

# ***A Brief Review of Recent Research on Second-language Writing***

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**Abstract:** Second language writing performance can objectively reflect learners' mastery of English and is an important research area in English teaching. Exploring the factors influencing second language writing performance has always been a hot topic for researchers. This field investigates the effect of various factors on second-language writing performances, such as complexity, fluency, and accuracy. Based on the retrieved domestic and foreign papers, this study reviews the recent ten years of studies on the effect of task complexity and task planning on second-language writing performance. This paper concludes limited research has been carried out on the influencing factors on second language writing performance, as multiple factors may affect writing performance simultaneously during the writing process. It is worthwhile investigating the interactive effects of multiple factors on second-language writing performance in the future. This study provides a basis for the second language writing teaching and the writing task design. Given writing instructions, teachers can modify task complexity and task planning to facilitate optimal outcomes in learners' writing.

**Keywords:** second language writing performance, task complexity, pre-task planning, online task planning.

## **1. Introduction**

It is well-known that second language writing is a complex cognitive activity, which is an important criterion to measure learners' language application and expression ability [1]. The core of task-based language teaching is the task, which is also prioritised in the teaching design, so many researchers have been attracted by the relationship between tasks and writing and have explored the relationships between factors such as task complexity and task planning. As for the differences between the "Limited Attentional Capacity Model" by Skehan [2] and the "Cognition Hypothesis" theory of task complexity by Robinson [3], researchers have conducted empirical studies focusing on the resource-directing and resource-dispersing dimensions. These studies aim to have a better understanding of task complexity in second-language writing studies. Task planning is an important part of the writing process; it involves preparatory thinking wherein the writer, based on the specified topic requirements, determines the information to be conveyed in their mind and retrieves it from long-term memory. This process entails integrating these elements into both the content structure and formal structure of an article [4]. This paper aims to review the research on second language writing performance in recent years to optimize writing teaching strategies and improve learning results.

## 2. Literature Review

### 2.1. Task Complexity

Task complexity is the intrinsic cognitive requirement of language learners, and its relationship with second-language writing performance has been a hot topic in second-language acquisition. The relevant theories mainly comprise the “Limited Attentional Capacity Model” [2] and the “Cognition Hypothesis” [3].

The Limited Attentional Capacity Model proposed by Skehan [2] is grounded in information processing theory and the working memory model. This model points out that a “competition effect” exists between the complexity, accuracy and fluency in writing performance because of the limited information-processing ability of human brains. Skehan and Foster [5] argued that due to the constraints of limited attentional resources, learners find it challenging to simultaneously focus on the complexity, accuracy, and fluency of language writing. High cognitive demands of a task tend to divert learners’ attention away from second language writing performance, prompting them to allocate more cognitive resources to content instead. Thus, it will reduce the complexity, accuracy and fluency of second language writing performance [5].

In the Cognition Hypothesis put forth by Robinson [3, 6], attention is conceptualized as comprising multiple resource pools, while task complexity is characterized by two dimensions: resource-directing and resource-dispersing. The former dimension refers to the number of tasks (elements), the here and now (situation), with or without reasoning requirements (reasoning) and position selection (position), etc., while the latter dimension covers preparation time, single/ dual tasks, background knowledge, etc. Resource-directing task complexity enhances the complexity and accuracy of second-language writing performance. In contrast, resource-dispersing task complexity diverts attention, leading to reductions in accuracy, complexity, and fluency [3, 7]. The increased task complexity in the dimension of resource-dispersing is in line with the findings from Skehan et. al’s work.

Based on the two theoretical hypotheses, recent studies have uncovered a variety of insights. For English as a second language learners, Frear and Bitchener [8] examined the effect of cognitive task complexity on their writing performance. They found that as cognitive task complexity increased, there was a decline in syntactic complexity, specifically when assessing the ratio of dependent clauses to T-units at the individual dependent clause level. Unlike the trends applicable to syntactic complexity, lexical complexity increased dramatically. Rahimi [9] explored how task complexity, characterized by the level of reasoning required and the number of elements involved, affects performance in second-language argumentative writing. The findings indicated a notable improvement in the subordination aspect of syntactic complexity and the use of academic vocabulary within lexical complexity. Similarly, the content, structure and writing quality show the same trend. On the contrary, there is an opposite impact on the accuracy of the writing performance. Wang Liping et al. [10] examined the influence of the number of elements and prior knowledge on syntactic and lexical complexity. The results indicated that increasing the number of elements significantly enhanced lexical density, type-token ratio, and adjective diversity. However, syntactic complexity remained unaffected. In their research, Jin Hongyu and Wang Tongshun [11] adopted the mixed method and found task complexity and working memory capacity significantly influenced syntactic complexity, lexical complexity and accuracy.

The above research shows that task complexity has different effects on different dimensions of second language writing performance. The reason for this result may also be related to individual differences of learners (such as working memory, language proficiency, etc.). Therefore, it is necessary to consider individual differences to provide empirical evidence for the Limited Attentional Capacity Model and Cognition Hypothesis.

