In-Service Middle School English Teachers' Perceptions of Their Beliefs, Knowledge, Practices in Developing Self-Regulated Learners in China

Lei Wang

Syracuse University

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Moon-Heum Cho, Ph.D.

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Abstract

The study aimed to explore in-service English teachers' perceptions of their beliefs, knowledge and practices in developing self-regulated learners in middle schools in China. The participants were 24 English teachers who were administered the questionnaire developed by the author. Survey responses indicated the teachers had a positive perception of beliefs, knowledge and practices in developing self-regulated learners in middle schools in China. Moreover, multiple regression was performed to examine how key demographic variables, including gender, age and teaching experience predicted teachers' perceptions of the importance of teaching students self-regulated learning strategies and skills. The results showed that there were no significant predictors of teachers' perceptions of the importance of teaching students self-regulated learning strategies and skills. Recommendations and suggestions for investigating teachers' perceptions of their beliefs, knowledge and practices are proposed.

Keywords: Self-regulated learning, English teachers, middle schools, Beliefs, Knowledge, Practices, Self- Regulated Learners

1. Introduction

1.1.Brief research background

Fostering students' ability to engage in effective self-regulated learning is an important goal of secondary education, as it prepares students for the demands of higher education or workplace learning. Self-regulated learning abilities are also associated with better academic achievement across childhood and adolescence (Dent and Koenka 2016). Researchers have demonstrated those who achieve academically are often better able to analyze and adjust their approach to learning tasks than are students who are less successful (Bol and Garner 2011; Hacker, Bol, and Bahbahani 2008; Nietfeld, Cao, and Osborne 2005).

1.2.Rationale of the study and relevant literature review

As pressure to increase students' academic success, students need to take ownership of their learning, to become self-regulated learners. Self-regulated learners are often described as strategic, metacognitively guided, and intrinsically motivated learners, who are more likely to be successful in and beyond school (Perry, 1998; Winnie & Perry, 2000; Zimmerman, 2001). However, SRL does not naturally develop as children grow up (Baker, 2005; Bembenutty, 2011). A large body of research has shown that students display high levels of motivation and achievement in SRL processes (e.g., Dignath, Buttner, & Langfeldt, 2008; Hilden & Pressley, 2007; Perry & VandeKamp, 2000; Zimmerman, 2001), researchers have paid less attention to the role of teachers (Hilden & Pressley, 2007) and many teachers remain unfamiliar with SRL (Lombaerts, Engels, & van Braak, 2009; Perry, Hutchinson, & Thauberger, 2007).

Additionally, according to Perry et al. (2008), most teachers agree with the concept to support their students to become self-regulated learners; yet many of the teachers that they investigated reported to feel unsure about how to do that. Knowledge of whether teachers do not *know* how to enhance their students' self-regulation or whether (for unknown reasons) they refuse to, could indicate where teacher training would have to start and which points would have to be addressed. Kramarski and Michalsky (2009) also found that teachers' ability for SRL was associated with their pedagogical knowledge as well as with their beliefs on student-centered learning.

Furthermore, empirical investigations of these issues have been conducted mainly in Western countries. Relatively scant studies have focused on teachers' roles in Asian countries and regions, such as mainland China.

1.3.Statement of purpose

Therefore, driven by this situation, the author believes efforts to study how Chinese teachers perceive SRL, what knowledge they have already known about SRL, what influence them to develop or implement, and how SRL is being taught are needed.

2. Literature Review

Rooted in Chinese culture and nurtured by Confucius and Confucians, developing life-long learning skills has been one of the major concerns in Chinese education. The prevalent adage "teaching a man to fish for a lifetime rather than simply giving him fish for a day" by Confucius Along with this domain of research, self-regulated learning (SRL), a multidimensional construct that involves cognitive, metacognitive, motivational, and social aspects of learning, has been theoretically well established.

Considerable empirical evidence attests to the positive impact of SRL not only plays a key role during schooling, but also in the life-long learning journey (van Beek et al. 2014; Kuo 2010). It is a demanding requirement of teachers to teach students to become autonomous and metacognitive learners (Nykiel-Herbert 2004). This challenge is especially salient in Chinese examination-oriented education system.

