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The impacts of outlining and free writing strategies on the quality of Japanese L2 academic writing

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Abstract
Much research has been completed that focused on the role of drafting strategies in first language (L1) writing, but its role in second language (L2) writing is missing. The present study investigated the impact of outlining and free writing strategies on L2 academic writing in terms of overall quality, as well as more specifically in terms of content, organization, and coherence. Sixty Japanese L2 Chinese speakers, studying at a major research university in western Japan, were randomly divided into outlining, free writing, and control groups. They wrote argumentative essays. Using an academic writing rubric, two raters assessed the essays. Results revealed that free writing strategy improved the coherence of the text, which follows the Interaction Hypothesis. Outlining improved not only the overall quality of L2 academic writing but also the content and organization of the text. These findings, which are in contrast with some L2 writing research, support the Overload Hypothesis.

Key words: Japanese L2 academic writing, drafting strategy, outlining, free writing, text quality

Introduction

The present study intends to draw on Overload and Interaction Hypotheses, and by overcoming the drawbacks of the previous studies, attempt to examine the effectiveness of outlining and free writing strategies on the overall text quality besides content, organization, and coherence of L2 academic writing in the context of Chinese speaking learners of Japanese as a second language (L2).

Writing is a difficult and demanding task due to the several cognitive processes it involves, i.e., generating and organizing ideas while paying attention to the target audience, transcribing these ideas into text, and revising the text. These processes place cognitive load on writers' working memory (Kellogg, 1988, 1994, 1996, 2008). Writing in a second language is even more difficult since in addition to the cognitively demanding activities mentioned above, L2 writers must develop adequate language proficiency to enable them to write. Referring to this point, Hyland (2007:34) argues "While most of us [native speakers] have a vocabulary of several thousand words and intuitive ability to handle the grammar of the language when we begin to write in our L1, L2 writers often carry the burden" of paying attention to these linguistic aspects, and handle them simultaneously (Hyland, 2007; Torrance & Galbraith, 2006). The high cognitive load imposed on L2 writers adversely affects the quality of their writing as far as complexity, accuracy, and fluency are concerned (Ellis & Yuan, 2004; Johnson, 2014; Sasayama, 2011; Skehan & Foster, 1996). To solve the problem, researchers have examined the effects of drafting strategies on the quality of writing; however, the results have not been consistent.

There has been an ongoing debate in L1 writing research regarding the role drafting strategies may have on writing skill. Based on the Interaction Hypothesis (Elbow, 1981), researchers have argued that the free writing drafting strategy, which takes place during the writing stage and requires writers to begin writing without any initial planning, is immensely beneficial and leads to production of better ideas (Elbow, 1981, 1998; Galbraith & Torrance, 2004; Ong & Zhang, 2010, 2013). In contrast, the Overload Hypothesis holds that outlining allows writers to predominantly attend to the task of writing and thus produce pieces of writing with a much higher quality (Kellogg, 1988). Furthermore, outlining "by freeing spaces in their [writers'] limited working memory during the composing process" (Ong, 2014: 19), produces higher overall text quality (Galbraith, Ford, Walker, & Ford, 2005; Kellogg, 1988, 1990; Ong, 2014; Smet, Broekkamp, Gruwel, & Kirschner, 2011). As mentioned previously, past research has focused on the L1 context, and few studies have examined the impact of outlining and free writing strategies on the quality of L2 writing.

Recently greater attention is being paid to this issue (Ellis & Yuan, 2004; Ong & Zhang, 2013; Smet et al., 2011), but these studies considered certain aspects of text, i.e., complexity, accuracy, fluency, and overall quality. The effect of drafting strategies on certain other features of text, i.e., content, organization, and coherence, however, has not been examined. Depending on the genre of writing, for example, according to whether it is a persuasive writing, the specific textual features mentioned above play a more critical role than others. Thus, it is compulsory to consider the effect of drafting strategies on both overall quality and on the quality of specific aspects of content, organization, and coherence. Moreover, there is a gap regarding assessing text quality depending on the genre of the text, where more consideration is required. Furthermore, some critical variables such as length of text and task duration have yet to be considered. Therefore, it is necessary to cover these problematic issues to understand real benefits of drafting strategies, which this study attempts to do exactly that.

