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REGULAR ARTICLE

The Relationship Between Use of Writing Strategies and English Proficiency in Singapore Primary Schools

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Abstract This article reports on a questionnaire-based investigation of writing strategies used by Singapore primary school pupils. A sample of 1,618 pupils from two local primary schools participated in the study. A number of one-way ANOVA analyses were run to measure the relationship between the participants' use of writing strategies and their English language proficiency. The findings show that Singapore upper primary school pupils used a wide range of writing strategies at a medium frequency. Planning, text-generating, revising, monitoring and evaluating, and resourcing strategies were found to be significantly correlated with the participants' English language results. However, local variations were also detected. Methodological limitations and recommendations for future research are then discussed.

Keywords Language proficiency · Singapore · Writing strategy questionnaire · Writing strategies · Young learners

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Introduction

The past 30 years or so have seen a growing body of research into writing strategies. Research shows that effective use of writing strategies can lead to better writing competence. Pupils who struggle with writing lack knowledge of writing strategies, have difficulties in generating ideas, do little or no pre-writing planning, use few text-generating strategies, and revise little (Harris et al. 2008). The problems that prevent them from developing their competence should be identified and solved as early as possible. Despite the growing body of writing strategy research, many questions remain unanswered. On one hand, the patterns of writing strategy use in different cultural contexts need more research attention (Hu and Chen 2007; Petrić and Czárl 2003). For example, there is little writing strategy research conducted in the Singapore context. On the other hand, few studies have investigated how young writers use their strategies as most of the research conducted has been concerned with adult or young adult learners. In addition, there has been little research charting the patterns of relationship between writing strategy use and language proficiency. To fill these research gaps, the study set out (1) to examine the writing strategies employed by Singapore primary school pupils, and (2) to explore the relationship between writing strategies and language proficiency in Singapore primary schools. The study will shed light on the issues related to questionnaire-based writing strategy research. It will also help writing teachers design and conduct suitable strategy instruction when typical patterns of strategy use are mapped out.

Previous Research

Writing strategies involve writers' employment of particular processes or techniques in order to enhance their

writing. Early empirical studies of writing strategies were inspired by the theory of recursive writing processes proposed by Flowers and Hayes (1981) to replace the traditional linear stage theory of writing. Grounded in a cognitive writing framework, recursive writing postulates that writing is comprised of a series of recursive processes, as opposed to the linear stage theory that characterizes writing as following a strict plan–write–revise sequence. Flower and Hayes' writing model consists of three primary cognitive processes: planning, translating, and reviewing. Research shows that expert writers differ significantly from novice writers in their composing processes. Perl (1979), for example, found that although both skilled and unskilled writers discovered their ideas in the process of composing, the latter were easily carried off-track during the process of exploring these ideas due to their surface-level concerns. Importantly, many process-based writing researchers have found that competence in the composing processes is more important than writers' linguistic competence (see Krapels 1990).

Recent theoretical development of second language (L2) writing suggests that limiting our understanding of writing strategies only to a cognitive view may overlook the importance of writers' social–cultural environments. In the post-process era, L2 writing is informed by and situated within power relations, society, and individuality itself (Atkinson 2003). Perceiving writing only as cognitive processes or exclusively from a process-writing perspective may not be sufficient to understand what writing is all about. However, as Mastuda (2003) has argued, the notion of post-process should not be understood as a rejection of process writing. Rather, post-process writing recognizes the multiplicity involved in writing. Therefore, writing strategy research building on the process writing framework still remains a key component of L2 writing research.

Thus far, most writing strategy research has focused on qualitative differences between proficient writers and their less proficient counterparts in the use of certain types of writing strategies, e.g., planning (e.g., Chien 2012; Hu and Chen 2007; Raimes 1985; Victori 1999), organizing (Victori 1999), text-generating (Chien 2012), monitoring (Chamot and El-Dinary 1999), and revising (e.g., Chien 2012; Hu and Chen 2007; Victori 1999). Their findings indicate that proficient writers used their writing strategies qualitatively differently from less proficient ones. For example, proficient writers viewed planning as a non-unitary process, where they could leave their thoughts temporarily and revisit them later, whereas unskilled writers perceived writing as an immediate and straightforward enactment of their plan (Zamel 1983). Proficient writers were more concerned with idea generating than with surface changes (Raimes 1985). In Chien's (2012) study, the proficient writers carried out revising throughout the entire writing process, but the less proficient ones were not aware of the importance of revising and when they could do it. Hu and Chen (2007) found that writers increased or decreased their strategy use due to the different nature of the writing tasks. Task complexity affected the choice of their writing strategies.

