Does Planning Really Help?: Effectiveness of Planning in L2 Writing

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Abstract

Pre-task planning (i.e., planning prior to composing) has long been assumed to lead to L1 and L2 writing improvement. This assumption has historically been supported by L1 writing research from the field of cognitive psychology. However, the results of recent research on pre-task planning and L2 writing suggest that pre-task planning alone has minimal impact on features of L2 writers' texts. This article provides an overview of how pre-task planning is theorized to impact L1 writers' texts and examines recent quantitative L2 writing research on pre-task planning, the results of which suggest that pre-task planning may be moderated by general L2 proficiency as well as knowledge of the targeted writing genre. Areas for future L2 writing research are discussed as are the potential implications of future research.

Keywords: L2 writing, L1 writing, Pre-task planning, task-based second language acquisition, Fluency, Grammatical complexity, Lexical complexity

Conventional wisdom holds that student writers who plan prior to composing —whether by brainstorming their ideas or by outlining the organization of their texts—produce qualitatively and quantitatively superior academic prose to students who do not. Few first (L1) and second language (L2) writing teachers—whether teaching general English or English for academic purposes—would argue with conventional wisdom, and fewer still would neglect to provide their students with a sound understanding of pre-task planning as an important part of the writing process, an importance which has been demonstrated in qualitative studies of L1 and L2 writing processes. Online planning (i.e., planning during composing) has been consistently found to be associated with L1 writing ability (Bereiter & Scardamalia, 1987; Manchón & Roca de Larios, 2007; Rijlaarsdam & van den Bergh, 2006; van den Bergh & Rijlaarsdam, 1999; van der Hoeven, 1999) and L2 writing ability (Akyel, 1994; Armengol-Castels, 2001; Manchón & Roca de Larios, 2007; Roca de Larios, Murphy, & Marin, 2008; Sasaki, 2000, 2004; Victori, 1999). However, with the exception of a handful of L2 writing studies, pre-task planning appears to be an under-researched area despite consistent results from studies on pre-task planning among L1 writers (Kellogg, 1987a, 1987b, 1988, 1990). These L1 writing studies support pre-task planning—specifically outlining—as a means of increasing writing fluency,

holistic writing quality, and language use.

While the research cited thus far provides a good deal of support for conventional wisdom, L2 writing teachers would do well to question the effect of pre-task planning on their students' written work, as the results of quantitative studies on pre-task planning and its impact on L2 writers' texts show mixed results (Ellis & Yuan, 2004; Johnson, Mercado, & Acevedo, 2012; Ong & Zhang, 2010). As is discussed in the following sections, planning in and of itself has little effect on the features of L2 writers' texts. Closer examination of empirical studies on pre-task planning and writing—whether in the L1 or the L2—indicate that planning likely interacts with learner and instructional variables to impact L1 and L2 writers' texts. Through an overview of L1 and L2 writing research, this paper examines the construct of planning for writing to identify variables which likely moderate the impact of pre-task planning on features of L2 writers' texts. Specifically, this paper argues that pre-task planning is potentially moderated by general L2 proficiency and/or knowledge and awareness of the conventions of a given genre.

Planning in L1 Writing

Early empirical research on planning in L1 writing—particularly the work of Bereiter and Scardamalia (1987)—was concerned with describing the processes of proficient writers. Through extensive comparisons of more proficient L1 writers and less proficient L1 writers, researchers found the amount of time spent planning to be one of the primary differences between novice writers and expert writers.

Given the historical focus of writing instruction on the finished product, the pedagogical implications of these early studies seemed clear: teachers should encourage students to plan prior to composing. This leaves some question, however, about the kinds of pre-task planning which may be effective in helping novice writers. Early descriptive studies of writing processes led to a more refined understanding of planning and its role in L1 writing. Specifically, closer examination of planning in L1 writing has classified sub-processes of planning among expert writers (Flower & Hayes, 1980; Hayes & Nash, 1996), a classification that has been retained in Kellogg's (1996) model of working memory and its involvement in L1 writing.

According to Kellogg (1996), the writing process is composed of three main systems, formulation, execution, and monitoring, each of which places varying demands on the working memory resources of the writer. Key to a discussion on planning is an elaboration of the formulation system, which Kellogg proposes to place the greatest strain on working memory resources. In Kellogg's model, the formulation system is composed of two processes which compete for working memory resources: (1) translation—encoding ideas into language—and (2) planning. Pre-task planning is theorized to reduce the demands placed on working memory capacity so that the additional capacity can be devoted to the translation process. However, Kellogg's model makes no direct predictions about the impact of pre-task planning on specific features of L1 writers' texts.