Literature review

Drafting strategies in L1 writing research

There is a conflict between theoretical and empirical findings in L1 writing regarding outlining and free writing strategies. The pioneer of free writing, Peter Elbow (1981), suggested

free writing as a drafting strategy based on the Interaction Hypothesis. The Interaction Hypothesis assumes that there are opportunities for the interaction of planning, writing, and revising that make writers produce better ideas. He argued that writing is not just writing down ideas that have already been produced, but a discovery process throughout which writers create ideas. Therefore, he criticized the strategy of outlining first, claiming that "this idea of writing is backwards" (1998:15), outlining first not only produces no benefit but may also be detrimental to writing performance. He clarified that starting to write without planning first, i.e., free writing, provides the opportunity for writers to show their natural voices more freely and it promotes coherence in writing. From Elbow's point of view, in free writing strategy writers should divide the time of writing in half. In the first half writers should begin to write immediately about the topic without engaging themselves in any planning. In the second half, after the free written text is finished, the writers should start revising their texts. According to Elbow's definition, therefore, starting to write after having thought about what and how to write, which could be called mental planning, is not part of a free writing strategy. Although it is possible to simply start writing to produce a rough draft, the actual free writing includes two stages, i.e., writing (generating sentences) and revision stages, as mentioned above. On the other hand, simply writing without any revision or simply reviewing the text to fix surface features of text, i.e., grammar, would constitute an incomplete form of free writing. Free writing from this point of view has rarely been considered in the previous studies which examined the effect of outlining and free writing strategies. Therefore, in the present study, free writing is defined as including both writing and revision stages.

Outlining, which is based on Overload Hypothesis (Kellogg, 1988), is another drafting strategy, one in which writers produce an outline of topics and subtopics of what they want to write about before beginning to compose their text. They then use this outline as a guide to write the text. Overload Hypothesis supports outlining from the perspective of cognitive psychology which assumes that limited capacity of working memory causes attentional overload during composing a text. Therefore, outlining frees space in working memory so that more attention is allocated to translating ideas into text (Kellogg,1988, 1990; Ong, 2014). Outlining can take different forms, such as making a visual outline of ideas and sub-ideas on paper with a hierarchical order or making the outline mentally without writing it down. To investigate the effect of drafting strategies Kellogg (1988) conducted two experimental studies. In his first experiment, he examined the impact of a rough draft and outlining strategies on the quality of texts by giving a business letter writing task to 18 college students. In his study, Kellogg considered the rough draft strategy as analogous to a free writing strategy in which writers begin to write with no planning first. Problematically, however, he did not include any time for revision. Therefore, this study did not compare the strategy of outlining against the strategy of freewriting as Elbow defined it. Two raters assessed the quality of text based on the five scales developed by Atlas (1979): language usage, coherence, idea development, effectiveness of communication, and mechanics. Unfortunately, there is no precise explanation of what each rating scale included. He divided students randomly into four conditions: Rough and polished conditions using the rough draft strategy, and outline and no-outline conditions using the outlining strategy. In the rough condition, participants were told to write down their thoughts and ideas on paper without worrying about how well their ideas were written. Then after they finished their writing, they went back and revised their text. In the polished condition, participants were told to write and try to express their thoughts as well as they can from the beginning. Also, they were told to change and review their text while they are writing, if it is

needed. In the outline condition, participants were given 5-10 minutes to write an outline first, and then start to write. In the no-outline condition, participants began to write without outlining first. Except for the outline condition, none of the conditions in this experiment had a time limitation. As a result, Kellogg found those participants in the outline condition spent more time and produced longer texts. The result showed statistically significant differences in idea development and effectiveness of communication, a marginally significant difference for language usage, and no significant difference for coherence and mechanics in the outline condition. Outline condition participants produced higher overall quality with better idea development. All other conditions had no effect on quality of text significantly in his experiment. Thus, he claimed outline strategy is superior to other strategies.

