**Effects of Task Structure on Young Learners' Writing Quality**

YIN LING CHEUNG

*Nanyang Technological University*

HARI JANG

*Nanyang Technological University*

**ABSTRACT**

Much research has conducted to investigate task complexity and writing quality. Studies that address task structure and the quality of writing among children have remained relatively underexplored. This study examines the impact of task structure on writing quality among English-as-a-second-language (ESL) young learners. The analysis is based on 236 ESL fourth-grade pupils' narrative compositions. Using the Limited Attention Capacity Model and the Cognitive Hypothesis, the analysis revealed that pupils wrote significantly longer and syntactically more complex texts in structured tasks, and they scored higher in lexical variety in unstructured tasks. The accuracy of writing did not vary significantly based on task structure. The study provides new empirical evidence for the argument that task structure affects ESL young learners' writing performance in terms of syntactic complexity, fluency, and lexical variety. The findings contribute new knowledge to the field of second language writing. In particular, how task structures influence writing quality and how such knowledge can inform writing pedagogy.

*Keywords: task structure, young learners, writing quality, Limited Attention Capacity Model, Cognitive Hypothesis*

## Introduction

In the past decade, research has yielded mixed results regarding the relationship between task complexity and writing quality (Frear & Bitchener, 2015; Kormos, 2011; Kuiken & Vedder, 2008). Some studies have suggested that an increase in task complexity results in the improvement of syntactic complexity, accuracy and fluency (e.g., Ishikawa, 2006). Other studies have demonstrated partial improvement in fluency (Cho, 2015), accuracy (Kuiken & Vedder, 2007, 2008), syntactic complexity (Frear & Bitchener, 2015), or lexical complexity (Ong & Zhang, 2010). Rahimpour, Mehrang, and Hosseini (2011) studied the impact of task structure on L2 written tasks and found that structured tasks enhanced fluency and sentence complexity but not accuracy. In studies of task structure and quality of writing, research has adopted different measurements of syntactic complexity, accuracy and fluency (Housen & Kuiken, 2009; Lu & Ai, 2015; Norris & Ortega, 2009). The bulk of the literature produced so far has done little in informing us how task structure can impact the quality of writing among children. The identified gap must be addressed because assigning appropriate tasks to pupils is important in helping us understand how structured versus unstructured tasks may impact children's limited attention capacity and therefore their quality of writing. Also, our study may inform writing teachers whether they should assign structured or unstructured tasks in summative and formative assessments. Given that many English language teachers assign both structured and unstructured assignments to students, and given the lack of knowledge of the effects of task structure on the quality of writing among children, a study that encompasses children's compositions can provide us with insights into how task structure may affect their writing performance.

The goal of this study is to investigate the impact of task structures on the writing quality of ESL young learners. Our purpose is to provide empirical evidence for the argument that task structure affects ESL learners' writing performance in terms of syntactic complexity, accuracy, fluency, and lexical variety. The study contributes to filling the identified gap by investigating ESL children's narrative writing competence in relation to task structure using authentic writing tasks, drawing on Robinson's (2011) Cognition Hypothesis and Skehan's Limited Attention Capacity Model (Skehan, 2009; Skehan & Foster, 1999). Providing evidence for the relationship between task structure and writing quality will enable the readers to understand the factors influencing writing quality and for providing writing tasks regarding formative and summative assessments in the classroom.

