

The Effects of Self-Regulated Learning Writing Strategies on English Writing Self-Efficacy among Chinese Non-English Major Students

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Abstract

Writing is considered a complex process as its relevance to learners' cognitive and affective activities. The objective of this study is to describe the status quo of non-English major students' use of self-regulated learning (SRL) writing strategies and the level of writing self-efficacy, and investigate the correlations between the use of SRL writing strategies and writing self-efficacy so as to optimize the EFL writing instruction in China. To this end, a quantitative method was adopted, which first addressed the use of SRL strategies and the writing self-efficacy by means of two questionnaires, and continued with the exploration of the relationship via correlational analysis. The results show that non-English major students hold a relatively positive attitude towards the use of SRL writing strategies and have a moderate confidence in the act of writing. Those with positive attitudes towards the use of SRL writing strategies are more likely to acquire higher level of writing self-efficacy. The findings of the study are helpful to complement the existing writing research, and provide new implications for the enhancement of EFL students' writing performance.

Keywords

Self-Regulated Learning, Writing Strategies, Self-Efficacy, Non-English Major Students

1. Introduction

Writing is a complicated and challenging skill for English as a foreign language (EFL) learner in China (Tang & Xu, 2011), which attracts an increasing attention among writing researchers. As its relevance to individual cognitive and affective

activities, the improvement of writing performance relies much on a variety of influencing factors, referring to writing anxiety, writing strategy and writing self-efficacy. Moreover, being a self-planned and self-initiated activity, writing requires the effective development of self-regulated learning (SRL) writing strategies and higher personal self-regulation. Among them, SRL writing strategy as a multidimensional construct refers to a cyclical and interactive process aimed at receiving information that involved individual goals and perceptions, which plays an indispensable role in the EFL writing process. However, SRL writing strategies do not function in isolation, and the related dynamic factors are reciprocal causations that influence individual writing performance by regulating self-efficacy perceptions. As it were, writing self-efficacy acts as an individual's perceived ability to accomplish tasks, so it is also an important influencing factor under the trend of Bandura's social cognitive theory (SCT), which affects the sustained development of individual writing performance.

Although prior researchers conducted a series of studies on these factors, a majority of studies focused on an individual factor, such as writing anxiety, writing feedback and writing self-efficacy (Lee, 2017). To the best of our knowledge, few of them have explored the relationship among closely related writing variables, particularly SRL writing strategies and writing self-efficacy (Teng & Zhang, 2016). Therefore, there exists a research gap that needs to be further investigated. Given the extant literature, by selecting Chinese non-English majors as a research object, this paper aims to describe the status quo of non-English major students' SRL writing strategy use and their writing self-efficacy in the Chinese EFL context, and further address the correlations between the two variables based on the profile, which is expected to be conducive to the enhancement of Chinese EFL learners' writing abilities.

2. Literature Review

2.1. Self-Regulated Learning (SRL) Writing Strategies

Self-regulated learning (SRL), a comprehensive concept derived from the domain of educational psychology, was initially proposed by American psychologist Bandura in the mid-1980s. As an overt application of self-regulation theory, SRL underscores psychological and affective effects on learners' autonomous and effective learning from a holistic perspective (Deng & Zhou, 2018). Over the past three decades, there have been steady developments in the area of language learning research towards SRL strategies (Zimmerman & Schunk, 2011). Generally, the definition of SRL strategies alters with different schools of theories. Although researchers did not reach a consensus on SRL strategies due to different theory foci, they still share the similarities that learners have an internal self-regulation mechanism used to control their cognition, emotion and behaviour, which mainly focuses on learners' initiative learning and learner-centered learning strategies (Oxford, 2017; Cetin, 2015). With reference to the focus of the current study, SRL writing strategies can be defined as a set of English writ-

ing strategies that learners employ to effectively improve their writing performance with explicit intentions. In other words, SRL writing strategies refer to learners' approaches to regulate their writing behaviour and ideas in the process of selecting writing methods and performing writing tasks.

