
Original Article

**Motivational Self-regulatory Capacity in L2 Writing:
Developing a Student Questionnaire in a College English
for Academic Purposes Program**

Junko IMAI¹⁾*

Abstract

Replicating Tseng, Dörnyei & Schmitt's (2006) questionnaire development process of "Self-regulating Capacity in Vocabulary Learning Scale," the present study develops a questionnaire instrument that assesses motivational self-regulatory capacity (SRC) in second language (L2) writing. The questionnaire was designed based on Dörnyei's (2001) self-motivating strategies framework; it was also validated and evaluated in three phases by collaborating with English as an additional language students in a U.S. college-level English for Academic Purposes (EAP) program.

Items were first gathered in an item pool based on the literature and the written responses from a focus-group free-writing session. The original questionnaire was piloted with 58 former EAP students in the second phase. The number of items was reduced from 40 to 20 after the item analysis. As preliminary results, the present study describes the motivational SRC among former EAP students and discusses issues surrounding motivational SRC's construct for this academic writing context. With careful reflection of the two phases reported in this study, the initial proposal was revised for the third evaluating phase of the newly developed instrument.

Key words

L2 writing, Individual differences, Motivational self-regulatory capacity, Questionnaire development

1. Introduction

The language learning strategies literature popularized in the 1990s was associated with second language (L2) learners' success when using particular strategies. In the last decade, second language acquisition (SLA) researchers gradually shifted focus from strategies to a new individual difference (ID)

variable called self-regulatory capacity (SRC). SRC is defined as individual learners' ability to autonomously control their own learning for positive consequences; it is also considered the driving force that connects learner motivation to their actual learning strategies use (Dörnyei, 2005; Dörnyei & Skehan, 2005; Ehrman, Leaver, & Oxford, 2003). In

¹⁾ Faculty of International Liberal Arts, Juntendo University
(Email: j-imai@juntendo.ac.jp)

* Corresponding author: Junko IMAI

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other words, they are interested in the process where individual L2 learners use strategies in order to actively learn and to achieve their target language attainment.

About a decade ago, Tseng, Dörnyei, and Schmitt (2006) developed a questionnaire to assess Taiwanese EFL learners' capacity to self-regulate their motivation in vocabulary learning, calling it the "Self-regulating Capacity in Vocabulary Learning Scale" (SRCVOC). The questionnaire was designed based on Dörnyei's (2001) theoretical framework of self-motivating strategies, and the scale was validated in three study phases. By recording the procedures for questionnaire validation, the authors suggested that other researchers should develop similar scales for different language learning domains.

Responding to Tseng et al. (2006), this study replicates their scale design and validation processes by choosing L2 academic essay writing as the domain and develops a questionnaire that evaluates motivational SRC for English as an additional language students in a U.S. college English for Academic Purposes (EAP) program. While writing teachers often coach L2 learners to use various learning strategies, the ultimate outcome greatly depends on how individual learners use these strategies beyond their writing courses. Understanding SRC is therefore beneficial to teachers and researchers, especially when they want to use effective strategy training to help learners become more autonomous.

2. Literature Review

2.1. Self-regulation, strategies and motivation

While self-regulation has been widely discussed among educational psychologists with socio-cognitive perspectives (Bandura, 2002), it is still a relatively new ID variable in SLA (Dörnyei, 2005; Dörnyei & Skehan, 2005). Although socio-cultural perspectives criticize self-regulation as the sole

level of regulation (Lantolf & Thorne, 2007), self-regulation seems to have gained increased interest due to the paradigm shift from learning strategies to motivation in ID research (Dörnyei, 2005).

In L2 learning strategies literature, it is often reported that strategies successful learners choose are different from those chosen by weak learners (e.g., Chamot, 2001; Mitchell & Myles, 2004). However, Cotterall (1995, 1999) suggests that due to ongoing experiences, learners may change their learning strategies when they are cognitively ready. Similarly, Victori and Lockhart (1995) noted how weak learners' misconceptions or faulty beliefs about learning lead to their unsuccessful learning outcome. Here, language teachers' role is to provide learners with sufficient training to use learning strategies for their needs, but L2 learning strategy researchers did not address how learners' cognitive readiness or potentials could be enhanced or how their misconceptions could be removed.

On another front of ID research, some researchers have proposed strong connections between learning strategies and motivation including desire, effort, and satisfaction. With strong motivation, learners would engage in autonomous learning to achieve their goal by choosing strategies that best fit their learning styles; this may eventually lead the learners to be more independent, successful, and autonomous (Gardner & MacIntyre, 1993). In relation to this, Oxford and Nyikos (1989) pointed out the reciprocal relationship between motivation and learning strategies, noting that high motivation leads to increased usage of L2 learning strategies. In line with these insights, motivation research also experienced a paradigm shift. While traditional motivation researcher tried identifying individual learners' motivation as a product (Gardner, 1985), recent motivation researchers largely try to understand the processes where L2 learners become and stay motivated in order to acquire their target languages

(Dörnyei & Ottó, 1998). This process-oriented approach on motivation considers learner motivation as something that evolves over time and that all motivation levels are related. This is where motivational SRC is executed and self-motivating strategy training can take place (Dörnyei, 2001). In this process, self-regulation or action control sustains L2 learners' executive motivation at the actional stage.