## Literature Review

### Task structure

Tavakoli and Foster (2008) summarized the factors that characterize a task structure. The factors are (1) a clear timeline (Skehan & Foster, 1997), (2) a story with a conventional beginning, middle, and end, (3) an appeal to what is familiar to the writer's mind, (4) a problem-solving structure (Kobayashi, 1995, 2002), and (5) a logical relation. A tight structure, which means stories that are sequenced and predictable, enhances fluency and partial accuracy (Skehan & Foster, 1999). In their study, Tavakoli and Skehan (2005) selected two '*structured tasks*' that had either a problem-solution structure or weak causation. Two '*unstructured tasks* lacked the problem-solution relationship and were differentiated by 'the number of sequential organization'. The findings showed that participants' fluency and accuracy improved in structured tasks. Complexity improved in

one of the structured tasks; thus, the limited attention capacity model was only partially supported. The fractional improvement of complexity might be due to a complex storyline, depending on whether the given pictures contains information that participants can describe. Narratives with pictures given encourage participants to tell more syntactically complex stories (Tavakoli, 2009; Tavakoli & Foster, 2008). Based on the above evidence, it seems that structured tasks help learners produce more fluent and accurate stories.

**Writing fluency**

Writing fluency was examined either by (1) product-based measures, for example, length of texts (e.g., Cho, 2015; Storch, 2005) or (2) process-based measures, such as total number of words divided by time (e.g., Kellogg, 1990; Ong & Zhang, 2010). However, it may not be appropriate to measure writing fluency by either length or one's writing speed because writing is a consistent problem-solving activity with a non-linear process (Kellogg, 1990, p. 328). Some students may produce fewer words per minute. However, this may not mean that they are less proficient; rather, they monitor the writing process (Abdel Latif, 2009). As Abdel Latif (2013) suggested, it may be necessary to measure writing fluency multi-dimensionally. Waes and Leijten (2015) compared the existing measurements of fluency by keystroke logging observation and principal component analysis to develop a multidimensional model of fluency. They found that (a) production, (b) process variation, (c) revision, and (d) pause behavior of measurement reliably distinguish more fluent writers from less fluent writers.

**Limited Attention Capacity Model and Cognitive Hypothesis**

In the Limited Attention Capacity Model, learners might face difficulty focusing on both form and meaning synchronously if the task complexity is increased (Skehan & Foster, 1997), due to the limited working memory of humans (VanPatten, 1990). Because of an increase in cognitive demand, learners deflect their attention away from form to content (Skehan & Foster, 1999). As a result, an increase in task complexity may adversely affect their performance in syntactic complexity, accuracy, and fluency. Focusing on any one aspect – syntactic complexity, accuracy, or fluency – may worsen the performance in other aspects (Skehan & Foster, 1999; Skehan, 2009), depending on the "learner's prioritizing decisions, characteristics of tasks, and task conditions" (Skehan & Foster, 1999, p. 97). Task complexity and accuracy are interrelated (Housen & Kuiken, 2009) and driven by "the nature of functional linguistic demands of the task" (Skehan, 2003, p. 5). On the other hand, fluency is related to the control of the linguistic information to communicate, in which the speed or easiness of producing may be accelerated (more fluent) throughout the process of L2 acquisition (Housen & Kuiken, 2009). Skehan and Foster (2001) argued that greater fluency correlates with either the higher syntactic complexity or the higher accuracy of a task.

Robinson's (2003) Cognitive Hypothesis suggests that "an increase in the cognitive demands of tasks contributing to their relative complexity along certain dimensions will push learners to greater accuracy and complexity of L2 production" (p. 47). In contrast to the Limited Attention Capacity Model, Robinson argued that resource-directing variables in task complexity such as ±reasoning, ±here and now, and ±few elements enhance learners' L2 sentence complexity and accuracy but not fluency

(Robinson, 2011). Findings from existing studies only partially support the Cognitive Hypothesis. To date, only one published study (Ishikawa, 2006), which investigated 52 Japanese L2 students by increasing task complexity, has shown an improvement in both accuracy and sentence complexity with a more complex task structure. However, the study also showed an improvement in fluency that cannot be explained by the Cognitive Hypothesis. The discordance is probably due to a number of confounding variables, such as the matter of operationalization of the task complexity level in writing (Kormos, 2011; Kuiken & Vedder, 2007), learners' factors (Robinson, 2005; Sercu, Wachter, Peters, Kuiken, & Vedder, 2006), and task conditions (Pica, Kanagy, & Falodun, 1993).