In his second experiment, the difference between written outline and mental outline were investigated. Twenty participants composed a persuasive text under three conditions; written outline, mental outline, and no-outline conditions. In the written outline condition, participants were given 5-10 minutes to write an outline on paper. In the same way, participants in the mental outline condition were given time to make an outline, but they were not allowed to write anything on paper. Lastly, in the no-outline condition, the participants began writing without any written or mental outlining. As in his first experiment, two raters assessed the essays based on the same rubric. The result showed a no significant difference between written and mental outlining regarding language usage, coherence, idea development, effectiveness of communication, and overall quality. None of the groups had a significant difference for mechanics. No-outline condition participants were significantly poorer in language usage compared than both outlining conditions. Kellogg argued that this finding showed that written and mental outlining have the same positive impact on text quality, and using an outlining strategy positively influences text quality.

Drafting strategies in L2 writing research

Regarding drafting strategy in L2 writing, Ong and Zhang (2013) investigated the impact of different planning conditions on the overall quality of the text. In their research, 108 Chinese EFL learners wrote an argumentative writing under four conditions: Planning, prolonged planning, free writing, and control. In the planning condition, participants were given 10 minutes to plan and 20 minutes to write. In the prolonged planning condition, participants had 20 minutes for planning and 10 minutes for writing. In the free writing condition, participants began writing immediately and used the entire 30 minutes for writing with no time given for planning. In the control condition, participants were free to write as usually they do. In this study, all participants were given five minutes to read the topic before starting their task. After each group finished their task, participants were given five minutes to summarizing text, then 25 minutes for making revision. The overall quality of text was assessed by two raters based on the analytical rating score of Jacobs et al. (1981) which considers the five dimensions of content, organization, vocabulary, language use, and mechanics. The total score of these five scales was used as an overall quality-of-text score. Results indicated participants in the free writing condition produced higher scores when compared with other writing conditions leading the researchers to conclude that a free writing strategy improves the overall quality of texts. This result is in contrast with studies that provide support for planning first (Ellis & Yuan, 2004; Joaquin, Kim, & Shin, 2016; Kellogg 1990; Kellogg, 1988; Smet et al., 2011). However, it is in line with studies claims free writing is better (Elbow, 1981, 1998; Galbraith and Torrance, 2004).

Two points are problematic in Ong and Zhang's (2013) study. First, text length is unclear. The length of text, could influence overall text quality, was not kept constant in their study. Second, the five minutes were given to participants for reading the topic. Whereas five to 10 minutes could be a sufficient time for planning (Mehnert, 1998), the five minutes for reading the topic could have allocated extra time to participants in free writing condition allowance them to effectively make a mental plan, and effect of written planning found impactful according to the second experiment of Kellogg (1988). It is possible, therefore, that participants in the free writing condition not only used the free writing strategy but also they could have engaged in mental planning. The subsequent improvement of textual quality attributed to the free writing condition might have resulted from using two strategies (mental planning first and free writing second) rather than the use free writing strategy *per se*.

There is no clear agreement regarding the effect of drafting strategies in either L1 or L2 writing studies yet. To fully consider the impact of drafting strategies on text quality, it is important task time and textual length are controlled. Furthermore, it is worth considering the effect of these two strategies not only on the overall quality of text but also on more specific aspects of the text such as content, organization, and coherence.

Quality of text

Text quality has been measured in several ways across different studies. Some studies have focused on assessing grammar to improve the text (Celce-Muricia, 1992; Hedgcock & Lefkowitz, 1992). Others defined specific textual features such as idea development and rhetorical structure as critical dimensions of textual quality (Coulthard, 1994; Hui-Tzu, 2006; Sato, 1991). As Hamp-Lyons (1991b) mentioned, consideration of every element in a text is important, while the improvement of text is assessed holistically. Those elements are represented in microstructure and macrostructure features in a text (Hall-Mills, 2010). The microstructure features such as language, syntax, mechanics, and macrostructure features such as content development, organization, coherence. Therefore, both micro- and macro features can be considered as markers of the overall quality of a text. In the present study, overall quality is evaluated by five dimensions: content, organization, coherence, language accuracy, and mechanics.