The present study takes this process-oriented position and examines "the degree to which individual learners are active participants in their own learning" (Dörnyei, 2001, p. 191); it also assumes that L2 learners' SRC is a potential that L2 instruction can elicit through individualized strategy training.

2.2. Assessing self-motivational capacity

The self-regulation study is also located in another paradigm shift of L2 IDs literature, namely that questionnaire use has moved from research to educational purposes. In order to best promote self-motivation in language learners when choosing appropriate learning strategies, Dörnyei (2001) recommends to periodically investigate learners' perspectives in actual classrooms through questionnaires, rather than simply using the questionnaire for research. This helps teachers to identify better approaches to meet learners' needs and to assist them in raising their awareness of desirable strategies. Self-regulation research (not limited to L2 studies) often uses questionnaires as the main instrument, while some researchers try to understand the participants' responses qualitatively (e.g., Bown & White, 2010).

Because self-regulation has gained attention in the last decade, the only well-known L2 questionnaire to date is Tseng et al.'s (2006) SRCVOC. The theoretical framework they used was Dörnyei's (2001) five facets of self-motivating strategies which was based on Julius Kuhl's Action Control Theory (Kuhl, 1992, 2002). These facets were

namely (a) commitment control regarding original goal commitment; (b) metacognitive control for concentration and avoidance of procrastination; (c) satiation control to eliminate boredom and increase interests to the task; (d) emotion control to manage disruptive emotional states or moods; and (e) environmental control to eliminate negative environmental influences.

By choosing vocabulary learning as the focus, the researchers developed the questionnaire through three validating steps. First, the researchers generated 45 questionnaire items by reviewing studies on vocabulary learning strategies and conducting focus group interviews with two groups of Taiwan-based university students. Then, the researchers piloted the 45 items with 192 college-level EFL students in Taiwan for item analysis, which helped reduce the number of items. Finally, they evaluated the final 20-item questionnaire with 172 senior high school EFL students in Taiwan. By performing confirmatory factor analysis, the researchers proved the reliabilities and validity of their newly developed questionnaire instrument. They recommend researchers to develop similar instruments by choosing a particular learning domain to increase the validity of the self-regulation construct. The present study thus replicates Tseng et al.'s (2006) procedures in developing the SRCVOC questionnaire by choosing another L2 learning and teaching domain.

2.3. Writing strategies and self-regulation

This study chose academic essay writing as the focused domain. While quite a few studies exist on writing strategies and self-regulation in first language (L1) composition literature, not much research on these topics is found for L2 writing.

Both L1 and L2 studies on academic writing strategies began by focusing on identifying the strategies used by successful writers. For example, Hart-

ley and Branthwaite (1989) surveyed 88 British psychologists who had a profound amount of publications; they then identified the writers' habits and attitudes toward their regular academic writing. On the other hand, Torrance, Thomas, and Robinson (1994) surveyed 101 graduate social science research students in British universities and reported their planning of writing, rather than how they combined multiple writing strategies, led to their successful outcome. The above studies were predominantly descriptive in nature, without touching much on L2 instruction.

There are many self-regulation studies on L1 academic writing (Graham & Harris, 2000; Schunk & Zimmerman, 2007; Zimmerman & Bandura, 1994), and all these studies were influenced by socio-cognitive perspectives. For example, Zimmerman and Bandura (1994) examined the relationship between "self-regulatory efficacy" with various attitudinal and performance scales gathered from 95 L1 English students in U.S. college composition courses. They found that the students' scores on their self-regulatory efficacy inventory correlated with their scores on two other attitudinal scales (i.e., grade goals and self-evaluative standards). They found no correlation in efficacy scores between two performance scales (i.e., verbal aptitude and final grades). Their findings indicate that self-regulation strongly related to other aspects of learner attitudes, but was not connected to learners' performance saliently.

In L2 writing contexts, there are only a limited number of strategy studies, but some existing L2 writing strategies studies suggest new perspectives. For example, Cohen and Brooks-Carson (2001) reported possible transfers between academic writing in two languages by administering a questionnaire with 39 college students who were English-speaking learners of French. Petrić and Czár (2003), on the other hand, emphasized the importance of questionnaire validation combined with qualitative inquiries.

These suggestions should be incorporated in the questionnaire development process of this study.

In reviewing IDs in L2 writing, Kormos (2012) recently introduced SRC as L2 learners' capacity and process to manage their own thoughts, emotion, and behavior. She further explained that self-regulation puts learners' affect into action for better learning through effective learning strategy use.

As currently there is no questionnaire instrument that measures motivational SRC in academic essay writing regardless of task importance in higher education, the present study replicates Tseng et al.'s (2006) questionnaire development in this domain.