## 2.2. Task Planning

In task-based second language acquisition research, it has been found that the complexity, fluency and accuracy of language production are influenced by planning. Research on second language writing shows that writers will adopt different writing strategies in different stages of second language writing, thus producing writings of different quality. Ellis [12] divided planning into pre-task planning and within-task planning according to the different times in which planning occurs. Pre-task planning occurs prior to the execution of a task and is composed of rehearsal and strategic planning. Within-task planning, also known as online planning, includes micro-thinking such as concept formation, vocabulary and grammar search, and monitoring [13]. Online planning can be categorized into time-constrained and non-time-constrained planning according to the length of time to complete a task. Specifically, in a time-limited context, learners are compelled to think rapidly, whereas, in an unlimited time frame, they have ample opportunities to reflect on their outputs and pay more attention to both the content and form of their presentations [14].

The effect of pre-task planning on syntactic complexity remains inconclusive, with research findings varying across studies. Most of the studies have found that pre-task planning can enhance syntactic complexity [15-16]. However, scarce research has reported opposite results, implying pre-task planning has little influence on syntactic complexity [17]. A few studies have found beneficial impacts of pre-task planning on second-language written accuracy [15-16]. In contrast, the other studies found no useful effect or even did not take accuracy into account [18]. The study of pre-task planning on lexical complexity has yielded mixed findings.. Some studies have reported positive effects [15, 17], while others found no significant impact or even a reduction in lexical complexity [16]. Fluency, one of the factors of second language writing performance, has also been examined in pre-task planning research. Almost all studies in this field have taken the impacts of pre-task planning on second-language written fluency into account [18]. Several studies have drawn conclusions of positive effects [15-17].

Due to the limited research on online planning and the conflicting results of existing studies, drawing consistent conclusions about its effects on second-language writing performance is still challenging.. In Kim's [19] and Abdi Tabari's [15] research, they found online planning had some positive effects on syntactic complexity. However, Rostamian et al. [17] had opposite findings. As for accuracy, the results of studies are the opposite. For example, Rostamian et al. [17] found that online planning could improve second language written accuracy while Kim [19] concluded that there is no impact of online planning on accuracy. Regarding lexical complexity, there are no relevant studies for reference at present. Considering fluency, most studies have found that online planning has negative effects or no effect on second-language written fluency [17, 19]. Based on the previous research, it is necessary to consider that pre-task planning and online planning may have interactive effects on second language writing performance.

In addition, second-language writing performance may also be influenced by various moderating variables. Qin & Uccelli [20] found that learners will use different forms of language according to the task genre. For example, learners use long syllable words, abstract words and complex sentence patterns more frequently in argumentative essays than in narrative essays, which will have different effects on second language writing performance. Planning time may be one of the moderating variables determining the influence of pre-task planning on second language writing performance. However, there is still no consensus on the optimal duration of planning time. Abdi Tabari [21] has found that the 10-minute planning time has the most significant impact on second language writing performance. Zhang et al. [22] believed that only a 6-minute planning time can make a great improvement in complexity, accuracy and fluency. Therefore, it is necessary to conduct studies on how different lengths of planning time affect second language writing performance.

### 3. Discussion

Up to now, researchers at home and abroad have undertaken extensive studies on second language writing performance, examining it from multiple perspectives. The research on the effect of task complexity on second language writing performance mainly focuses on The Limited Attentional Capacity Model and Cognition Hypothesis. Empirical studies have analyzed the influence of task complexity on second language writing performance, considering reasoning demands and the number of elements as key variables of task complexity. However, the findings still lack consistency. Therefore, this is an urgent and challenging problem to be solved in future research. The differences in study results on task complexity may be partly attributed to learner factors such as working memory, second language proficiency, and other individual differences. In addition to individual differences, social impacts such as task motivation should also be taken into consideration.

Various studies have explored the effects of task planning on second language writing performance, particularly focusing on the role of pre-task planning. However, the influence of online planning on second language writing performance still needs to be investigated. The moderating effects of potential influencing factors are still not well understood. Therefore, in future research, besides task genre and planning time, the way of planning can be more detailed, and the written/ oral planning or form-focused planning/ meaning-focused planning can also be regarded as research variables.

### 4. Conclusion

In conclusion, the current research on task complexity mainly focuses on how the number of elements or reasoning demands affect writing performance, but no consistent conclusions have been reached. Regarding task planning, some studies compare writing performance between pre-task planning and no pre-task planning, while others examine the effects of different task genres or varying lengths of planning time on writing outcomes. Although a variety of studies have discussed second language writing performance from different aspects, they had a limited sample size and random age range of the participants.

For future research, it can be mainly carried out from the following aspects. On the one hand, more attention needs to be paid to the moderating variables. When studying the effect of task complexity, individual differences should be considered, such as working memory capacity, second language proficiency, self-efficacy and writing motivation. When studying the effect of task planning, we should consider such variables as the length of planning time, way of task organizing and task genre. On the other hand, as learners' second language development is an ongoing process, task complexity is linked to second language writing performance dynamically. It is also worth exploring the interaction of complexity and task planning and their effect on second-language writing performance.

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