The afore-mentioned studies drew on think-aloud protocols or task-based interviews and revealed differences between effective and ineffective student writers. While such studies can offer many insights into individual participants' strategy use, they do not usually aim at and are not well equipped for establishing general patterns in a population. Therefore, school teachers in a particular context may not find the research findings particularly useful.

Quantitative differences between skilled writers and their unskilled counterparts can be investigated through questionnaire surveys. The earlier research was to identify a series of strategies associated with the "good language learner" (e.g., Rubin 1975). The main research agenda was to find out which strategies successful language learners used. Then, their strategies could be taught to their unsuccessful counterparts. The main research method is to administer a closed-response questionnaire that can establish differences in the frequency of self-reported strategy use between learners of different language proficiencies. This line of research can complement findings from qualitative research on writing strategies in that it can reveal general patterns of strategy use in a large population in a particular learning context (Petrić and Czárl 2003). Another important purpose of such research is to determine if there are significant correlations between strategy use and language learning achievements, e.g., reading and writing.

Questionnaire-based writing strategy studies can examine a wide range of writing strategies. In Chen's (2011) study, the English language learners in a Chinese university made infrequent use of many writing strategies due to the product-based approach to writing instruction widely practised in China. Pre-writing (e.g., planning, organizing, and resourcing) and revising strategies (e.g., self-monitoring, paying attention, and peer-cooperating) were positively correlated with the participants' writing scores for an essay test. Baker and Boonkit (2004) found that their proficient writers used eight individual writing strategies, e.g., "writing in English," "planning in English," "reviewing," and "revising" more frequently than their low proficiency counterparts. However, the low proficiency writers employed unproductive strategies (e.g., "writing without a plan" and "ignoring feedback") significantly more often than those successful ones. Such questionnaire-based studies offer the opportunity for researchers to investigate writers' strategy use on a larger scale. However, there still exists the need to investigate writing strategy use

in diverse sociocultural contexts to explore the complex patterns of strategy use by student writers (Hu and Chen 2007). It is important to highlight that the questionnaire-based studies reviewed above are concerned with young adults' (e.g., university students) use of writing strategies. There has been scarce questionnaire-based research into young writers' (e.g., primary school pupils) strategy use. Such research on young writers is highly desirable, given their differences from adults or young adults in terms of learning experiences, cognitive maturity, knowledge structure, and many other factors.

Compared to the extensive questionnaire-based research on other types of learning strategies (e.g., Lan and Oxford 2003; Magogwe and Oliver 2007; Tragant and Victori 2012), very few questionnaire-based studies on writing strategies can be found. The lack of writing strategy research can be attributed in part to the great complexity and challenge involved in developing a reliable and valid questionnaire to assess learners' use of writing strategies. Many studies have employed the Strategy Inventory for Language Learning (SILL) developed by Oxford (1990), because of its reported validity and user-friendliness for investigating the use of general language learning strategies. However, researchers (e.g., Yabukoshi and Takeuchi 2009) have questioned its validity when used in different cultural contexts. Another problem with SILL is that it does not allow researchers to examine strategies specific to language skills, e.g., writing and speaking. In this regard, Gao (2004) calls for the consideration of language skills, contexts, and tasks in developing questionnaires. Therefore, in order to study Singaporean learners' use of writing strategies, a writing strategy questionnaire grounded in the local educational context needs to be developed.

Another issue is the paucity of research conducted on young writers thus far. A number of studies have investigated (young) adult learners' writing strategy use (e.g., Baker and Boonkit 2004; Chen 2011; Chien 2012; Hu and Chen 2007; Raimes 1985). Virtually no studies on younger writers can be located, though there have been some studies on younger learners' use of other language learning strategies (e.g., Gu et al. 2005; Loh 2007; Tragant and Victori 2012; Zhang et al. 2008). In these studies, young learners were found to use a variety of strategies in learning and using English. The high proficiency and low proficiency learners employed their learning strategies differently. The successful readers used their cognitive and socio/affective strategies qualitatively better than the unsuccessful ones. Such studies can only offer insights into young learners' general strategy use. A focus on young writers' strategy use is particularly important, since writing is a crucial literacy skill that is required in all stages of learning as well as at the workplace. Although over 30 years of research into language learning strategies has seen a plethora of empirical studies (Cohen and Macaro 2007), little is known about how Singaporean primary pupils use their writing strategies despite the perceived importance of process writing and the usefulness of writing strategies in the Singapore context (see Curriculum Planning & Development Division 2010).