The purpose of the study is to examine the effects of task structure on ESL children's narrative writing. In particular, we focus on the degree of task structure (i.e., structured and unstructured) and its impacts on the quality of writing, including sentence complexity, accuracy, fluency, and lexical variety. The following questions were addressed in this study:

1. *Are there any effects of structured tasks (i.e., with a sequenced timeline) on the fluency, complexity, accuracy, and lexical variety of ESL children's narrative writing? If so, what are these effects?*
2. *Are there any effects of unstructured tasks (i.e., without a sequenced timeline) on the fluency, complexity, accuracy, and lexical variety of ESL children's narrative writing? If so, what are these effects?*

# Method

## Context

In Singapore, the medium of instruction is English. Each unit of the English lesson is based on a national implementation program called Strategies for English Language Learning and Reading (STELLAR). Students are exposed to the narrative genre beginning in grade one. They are trained in the organizational structure of a narrative genre, which comprises orientation, events, complication, resolution, and an ending.

## Participants

A total of 236 narrative compositions were gathered from 59 fourth-grade pupils in a Singapore primary school. Fifty-nine percent of the participants used Chinese as their mother tongue, 30% were Malay speakers, and 11% were Tamil speakers. The participants, across ability levels, are considered English-as-a-Second-Language (ESL) speakers following the definition of Kachru (1992). Based on the 2015 General Household Survey conducted by the Department of Statistics in Singapore, 63% of residents aged five and older use their mother tongue most frequently at home. All participants have been exposed to the official Singapore Standard English since the age of three, when they attended kindergarten.

## Data collection

To align with the authentic writing tasks that participants were doing in their usual composition lessons, we adopted four units from the school's composition tasks instead of designing artificial experimental-driven tasks from five Primary Four classes taught by five different teachers. Two units were categorized as structured tasks and the other two units as unstructured tasks. Each unit presents a topic, three pictures, four to five main

points/ideas, and five to six suggested vocabulary items. The main criteria to divide structured tasks and unstructured tasks are whether the given three pictures (1) are logically sequenced for students to compose a storyline easily and (2) have a problem-solution structure (Tavakoli & Foster, 2008; Tavakoli & Skehan, 2005). In the first structured task, three pictures were given: (1) a boy playing soccer, (2) a surprised-looking person, and (3) an ambulance. The suggested vocabulary items were ‘a friendly football match’, ‘middle of the road’, ‘suddenly braked’, ‘injured’, and ‘emergency’. Students used the pictures to create a story. For example, a main character was injured when he went to retrieve a ball that rolled into the middle of the road during a friendly football match. In the second structured task, the topic was an act of mischief. Three pictures were as follows: (1) a ‘Touching Pond’ with a sign board saying that spectators were allowed to touch the starfish but were prohibited from lifting it out of the water, (2) a cheerful girl holding two starfish, and (3) a teacher scolding the girl. Students composed a story based on the sequenced pictures. For example, a girl performed an act of mischief by lifting up two starfish from the pond during a field trip. A teacher scolded the girl at the end.

In contrast with structured tasks, the events in the three pictures may not happen in sequence for the two unstructured tasks. For example, in the first unstructured task, a student wrote a story about ‘*an embarrassing incident*’. Three pictures were provided: (1) a person fell down in public, (2) a person was tongue-tied while talking in public, and (3) a person inconvenienced many people because he did not have enough coins to get a drink from a vending machine. These three pictures can be considered three different problems and may not able to make one storyline. The second unstructured task was about ‘*a competition*’. Three pictures were given: (1) three students were crossing a finishing line,

(2) cheerleaders and family members were involved in cheerleading, and (3) students were participating in a Frisbee competition. Overall, the pictures showed the various scenes of a sports day without focusing on one particular event. The participants completed the four writing tasks in their classrooms. They completed each piece of writing within 50 minutes. The student assignments were collected in the beginning, middle, and end of the semester. The assignments were done in school without the use of technology. Samples of student compositions (both structured and unstructured tasks) can be found in Appendix A.