More exactly, the understanding of SRL writing strategies can be analyzed from two perspectives. In a broad sense, SRL writing strategies are related to a variety of psychological and behavioral operational tasks that enhance learners' writing results and effectiveness. Likewise, SRL writing strategies can be understood as writing behaviour and processes aimed to acquire writing skills or requisite writing knowledge. For instance, Yang (2011) viewed SRL writing strategies as the executive and regulating system of learners' writing processes, which could be an implicit formulae system or an explicit operating system. Kong and Lu (2012) stated that SRL writing strategies are comprised of different writing strategies in a general meaning, and these strategies are used by learners to monitor writing achievement and realization of personal writing self-efficacy. Moreover, Oxford (2011) proposed that SRL writing strategies refer to constructed writing tasks undertaken by learners, which can be used to enhance linguistic knowledge and promote the procedures for knowledge selection and application under writing contexts. However, in a narrow sense, SRL writing strategies mainly refer to a series of specific writing strategies that learners utilize to participate in writing activities effectively.

Apart from its characteristics, the classification of SRL writing strategies has been changing with time. As Andrade and Evans (2013) proposed, SRL writing strategies can fall into four categories, namely cognition, metacognition, behaviour and motivation. These strategies belong to the core elements of writing strategies. Drawing on the previous findings, Teng and Zhang (2016) put forward a revised classification that SRL writing strategies as a higher-order construct consist of cognitive strategy, metacognitive strategy, social behavioral strategy, and motivational regulation strategy, which accords with the social cognitive view of self-regulated learning. To sum up, the current research of SRL writing strategies can be summarized as the practical applications of SRL writing strategies, the cultivation of SRL writing strategies as well as the correlation research between SRL writing strategies and related writing variables.

2.2. Writing Self-Efficacy

Self-efficacy is an important part of SCT that is used to examine a causal correlation in which personal behaviour, perceptions and environment influence each other. On the basis of SCT model, self-efficacy is regarded as individuals' subjective assessment of their capabilities to implement the course of behaviour required to achieve designated kinds of achievement. With the research of self-efficacy going further, a large body of studies on writing self-efficacy have been evolved in the past decades. Simply put, when self-efficacy is involved in individual writing processes, it can be called writing self-efficacy. For instance, Shunk and

Swartzs (1993) stated that writing self-efficacy is writers' self-evaluation of their abilities of achieving writing tasks smoothly. Pajares (2003) deemed that writing self-efficacy refers to whether writers were confident to use their acquired writing skills or strategies into writing activities. Thus, writing self-efficacy is an embodiment of self-efficacy in writing process.

With the in-depth discussion on writing self-efficacy, new thoughts have been proposed in succession, which enriches the extant research of writing self-efficacy. For example, Bruning et al. (2013) framed writing self-efficacy model and emphasized three main factors of writing self-efficacy that affect writers' writing performance directly, consisting of writing ideation, writing conventions and writing self-regulation. Different from Bruning et al. (2013), Teng et al. (2018) claimed writing self-efficacy refers to a three-dimensional model, which is comprised of language self-efficacy, self-regulatory efficacy and performance self-efficacy. Thus, it can be found that writing self-efficacy is likely to boost individual confidence to employ writing strategies.

Furthermore, individuals' beliefs and expectation about their ability to complete writing tasks and their confidence in the accomplishment of writing activities exert great impacts on writing self-efficacy. As it were, the factors of individuals' beliefs, judgments and confidence make a difference in the act of writing. Because of this, efficacious learners are more likely to achieve higher levels of success than less-efficacious one in writing process. In conclusion, writing self-efficacy can be regarded as writers' judgement in their abilities to accomplish certain writing tasks, which is a variable directly affecting writers' engagement and writing strategy use. Therefore, the current study aims to examine the relationship between the use of SRL writing strategies and writing self-efficacy, which may make a salient contribution to EFL learners' writing performance research.