In sum, several important gaps have been identified with regard to writing strategy research. First, there is a lack of research into writing strategy use in different cultural contexts. Second, large-scale questionnaire-based studies on writing strategies have been rare. Third, there is little research into young learners' writing strategies and the relationship between their strategy use and language learning proficiency. In view of these gaps, this study aimed to address the following two questions:

1. What English writing strategies do Singapore primary school pupils use?
2. Do pupils with different English proficiency differ in their self-reported use of writing strategies?

Methodology

Research Context

In Singapore, English serves as the working language or lingua franca among the major ethnic groups (i.e., Chinese, Malay, Indian, and Eurasian). English plays an essential role in business, technology, administration, and education. In schools, English is used as the medium of instruction. Primary school pupils study at least two languages, namely, English and their mother tongue (i.e., Chinese, Malay, or Tamil). The mother tongue languages are only taught as a school subject with limited instruction time (Kirkpatrick 2011). The other subjects are normally taught in English. While most Singaporean children are bilingual, many children speak and interact with their family members and friends in their mother tongue at home. As shown in Singapore's 2000 population census (Pakir 2004), only 30 % of Singapore families used English for communication among their family members. However, English is predominantly used in schools. Despite the importance of English in education, many primary school pupils are faced with problems in reading and writing (Cheah 2002).

Writing Instruction in Singapore Primary Schools

The recommended model of writing instruction in Singapore primary schools has been primarily based on process writing, since the implementation of the English Language Syllabus 1991. Although the genre approach was also introduced to enhance the teaching of writing, process

writing continues to be widely practised in Singapore (Chew 2005). Typically, classroom writing instruction for each text type is comprised of such key stages as planning, drafting, reviewing, revision, and re-drafting. In planning, pupils are taught how to generate and select ideas for writing, followed by development and organization of ideas. In the drafting and re-drafting stages, pupils are taught and encouraged to review and revise their writing with the help of the teacher, peers, or alone. All the writing processes are recursive throughout the act of creating texts. Teachers are expected to provide scaffolding where necessary through questioning, modeling, mind-mapping, and outlining (Curriculum Planning & Development Division 2010). However, gaps exist between what is advocated and what is practised. In reality, many teachers implement simplified process writing due to practical constraints (Cheah 2002). For example, only one draft of pupils is required instead of multiple drafts. In some instances, the writing instruction still bears a strong product orientation.

Participants

The 1,618 primary 4–6 participants were from two participating schools in a larger project.[1] Both schools were representative neighborhood schools and were located in working class housing estates. School 1 was from the North Region, whereas School 2 was from the East Region. The reason for including only upper primary pupils is that they were better able to understand the logistics of questionnaire administration and questions addressed in the questionnaire, which was expected to result in better quality data. Of the pupils, 845 (52.2 %) were boys, and 748 (46.2 %) were girls, with 25 pupils (1.5 %) failing to provide gender information. As for ethnicity, 1,011 (62.5 %) were Chinese, 508 (31.4 %) were Malay, 63 (3.9 %) were Indian, and 18 (1.1 %) were others. Eighteen (1.1 %) pupils did not provide information on their ethnicity.

Data Collection Instruments

To enhance the generalizability of the findings of this study to real-life classrooms, the pupils' semester scores from the most recent school-developed English language exams were collected as a measure of their English language proficiency. Each pupil's result was a composite score reflecting their reading, speaking, listening, and writing proficiency. Such measures were highly preferred and requested by the schools involved as the school administrators (e.g., the Principals and the Heads of the English Department) were interested to see the relationship between their pupils' writing strategy use and their own measures of the pupils' English language proficiency.

The pupils' use of writing strategies was elicited with a specially developed questionnaire. The content validity of the questionnaire was established in line with recommendations by Petrić and Czárl (2003). First, an item pool of writing strategies were shortlisted based on previous studies, together with the strategies identified in the think-aloud protocols collected from local primary school pupils in the larger project in order to better suit the local educational context. Next, three experienced primary teachers were invited to offer comments and refinements were made where needed. Then, a small group of pupils were asked to complete the questionnaire, while thinking aloud, in order to check whether pupils would have problems understanding the statements. For each statement, the participants were asked to rate how often they used the writing strategy in question using a Likert scale from 1 to 5, with higher scores indicative of greater frequency. The pupils' problems with either the language or the strategies themselves were noted down, and the items involved were revised. This process resulted in a 50-item questionnaire. The questionnaire was then piloted with 221 pupils from primary 4 to primary 6 in a primary school. First, factor analysis was conducted as an exploratory tool to discover potential underlying dimensions of the questionnaire, and to reduce the number of items in the draft version. As a result, some categories were collapsed, and some removed. Cronbach alpha coefficients were obtained to estimate the reliability of the resultant subscales in the instrument, with some weak and problematic items removed. The coefficients range from 0.75 to 0.53, within the acceptable range for an exploratory study (see Petrić and Czárl 2003). One possible reason for some low coefficients could be the nature of the theoretical categories. For example, social/affective strategies (0.53) represent a broad grouping of strategies (O'Malley and Chamot 1990). Another reason may lie in the fact that the scales with low coefficients consist of a small number of items, e.g., only three items in resourcing. The 46 items in the finalized questionnaire fall into three general categories of writing strategies: metacognitive strategies, cognitive strategies, and social/affective strategies (O'Malley and Chamot 1990).