In a specific genre of writing or task type, writing quality could be evaluated by only referencing a specific writing context and components (Crusan, 2010; Ferris & Hedgcock, 2014; Hamp-Lyons, 2003, 1991b). In argumentative and persuasive writing, for instance, assessing textual quality might focus heavily on the content included which assists in the development of an argument. In other words, in persuasive writing, the macro features such as content, organization, and coherence could be those specific components which play more critical role on the quality, rather than micro features such as language and mechanics. Since this study is focused on Japanese L2 (JL2) academic writing, and academic writing is a kind of persuasive writing, quality of text is considered in terms of content, organization, and coherence, as well.

For content, the focus is on the development of argument, the directness of the writer's position and claim, the weight of their reasoning, and the clarity of their warrant (Ferris & Hedgcock, 2014).

Organization was considered in terms of the synthesis of information, dividing the text into the introduction, body, conclusion, making recognizable outline of the main idea for readers, making strong and relevant connection(s) between the introduction and conclusion within the body of text (Guy, 2015; Tanaka & Abe, 2014).

For coherence, the focus is on the unity of each paragraph and section, appropriate discourse markers between and within paragraphs, the presence/absence of irrelevant statements, as well as the flow and consistency of the text as a whole (Tanaka & Abe, 2014; Williams & Bizup, 2015).

Research questions

With the aim of investigating the impact of outlining and free writing strategies on the quality of JL2 academic writing overall, and on the specific components of content, organization, and coherence, accordingly, the following research questions were made.

RQ 1. Do outlining and free writing strategies improve the overall quality of JL2 academic writing when compared with a control group?

RQ 2. Which of the strategies, outlining or free writing, produces better improve JL2 academic writing in terms of overall quality?

RQ 3. In what ways and to what degree do outlining and free writing strategies improve JL2 academic writing in terms of content, organization, and coherence specifically?

Methods

Participants

Sixty Chinese L1 learners of Japanese as a second language (JL2) participated in the experiment (45 females, 20-31 range age). All participants were first-year graduate (MA) students at a major national research university in western Japan. Participants were paid for their time and they signed an agreement to participate. All participants are advanced having N1 degree on the Japanese Language Proficiency Test (JLPT). They were randomly divided into outlining, free writing, and control groups. Each group included 20 participants.

Participants' usual writing strategies were verified by having them complete a fact sheet on which they indicated the strategy they usually use when writing an essay, providing insight as to whether the strategies the participants use ordinarily in their writing have a possible effect on the result of this study. All participants were familiar with outlining and free writing strategies somehow. Also, for controlling the effect of previous writing instruction, participants were asked about their previous experience with formal Japanese writing instruction. None of the participants reported having had any formal instruction in terms of essay writing in Japanese.

Raters

Two graduate students, both native Japanese speakers majoring in Teaching Japanese as a Second Language, rated the essays. They were trained to evaluate essays based on the academic writing rubric prior to evaluating the participant essays. The inter-rater reliability of raters was high ($r = 0.9$). It showed the stability of the rubric.

Instruments

Rubric

A six-point-scale rubric used in this study was adapted from Tanaka & Abe (2014), Hamp-Lyons (1991a, 1991b), and Jacobs, Zinkgraf, Wormuth, Hartfiel, and Hughey's (1981) scoring scales. The rubric includes five dimensions of content, organization, coherence, language

accuracy, and mechanics. Since this rubric was used for assessing Japanese text, Tanaka and Abe's (2014) scoring scales, which is the only rubric developed for Japanese essay, was used for all detentions. Regarding to make the rubric more sensitive for assessing academic writing, Hamp-Lyons (1991a, 1991b) and Jacobs et. al. (1981) scoring scales were used for the criteria of content, organization, and coherence, as well.

The first version of the rubric was validated by four Japanese native speakers who were doctoral students trained in Japanese academic writing. They were asked to read each statement of the rubric and identify ambiguous or unclear statements, or scale levels which were difficult to distinguish from other statements/levels, and to offer their suggestions for improvement. According to their suggestions, unclear statements were rewritten, and the second version of the rubric was validated by two other Japanese writing tutors. They agreed on all the statements for each criterion unanimously.