In addition, it should be noted that in the Chinese EFL context, English writing has remained one of the most difficult parts for students to acquire, and unfavourable English writing quality has been a hard nut among non-English major students in spite of more than 7 years of English instruction they received since primary school. The enhancement in English writing tended to be comparatively slow, and their limited progress in writing is relevant to how writing is learned and taught. However, influenced by the test-driven and product-oriented English teaching concept, EFL teachers in China underlined the mastery of English knowledge associated with grammar, and vocabulary. Little attention has been paid to foster students' writing strategies and their self-efficacy in the course of English writing (Teng & Zhang, 2016). As Zhang (2013) observed, some EFL teachers usually have limited knowledge of students' strategy repertoires and their writing self-efficacy. To put it in another way, not enough is known about whether the use of SRL writing strategies and the level of self-efficacy would be ultimately altered by individual preferences. Therefore, the use of SRL writing strategies and writing self-efficacy need to be fully considered in view of their crucial roles in EFL writing.

3. Methods

3.1. Research Design

As the study aimed to explore the relationship between the use of SRL writing strategies and writing self-efficacy, a descriptive analysis and a correlational analysis were adopted. More precisely, the descriptive analysis consisted of the description and interpretation of non-English major students' use of SRL writing strategies and the level of their writing self-efficacy. The correlational analysis was employed to investigate the relationship between two variables in the same group of participants. Based on the statistical analysis, the study explored to what extent the relationship existed between the use of SRL writing strategies and writing self-efficacy.

3.2. Participants

Based on the sample size calculator by Raosoft, the study consisted of 403 Chinese non-English major students recruited from five provincial universities in China. Convenience sampling was employed with participants selected from first-year undergraduates in the Chinese tertiary college English classrooms. Among them, there were 133 males and 270 females, ranging from 17 to 20 years old. The rationale for choosing these participants was that they have arranged a comprehensive English writing course in their freshman study and they are supposed to take a writing exam at the end of each term.

3.3. Instruments

The study was carried out by a standard questionnaire, which was used to assess two variables. The questionnaire survey was comprised of three sections, which were demographic information of the participants, SRL Writing Strategies Questionnaire and Writing Self-efficacy Questionnaire. In order to ensure the reliability of all items of questionnaires, both Chinese and English versions were offered to the participants. All participants were asked to fill in the questionnaire in the form of 4-Likert scale based on the extent they agree with each item. Each item has a 4-point Likert scale varying from 1 to 4, indicating the responses of Strongly Disagree, Disagree, Agree and Strongly Agree.

The first instrument was the Writing Strategies Self-regulated Learning Questionnaire (WSSRLQ) designed by [Teng and Zhang \(2016\)](#), which was adopted for data collection of Chinese students' SRL writing strategies. As English writing is regarded as one of the most challenging language skills for EFL students, it has its unique characteristics in the use of writing strategies. So the present version of WSSRLQ made slight adjustments of the previous items, which was expected to be more focused on the writing strategies. The revised questionnaire consisted of 35 items concerning four dimensions, including cognitive strategies, metacognitive strategies, social behaviour strategies and motivational regulated strategies.

The second instrument was the Questionnaire of English Writing Self-Efficacy

(QEWSE) developed by Bruning et al. (2013), which was used to test students' self-efficacy in writing. There were 30 items dealing with students' writing achievement in terms of ideation, organization, spelling and grammar, use of English writing and self-efficacy for self-regulation. Among five dimensions, ideation measured the ideas for writing; organization examined the ability of paragraph expression skills; grammar and spelling measured the use of grammar and the accuracy of spelling in writing; use of English writing examined the mastery of use of different genres in writing; self-efficacy for self-regulation measured the level of regulation and monitoring in writing.

What's more, to verify the reliability of the questionnaire, a pilot testing was conducted with 30 non-English major students. The Cronbach Alpha coefficients of each dimension related to two variables and that of the whole questionnaire were verified. The Cronbach Alpha coefficients of 9 dimensions ranged from 0.793 to 0.920. The Cronbach Alpha of 65 items was up to 0.871.

3.4. Data Analysis

Firstly, regarding descriptive analysis, the collected data were reported and explained by calculating the weighted mean value of all indicators, which was used to describe students' use of SRL writing strategies and the level of their writing self-efficacy. As for interpreting 4-point Likert scale, the range of interpretation was established as follows: Strongly Disagree was from 1.00 - 1.49; Disagree was from 1.50 - 2.49; Agree was from 2.50 - 3.49; Strongly Agree was from 3.50 - 4.00. Secondly, the correlational analysis was adopted to analyze the data between two variables. Spearman Correlation analysis was used to test how are related between the use of SRL writing strategies and writing self-efficacy. Then, T-test was used to measure significance differences between two variables. In the end, the data were presented and interpreted systematically after the statistical treatments.