Analyses

Descriptive statistics were obtained to profile the overall pattern of strategy use. The independent variables were reported frequencies of strategy use. The dependent variable was the participants' English proficiency. In order to make the English proficiency variable comparable across grade levels and schools, the raw English language scores at each grade level were converted into z scores. Based on

[1] This study forms part of a larger research project on language learning strategies among primary school pupils in Singapore.

the standardized z scores, the participants from each grade level in each school were grouped into three proficiency levels, i.e., top, middle, and low.

A number of one-way between-subjects ANOVAs were performed to determine if the three English proficiency groups differed in their reported strategy use. The data from the two schools were analyzed together for the first question, but separately for the other question. The main reason for the separate analyses was that these two schools may cater to families from different socioeconomic backgrounds and consequently, the pupils may belong to different student populations. Another important reason was that the two schools were treated as a replication of each other. Such analyses would allow the researchers to see if consistent results could be obtained from both schools.

Results and Discussion

In this section, the findings and discussion are organized around the research questions. The first question is addressed in three subsections focusing, respectively, on metacognitive strategies, cognitive strategies, and social/affective strategies. For the second research question, the results of each school will be reported separately, followed by a general discussion of the findings.

What Writing Strategies did Singapore Primary School Pupils Report Using?

Metacognitive Strategies

Following Oxford's (1990) criteria, a mean in the range of 3.5–5.0 is considered to be high frequency use, 2.5–3.4 medium frequency, and 1.0–2.4 low frequency. The pupils reported using the three groups of metacognitive strategies at medium frequencies (see Table 1).

Self-initiation strategies were the least frequently used type of metacognitive strategies. This group of writing strategies mostly represents strategies used outside the classroom. The reason why the pupils used them least may lie in young children's lack of self-discipline or learner autonomy (Randi 2009). In other words, they may seldom initiate efforts in learning how to write by themselves. The findings suggest that pupils may not value self-initiation strategies as highly as other strategies. However, young

Table 1 Descriptive statistics for metacognitive strategies

Subscale	Strategy		n	M	SD
Self-initiation ($\alpha = 0.60$)	1.	Trying to find out how to write good English compositions	1,617	3.68	1.21
	2.	Writing English compositions at home to improve writing	1,603	2.67	1.30
	3.	Studying good English compositions in order to write well	1,614	3.61	1.17
	4.	Asking for writing tuition to improve English writing	1,613	2.47	1.41
	5.	Asking others about what they think about my writing and why	1,607	2.87	1.29
	Subscale		1,618	3.06	0.79
Planning ($\alpha = 0.75$)	6.	Discussing the topic with others before writing	1,601	2.74	1.28
	7.	Reading about the topic before writing	1,609	3.86	1.14
	8.	Writing out a plan before writing	1,604	3.14	1.28
	9.	Thinking about what ideas to put down when planning	1,617	3.89	1.1
	10.	Thinking about what words, phrases, and sentences to use when planning	1,606	3.73	1.19
	11.	Keeping in mind teacher's requirements for the composition when planning	1,606	3.40	1.18
	12.	Thinking about how readers will feel about my composition when planning	1,611	3.20	1.26
	13.	Thinking about how to organize ideas when planning	1,614	3.24	1.24
	14.	Keeping in mind what type of composition to write when planning	1,607	3.60	1.14
	15.	Planning a composition in mind before writing	1,614	3.17	1.35
	Subscale		1,617	3.40	0.66
Monitoring and evaluating ($\alpha = 0.61$)	16.	Sticking to what has been planned when writing	1,600	3.34	1.17
	17.	Reading my composition aloud to look for mistakes	1,599	2.72	1.31
	18.	Paying attention to spelling and grammar when writing	1,604	4.03	1.13
	19.	Checking whether my composition meets teacher's requirements after writing	1,602	3.25	1.22
	20.	Comparing my composition with friends' writing on the same topic	1,609	2.77	1.28
	21.	Evaluating whether my composition is good or bad when reading it	1,600	3.13	1.22
	22.	Anticipating whether readers will like my composition or not when reading it	1,610	2.86	1.23
	Subscale		1,617	3.16	0.67

learners' self-initiation capacity can be enhanced through modeling and encouraging by teachers and parents (Randi 2009). Therefore, teachers and parents should play a role in helping young learners foster their self-initiation strategies.