**Data analysis**

As shown in Table 1, we analyzed narrative stories focusing on four aspects: lexical variety, syntactic complexity, fluency, and accuracy. A paired-samples *t*-test using SPSS was conducted to determine whether there were any significant differences between structured tasks and unstructured tasks. Effect sizes were calculated using Cohen's *d*.

**Table 1**
Summary of writing performance measures

| Area | Measure | | Code |
|---|---|---|---|
| Lexical variety | Mean Segmental Type-Token Ratio-50 | | MSTTR-50 |
| | Number of Different Words (expected sequence 50) | | NDW-ES50 |
| | Corrected Verb Variation 1 | | CVV1 |
| Syntactic complexity | Overall | Mean Length of T-unit | MLT |
| | Subordination | T-unit complexity ratio | C/T |
| | Elaboration at Clause & Phrase level | Mean Length of Clause | MLC |
| Fluency | Number of words | | - |
| Accuracy | Total number of errors per T-unit | | EPT |

**Lexical variety**

We focus on lexical variety to examine lexical development. It measures the number of different words in a text (Johansson, 2008). Mean Segmental Type-Token Ratio (MSTTR), *D*-value from VOCD software (Kormos, 2011), Number of Different Words (expected sequence 50 words) (NDW-ES50) (Lu, 2012), and word types sequenced

per total number of words (Ong & Zhang, 2010) were believed to reduce the influence of the text length. In the current study, MSTTR, NDW-ES50, Corrected Verb Variation 1 (CVV1), Noun Variation, Adjective Variation, Adverb Variation, and Modifier (both adjective and adverb) Variation were examined using the automated Lexical Complexity Analyzer (Lu, 2012).

MSTTR was measured by "dividing a sample into successive segments of a given length and then calculating the average Type-Token Ratio (TTR) of all segments" (Lu, 2012, p. 193). MSTTR-50 refers to the "Mean TTR of all 50-word segments" (Lu, 2012, p. 195). *D*-value applies "a random selection of tokens in plotting the curve of TTR against increasing token size for the text to be analyzed" (Kormos, 2011, p. 154). NDW-ER50 and NDW-ES50 are designed to reduce the length issue, but the way of selecting the sample was slightly different. With NDW-ER50, 50 words are randomly selected from the original text as a sample. Using the same method, a computer generates a total of 10 samples to elicit the estimated score of the number of different words. NDW-ES50 follows similar procedures; however, a sample comprises a consecutive sequence of 50 words. Corrected version of Verb Variation 1 (CVV1) is a modified version of TTR, which applies to a word level. Verb Variation 1 (VV1) is calculated by the number of different verb types per total number of verbs. CVV1 is more effective in distinguishing the different levels of proficiency (Lu, 2012, p. 205) compared to the original VV1. Thus, CVV1 was used to analyze the verb variation among the written products. We also used Noun Variation, Adjective Variation, Adverb Variation, and Modifier Variation to measure lexical variety.

**Syntactic complexity**

We measured syntactic complexity using three sub-categories, (1) overall complexity, (2) complexity by subordination, and (3) complexity by sub-clausal or phrasal elaboration, using L2 Syntactic Complexity Analyzer (Yang, Lu, & Weigle, 2015). We used the mean length of T-units to analyze the overall complexity. Then, we used the total number of clauses per total number of T-units to analyze the complexity by subordination. Finally, we used the mean length of clauses to measure complexity by sub-clausal or phrasal elaboration (Norris & Ortega, 2009).

**Accuracy**

The writing errors were coded using Systematic Analysis of Language Transcripts (SALT) software (Miller & Iglesias, 2015). Errors related to spelling and tense were counted once regardless of how often they were repeated. However, repeated errors in capitalization and punctuation were counted. In the current study, because the correct usage of capitalization and punctuation may affect the quality of writing, capitalization and punctuation errors were counted (Wagner et al., 2011). The total number of errors was divided by the total number of T-units to calculate accuracy (Kuiken & Vedder, 2007).