3. Organization & Method

As self-regulation, motivation, and L2 writing are all process-oriented in nature, this study will also be reported in a process-oriented manner, instead of following the format of typical IMRD research papers. Instead of calling the following section as the results section as research papers normally do, I will call the section as the questionnaire development and report the first two phases of the development, describing detailed procedures and results at the same time.

The questionnaire was developed in Fall 2011. The intended use of this instrument is to assess individual learners' SRC in L2 academic essay writing. As this is a questionnaire validation study, the current study does not project specific research questions as is normally expected in quantitative research. Instead, it describes how I designed the questionnaire and ensured its validity; discuss how the instrument can be further developed; and explore potential pictures of motivational SRC for learners in college EAP programs in the United States.

Although this study initially planned reporting all three phases, this paper mainly reports on the first two phases namely (a) developing item pools from

student-initiated data; and (b) conducting item analyses after piloting an initial questionnaire with a learner group. For all statistical computations in these two phases, I used the Statistical Package for Social Science (SPSS) for Windows Student Version 18.0.

The final phase of this questionnaire development is (c) evaluating the instrument with a larger L2 learner body, which will be reported in my future research. In the conclusion section, I will discuss how the questionnaire can be further developed for the third phase and concerns that emerged for the final stage. Finally, I will describe revised proposal for the third phase of this study.

4. Developing the item pool (Phase 1)

In order to write the scale items for this study, I first developed the item pool and reviewed three different sources: (a) the final 20 items in Tseng et al. (2006); (b) lists of self-motivating strategies in Dörnyei (2001); and (c) questionnaire studies on self-regulation (Zimmerman & Bandura, 1994) and writing strategies (Cohen & Brooks-Carson, 2001; Hartley & Branthwaite, 1989; Petrić & Czár, 2003; Torrance et al., 1994). I first rephrased Tseng et al.'s (2006) items for essay writing. As this study replicates Tseng et al.'s (2006) work, the item pool for this study also assumed that the questionnaire would measure the same five facets of motivational SRC suggested in Dörnyei (2001). I then added 30 items relevant to the subscales based on the other sources. While items were initially drawn from the literature, in order to include the voice from the target population of L2 learners, I asked 15 students to brainstorm ideas on how they control their motivation. The students attended an intermediate writing course in the EAP program and were asked to brainstorm their ideas through free-writing prompts adapted from Tseng et al. (2006). After explaining the study purpose, I randomly distributed the five

different prompts to the students. For each topic, three different students brainstormed ideas based on their experiences. The information elicited through this activity was used to narrow down items relevant to this focused context from 50 to 40 items.

The questionnaire was designed to ask respondents to tick one option that best described their academic essay writing experience, using a Likert-type attitude scale, which ranged from “1: strongly disagree” to “6: strongly agree.” In addition, it also asked respondents to fill out four kinds of profile information (i.e., their major, the last writing course, and the year they completed the English requirements, current university status) as well as an open-ended question, “how do you control your motivation for academic writing?” The questionnaire was prepared online for the convenience of the intended participants in the phase 2 and the actual questionnaire administration was scheduled toward the end of semester (i.e., late November, the end of the Fall 2011 semester).

5. Piloting the instrument (Phase 2)

5.1. Participants

Participants in the second phase of this study were 56 L2 students who finished the EAP program's writing courses (intermediate, advanced-undergraduate, advanced-graduate) in Fall 2007 to Spring 2011. This population was chosen as they were similar to the target population in phase three (i.e., current students in the program's writing courses).

Of the 56 participants, two students finished their writing requirements in Fall 2007, 12 in 2008, 13 in 2009, 16 in 2010, and 10 in Spring 2011 (three did not specify whether they actually finished the requirements or not). More than half of the participants ($n = 30$) completed the advanced level graduate writing course, while the other half ($n = 22$) finished their requirements by completing the ad-

vanced level writing course for undergraduate students. As most students who finished the intermediate level writing courses are normally required to attend one of the two advanced courses, only two participants (who were in the EAP program as exchange students) reported they left the program after finishing the intermediate course. In terms of their academic status, 31 participants were in the graduate program, while 19 of them were in the undergraduate program. Three participants reported that they already finished their degree programs.

Many of the participants ($n=24$) were social science and humanities majors (e.g., anthropology, communication, education, linguistics, music, social work, sociology, political science, psychology) and a substantial amount ($n=13$) were business majors (e.g., accounting, economics, finance, marketing, business administrations, travel industry management). Ten of the participants were science majors (e.g., agriculture, environmental studies, biology, marine studies, medicine, plant pathology, public health) and there were five participants majoring in engineering disciplines (e.g., bioengineering, civil engineering, computer science).