According to Kellogg's model, planning can be further thought of in terms of three sub-processes, in which attention is variably devoted to (1) idea generation, (2) organization, and (3) goal setting. Despite the identification of three planning sub-processes, Kellogg's research has almost exclusively focused on organization pre-task planning. The results of these studies indicate consistent effects of organization pre-task planning on L1 writers' texts. Kellogg's early studies among college students composing in their first language note consistent, positive effects of organization pre-task planning—specifically outlining—on writing fluency and holistic writing quality (1987a, 1988, 1990) as well as analytic ratings of language use (1987b, 1988). From these findings, it would appear that outlining prior to composing increases not only fluency but may also have an indirect impact on the complexity and sophistication of language use. Other researchers have attempted to directly examine the impact of outlining on the complexity of L1 writers' language use by examining Flesch readability scores—a blunt instrument to be sure—but have found no impact of outlining on these measures (Galbraith, Ford, Walker, & Ford, 2005; Rau & Sebrechts, 1996). What is clear from research on outlining among adult L1 writers is that organization pre-task planning, specifically outlining, positively impacts writing fluency and holistic writing quality. In contrast, the specific effects of idea generation and goal setting pre-task planning have not been isolated and examined.

Much less is known about the impact of idea generation and goal setting pre-task planning sub-processes because researchers have observed each sub-process as part of instructional treatments in the use of a battery of writing strategies (De La Paz & Graham, 2002; Graham

& Perin, 2007; Page-Voth & Graham, 1999; Sexton, Harris, & Graham, 1998; Troia & Graham, 2002). The results of these studies have indicated significant, meaningful, and long-term effects of the instructional intervention on the students' writing fluency as well as holistic ratings of their writing quality. However, because these studies have not isolated idea generation and goal setting as distinct pre-task planning sub-processes, it is difficult to determine the effects of focused attention on each pre-task planning sub-process.

In considering L1 writing research on pre-task planning, it is safe to say that *something* happens to L1 writers' texts as a result of pre-task planning, whether that something happens to be an increase in fluency, an increase in holistic writing quality, or an increase in assessments of the writers' language use. Because L1 writing research has historically focused on writing as a cognitive task rather than a linguistic task, little is known about how planning may—or may not—facilitate the production of complex grammatical forms and sophisticated lexis during the writing process. For information on the effect of pre-task planning on grammatical complexity and lexical sophistication, the discussion turns to L2 writing research, specifically recent research seeking to tie Kellogg's (1996) model of working memory in L1 writing to the predictions of task-based theories of second language acquisition (Robinson, 2001, 2005, 2011; Skehan, 1998).

Planning in L2 Writing

Task-based theories of second language acquisition theorize that planning plays a similar role in L2 production to the role it plays in L1 writing. The Limited Attentional Capacity Model (Skehan, 1998) and the Cognition Hypothesis (Robinson, 2001, 2005, 2011), though they may differ in their explanations for the phenomenon, both predict a positive impact of pre-task planning on the fluency of L2 production, the complexity of L2 production, and/or the accuracy of L2 production. These predictions have been supported in numerous studies on *oral* language production among L2 learners. However, the results of studies on L2 *written* production have demonstrated mixed results.

In one of the first studies on pre-task planning and its impact on second language writers' texts, Ellis and Yuan (2004) examined the impact of unstructured pre-task planning on the syntactic complexity, fluency, and accuracy of narratives composed by 42 Chinese learners of English as a foreign language. The authors found that pre-task planning demonstrated a significant impact on writing fluency and syntactic complexity. Furthermore, the effect of

pre-task planning on each was quite large ($d > 1.00$). Ellis and Yuan interpreted their results in terms of Kellogg's (1996) model of working memory in L1 writing: pre-task planning frees working memory resources such that they may be devoted to the translation process of writing, resulting in more fluent, more complex language production.

In contrast, a study by Ong and Zhang (2010) found pre-task planning to actually impede writing fluency and lexical complexity. In their study of 108 Chinese learners of English as a foreign language, Ong and Zhang examined the impact of varying periods of pre-task planning time on the fluency and lexical complexity of the participants' argumentative essays. Ong and Zhang found increases in pre-task planning time to be associated with decreases in writing fluency as well as decreases in lexical complexity[i], suggesting that pre-task planning is a detriment to L2 writers, as it interferes with their ability to produce fluent, complex language.