**Fluency**

We measured fluency by the total number of words[iii]. Based on the basic concept of fluency, which is "native-like rapidity" (Lennon, 1990, p. 390) and "smoothness of writing" (Housen & Kuiken, 2009, p. 463), we counted the number of words that grade 4 students could produce to measure fluency.

The marking of compositions was done by the second author. The first author randomly selected 30% of the text to code errors again. Discordance in marking between

the first and second coders was discussed until a consensus was reached. The inter-rater reliability was .933.

## Results

A paired-samples *t*-test was used to determine whether there were statistically significant mean differences between structured tasks and unstructured tasks with regard to lexical variety, sentence complexity, accuracy, and fluency.

Table 2 shows the mean score, standard deviation, *t* score, *p*-value, and effect size (Cohen's *d*) of the lexical variety of structured tasks and unstructured tasks. The findings suggest that unstructured tasks elicited a more statistically significant increase in the Mean Segmental Type-Token Ratio 50 (MSTTR-50) score compared to structured tasks, $t(58) = -2.703$, $p < .01$, $d = .35$. Additionally, unstructured tasks (M = .72, SD = .40) demonstrated a significantly higher mean score than structured tasks (M = .71, SD = .42) in MSTTR-50. MSTTR is known as a modified version of TTR that reduces sample size problems (Malvern, Richards, Chipere, & Durán, 2004). The findings suggest that if the number of words in the participants' writing samples was the same (i.e., 50 words), they used more diverse vocabulary items in unstructured tasks than in structured tasks. However, it should be noted that the mean difference is .01, and the effect size is relatively small ($d = .35$).

There are three different interpretations of Number of Different Words: NDW (first 50 words), NDW (expected random 50), and NDW (expected sequence 50) (Malvern et al., 2004). Unlike NDW (first 100 or 50 words), NDW (expected random 50) and NDW (expected sequence 50) are rarely affected by the sample characteristics because the number of words in the writing samples is reordered randomly. The current study found that NDW (expected sequence 50) was significantly greater in unstructured tasks (M =

36.3, SD = 1.94) than in structured tasks (M = 35.4, SD = 2.39), $t$ (58) = -2.929, $p < .01$, $d$ = .38. This result is identical to MSTTR-50, suggesting lexical variety is greater in unstructured tasks than in structured tasks.

The score for Corrected Verb Variation 1 was significantly in unstructured tasks (M = .70, SD = .075) than in structured tasks (M = .62, SD = .075), $t$ (58) = -6.768, $p < .001$, $d$ = .88. Additionally, the scores for Noun Variation, Adjective Variation, Adverb Variation, and Modifier Variation were higher in unstructured tasks than in structured tasks. For Noun Variation, the scores in unstructured tasks (M = .61, SD = .11) were significantly higher than in structured tasks (M = .52, SD = .12), $t$ (58) = -5.922 $p < .001$, $d$ = .77. This is to say, participants used more lexically varied nouns in unstructured tasks. Adjective Variation scores were significantly higher in unstructured tasks (M = .085, SD = .32) than structured tasks (M = .071, SD = .031), $t$ (58) = -2.674, $p < .05$, $d$ = .35. This suggests that participants were able to use more diverse adjectives in unstructured tasks. Regarding Adverb Variation, it was found that the usage of adverbs was significantly more differentiated in unstructured tasks (M = .10, SD = .029) than in structured tasks (M = .086, SD = .28), $t$ (58) = -3.064, $p < .005$, $d$ = .40. This means that participants were able to use a wide range of adverbs when they wrote compositions with the unstructured task type. Last, the score of modified variation was higher in unstructured tasks (M = .19, SD = .44) than in structured tasks (M = .16, SD = .041), $t$ (58) = -4.027, $p < .001$, $d$ = .52.