While self-initiation strategies, as a group, were used only at a medium frequency, strategy 1 and strategy 3 were found to fall into high frequency use. It is understandable that these two strategies were favoured by Singaporean pupils. In Singapore, it is a prevalent phenomenon that parents buy composition books for their children to mimic model compositions in order to improve their writing. Many primary school pupils study model compositions either to complete their writing assignments or to brush up on their writing skills before exams. They are also given a list of vocabulary items to memorize and use in their compositions (Gupta 1995).

The two least often used self-initiation strategies were strategy 2 and strategy 4. Although most pupils in Singapore attend tuition classes, many are actually "volunteered" by their parents for such classes. It is rare that pupils would ask for tuition. It is also understandable that the participating pupils did not prefer writing English compositions at home to improve writing. For many pupils, writing a composition in class or as homework is already quite a burden.

As Table 1 shows, planning strategies were the most frequently used group of metacognitive strategies. Such a finding corroborates the literature in that young writers perceive planning as a critical element of good writing (see Harris et al. 2010). Pupils of all proficiency levels have reported using planning strategies very often (Chamot and El-Dinary 1999). When planning, pupils in this study thought about what ideas, words, phrases, and sentences to put down in their text. They also read about the topic and considered the type of composition they would write. These findings indicate that Singaporean pupils tend to engage in planning more often than other strategies in writing. As found in Loh (2007), writing teachers may have used such metacognitive strategies, e.g., planning, frequently in the writing classroom, which resulted in the pupils' preference for these planning strategies, as compared with the other strategy groups.

In monitoring and evaluating strategies, the most frequently used individual strategy was strategy 18. This finding indicates that Singapore primary school pupils pay much attention to mechanics and grammar when writing. As has been theorized in the literature on process writing, paying too much attention to surface issues, e.g., spelling and grammar, may hinder writers' writing process (see Krapels 1990). However, it is not surprising that the participating pupils reported using this strategy very frequently because this is a strategy that pupils can employ very easily. In addition, this finding may reflect the fact that many writing teachers may emphasize spelling and grammar a great deal when they teach writing and mark their pupils' compositions. In other words, teachers may still perceive writing as a product-driven skill although process writing has been advocated in Singapore for quite some years. The least preferred monitoring and evaluating strategies were strategy 17, strategy 20, and strategy 22. The relatively infrequent use of strategy 20 and strategy 22 was not expected since collaborative learning has been promoted in Singapore primary classrooms by both the *English Language Syllabus 2010* and the *English Language Syllabus 2001*.

Cognitive Strategies

Table 2 displays the descriptive statistics for the 18 cognitive strategies. The average frequency of strategy use for the three subscales fell into the medium range.

The findings suggest that the revising strategies were not very popular among the pupils. Among the nine revising strategies, only one individual revising strategy was used at a high frequency in contrast to 4 out of 10 for the planning strategies. Such a finding suggests that the participants in general did not make efforts to revise their compositions. Instead, greater efforts were put into the planning stage. This is consistent with Graham et al.'s (1995) observation that pupils may not have been encouraged to revise in the classroom. However, revising constitutes an indispensable part of the writing process (Flower and Hayes 1981). Consequently, there is a need to give more instructional attention to revising in Singapore primary classrooms.

Only strategy 4 fell into high frequency use. This is not surprising because Singaporean pupils are used to following what their teachers would like them to do (Loh 2007). Strategy 5 fell into the upper range of medium frequency. This probably had to do with a frequently observed emphasis on spelling and punctuation in writing teachers' marking of their pupils' writing. Such an emphasis is likely to incline pupils to pay a great deal of attention to their spelling and punctuation, which are low-level concerns. Another contributing factor may be the less demanding nature of employing such a strategy. In contrast, strategy 8 and strategy 9 often require extensive changes to one's writing, which can be challenging to most pupils.