2.1.The importance of teaching students self-regulated learning strategies and skills

Given the evidence that SRL can be taught to students, the importance of the teacher's role in teaching students self-regulated learning strategies and skills cannot be over emphasized (Azevedo et al. 2008; Cazan 2013). Previous studies have demonstrated that educational instruction or training in specific self-regulation strategies, such as goal setting, self-monitoring, self-evaluation, self-reinforcement, have had positive influence on student achievements (Harris et al. 2011; Schunk and Zimmerman 2007). In another related study, Zimmerman and Martinez-Pons (1988) asked teachers to rate their own perceptions of students' use of SRL strategies. Given

on Likert scales, these teacher ratings were submitted to multivariate analyses along with the students' math and verbal scores on a standardized test. By combining teacher ratings with test scores, the results demonstrated that instruction in SRL provides a valuable contribution to student achievement (Zimmerman & Martinez-Pons, 1988).

2.2.Demographic variables affecting instructional practices

Teacher demographic variables have been noticed by researchers (Elmas, Demirdogen, and Geban, 2011; Lombaert,2009; Lombaerts, Engels, and Vanderfaeillie 2007). For example, Lombaerts et al. (2009) reported that gender had no significant impact on teachers' SRL instruction. However, previous teaching and educational experiences were found to be teacher characteristics that influenced the teaching of metacognition in classrooms (Lombaerts, Engels, and Vanderfaeillie 2007). In a study of pre-service teachers, Elmas, Demirdogen, and Geban (2011) revealed a significant association between gender and instructional style. Female pre-service teachers appeared more willing to apply student-centered teaching approaches, such as inquiry-based teaching and constructivist teaching, than were males. It is possible that teacher background variables might affect instructional practices through mediating variables. Given the limited number of studies and their inconclusive findings, it is worthwhile to gather more empirical evidence regarding the possible relationships between teacher demographic variables and instructional practices.

2.3.Teachers' SRL beliefs on the instruction of self-regulated strategies

Teachers' instructional strategies to develop students' SRL are influenced by many factors and one of those is teachers' beliefs. The literature has demonstrated the significant influence of teachers' beliefs on the implementation of school reforms (Yan 2014; Yan and Sin 2014; Gess-Newsome et al. 2003) and, in particular, on teachers' instructional practices (Yan and Cheng 2015;

Rubie-Davies 2015; Staub and Stern 2002; Zakaria and Maat 2012). Instructional changes are difficult to implement without congruence between those changes and teachers' beliefs about teaching and learning (Gregoire 2003). In particular, empirical studies have demonstrated that teachers with positive beliefs toward SRL are more likely to promote student SRL in their teaching (Lombaerts, Engels, and van Braak 2009). However, other studies (e.g. Dignath-van Ewijk and van der Werf 2012; Spruce and Bol 2015) have reported contrasting results; that is, although teachers expressed positive beliefs about SRL, they did not include SRL strategy instruction in their classroom teaching. Lau (2013) revealed that some teachers perceived SRL as a challenging task for students, although they believed in the potential benefits of SRL-based instruction. It seems that teachers might hold mixed beliefs toward SRL. Further investigation should be warranted.

2.4.Teachers' practices of self-regulated learning in the learning environment

As a construct, teachers' practices of self-regulated learning have been explored by different researchers based on different models. Boekaerts (1996b) developed a structural model (Figure 1) in which self-regulation was divided into six components, which are: (1) domain-specific knowledge and skills, (2) cognitive strategies, (3) cognitive self-regulatory strategies, (4) motivational beliefs and theory of mind, (5) motivation strategies, and (6) motivational self-regulatory strategies (Boekaerts, 1996b). Western teachers make an effort to design interesting tasks in which learned are given many choice (Ames, 1992) in the hopes that students will enjoy performing the tasks. In the contrast, Chinese teachers emphasize reactive autonomy (Littlewood, 1999), e.g., "this social background is difficult to change, now that you have no choice, please love what you do, and do your best". The imperial examination was established in China thousands of years ago. Even today, there are still many social comparisons due to the ultimate examination—

the College Entrance Exam (CEE) in China (Ames, 1992). It is essential to take social and cultural factors into consideration while learning from SRL theories and practices. From the perspective of practice, this study could give some empirical evidence on SRL development in China.