More recently, Johnson et al. (2012) investigated the impact of pre-task planning sub-processes (idea generation, organization, and goal setting) in a large-scale study ($N = 914$) of Spanish-speaking learners of English as a foreign language. Through an examination of four pre-task planning conditions against a control condition (see Table 1), Johnson et al. statistically compared mean differences in lexical complexity, grammatical complexity, and writing fluency among the five pre-task planning conditions.

The results indicated no significant differences in any of the measures of grammatical complexity, nor in any of the measures of lexical complexity. A univariate comparison of average sentence length indicated that organization pre-task planning significantly reduced average sentence length. However, the effect of organization pre-task planning was found to be quite small ($d = 0.26$), suggesting a minimal impact of organization pre-task planning on writing fluency.

In an effort to reconcile their findings with the findings of previous L1 and L2 writing researchers, Johnson et al. (2012) suggested four potential explanations: (1) writing may be fundamentally different from oral language production, thus the predictions of the Limited Attentional Capacity Model and the Cognition Hypothesis may not hold, (2) it may be necessary to achieve a threshold level of general L2 proficiency in order for pre-task planning

to have any measurable effect on features of L2 writers' texts, (3) genre knowledge may interact with pre-task planning to impact features of L2 writers' texts, and (4) the presence of explicit instruction in pre-task planning sub-processes may increase L2 writers' fluency, grammatical complexity, and lexical complexity. The following section discusses each of these explanations in turn, suggesting areas for further empirical research.

Table 1: *A description of pre-task planning conditions in Johnson et al. (2012)*

Condition	Activity
Control	The participants read the writing prompt, and then completed a vocabulary matching activity thematically related to the writing prompt.
Idea generation	The participants read the writing prompt, and then brainstormed their ideas for ten minutes.
Organization	The participants read the writing prompt, and then completed an outlining worksheet to organize their essays.
Goal setting	The participants read the writing prompt, and then answered questions about their purpose for writing and their potential audience.
Goal setting + organization	The participants read the writing prompt, and then completed a combination of the outline and goal setting worksheets.

Reconciling L1 and L2 Writing Research

Fundamental difference.

The first explanation seems simple on its surface: writing and speaking are fundamentally different from one another. Because of this fundamental difference, the predictions of The Limited Attentional Capacity Model and The Cognition Hypothesis do not hold for L2 writing. While each enjoys a good deal of support from research on oral language production, studies

seeking to tie the two theories to L2 written production have had limited success (Ellis & Yuan, 2004; Johnson et al., 2012; Ong & Zhang, 2010). Further research is needed to determine whether pre-task planning has differential effects on the spoken and written language production of L2 learners.

If the results of comparison studies find differences in spoken and written language performance, such a finding would have two possible explanations: (1) task-based theories of second language acquisition—specifically the Limited Attentional Capacity Model and the Cognition Hypothesis—may not accurately describe L2 written production and/or (2) Kellogg's (1996) model of working memory may not accurately describe L2 writing. If either is the case, theories in L2 writing research must be revised in order to better describe empirical research. Such a theory would account for differences in working memory's deployment in speaking versus writing as well as its deployment in the L1 versus the L2.

Threshold of General L2 Proficiency.

The second explanation—that a threshold of general L2 proficiency is necessary to observe any effect of pre-task planning on features of L2 writing—can be tested relatively easily and may still allow for Kellogg's model to be tied to task-based theories of second language acquisition. Furthermore, such an explanation (1) may account for the contrasting results of previous L2 writing studies on pre-task planning and (2) could explain the difference in findings between L2 writing research and L1 writing research on pre-task planning.

It is likely that the participants in L1 writing research had achieved a general proficiency in that target language—in this case English—necessary for pre-task planning to positively impact writing fluency. In contrast, participants in L2 writing studies may, or may not, have achieved the threshold of general L2 proficiency. This could well explain the difference in findings between L1 and L2 writing research. Such an account may also explain the difference in findings among Ellis & Yuan (2004), Ong and Zhang (2010), and Johnson et al. (2012). For example, the participants in Ellis and Yuan (2004) may have achieved a threshold level of general L2 proficiency, thus the fluency and grammatical complexity of their written language production was positively, strongly impacted by pre-task planning. In contrast, the participants in Ong and Zhang (2010) may not have achieved the threshold level. In fact, the participants' general L2 proficiency may have been low enough that pre-task planning

overloaded working memory resources to the extent that pre-task planning negatively affected the translation process, resulting in reduced writing fluency as well as reduced lexical diversity. On the other hand, the participants in Johnson et al. (2012) may have been just at the threshold of proficiency, thus their writing fluency—but no other features of their written production—was minimally impacted by pre-task planning.