4. Results and Discussion

4.1. Use of SRL Writing Strategies

As **Table 1** indicates, the use of SRL writing strategies was presented in terms of four specific dimensions. The composite mean of 3.08 indicates the participants agreed in general, which showed the overall use of SRL writing strategies by all participants. To be specific, social behaviour strategies with the mean value of 3.13 ranked the top, followed by motivational regulated strategies with the mean value of 3.09. By comparison, metacognitive strategies and cognitive strategies ranked third and fourth place with the mean value of 3.05 and 3.04 respectively. Thus, it can be seen that although the participants agreed with all four indicators of SRL writing strategies, they seemed to be more inclined to use social behavioral strategies and motivational regulated strategies. In other words, the participants take a welcoming attitude towards teacher feedback or peer feedback in writing, and prefer to autonomously plan and monitor their writing process.

Table 1. Descriptive analysis of SRL writing strategies.

Indicators	Mean	SD	Interpretation	Rank
Cognitive strategies	3.04	0.46	Agree	4
Metacognitive strategies	3.05	0.47	Agree	3
Social behaviour strategies	3.13	0.45	Agree	1
Motivational regulated strategies	3.09	0.45	Agree	2
Composite Mean	3.08		Agree	

Legend: 3.50 - 4.00 = Strongly Agree; 2.50 - 3.49 = Agree; 1.50 - 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree.

In **Table 1**, SRL writing strategies are comprised of a variety of strategies in cognition, metacognition, social behaviour and regulation of motivation. Among them, cognitive strategies refer to mental procedures adopted by learners to seek new information and use it to complete specific writing activities, which are utilized to tackle the problems occurred during writing process. Different from cognitive strategies, metacognitive strategies cover a much wider domain, which are mainly used to plan, monitor, evaluate and understand different writing strategies. By comparison, social behaviour strategies refer to strategies that learners adopt within writing via exchanging ideas with peers around them or consulting with teachers about a certain subject. Lastly, motivational regulated strategies refer to strategies that learners utilize to regulate learning behaviour, particularly goal orientation, expectancy and value. Although SRL writing strategies have different classifications according to knowledge and experience, these four categories have attracted great attention among researchers. To some extent, the purpose of using SRL writing strategies is to integrate learners' mental operations into composing pieces of quality writing and monitoring the writing production (Okasha & Hamdi, 2014). It is believed that strategic learners can make full use of SRL writing strategies to carry out writing tasks and to achieve a particular purpose.

In addition, in terms of the internal relationship among the four dimensions, it can be gleaned that the four strategies correlate with each other in nature rather than in isolation. To a certain extent, the more learners adopt one of SRL writing strategies, the more learners employ the other three strategies, and vice versa. Furthermore, the current findings have been verified in previous studies. For instance, Mistar et al. (2014) put forward that different strategy categories have a close interconnection among the employment of SRL writing strategies.

4.2. Level of Writing Self-Efficacy

According to **Table 2**, it presents the level of participants' writing self-efficacy from five dimensions. The composite mean of 2.80 shows that most of the participants agree with these dimensions concerning writing self-efficacy. According to the mean, ideation with the mean value of 2.92 ranked first place, followed by self-efficacy for self-regulation with the mean value of 2.89. Use of English

Table 2. Descriptive analysis of writing self-efficacy.

Indicators	Mean	SD	Interpretation	Rank
Ideation	2.92	0.49	Agree	1
Organization	2.85	0.49	Agree	3
Grammar and spelling	2.73	0.51	Agree	4
Use of English writing	2.63	0.49	Agree	5
Self-efficacy for self-regulation	2.89	0.44	Agree	2
Composite Mean	2.80		Agree	

Legend: 3.50 - 4.00 = Strongly Agree; 2.50 - 3.49 = Agree; 1.50 - 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree.

writing ranked the least with the mean value of 2.63. It can be found that at the global level of writing skills, the participants displayed full confidence in their ability of generating ideas in writing, which is not only regarded as an essential part for content generation and thoughts arrangement, but also influences the related writing skills. Likewise, as for the rank of self-efficacy for self-regulation, the participants showed their confidence in managing and monitoring writing behaviour and affections in writing. Compared with the top two dimensions, the participants reported relatively less confidence at the local level of writing skills, in particular grammar and spelling, and use of English writing. The possible reasons for this phenomenon may lie in participants' undesirable English language proficiency. To most Chinese EFL learners, the flexible and accurate use of English grammar and the error-free spelling of English words are still the challenging tasks, and the mastery of different genres of English writing needs to be strengthened.