**Table 2**
Lexical variety of structured tasks and unstructured tasks

| | Structured tasks Mean (S.D.) | Unstructured tasks Mean (S.D.) | *t* | *p*-value | *d* |
|---|---|---|---|---|---|
| MSTTR-50 | .71 (.42) | .72 (.40) | -2.703 | .009* | .35 |
| NDW-ES50 | 35.4 (2.39) | 36.3 (1.94) | -2.929 | .005* | .38 |
| CVV1 | .62 (.075) | .70 (.075) | -6.768 | .000* | .88 |
| Noun Variation | .52 (.12) | .61 (.11) | -5.922 | .000* | .77 |
| Adjective Variation | .071 (.031) | .085 (.32) | -2.674 | .010* | .35 |
| Adverb Variation | .086 (.28) | .10 (.029) | -3.064 | .003* | .40 |
| Modifier Variation | .16 (.041) | .19 (.044) | -4.027 | .000* | .52 |

*MSTTR-50: Mean Type-Token Ratio of all 50-word segments, NDW-ES50: Number of Different Words (expected sequence 50 words), CVV1: Corrected Verb Variation1.*
**p<.05*

Table 3 illustrates the mean score, standard deviation, *t* score, *p*-value, and effect size (Cohen's *d*) of sentence complexity. The mean length of T-units, the ratio of clause (C/T), and the mean length of clauses were measured for sentence complexity. The overall complexity and complexity via clausal elaboration showed significant differences between structured tasks and unstructured tasks. Specifically, the mean length of T-units was significantly higher in structured tasks (M = 11.2, SD = 1.97) than unstructured tasks (M = 10.4, SD = 1.39), $t$ (58) = 2.957, $p < .005$, $d = .38$. Additionally, the mean length of clauses, which is the analysis of complexity via clausal elaboration, showed a significantly higher score in structured tasks (M = 7.63, SD = .92) than unstructured tasks (M = 7.13, SD = .76), $t$ (58) = 3.886, $p < .001$, $d = .51$. However, the complexity by subordination, which measured the total number of clauses per total number of T-units, did not indicate any significant differences between structured tasks (M = 1.49, SD = .21) and unstructured

tasks (M = 1.47, SD = .22), $t$ (58) = .589, $p$ > .5, $d$ = .077. Although the C/T score was not statistically significant, participants obtained higher C/T scores in structured tasks (M = 1.49, SD = .21) than unstructured tasks (M = 1.47, SD = .22). The findings suggest that structured tasks elicited syntactically more complex texts than unstructured tasks did. In other words, participants were able to write more complicated sentence structures in structured tasks.

**Table 3**
Syntactic complexity of structured tasks and unstructured tasks

| | Structured tasks Mean (S.D.) | Unstructured tasks Mean (S.D.) | *T* | *p*-value | *d* |
|---|---|---|---|---|---|
| Mean Length of T-units | 11.2 (1.97) | 10.4 (1.39) | 2.957 | .004* | .38 |
| C/T | 1.49 (.21) | 1.47 (.22) | .589 | .558 | .077 |
| Mean Length of Clauses | 7.63 (.92) | 7.13 (.76) | 3.886 | .000* | .51 |

C/T: Total number of clauses per total number of T-units.
* $p$<.05

Table 4 demonstrates the mean score, standard deviation, $t$ score, $p$-value, and effect size (Cohen's $d$) in terms of the accuracy and fluency of the written texts. The number of errors per T-unit revealed that students made more errors while performing structured tasks (M = .58, SD = .53) than unstructured tasks (M = .52, SD = .49), $t$ (58) = 4.264, $p$ > .05, $d$ = .15, but the difference is not statistically significant. The current study only examined accuracy by the number of errors per T-units; the degree of task structure may not affect L2 children's narrative writing in terms of accuracy.