Prewriting tests

The writing ability of participants was examined with two prewriting tests, an argumentative and expository writing, prior to the main experiment. Using an analytical academic writing rubric the two raters assessed these essays independently. Using Kolmogorov-Smirnov test and Levene test, both prewriting samples were tested for the normality and homogeneity of variance. Scores for the argumentative and expository prewriting sample data were normally distributed, but the assumption of equality of variance was violated (see Table 1).

Table 1 *Descriptive statistics & normality & equality of variances for each group for the argumentative and expository prewriting tests*

Prewriting tests	Groups	N	Mean	SD	Kolmogorov-Smirnov		Levene test			
					Statistic	*p*	Statistic	df1	df2	*p*
Argumentative	Outlining	20	79.45	13.72	.127	.200				
	Free Writing	20	74.15	9.79	.126	.200	7.386	2	57	.001
	Control	20	71.60	6.28	.117	.200				
Expository	Outlining	20	76.20	13.44	.126	.200				
	Free Writing	20	71.25	8.92	.142	.200	7.677	2	57	.001
	Control	20	68.30	6.23	.102	.200				

Therefore, a nonparametric test Kruskal-Wallis test was run for the argumentative prewriting test ($H(2) = 3.419$, $p > .05$), and for the expository writing test ($H(2) = 3.660$, $p > .05$). The result for the both prewriting tests indicated that all the participants were homogenous in writing ability.

Procedure

Participants were divided randomly into outlining, free writing and control groups. Each group wrote an argumentative essay of 700-800 Japanese characters within 40 minutes about the

advantages and disadvantages of technology. Writing 700-800 Japanese characters within 40 minutes was determined based on a pilot study.

Participants in the outlining condition were asked to use 5-10 minutes to make an outline for their essay before starting to write. They were asked to use Roman numerals or numbers for making their outline in a usual hierarchical form, and to put as many ideas and sub-ideas as they wanted in their outline. Thus, in the writing stage, they wrote what they had in their outline into complete sentences within 30 minutes.

Participants in the free writing condition were given 40 minutes and were asked to begin writing immediately after receiving the topic and to do their planning as they wrote. The researcher observed students to be certain that they began writing without doing any planning first. It was observed that none of the participants stopped writing to think for more than one minute during their online planning (thinking and planning during the writing stage).

The participants in the control group were free to write as they pleased. For confirming that the control group has sufficient condition as a real control group for experimental groups, the strategies used by participants in the control group were considered. The participants in the control group were taken video during their writing and they were asked what kind of strategies they used during the experiment. None of the participants in the control group used exactly the same strategy with neither outlining nor free writing groups which were defined in this study.

After ensuring participants understand the task completely, they then started to produce their essays under whatever conditions which they were placed in. Participants were instructed not to make any revisions during the writing stage. After the time of writing finished, they were given a five-minute break and then asked to revise their text for up to 40 minutes. The purpose of five-minute break was separating the stage of writing and revision, as far as in free writing strategy the stage of writing and revision should be separated from production (Elbow, 1998).

As mentioned above, free writing strategy includes both the writing and revision stage. Accordingly, in this study, the final draft (after revising) of essays were considered for the quality changes.

Result

Kolmogorov-Smirnov test was run for testing normality for scores of overall quality, content, organization, and coherence. As shown in table 2, none of the scores are distributed normally. Due to this, a nonparametric test Kruskal-Wallis was run for all analyses. The level of significance was set at .01.

Table 2 *Test of normality for overall quality, content, organization, and coherence in each group*

		Kolmogorov-Smirnov test							
	df	Overall quality		Content		Organization		Coherence	
		Statistic	*p*	Statistic	*p*	Statistic	*p*	Statistic	*p*
Outlining Group	20	.272	.000	.366	.000	.276	.000	.275	.000
Free Writing Group	20	.094	.200	.172	.121	.203	.031	.200	.035
Control Group	20	.231	.006	.233	.006	.191	.054	.293	.000

Regarding RQ 1, whether the two strategies improve the overall quality of JL2 academic writing when compared to the control group, Kruskal-Wallis test showed there was a statistically

significant difference between outlining, free writing and control groups (H (2) = 52.585, p < .001, η^2= .89), with the outlining strategy improving the overall quality, compared to the free writing strategy and control group. Post-hoc testing (i.e., multiple comparisons) result showed the significant differences between all groups. Results are displayed in Table 4.