In fact, writing self-efficacy is considered an important factor of learners' writing performance, which is sensitive to change with individual experiences and states. Meanwhile, as a multidimensional construct, writing self-efficacy is not in a static state, and it is in a dynamic state that varies with different writing tasks and scenarios (Mitchell et al., 2017). Writing self-efficacy is thought to enhance learners' writing performance, and its level may provide learners with better confidence in their writing ability. When dealing with writing tasks, learners may be more confident and tackle the writing difficulties with more insistence (Diab, 2005). However, it should be noted that there is no consensus on EFL learners' confidence in writing skills. Previous studies put forward that lots of Chinese EFL learners experience a lack of confidence in writing, which leads to more adverse cognitive and affective reactions towards writing performance.

What's more, as to the relationship of different dimensions, the five constructs are strongly correlated with each other by nature. Prior studies examined the relationship among the five constructs in writing contexts. More explicitly, learners' confidence in ideation may influence their confidence in working with other writing tools, such as organization, grammar and spelling, and genre. Afterwards, learners' confidence in using writing tools may promote their confidence

in the ability to regulate and adjust the use of practical writing strategies, such as narrative writing and argumentative writing. For instance, Crossley et al. (2016) showcased creating ideas are significantly connected with the use of linguistic features, which includes word units, varied words, repetitive words and semantic relations. Learners who are good at shaping concepts in writing proved to be more skillful in using linguistic features. To summarize, in order to write a good composition, learners need to coordinate different aspects, consisting of language, organization, grammar and content. The confidence that learners have in these aspects may result in a good piece of writing. Thus, a comprehensive evaluation of learners' writing self-efficacy would be useful in having a deep insight into their perceptions.

4.3. SRL Writing Strategies and Writing Self-Efficacy

Table 3 presents the association between SRL writing strategies and writing self-efficacy. It was observed that the resulted rho-values reveal a moderate direct

Table 3. Relationship between SRL writing strategies and writing self-efficacy.

Cognitive Strategies	Rho-value	p-value	Interpretation
Ideation	0.598**	<0.001	Highly Significant
Organization	0.591**	<0.001	Highly Significant
Grammar and spelling	0.466**	<0.001	Highly Significant
Use of English writing	0.468**	<0.001	Highly Significant
Self-efficacy for self-regulation	0.548**	<0.001	Highly Significant
Metacognitive strategies			
Ideation	0.550**	<0.001	Highly Significant
Organization	0.553**	<0.001	Highly Significant
Grammar and spelling	0.429**	<0.001	Highly Significant
Use of English writing	0.469**	<0.001	Highly Significant
Self-efficacy for self-regulation	0.534**	<0.001	Highly Significant
Social Behaviour Strategies			
Ideation	0.490**	<0.001	Highly Significant
Organization	0.474**	<0.001	Highly Significant
Grammar and spelling	0.305**	<0.001	Highly Significant
Use of English writing	0.308**	<0.001	Highly Significant
Self-efficacy for self-regulation	0.445**	<0.001	Highly Significant
Motivational Regulated Strategies			
Ideation	0.528**	<0.001	Highly Significant
Organization	0.554**	<0.001	Highly Significant
Grammar and spelling	0.375**	<0.001	Highly Significant
Use of English writing	0.413**	<0.001	Highly Significant
Self-efficacy for self-regulation	0.491**	<0.001	Highly Significant

Legend: Significant at p-value < 0.01.

correlation, and the computed p-values were all less than the alpha level of 0.01. The results indicate that there was significant relationship, which reveals that the better the SRL writing strategies, the greater the English writing self-efficacy.