The use of the text-generating strategies also fell into a medium frequency. The text-generating strategies that were reported to be most frequently used were strategy 10 and strategy 14. These results indicate that for many pupils writing was a recursive process: they read what they had already written for new ideas to continue. They may use language (strategy 14) and ideas (strategy 13) they learned from other books in their own compositions. By contrast, the least preferred text-generating strategies were strategy

Table 2 Descriptive statistics for cognitive strategies

Subscale	Strategy	*n*	*M*	SD
Revising ($\alpha = 0.73$)	1. Trying to remember or write down other people's suggestions for future use	1,601	3.05	1.30
	2. Thinking carefully about other people's suggestions for my compositions	1,597	3.03	1.22
	3. Asking why if others ask me to make changes to my composition	1,592	3.10	1.35
	4. Checking mistakes after getting back composition from teacher and trying to learn from them	1,603	3.59	1.19
	5. Changing spelling or punctuation when checking my composition	1,614	3.44	1.19
	6. Changing words or phrases when checking my composition	1,604	3.24	1.15
	7. Changing grammar when checking my composition	1,613	3.12	1.15
	8. Changing ideas in my composition when checking it	1,603	2.99	1.15
	9. Re-organizing my composition when checking it	1,608	3.00	1.21
	Subscale	1,618	3.17	0.67
Text-generating ($\alpha = 0.71$)	10. Reading segments of my text to help think of new ideas when writing	1,603	3.40	1.20
	11. Reading other people's writings for language to use in my composition during writing	1,612	2.79	1.31
	12. Reading other people's writings for ideas to write down in my composition during writing	1,611	2.73	1.30
	13. Recalling ideas read elsewhere for use in my composition during writing	1,607	3.29	1.24
	14. Recalling language from sources for use in my composition during writing	1,604	3.38	1.18
	15. Re-reading teacher's requirements to help think of new ideas during writing	1,600	3.19	1.20
	Subscale	1,617	3.13	0.79
Resourcing ($\alpha = 0.54$)	16. Making use of dictionary to deal with lexical difficulties during writing	1,590	3.26	1.25
	17. Making use of grammar books, textbooks or writing guides when having difficulty in writing	1,597	3.10	1.23
	18. Revisiting old compositions for useful words, phrases, ideas when writing a new one	1,616	3.08	1.31
	Subscale	1,618	3.14	0.92

11 and strategy 12. The less frequent use of these two strategies indicates that for many pupils writing was often a process of drawing on what was already inside one's mind rather than one of simultaneously gathering new information while writing.

Resourcing strategies were also used at a medium frequency. Such a finding was expected as when writing, young children are less likely to consult a dictionary, grammar books, textbooks, writing guides, or their old compositions. In general, Singapore pupils may not refer to external resources while writing. In contrast, Baker and Boonkit (2004) found that their participants relied on dictionaries to generate the necessary vocabulary in their writing. This finding may be related to the fact that English is a foreign language in Thailand. However, English is used as the medium of instruction in Singapore, and pupils are likely to have mastered the basic vocabulary for their writing needs.

Social/Affective Strategies

Table 3 presents the descriptive statistics for the social/affective strategies. The most frequently used social/affective strategy was strategy 4. Another most frequently used strategy was strategy 5. The two strategies can help learners deal with their stress in writing. Because writing is seen as the most demanding task by many primary school pupils in Singapore, it is understandable that these two strategies were reported to be frequently used by the participating pupils to encourage themselves to complete their writing assignments. This resonates with Loh's (2007) finding that if pupils found the learning tasks challenging, they would employ their social/affective strategies more frequently. It is interesting to note that strategy 2 was not favored by the pupils. In Singapore, primary school pupils normally consult their parents, older siblings, or teachers for help. They may doubt whether their friends/peers are capable enough to help them. Pupils may only consult the top students of the class for help (Loh 2007). Given the various potential benefits of peer feedback in the revising process (Lee 2007), pedagogical attention should be given to the designing and use of appropriate peer feedback activities to facilitate writing development. Notably, strategy 6 was not a popular strategy among Singaporean pupils. In this regard, a similar finding was also reported by Petrić and Czárl (2003), who found that their Hungary

Table 3 Descriptive statistics for social/affective strategies

Subscale	Strategy		*n*	*M*	SD
Help-seeking and affect managing ($\alpha = 0.53$)	1.	Asking teacher for help when having difficulty in writing	1,607	3.03	1.25
	2.	Asking friends for help when having difficulty in writing	1,611	2.97	1.20
	3.	Asking family members for help when having difficulty in writing	1,594	3.11	1.29
	4.	Telling myself to enjoy writing	1,602	3.58	1.29
	5.	Telling myself not to worry when writing an English composition	1,597	3.46	1.26
	6.	Rewarding myself for completing an English composition	1,606	2.94	1.48
	Subscale		1,616	3.18	0.71