5.2. Procedures

Participants were recruited anonymously through a solicitation email forwarded by the program's director on November 25, 2011; the second solicitation was sent on December 1, 2011 to recruit more participants. Participants who agreed to answer an online questionnaire visited the website link provided in the emails; they responded to 40 items as well as four profile questions and one open-ended question at the end. Out of 510 initial contacts, 58 participants responded to the online questionnaire by the time the link was closed on December 7, 2011, resulting in 11.37 percent of the response rate. Two participants were excluded for statistical analyses for this study because they left the questionnaire with more than

one third of the items unanswered, resulting in a sample size of 56 (original sample: $n=59$).

5.3. Descriptive Statistics

Before conducting the item analysis, the descriptive statistics were computed for all items in order to observe the data's appearance. Table 1 provides the descriptive statistics for the 40 items, arranged based on the mean sizes (from large to small). These descriptive statistics indicate that the participants' responses range from four to five on the six-point Likert scale and that all of the means fell within a neutral point between 3.55 and 4.92.

While most of the items seemed to have normal distribution curves, their means, medians, and modes suggested the distribution of the participants' responses for Item 40 ($M = 4.92$, $Mdn = 5.00$, $Mode = 6$) were somewhat unique. Another thing I noticed was that many items related to the commitment control were scored higher, while those on the metacognitive and emotional controls tend to be scored lower. Many items on the environmental and satiation controls were located in the middle of the table. It was hard to identify any other tendencies from the statistics; it was thus necessary to conduct an item analysis to eliminate any unreliable items.

5.4. Item Analysis

By following the steps conducted by Tseng et al. (2006), two kinds of item analysis were performed: Extreme Group Method and Corrected Item-Total Correlation. First, the Extreme Group Method was conducted to observe if each item discriminated the participants well between the upper 33 % and the lower 33 % of the total test scores (i.e., a sum of each participant's scores on 40 items). I conducted an independent samples t -test for each item to see its item discrimination. Three items (7, 23, and 26) did not discriminate participants reasonably well with $p > .05$. Next, I performed the Corrected Item-Total Correlation Method for each of the five sub-

Table 1. Descriptive Statistics Ordered by Means

Item#. Statement. [Assumed Construct]	M (SD)		
40. I look at a sample or model written by a more proficient writer. [Com]	4.92 (1.16)	12. I can find ways to make compromise in the environment that I am situated. [Env]	4.25 (.84)
26. I review the requirements of the essay in my writing process. [Com]	4.91 (.89)	33. When the topic holds little interest for me, I can find ways to motivate myself to write a paper. [Sat]	4.23 (1.15)
16. I persist until I reach the goals that I make for myself. [Com]	4.70 (1.03)	20. When I find problems in my learning environment, I ask someone else for help. [Env]	4.19 (1.29)
24. I believe I can overcome all the difficulties related to achieving my learning goals. [Com]	4.58 (1.08)	11. I have special techniques to keep my concentration focused. [Met]	4.18 (1.11)
8. I keep in mind what this essay brings to me when I successfully finish writing. [Com]	4.45 (1.05)	19. I have special techniques to control my emotion. [Emo]	4.13 (1.13)
21. I remind myself why I am writing this essay. [Com]	4.33 (1.22)	10. I have special techniques to achieve my learning goals. [Com]	4.13 (1.06)
9. When pressure gets to me, I try to recall something positive. [Emo]	4.46 (.95)	2. I feel satisfied with the methods I use to reduce the stress of essay writing. [Emo]	4.07 (1.11)
39. I look for a good learning environment. [Env]	4.81 (1.03)	36. I am confident that I can overcome any sense of boredom. [Sat]	4.04 (1.14)
35. I am aware that the learning environment matters for my writing process. [Env]	4.66 (.90)	28. I have special techniques to keep myself interested in the topic. [Sat]	4.04 (1.03)
3. I arrange the environment that forces me to start working on the essay. [Env]	4.46 (1.13)	27. I have special techniques to arrange my learning environment. [Env]	4.02 (1.05)
22. I believe my learning environment helps me to write a good essay. [Env]	4.42 (1.21)	14. I share my stress with someone else to elicit their help. [Emo]	4.02 (1.26)
17. I give myself regular self-reminders of the deadline. [Met]	4.73 (1.08)	32. When I feel anxious about my essay, I cope with this problem immediately. [Emo]	3.96 (1.14)
38. When I have problems writing the essay on time, I ask someone else for their advice. [Met]	4.43 (1.22)	5. When the novelty of the topic is gone, I can continue working on the essay. [Sat]	3.95 (1.17)
15. I choose interesting and meaningful topics for me to avoid the boredom. [Sat]	4.65 (1.08)	25. I know how to keep working on the essay, avoiding reoccurring distractions. [Met]	3.95 (1.16)
7. When I get bored with my topic, I talk with someone else. [Sat]	4.46 (1.24)	13. When I find myself thinking about other things, I can refocus my concentration on writing. [Met]	3.93 (1.20)
29. When I feel bored, I try to take a different approach to write the essay. [Sat]	4.33 (1.12)	34. I think my methods of controlling the writing timeline are effective. [Met]	3.91 (1.15)
31. I know how to arrange the environment to make learning more efficient. [Env]	4.31 (1.26)	4. When I feel stressed about the essay, I know how to reduce this stress. [Emo]	3.85 (1.22)
37. When feeling bored with writing an essay, I know how to adjust my mood. [Sat]	4.31 (1.02)	18. I have special techniques to avoid postponing my writing task. [Met]	3.84 (1.15)
1. I think my methods of controlling my concentration are effective. [Met]	4.30 (.91)	30. I talk with someone else about the reasons why it is important to write this essay. [Com]	3.75 (1.39)
6. When I am too anxious to write the essay, I can find ways to overcome the problem. [Emo]	4.27 (1.07)	23. When I feel stressed about essay writing, I simply keep writing. [Emo]	3.44 (1.32)

