. Recognizes bias. Sequence of presentation reflects clear organization of ideas, subordinating for importance and impact.
Addresses diverse perspectives from a variety of sources to qualify analysis. Any analogies are used effectively.
Clearly justifies own view while respecting views of others. Analysis of other positions is accurate and respectful. Evidence of reflection and self-assessment.
Identifies and discusses conclusions, implications, and consequences. Considers context, assumptions, and evidence.
Qualifies own assertions.
Consequences are considered and integrated. Implications are developed and consider ambiguities.

Vocabulary	Meaning obliterated; extremely limited range; incorrect/unsystematic inflectional, derivational morpheme use; little to no knowledge of appropriate word use regarding meaning and syntax	Meaning severely inhibited; very limited range; relies on repetition of common words; inflectional/derivational morphemes incorrect, unsystematic; very limited command of common words; seldom idiomatic; reader greatly distracted	Meaning inhibited; limited range; some patterns of errors may be evident; limited command of usage; much repetition; reader distracted at times	Meaning inhibited by somewhat limited range and variety; often uses inappropriately informal lexical items; systematic errors in morpheme usage; somewhat limited command of word usage; occasionally idiomatic; frequent use of circumlocution; reader distracted	Meaning occasionally inhibited; some range and variety; morpheme usage generally under control; command awkward or uneven; sometimes informal, unidiomatic, distracting; some use of circumlocution	Meaning seldom inhibited; adequate range, variety; appropriately academic, formal in lexical choices; successfully avoids the first person; infrequent errors in morpheme usage; beginning to use some idiomatic expressions successfully; general command of usage; rarely distracting	Meaning not inhibited; adequate range, variety; basically idiomatic; infrequent errors in usage; some attention to style; mistakes rarely distracting; little use of circumlocution	Meaning clear; fairly sophisticated range and variety; word usage under control; occasionally unidiomatic; attempts at original, appropriate choices; may use some language nuance	Meaning clear; sophisticated range, variety; often idiomatic; often original, appropriate choices; may have distinctions in nuance for accuracy, clarity	Appropriate native-like standard written English
Structure	Attempted simple sentences; serious, recurring, unsystematic grammatical errors obliterate meaning; non-English patterns predominate	Uses simple sentences; some attempts at various verb tenses; serious unsystematic errors, occasional clarity; possibly uses coordination; meaning often obliterated; unsuccessful attempts at embedding may be evident	Meaning not impeded by use of simple sentences, despite errors; attempts at complicated sentences inhibit meaning; possibly uses coordination successfully; embedding may be evident; non-English patterns evident; non-parallel and inconsistent structures	Relies on simple structures; limited command of morpho-syntactic system; attempts at embedding may be evident in simple structures without consistent success; non-English patterns evident	Systematic consistent grammatical errors; some successful attempts at complex structures, but limited variety; clause construction occasionally successful, meaning occasionally disrupted by use of complex or non-English patterns; some nonparallel, inconsistent structures	Some variety of complex structures evident, limited pattern of error; meaning usually clear; clause construction and placement somewhat under control; finer distinction in morpho-syntactic system evident; non-English patterns may occasionally inhibit meaning	Meaning generally clear; increasing distinctions in morpho-syntactic system; sentence variety evident; frequent successful attempts at complex structures; non-English patterns do not inhibit meaning; parallel and consistent structures used	Manipulates syntax with attention to style; generally error-free sentence variety; meaning clear; non-English patterns rarely evident	Mostly error-free; frequent success in using language to stylistic advantage; idiomatic syntax; non-English patterns not evident	Appropriate native-like standard written English

Source for organization, development, cohesion & coherence, structure, vocabulary, and mechanics: Paulus, T. M. (1999). The effect of peer and teacher feedback on student writing. Journal of Second Language Writing, 8, 265-289.
Source for criticality: http://www.eiu.edu/learninggoals/pdfs/KansasStUni-CriticalThinkingRubric.pdf

Mechanics	Little or no command of spelling, punctuation, paragraphing, capitalization	Some evidence of command of basic mechanical features; error-ridden and unsystematic	Evidence of developing command of basic mechanical features; frequent, unsystematic errors	May have paragraph format; some systematic errors in spelling, capitalization, basic punctuation	Paragraph format evident; basic punctuation, simple spelling, capitalization, formatting under control; systematic errors	Basic mechanics under control; sometimes successful attempts at sophistication, such as semi-colons, colons	Occasional mistakes in basic mechanics; increasingly successful attempts at sophisticated punctuation; may have systematic spelling errors	Uses mechanical devices to further meaning; generally error-free	Uses mechanical devices for stylistic purposes; may be error-free	Appropriate native-like standard written English

Appendix B

B. The Examples of Formative Feedback.

Student A (Cul** Kang, in a beginner class), came over to me with unorganized sentences without paragraph organization.

> ** When you stop writing in the middle, please revise your writing with the following points in mind.*
>
> *1. Be careful of verbs for third person singular.*
>
> *2. Did you write a period at the end of sentence?*
>
> *3. Start with a brainstorming map to extend sub topics of the given topic. Try to write in English, if you do not know an English word, look it up in a dictionary.*
>
> *4. Be careful with your tense. Think about when it happened, and what time adverbs you are going to use.*
>
> *5. Try to make a paragraph. Start with an indentation. If you finish a paragraph, look at the supporting sentences to see whether they are related to the topic sentences.*

For Students B (Soo**** Lee, in a intermediate class), came with an introductory paragraph and one body paragraph without a conclusion paragraph. Her writing had some structural and minor grammatical errors.

> ** When you stop writing in the middle, please revise your writing with the following points in mind.*
>
> *1. Start with an indentation when you write a paragraph.*
>
> *2. Be careful of tenses, look at the adverbs or adverb phrases you used or you could use. Then it is easy to find the proper tense.*
>
> *3. In a paragraph, try to locate unrelated sentences. Find examples or details to support the topic sentence.*
>
> *4. You can come back to brainstorming map again to imagine whole picture of your writing structure, if you can not think of how to start the second paragraph.*

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