Table 4 Descriptive statistics for strategy use by proficiency: School 1

Subscale	Bottom group		Middle group		Top group	
	n	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)
Self-initiation	266	3.05 (0.80)	290	3.17 (0.80)	300	3.09 (0.80)
Planning	266	3.22 (0.65)	290	3.54 (0.64)	300	3.53 (0.67)
Monitoring and evaluating	266	3.06 (0.68)	290	3.24 (0.66)	300	3.30 (0.70)
Text-generating	266	3.00 (0.72)	290	3.26 (0.79)	300	3.34 (0.84)
Revising	266	3.08 (0.67)	290	3.29 (0.67)	300	3.27 (0.68)
Resourcing	266	3.02 (0.94)	290	3.34 (0.89)	300	3.18 (0.93)
Help-seeking and affective managing	265	3.22 (0.72)	290	3.27 (0.74)	300	3.17 (0.70)

secondary school participants even laughed at a similar statement in their writing strategy questionnaire.

Do Pupils with Different English Proficiency Differ in Their Self-reported Use of Writing Strategies?

For the pupils in School 1, a main effect was found for 5 of the 7 strategy subscales among the three proficiency levels (see Table 4 for descriptive statistics). The main effects were significant for planning, F (2, 853) = 20.96, $p = 0.000$; text-generating, F (2, 853) = 13.85, $p = 0.000$; revising, F (2, 853) = 8.12, $p = 0.000$; monitoring and evaluating, F (2, 853) = 9.36, $p = 0.000$; resourcing, F (2, 853) = 8.05, $p = 0.000$. The *post hoc* Scheffé tests showed that the difference between the top and the middle group was not statistically significant for the five subscales. For planning strategies, significant differences were found between the top and the bottom group (top > bottom, $p = 0.000$) and the middle and the bottom group (middle > bottom, $p = 0.000$). The same pattern was also obtained for text-generating strategies (top > bottom, $p = 0.000$; middle > bottom, $p = 0.001$), revising (top > bottom, $p = 0.000$; middle > bottom, $p = 0.002$), and monitoring and evaluating strategies (top > bottom, $p = 0.000$; middle > bottom, $p = 0.008$). Significant difference was only found between the middle and the bottom group for resourcing strategies (middle > bottom, $p = 0.000$).

Table 5 displays the descriptive statistics for School 2. The general pattern of strategy use for School 2 was similar to that for School 1. Among the seven strategy subscales, the same five subscales showed a significant group effect: planning, F (2, 753) = 26.29, $p = 0.000$; monitoring and evaluating, F (2, 753) = 6.13, $p = 0.002$; text-generating, F (2, 753) = 36.40, $p = 0.000$; revising, F (2, 754) = 12.17, $p = 0.000$; resourcing, F (2, 753) = 6.06, $p = 0.002$. In other words, the five groups of strategies were employed differently by pupils of the different English proficiency levels. The *post hoc* Scheffé tests revealed that the top group used planning strategies significantly more frequently than both the middle and the bottom group (top > middle, $p = 0.000$; top > bottom, $p = 0.000$). However, the difference between the middle and the bottom group did not reach a significant level (middle > bottom, $p = 0.060$). A similar pattern of strategy use was found for monitoring and evaluating (top > middle, $p = 0.000$; top > bottom, $p = 0.000$), text-generating (top > middle, $p = 0.001$; top > bottom, $p = 0.000$), and revising (top > middle, $p = 0.000$; top > bottom, $p = 0.000$). Significant differences were only found between the top and the bottom group in their use of resourcing strategies (top > bottom, $p = 0.003$).

Table 5 Descriptive statistics for strategy use by proficiency: School 2

Subscale	Bottom group		Middle group		Top group	
	n	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)
Self-initiation	258	3.02 (0.81)	273	2.96 (0.78)	226	3.07 (0.73)
Planning	258	3.18 (0.65)	272	3.31 (0.64)	226	3.59 (0.59)
Monitoring and evaluating	258	3.02 (0.69)	272	3.08 (0.65)	226	3.22 (0.58)
Text-generating	258	2.87 (0.70)	272	2.91 (0.73)	226	3.39 (0.77)
Revising	258	3.02 (0.64)	273	3.08 (0.64)	226	3.30 (0.65)
Resourcing	258	2.97 (0.85)	273	3.08 (0.92)	226	3.25 (0.93)
Help-seeking and affective managing	258	3.11 (0.65)	273	3.11 (0.73)	225	3.21 (0.69)

The ANOVA results show that overall there were systematic differences in strategy use between the pupils of the different proficiency levels. Planning, text-generating, monitoring and evaluating, revising, and resourcing strategies were found to be consistently related to the pupils' English language proficiency in both schools. In other words, these writing strategies might have contributed greatly to the pupils' English proficiency in general and writing development in particular. In Flower and Hayes's (1981) theory, these strategies are major processes that are directly related to successful writing. These findings corroborate previous studies (e.g., Baker and Boonkit 2004; Chen 2011; Chien 2012; Lan and Oxford 2003; Zhang et al. 2008) which reported positive correlations between strategy use and language learning outcomes.