Note: Assumed constructs: Commitment Control (Com); Metacognitive Control (Met); Satiation Control (Sat); Emotion Control (Emo); and Environment Control (Env).

scales. The decision to delete the items was made (a) when the correlation between the item and the respective subscale was below .40 and (b) if the deletion of that item increased Cronbach's alpha for the respective subscale. Five items (7, 14, 23, 26, and 38) failed both criteria. These five items were subsequently deleted.

To further reduce the number of items, I reviewed the contents of all items (including the deleted ones) by returning to the item pool. Three of the deleted items (38, 7, and 14) asked participants whether they would seek for others' help in respective situations; two other items (20, 30) were also about others' help. In addition, I noticed two other deleted items (23 and 26) because of the participants' weak discrimination when they were asked whether they use specific self-motivational strategies. Six additional items (3, 8, 9, 15, 17, 40) fell in the criteria. A decision was made to exclude these eight items.

With the remaining 27 items, the internal reliability analysis was conducted for each subscale by computing Cronbach's Alpha coefficients. The item reductions continued in order to create the most coherent scales with higher internal consistencies. Seven items (2, 5, 12, 13, 25, 33, and 25) either asked the participants about two different aspects of their strategy use or were complexly worded with more than two phrases. As these items might have confused the participants, I considered deleting them by carefully examining each item's relationship to the respective subscales.

By following Tseng et al. (2006), I decided to retain four items per subscale, resulting in a total of 20 items for the final version of the motivational SRC scale for academic essay writing (see Table 3 in the later section). Table 2 presents the reliability of five subscales of motivational SRC in academic essay writing. The mean Cronbach's Alpha coefficient was .83 and all of the individual subscale coefficients were above .70.

Table 2. Internal Consistency Reliability of the Subscales in the Second Study Phase

Self-regulatory Capacity	Remained Items	Cronbach's Alpha
Commitment Control	10, 16, 21, 24	.80
Metacognitive Control	1, 11, 18, 34	.84
Satiation Control	28, 29, 36, 37	.88
Emotion Control	4, 6, 19, 32	.79
Environment Control	22, 27, 31, 39	.87

6. Preliminary exploration of motivational SRC

6.1. Uni-dimensionality of the scale

Although not initially planned, I explored the uni-dimensionality of the final scale by performing Exploratory Factor Analysis through Principle Axis Factoring (PAF) on the remaining 20 items. The alpha level was set at $p < .05$. A sizable number of correlations were higher than $r = .32$ (Tabachnick & Fidell, 1996). Though the PAF reported four factors loaded with eigenvalues greater than 1, the first factor explained 53.29 % of the item variance with eigenvalue of 10.66, opposing to 1.34 for the second largest factor. This indicates that the uni-dimensionality of the scale measured by the 20 items and what those 20 items measure would be interpreted as the motivational SRC in academic essay writing. Table 3 shows factor loadings on the first unrotated factor of each item in each subscale.

6.2. Motivational SRC among former students

To determine an overall tendency of motivational SRC among the students who completed the EAP program, I computed means of subscale scores as subscales of five motivational SRC constructs in ac-

Table 3. Factor Loadings on One Unrotated Factor Factor 1

	Factor 1
10. I have special techniques to achieve my learning goals. [Com]	.784
16. I persist until I reach the goals that I make for myself. [Com]	.697
21. I remind myself why I am writing this essay. [Com]	.658
24. I believe I can overcome all the difficulties related to achieving my learning goals. [Com]	.737
18. I have special techniques to avoid postponing my writing task. [Met]	.751
11. I have special techniques to keep my concentration focused. [Met]	.772
1. I think my methods of controlling my concentration are effective. [Met]	.599
34. I think my methods of controlling the writing timeline are effective. [Met]	.712
28. I have special techniques to keep myself interested in the topic. [Sat]	.748
29. When I feel bored, I try to take a different approach to write the essay. [Sat]	.702
36. I am confident that I can overcome any sense of boredom. [Sat]	.811
34. When feeling bored with writing an essay, I know how to adjust my mood. [Sat]	.783
4. When I feel stressed about the essay, I know how to reduce this stress. [Emo]	.676
6. When I am too anxious to write the essay, I can find ways to overcome the problem. [Emo]	.696
19. I have special techniques to control my emotion. [Emo]	.610
32. When I feel anxious about my essay, I cope with this problem immediately. [Emo]	.740
27. I have special techniques to arrange my learning environment. [Env]	.787
22. I believe my learning environment helps me to write a good essay. [Env]	.726

31. I know how to arrange the environment to make learning more efficient. [Env] .801

39. I look for a good learning environment. [Env] .496

Note. Extraction Method: Principal Axis Factoring. Assumed constructs: Commitment Control (Com); Metacognitive Control (Met); Satiation Control (Sat); Emotion Control (Emo); and Environment Control (Env).