Specifically, it can be observed that the employment of SRL writing strategies has positive and consistent correlations with learners' writing self-efficacy. Different dimensions of SRL writing strategies showed the strong correlations with writing self-efficacy. The current findings were in accordance with most of previous studies, and the use of SRL writing strategies exerts an influence on learners' level of writing self-efficacy. As it were, self-efficacious learners are likely to make great efforts in planning and revising writing texts by using various writing strategies, and show stronger perseverance and higher motivation in writing activities (Sun & Wang, 2020). In turn, learners with higher level of writing self-efficacy are more willing to adopt SRL writing strategies, invest more time and energy when they encountered frustrations or failures in writing (Kim et al., 2015).

In addition, writing self-efficacy can be conceptualized as learners' judgement of their own capacities in implementing and regulating the course of writing behaviour. SRL writing strategies can be viewed as a dynamic and constructive process in which learners complete their writing tasks by monitoring their cognition, behaviour and motivation. The current study reveals the predictive role of SRL writing strategies in the level of learners' writing self-efficacy, which confirms with the previous bulk of research. As an active writing behaviour, the use of SRL writing strategies contributes to learners' writing self-efficacy in EFL contexts. As prior researchers claimed, SRL writing strategies were positively linked with writing self-efficacy. What's more, Steward et al. (2015) put forward that the improvement of learners' writing self-efficacy has a close relationship with their beliefs of the employment of metacognitive strategies. Similarly, Ekholm et al. (2015) conducted a research concerning undergraduate students' writing proficiency, which reported students' writing self-efficacy was significantly linked with their self-regulation behaviour.

Moreover, the use of SRL writing strategies can be viewed essentially as a self-regulatory behaviour, which exhibits a reciprocal relationship with writing self-efficacy. In simplest terms, the act of self-regulatory behaviour can influence the level of learners' writing self-efficacy; the presence of writing self-efficacy in turn enhances learner agency to take self-regulated strategies or actions. As Pajares and Valiante (2006) stated, writing self-efficacy and writing self-regulation are like "kissing cousins" and affect each other mutually.

Finally, it can not be ignored that there exist slight differences among specific dimensions of writing self-efficacy in light of the results. More explicitly, most of participants reported a relatively moderate level of writing self-efficacy concerning ideation and organization and a low-to-moderate level of writing self-efficacy related to grammar and spelling. In other words, most of the participants were relatively efficacious in ideation and organization if they claimed the active use of SRL writing strategies. Thus, the findings make a significant contribution to

explore Chinese EFL learners' use of SRL writing strategies and the effects on learners' writing self-efficacy. The improvement of learners' use of SRL writing strategies or writing self-efficacy can contribute to the enhancement of the other. More importantly, the reciprocal correlations between the use of SRL writing strategies and writing self-efficacy should be properly emphasized between teachers and learners.

5. Conclusion

Based on the results from the quantitative data, the major conclusions can be drawn as follows. Regarding the use of SRL writing strategies, the participants presented relatively positive attitudes towards four specific strategies. Compared with the willingness to use social behaviour strategies and motivational regulated strategies, the employment of cognitive strategies and metacognitive strategies seems to be relatively less frequent among participants. In sum, the key characteristics of SRL writing strategy use can be expressed as a dynamic, multidimensional and cyclic process in which learners can activate, monitor and regulate writing behaviour by means of self-observation, self-reaction and evaluative feedback.

Moreover, the participants showed a relatively medium level of English writing self-efficacy. Specifically, most of the participants are more confident in the dimensions of ideation and self-efficacy for self-regulation, but relatively weak in the dimensions of grammar and spelling as well as use of English writing. It should be noted that significant correlations are identified among two variables, which indicates the more willingness learners are to use the SRL writing strategies, the greater learners' level of writing self-efficacy will be.

As for the limitation of the current study, a sample size of participants could be expanded for a more accurate result in future research. Meanwhile, a mixed research method should be adopted in order to take a more nuanced look at the correlation between writing variables. Taking a longitudinal research by combining quantitative methods with qualitative methods is encouraged, especially the adoption of semi-structured interviews, writing tests and writing classroom observations.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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