It should be noted that planning and help seeking and affective managing strategies were most frequently used by the low proficiency groups in both schools. The relative prominence of planning strategies echoed the finding of previous research (e.g., Chamot and El-Dinary 1999; Roca de Larios et al. 2008; Zamel 1983) that planning is more frequently used by all learners regardless of their proficiency level. The low proficiency writers' greater use of the help-seeking and affective managing strategies could be explained by the many writing difficulties they were very likely to encounter, hence the constant need for them to ask their teacher, friends, and family members for help. By contrast, help seeking ad affective managing was the second least frequently used type of writing strategies for the top proficiency groups in both schools. It is interesting to note that the middle proficiency groups also employed help-seeking and affective managing strategies relatively more frequently than the other strategy groups. This finding suggests that young developing writers are likely to resort to help frequently before they become proficient in writing. When they encounter more demanding writing tasks, a general pattern of their strategy use is to employ their strategies more frequently than they would commonly do with less difficult tasks (Loh 2007). In comparison, the most frequently used types of writing strategies by the top proficiency groups are planning strategies and text-generating strategies, showing their greater engagement with writing tasks per se. These results indicate a clear relationship between language proficiency and the choice of strategies. A wide range of writing strategies is available to young writers. However, their reliance on and use of certain writing strategies may vary across different stages of proficiency development.

Despite the observed general patterns between strategy use and language proficiency, there were local variations. In School 1, the top proficiency group reported using the planning, text-generating, revising, and monitoring and evaluating strategies significantly more often than the bottom proficiency group. The middle proficiency group also reported employing all the five groups of writing strategies more frequently than the bottom proficiency group. No difference was found between the top and middle proficiency groups in their use of the writing strategies. In School 2, the top proficiency group showed superiority to both the middle and bottom proficiency groups in their use of planning, text-generating, revising, and monitoring and evaluating. For the resourcing strategies, however, the top proficiency group reported more strategy use than the bottom group only. The middle proficiency group did not use the writing strategies more often than their bottom proficiency counterparts. Two types of local variation are found here. First, there were some discrepancies in the relationships between reported strategy use and English proficiency observed for pupils from the two schools. Such school-based variations are expected, given the myriad of differences in instructional programs, teacher characteristics, and pupil backgrounds that can exist between any two schools. Second, the differences in reported strategy use were not symmetric or consistent across the three proficiency groups within each school. In particular, the boundary between the middle proficiency groups and high/low proficiency groups may not be as marked and stable as that between the top and low

proficiency groups. Similar findings were also reported by Magogwe and Oliver (2007). In their study, no significant differences were found between the fair and poor students. Such findings lend support to Tragant and Victori's (2012) contention that a linear development of strategy use across different proficiency levels may not be warranted. They may reflect the variable nature of L2 development in general (Verspoor et al. 2008) and writing strategy use in young writers in particular. In view of the above-mentioned local variations, more research should be undertaken to develop a contextualized understanding of how strategy use develops across different proficiency levels in different cultural as well as local institutional settings. It is important to point out, however, that despite the observed local variations, the overarching positive relationship between strategy use and language proficiency was clear and consistent in this study.

Conclusion

Drawing on a newly developed writing strategy questionnaire, this study aimed to map out the writing strategies used by primary school pupils in Singapore and to examine the relationship between strategy use and language proficiency. It yielded several important results that can contribute to our understanding of young (L2) writers' development and use of writing strategies. These results need to be interpreted along with recognition of the methodological limitations of a questionnaire-based study. First, while the questionnaire study allows for the charting of strategy use patterns among a large sample of participants, findings from such a project may be inherently insufficient in revealing the mechanisms behind strategic learning. Second, items presented in a quantitative questionnaire are generally decontextualized. Third, self-reported strategy use may not necessarily reflect real learning behaviors. Last but not least, language learning strategy questionnaires do not address orchestration of strategies, which characterizes an important aspect of successful learning (Zhang et al. 2008). Future research may seek to validate the current writing strategy questionnaire in different cultural and local institutional contexts. Such questionnaire-based research should link learners' strategy use with real tasks in specific settings to contextualize strategy use as far as possible (see Petrić and Czárl 2003). In future studies, quantitative research methods (e.g., questionnaires) can be triangulated with qualitative research methods (e.g., think-aloud protocols and interviews) to enhance the overall validity of writing strategy research.

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