RQ 2 asked which of the outlining and free writing strategies better improve JL2 academic writing. The Kruskal-Wallis test revealed a significant effect of outlining and free writing groups (H (1) = 29.434, p < .001, η^2= .75). The η^2 = 0.75 shows that a strong difference exists between the outlining and free writing groups. Accordingly, outlining was found to have a greater positive effective on overall quality than free writing strategy.

Regarding RQ 3, whether the outlining and free writing strategies improve JL2 academic writing in terms of content, organization, and coherence, the Kruskal-Wallis test was run. Table 3 shows the descriptive statistics for overall quality and each of these components.

In terms of content, a statistically significant difference was found between outlining, free writing, and control groups (H (2) = 53.189, p < .001, η^2= .90). Post-hoc tests also showed the significant differences between the outlining and free writing groups, outlining and control groups, and between the free writing and control groups (Table 4). These results indicate that the outlining strategy improved text content more than free writing and control groups.

Table 3 Descriptive statistics for each of variables in each group

	N	Content	Organization	Coherence	Overall*
		Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Outlining Group	20	23.50 (.68)	23.30 (.65)	17.30 (2.86)	109.90 (4.99)
Free Writing Group	20	10.50 (1.31)	10.40 (1.53)	23.00 (.68)	75.90 (6.38)
Control Group	20	4.75 (.73)	5.15 (.69)	4.65 (.79)	39.70 (4.02)

Note. Overall = Overall Quality which includes the score of language accuracy and mechanics as well.

Regarding organization, Kruskal-Wallis test revealed a strong significant difference between outlining, free writing and control groups (H (2) = 53.034, p < .001, η^2= .89). Post-hoc testing showed a statistically significant difference between the outlining and freewriting groups, between the outlining and control groups, and between the free writing and control groups (Table 4). This result also shows that outlining improves the organization of the text, rather than two other conditions.

Table 4 The result of Kruskal-Wallis test and Post-hoc testing for all the variables in each group

	Kruskal-Wallis test				Post-hoc testing			
					Outlining Group		Free Writing Group	
	H (df)	p	η^2	Mean Rank	H (df)	p	H (df)	p
Outlining Group								
Content	53.189 (2)	***	.90	50.50				
Organization	53.034 (2)	***	.89	50.50				

Coherence	50.178 (2)	***	.85	31.70				
Overall	52.582 (2)	***	.89	50.50				
Free Writing Group								
Content	53.189 (2)	***	.90	30.50	30.241 (1)	***		
Organization	53.034 (2)	***	.89	30.50	30.139 (1)	***		
Coherence	50.178 (2)	***	.85	49.30	23.322 (1)	***		
Overall	52.582 (2)	***	.89	30.50	29.434 (1)	***		
Control Group								
Content	53.189 (2)	***	.90	10.50	30.445 (1)	***	29.748 (1)	***
Organization	53.034 (2)	***	.89	10.50	30.209 (1)	***	29.658 (1)	***
Coherence	50.178 (2)	***	.85	10.50	30.046 (1)	***	30.093 (1)	***
Overall	52.582 (2)	***	.89	10.50	29.478 (1)	***	29.367 (1)	***

Note. $p < .001$***

In terms of coherence, Kruskal-Wallis test revealed that there is a statistically significant between free writing, outlining and control groups (H (2) = 50.178, $p < .001$, $\eta^2 = .85$). Post-hoc testing revealed significant differences between free writing and outlining, between free writing and control groups, and between outlining and control groups. The result is shown in Table 4. This result shows the superiority of free writing condition in terms of coherence, compared to the two other conditions. On the other words, free writing strategy improves the coherence of the text.

Discussion

According to the result of this study, employing an outlining strategy resulted in texts of better overall quality of JL2 academic writing. More specifically, outlining led to higher scores in terms of the macro features of content and organization. This finding supports the beneficial effect of outlining (Ellis and Yuan, 2004; Kellogg, 1990, 1988; Torrance, Thomas, and Robinson, 1994), and provides support for the Overload Hypothesis not only in L1 writing but also in L2 writing; however, the macro feature of coherence was better under the free writing strategy.