Table 4. Subscale and Scale Score Means for Former Students of the Advanced Courses

	Completed EAP writing course		<i>t</i>	<i>df</i>
	Adv. GR (n=30)	Adv. UG (n=22)		
Commitment Control	4.72 (.73)	4.03 (.94)	2.95**	50
Metacognitive Control	4.29 (.82)	3.71 (.91)	2.41*	50
Satiation Control	4.46 (.79)	3.81 (1.01)	2.56*	50
Emotion Control	4.38 (.78)	3.65 (.84)	3.25**	50
Environment Control	4.61 (.86)	4.03 (1.10)	2.15*	50
Motivational SRC	4.49 (.72)	3.85 (.83)	2.99**	50

Note. * = $p < .05$, ** = $p < .01$. Standard Deviations appear in parentheses next to the means.

ademic essay writing. The 56 former EAP students had a mean of 4.43 ($SD = .86$) for their commitment control subscale scores; a mean of 4.05 ($SD = .88$) for their metacognitive control subscale scores; a mean of 4.17 ($SD = .92$) for their satiation control subscale scores; a mean of 4.07 ($SD = .89$) for their emotional control subscale scores; and a mean of

4.37 ($SD = .97$) for their environment control subscale scores. While all of the five subscales fell between four (slightly agree) and five (agree), participants scored relatively lower for metacognitive and emotional control subscales compared to the commitment and environmental control subscales. This tendency may indicate the general picture of L2 students who pursue their degrees in an American university.

With the information provided through the computation of the means, I computed a mean of means of the five subscales as the scale score of the motivational SRC for each participant. As a group, the mean of the scale was 4.22 with the standard deviation of .80. This scale scores were distributed nearly close to normal; this may indicate the possibility to treat motivational SRC as an individual difference variable.

Finally, I explored the relationships between the motivational SRC and the learner profile criteria (e.g., the last writing course they attended, current majors, and current academic status). As the last EAP course divided the participants clearly into two advanced groups, I performed an independent samples t-test for each subscale and scale score. The results indicate that the graduate students who completed the advanced course scored higher than those who completed undergraduate advanced courses (Table 4).

7. Discussion

The present study revealed four issues that should be accounted for when developing and validating the questionnaire in my future research.

First of all, involving learners in the process of questionnaire development is essential. In Tseng et al. (2006), the researchers conducted two focus group interviews with students to develop their item pool before reviewing the literature. In the present study, I conducted a free-writing session with 15 participants in order to see what aspects of self-mo-

tivation strategies would be validated in this research context after potential items were gathered. The information from the participants greatly informed me about what appeared significant to the target learners. The present study also had an open-ended question; the participants' comments also informed me of the overlooked motivational SRC aspects in this context. Particularly, many respondents used their experience as former students and left comments about their needs and requests for strategy training in the EAP program.

At the same time, ideas from the participants have suggested that Dörnyei's (2001) five facets of the motivational SRC are unclear. In many cases, the learners combined some of the controls (particularly emotion and satiation controls), and they often reported external solutions (e.g., asking for help for others, choosing topics of their interests, learning goals, and changing environments). If I had another chance to repeat the first two research phases, I would involve learners in the different stages of item analysis. For example, before the piloting phase, the study could have asked learners to review the final item selection. Also, while reducing the number of items, results of the second phase could be reviewed by the participants retrospectively. In all cases, the data could be analyzed qualitatively in more systematic ways and reporting such phases would be significant for future questionnaire development and validation studies.

Secondly, the present study attempted to follow the procedures described in Tseng et al.'s study as fully as possible. Two methods of item discrimination analysis reported here identified different numbers of unreliable items; on one hand, it is useful to identify the least reliable items in multiple methods. On the other, the results suggested that we should be careful in choosing discrimination methods and deleting items for the item analysis. Also, although the reliability analysis identified items that did not cor-

relate with other items intended for the same subscale, the selection of the remaining items was predominantly subjective. In the present study, I later noticed that I deleted items asking the participants about aspects other than self-regulation and particular strategy uses, as well as complexly worded items. This experience tells me two issues. One, items could have been added in the item pool more carefully. Two, although it might be somewhat overlapping, the SRC questionnaire should ask respondents about general tendencies on how they deal with situations, while traditional learning strategy questionnaires have simply asked L2 learners whether they use particular learning strategies that researchers assumed to be beneficial.