Regarding fluency, students wrote significantly longer compositions in structured tasks (M = 277.6, SD = 96.8) than in unstructured tasks (M = 230.6, SD = 66.3), $t$ (58) = 4.264, $p$ < .001, $d$ = .56. Notably, the standard deviation seemed to be quite big in both structured tasks (M = 277.6, SD = 96.8) and unstructured tasks (M = 230.6, SD = 66.3).

The effect size (measured by Cohen's *d*) indicated that the statistical difference regarding number of words has a medium effect (Cohen, 1992).

**Table 4**
Accuracy and fluency of structured tasks and unstructured tasks

| | Structured tasks Mean (S.D.) | Unstructured tasks Mean (S.D.) | *t* | *p*-value | *d* |
|---|---|---|---|---|---|
| *Accuracy* | | | | | |
| Number of errors/T-units | .58 (.53) | .52 (.49) | 1.147 | .256 | .15 |
| *Fluency* | | | | | |
| Number of words | 277.6 (96.8) | 230.6 (66.3) | 4.264 | .000* | .56 |

*$p<.05$

## Discussion

We have investigated the impact of task structure on fluency, complexity, accuracy, and lexical variety for fourth-grade ESL children's narrative compositions. The findings from the study indicate that participants wrote significantly longer and more syntactically complex texts in structured tasks with a clearly sequenced timeline. Students scored higher in lexical variety in unstructured tasks. The accuracy of writing did not vary significantly based on task structure. The findings are partially supported by Tavakoli and Foster (2008) and Tavakoli and Skehan (2005). As suggested by these studies, higher fluency was observed in structured tasks. In our study, participants wrote significantly more words in the structured tasks. Fluency, which was measured by words per T-unit, was higher in the structured tasks (Rahimpour et al., 2011). The task structure may thus impact fluency.

Regarding sentence complexity, the current study partially supports Tavakoli and Skehan's (2005) findings regarding participants who showed an improvement in complexity in writing in only one structured task. Tavakoli and Foster (2008) argue that sentence complexity in writing depends on story complexity and whether the given

pictures contain rich information. In this study, participants wrote more complex texts in structured tasks even though the pictures did not contain much background information. There may be several explanations for this result. Tavakoli and Skehan only measured sentence complexity by subordination. Similar to Tavakoli and Skehan, Rahimpour et al. (2011) also used complexity by subordination as a method to measure complexity in written narrative tasks. The results of Rahimpour et al. (2011) seem to support findings of the current study that students' complexity score improved in structured tasks.

Participants showed an improvement in sentence complexity and fluency in structured tasks. However, they did not show any differences in accuracy between structured and unstructured tasks. The result supports Rahimpour et al.'s (2011) study, which suggested that accuracy was unaffected by task structure. In terms of accuracy and sentence complexity, our findings support the trade-off hypothesis (Skehan, 2003, 2009). As Skehan argued, students might not show an improvement in sentence complexity and accuracy simultaneously. Better fluency may be accompanied by either better accuracy or higher sentence complexity but not both (Skehan, 2003).

## Conclusion

We present an analysis of the impact of task structure on narrative writing performances among ESL young learners in Singapore. We find that ESL fourth-grade pupils write longer and syntactically more complex texts in structured tasks. They tend to produce lexically more varied texts in unstructured tasks. Pre-service and in-service teachers will be able to understand how task structures influence writing quality and how such knowledge can inform writing pedagogy.

Future extensions of this research should focus on larger data samples of compositions composed by elementary school students from a wider variety of writing genres, such as personal recounts and argumentative essays. The current study was limited by the number of fourth-grade compositions available and the focus on narratives only. Future studies should also consider other features that constitute quality of writing. Such features may include text cohesion and coherence, voice and style in writing, and grammar. Such extensions would provide a greater understanding of the potential links between task structures and writing quality among ESL young learners.