On its surface, a threshold hypothesis is attractive to L2 writing researchers because it can easily be explained by current models of working memory in L1 writing (Kellogg, 1996) and task-based theories of second language acquisition (Robinson, 2001, 2005, 2011; Skehan, 1998). However, data currently under analysis by the author (Johnson & Nicodemus, in press) suggest that pre-task planning has no impact on the complexity and fluency of L1 writers' texts. Based on these preliminary findings as well as closer examination of the studies conducted by Ellis and Yuan (2004) and Ong and Zhang (2010), it is more likely that the impact of pre-task planning is mediated by students' genre knowledge and by explicit instruction in the use of pre-task planning.

Genre Knowledge.

It seems likely that genre knowledge impacts planning for writing (Bereiter & Scardamalia, 1987). Familiar genres make fewer demands on working memory resources, freeing those resources so that they may be devoted to language production (Kellogg, 2001). This quite likely explains the difference in findings in L2 writing research on pre-task planning. Ellis and Yuan (2004) examined the impact of pre-task planning on their participants' language use in written narratives, a genre with which many writers—novice and expert alike—have a good deal of experience. In contrast, Ong and Zhang (2010) and Johnson et al. (2012) examined participants' writing performance on an argumentative task, a genre with which the participants may have had limited experience; thus, in each study, working memory resources may have been so consumed by the novelty of the writing genre that pre-task planning either interfered with their ability to produce fluent, complex language (Ong & Zhang, 2010) or had no impact on their ability to produce fluent, complex language (Johnson et al., 2012). Further examination of essay data collected by Johnson et al. (2012) appears to support such an explanation. Many of the participants in Johnson et al. (2012) attempted to compose argumentative texts—an unfamiliar genre—using a comparison-contrast organization—a familiar genre that they had been learning in class. This suggests that

pre-task planning may be strongly moderated by direct instruction in features of targeted writing genres. For this reason, future research may examine the interaction of genre knowledge and pre-task planning sub-processes in order to determine main effects as well as interaction effects.

Explicit Instruction.

Instructional interventions among children composing in the L1 have focused on analysis of the features of the target genre, prompt analysis, attention to the rhetorical purpose for writing, pre-task planning sub-processes, and online planning (De La Paz & Graham, 2002; Graham & Perin, 2007; Page-Voth & Graham, 1999; Sexton, et al. 1998; Troia & Graham, 2002). When the findings of L2 writing research are examined in light of these studies, it seems likely that the results noted in L1 research were the effect of direct instruction in the use of writing strategies rather than the effect of pre-task planning in and of itself. Future research among L2 writers may replicate the instructional interventions from L1 writing studies to determine their effect among L2 writers.

Conclusion

Based on a review of empirical research on the impact of pre-task planning on features of L2 writers' texts, it appears as though pre-task planning, in and of itself, has little to no measurable effect on the fluency, grammatical complexity, or lexical complexity of L2 writers' texts. What emerges from further analysis of L1 and L2 writing studies on pre-task planning is that pre-task planning is likely mediated by one of three variables: (1) a threshold of general L2 proficiency, (2) knowledge of—and experience with—the target genre, and (3) explicit instruction in the use of pre-task planning as one of many strategies used by the writer. Further L2 writing research is needed to determine whether the effects of pre-task planning are different for L2 writers of varying abilities or whether the effects of pre-task planning are moderated by genre knowledge and direct instruction in the use of various writing strategies. The results of such studies may allow researchers to better understand how L1 and L2 writing processes may differ from one another. Furthermore, such studies may allow L2 writing researchers to better understand how working memory resources are deployed during the writing process and may also lead to models of working memory in writing which are specific to L2 writing.

Biodata

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[i] To measure lexical complexity, Ong and Zhang (2010) used a variation of Guiraud's index: V^2/N, in which V is the total number of word types and N is the total number of word tokens.