Outlining strategy and its effect on overall quality, content, and organization of the text

Outlining enhances the overall quality, content, and organization of JL2 academic writing. In terms of overall quality, as Kellogg (1988, 1990) discussed, outlining reduces the cognitive load on L2 writers, allowing writers to focus on more on writing during the writing stage. Although the cognitive load was not measured in this study directly, due to the higher quality resulted from the outlining group, it could be inferred that outlining eases the cognitive load on L2 writer's working memory and lets the writer attend primarily to the actual writing, and not planning *and* writing simultaneously. Therefore, outlining leads to higher quality in overall.

At the pre-writing stage of writing process, writers generate ideas, organize them, and write them down. This process is directly analogous to the content and organization defined as the components of writing quality in this study. Writers who have created their main ideas, subordinate ideas, and evidence at the pre-writing stage of their writing simply use them at the writing stage. Writers also organize the information and decide how to order and express that information in their text. L2 writers manage these cognitive activities as well as considering using adequate language in their text, which demands a higher cognitive load. As Kellogg (1986,

1988) argues, planning involves more cognitive effort than writing. The result of this study indicates that outlining reduces the cognitive load of planning at the pre-writing stage and allows L2 writers to focus on the process of translating ideas into the text. This allows for more focus on writing at the writing stage. Writers could, therefore, produce a higher quality of content and organization in their text.

Free writing strategy and its effect on coherence of the text

In terms of textual coherence, free writing was the superior strategy. This finding is in line with Ong and Zhang (2013), Galbraith and Torrance (2004). This result could be considered from two points.

First, previous research mentions that writers engage in proactive revision when they do no preliminary planning. This enhances the coherence of argument in a text (Galbraith & Torrance, 2004). Also, Ong and Zhang's (2013) study showed that participants in the free writing condition, outperformed significantly compared to the other conditions. This means that under the no planning condition, which is equivalent to the free writing condition in the present study, writers are more engaged with their text. Participants in the free writing condition in this study exhibited similar results. Because of the task condition, participants in the free writing group did not have any written plan to draw upon during their writing and revising stages. Thus, they were compelled to improve the text that they have already produced to a better version, which this leads to higher coherence in their text.

Second, coherence is considered from two aspects, text-based and reader-based features (Ahmed, 2010). From the point of the text-based feature, which considers cohesive elements such as unity of text and the appropriate linking of sentences, certain visible features of texts are necessary to consider if sentences, paragraphs, and different parts of the text are linked and if coherence has been achieved. Free writing condition provides a visual feature of writer's text. Considering that in the free writing task condition writers do not access any already predetermined plan, writers must constantly check that what they are planning in real-time is being applied to their text appropriately. Thus, they make great effort to achieve the unity among the parts of the text and what they have in their mind (their online planning). This effort in free writing condition, therefore, enhances the coherence of the text.

Conclusion

Put together, outlining increases overall text quality, content, and organization of L2 writing; free writing strategy, which includes both the writing and revision stages, improves coherence of L2 writing text. Improving overall quality, content, and organization by using outlining follows the perspective that composition process overloads the attentional capacity and by outlining first the attentional overload on the writer's working memory is eased. The same cognitive load pushes L2 writers during composition when L2 writers must additionally focus on linguistic aspects of their writing. Accordingly, outlining allows L2 writers to prioritize writing itself at the writing stage with getting support from the planning which they have done at the pre-writing stage to produce a higher quality text.

While it is clear in L2 writing, particularly in L2 academic writing, that outlining is more effective than free writing for improving the overall quality of the text generally, and the content and organization of the text specifically, the beneficial aspect of free writing strategy in terms of

producing greater compositional coherence should not be overlooked. This signifies that drafting strategies might have a differential effect on the various components of L2 writing.

Pedagogically, these findings have implications for writing courses, particularly in courses focused on academic writing. Moreover, these results might be of particular benefit for instructors looking for writing tasks or strategies focused specifically on the development of macrostructural features such as content, argument, organization, cohesion and coherence of L2 writing.

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