While most of the present study's procedures were similar to the original study, I observed the data by computing the descriptive statistics before conducting further statistical computations. I assumed looking at the order of the means at glance did not tell anything about the data; however, mean orders already indicated me about the tendencies of the focused population (e.g., higher scores on commitment control subscales) and possible weaknesses of the questionnaire (e.g., lower reliabilities of the emotion control subscales) that became significant in the later stages of the item analysis. Thus, the initial level of statistics should not be ignored, as it would inform researchers about the next phases of item reduction.

Thirdly, although half of the items in the present study were a rephrased version of the final items of Tseng et al.'s SRCVOC questionnaire, some of the items turned to be unreliable in the present study. This could be related to differences in learner populations and contexts (i.e., EFL learners in Taiwan and EAP graduates in a U.S. university) or learning domains (i.e., vocabulary learning and academic essay writing). In the present study, it is assumed that many of the participants were quite motivated to learn their target language in a context where Eng-

lish is regularly used, despite how some learners score lower than their peers. Also, as seen in the differences in subscale as well as scale means of SRC computed using the remaining 20 items, the graduate students in this study scored much higher than undergraduate students in all areas. Reflecting on these results, questions that should be investigated further would be (a) whether motivational SRC is robust individual learner trait or something that can be enhanced through appropriate strategy training; (b) whether motivational SRC is interrelated with other ID variables (e.g., personality and maturity); and (c) if self-regulation is identified as an ID variable, what approaches could be taken for weak or less self-regulated language learners. These should be explored in the next phase. Also, the questionnaire could be evaluated in various contexts including US EAP programs, Taiwanese EFL contexts, or even in Japanese college EFL classrooms.

Finally, in terms of the logistics of questionnaire administration, the online questionnaire has both advantages and constraints. By administering the questionnaire online, the present study was able to reach out to the graduates of the EAP program who already left the program. However, it did not ensure a high response rate. Furthermore, some technical issues occurred, which prevented me from drawing the respondents' attention to the salient issues I wanted them to focus on. The choice between online and paper-based questionnaire might be an unavoidable problem, but for the next phase, I would carefully choose the media depending on how accessible I am to the intended participants for the study.

8. Conclusion

Findings from the present study contribute to the existing knowledge about L2 learners' motivational SRC as an ID variable and how this capacity is associated with their task motivation, as suggested by Dörnyei (2001). Making a bridge between motiva-

tion and learning strategies literature, this study provides practical implications regarding the role of instructed SLA in assisting individual learners to take ownership of their own learning. Furthermore, the study described the importance of qualitative data, as it can often drive item developments; the study also highlighted the importance of validating questionnaire instruments before conducting the main study in order to gain confidence in the statistical reports.

Developing a reliable instrument also benefits teaching professions because it helps them understand the research context and the nature of students' evolving motivational SRC due to international study experiences.

Notwithstanding the potential significance of this research, this study also has potential limitations. While Tseng et al. (2006) had nearly 200 participants each for their second and third phases, I only received 56 valid responses out of 510. Thus, I expect the maximum number of participants for my third phase would be 100, which is the minimum sample size for the structural equation model with five constructs. Also, SRC may change over time and by contexts; L2 students in EAP programs might therefore be a special group of learners who are highly motivated to write academic essays (as compared to EFL learners in non-English speaking countries such as Taiwan and Japan). To further understand the concept of motivational SRC, results from the questionnaire instrument should always be triangulated with other data sources (e.g., interview, observation, and linguistic analysis).

As the final stage of this questionnaire development and validation, the study should evaluate the newly developed instrument with a larger population (approximately 100 students) in a similar EAP context. Using another statistical software, SPSS Amos, I will first conduct confirmatory factor analysis (CFA) based on the structural equation modeling

(SEM). I will then examine whether the underlying latent construct of the motivational SRC in academic essay writing is a general factor in five sub-dimensions as Dörnyei (2001) suggested. I will subsequently evaluate the dimensionality by examining the measurement model fit; this would be done by observing several fit indices examined in Tseng et al.'s (2006) study. If the hypothesized model is confirmed through these indices, the final motivational SRC construct in academic essay writing will be presented as a path model with the factor loadings of five subscales. Finally, as I reported earlier as a preliminary result, I will perform an exploratory factor analysis (EFA) by computing PAF loadings to ensure the final instrument's uni-dimensionality.

Beyond the final evaluation stage, the present study will fit in my concurrent investigation on L2 writers' task motivation. Dörnyei (2005) proposed three interrelated mechanisms in the task processing system, namely task execution, task appraisal, and action control. For example, by conducting a needs analysis in the participating EAP program, I recently designed a series of writing tasks to train students to provide peer feedback on essay writing within the task-based language teaching (TBLT) framework. I consider peer feedback as one of the strategies to create life-long, autonomous writers. In a concurrent study, I intend to examine task motivation particularly on L2 writing peer feedback from multiple perspectives including interactionist SLA, sociocultural theory, and socio-cognitive theory. To fully examine the task processing mechanisms, I will need to collect written and oral data (for task execution) as well as self-reported data either through a small-scale questionnaire or interview (for task appraisal) in addition to this questionnaire (for action control).