**Implications**

Concerning the pedagogical implications of the study, we suggest that the organization of composition teaching and learning optimally ought to take account of ESL students' prior knowledge of the writing topics and to make use of it. Both structured and unstructured writing formats should be included in the formative and summative assessments, as they both have a value in increasing students' writing abilities.

**Limitations**

The present study shows that complexity by length and clausal elaboration are significantly higher but not by subordination in structured tasks. In other words, in the studies of Tavakoli and Skehan (2005) and Rahimpour et al. (2011), the patterns of significant differences in sentence complexity might change if it is measured using complexity by length or clausal elaboration. Therefore, the impact of the degree of structure on sentence complexity requires further examination, as measuring complexity multi-dimensionally in spoken and written tasks may be different.

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**ABOUT THE AUTHORS**

**Yin Ling Cheung** received her Ph.D. in Linguistics from Purdue University. She is Associate Professor in English Language and Literature Academic Group at the National Institute of Education, Nanyang Technological University, Singapore. Her area of research is academic writing, writing instruction, and writing teacher identity.

Inquires can be directed to Yin Ling Cheung at yinling.cheung@nie.edu.sg

**Hari Jang** is a research assistant in the Office of Education Research at the National Institute of Education, Nanyang Technological University, Singapore. She earned her MA in Applied Linguistics from Nanyang Technological University. Her research interests include second language writing and teachers' situated professional development.

Inquires can be directed to Hari Jang at hari.jang@nie.edu.sg

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**Appendix A**

Sample of student's composition (structured task)

"Yay!" Mary exclaimed with joy. She was extremely excited as her class was going to visit an aquarium. Mary loved marine animals a lot and thinking about them made her elated. Soon after, the orange bus arrived at school. The pupils boarded the bus and got ready to go.

After a while, Mary's class arrived at their destination. Her class was very delighted and excited. They alighted the bus and went to see the marine animals. There was a variety of marine animals at the aquarium and she loved all of them. After looking and knowing more about all the other marine animals, their teacher brought the class to look at the starfish. Mary jumped with joy as her favourite marine animal is the starfish. She dashed to the front of the class and look at the myriad of starfish. She loved the colourful starfish and longed to hold it in her hands. The teacher said, "Please do not touch the starfish, class!" Everyone in the class agreed. Mary disobeyed her teacher and reached for the colourful starfish. She holded it in her hands, threw it in the air and caught it. She thought that it was fun and threw another starfish in the air.

Unfortunately, she did not catch it and the starfish "Splat!". the starfish turned off the light and it was stuck to the wall! Mary was anxious as she did not know what to do. After everyone calmed down, the teacher decided to bring the class back to school. After a while, they reached school and the teacher found out who turned off the light at the aquarium. The teacher was furious and requested to meet Mary. Mary agreed and met the teacher. The teacher reprimanded Mary for disobeying her and behaving badly.

Sample of student's composition (unstructured task)

It was a blistering hot Friday at Bukit Batok Stadium. All of the students from Evergreen Primary school were excited as today was Sports Day. The pupils quietened down as Mr Jones, the principal, gave his speech. After the speech, Mr Jones declared Sports Day opened. The first event was the 200m race.

A student named Elias was nervous as the race was about to begin. Elias recalled what his parents, teachers, friends and trainers had told him. Bang! Elias ran as fast as his legs could carry him. He noticed that he was in the lead. Some time after that, two people overtook him but Elias did not give up and continued running.

Suddenly, Elias heard someone saying "Ouch!" Elias thought he could still make it to the top 3 but Elias is very kind hearted. So, Elias stopped and help the person who fell. Elias recognized that face. It was Derrick, the naughtiest boy in his class but Elias still helped him. Elias puts Derrick's arm on his shoulder and crossed the finish line together.

Derrick thanked Elias for helping him and Derrick promised to not bully him in class. Mr Jones was proud of Elias' action. He rewarded Elias with a $500 voucher. Elias learnt that even though you did not win, in your heart, you will receive a priceless prize.

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