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References

- Bandura, A. (2002). Social Cognitive Theory in Cultural Context. *Applied Psychology*, 51(2), 269–290.
- Bown, J., & White, C. J. (2010). Affect in a self-regulatory framework for language learning. *System*, 38(3), 432–443.
- Chamot, A. (2001). The role of learning strategies in second language acquisition. In M. P. Breen (Ed.), *Learner contributions to language learning: New directions in research* (pp. 25–43). New York: Longman.
- Cohen, A. D., & Brooks-Carson, A. (2001). Research on Direct versus Translated Writing: Students' Strategies and Their Results. *The Modern Language Journal*, 85(2), 169–188.
- Cotterall, S. (1995). Readiness for autonomy: Investigating learner beliefs. *System*, 23(2), 195–205.
- Cotterall, S. (1999). Key variables in language learning: What do learners believe about them? *System*, 27(4), 493–513.
- Dörnyei, Z. (2001). *Motivational strategies in the language classroom*. Cambridge: Cambridge University Press.
- Dörnyei, Z. (2005). *The psychology of the language learner: individual differences in second language acquisition*. Mahwah, N.J.: Erlbaum.
- Dörnyei, Z., & Ottó, I. (1998). *Working Papers in Applied Linguistics (Thames Valley University, London)*, 4, 43–69.
- Dörnyei, Z., & Skehan, P. (2005). Individual differences in second language learning. In C. Doughty & M. Long (Eds.), *The handbook of second language acquisition*. Malden, MA: Blackwell.
- Ehrman, M. E., Leaver, B. L., & Oxford, R. L. (2003). A brief overview of individual differences in second language learning. *System*, 31, 313–330.
- Gardner, R. (1985). *Social psychology and second language learning: The role of attitudes and motivation*. London: Edward Arnold.
- Gardner, R. C., & MacIntyre, P. D. (1993). A student's contributions to second language learning. Part II: affective variables. *Language Teaching*, 26, 1–11.
- Graham, S., & Harris, K. (2000). The Role of Self-Regulation and Transcription Skills in Writing and Writing Development. *Educational Psychologist*, 35(1), 3–12.
- Hartley, J., & Branthwaite, A. (1989). The Psychologist as Wordsmith: A Questionnaire Study of the Writing Strategies of Productive British Psychologists. *Higher Education*, 18(4), 423–452.
- Kormos, J. (2012). The role of individual differences in L2 writing. *Journal of Second Language Writing*, 21(4), 390–403.
- Kuhl, J. (1992). A Theory of Self-regulation: Action versus State Orientation, Self-discrimination, and Some Applications. *Applied Psychology*, 41(2), 97–129.
- Kuhl, J. (2002). A functional approach to motivation: The role of goal enhancement and self-regulation in current research on approach and avoidance. In A. Efklides, J. Kuhl & R. Sorrentino (Eds.), *Trends and prospects in motivation research* (pp. 239–268). Boston: Kluwer Academic.

- Lantolf, J. P., & Thorne, S. (2007). Sociocultural theory and second language acquisition. In B. van Patten & J. Williams (Eds.), *Explaining second language acquisition* (pp. 201–224). Cambridge: Cambridge University Press.
- Mitchell, R., & Myles, F. (2004). *Second language learning theories* (2nd ed.). London, England: Oxford University Press.
- Oxford, R. L., & Nyikos, M. (1989). Variables affecting choice of language learning strategies by university students. *Modern Language Journal*, 73(3), 291–300.
- Petrić, B., & Czár, B. (2003). Validating a writing strategy questionnaire. *System*, 31(2), 187–215.
- Schunk, D. H., & Zimmerman, B. J. (2007). Influencing Children's Self-Efficacy and Self-Regulation of Reading and Writing Through Modeling. *Reading & Writing Quarterly*, 23(1), 7–25.
- Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics* (3rd ed. ed.). New York, NY: Harper Collins.
- Torrance, M., Thomas, G. V., & Robinson, E. J. (1994). The Writing Strategies of Graduate Research Students in the Social Sciences. *Higher Education*, 27(3), 379–392.
- Tseng, W.T., Dörnyei, Z., & Schmitt, N. (2006). A New Approach to Assessing Strategic Learning: The Case of Self-Regulation in Vocabulary Acquisition. *Applied Linguistics*, 27(1), 78–102.
- Victori, M., & Lockhart, W. (1995). Enhancing metacognition in self-directed language learning. *System*, 23(2), 223–235.
- Zimmerman, B. J., & Bandura, A. (1994). Impact of Self-Regulatory Influences on Writing Course Attainment. *American Educational Research Journal*, 31(4), 845–862.