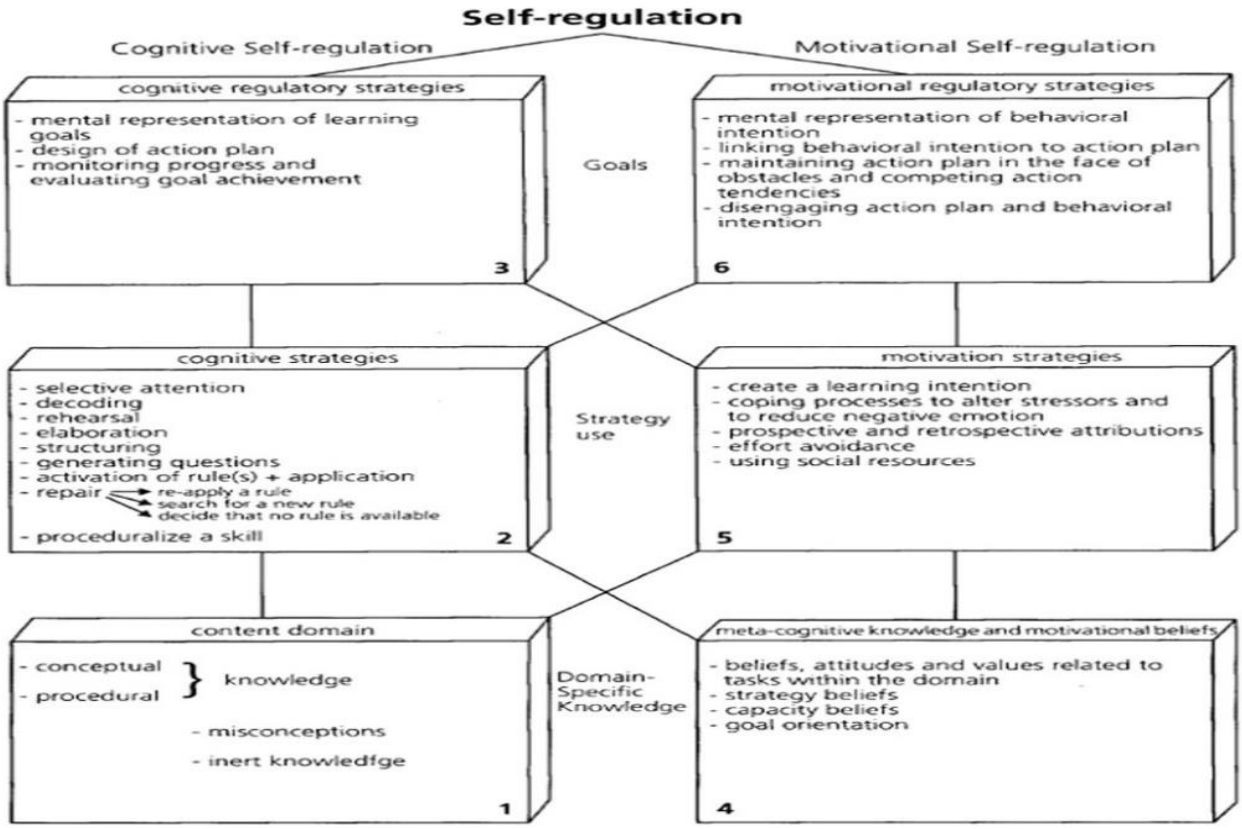

FIGURE 1. Six-component model of SRL. Adapted from Boekaerts (1996b).

2.5.Teachers' knowledge of self-regulated strategies and skills

Most researchers contend that teachers' knowledge of self-regulated strategies and skills directly affect students' classroom practices (Calderhead 1991; Pajares 1992; Woolfolk Hoy et al. 2006). Researchers have connected metacognition knowledge and understandings of how to apply this in classrooms. In developing a measure of metacognitive knowledge and pedagogical understandings of metacognition, Wilson and Bai (2010) administered a questionnaire to 105 pre-service teachers. Findings suggest that the metacognitive knowledge impacted their understanding of how to teach their students metacognitive strategies. However, no measure of actual classroom

practice was provided. Therefore, it is imperative to study actual teacher knowledge with respect to SRL.

3. Research questions

3.1.Brief description of overarching research purpose

Accordingly, this present study focused on the variables important to develop self-regulated learners with the domain of Chinese middle schools. The study aimed to investigate in-service English teachers' perceptions of their beliefs, knowledge and practices in developing self-regulated learners in middle schools in China.

3.2.Present research questions

More specifically, the following research questions were explored in this study:

1) How do the English teachers in middle schools perceive the importance of teaching students SRL strategies and skills?
2) What are teachers' beliefs towards developing self-regulated learners?
3) What knowledge and practices do they use in developing self-regulated learners?
4) What factors impact the English teachers' perceptions of teaching SRL strategies and skills in middle schools?

4. Methods

4.1.Research design: Brief description of research design

This study adopted the quantitative research approach using a cross-sectional survey for data collection. For this purpose, the survey was conducted online by using a Chinese communication tool called WeChat. The instrument used was a questionnaire that was developed to investigate in-service English teachers' perceptions of their beliefs, knowledge and practices in developing self-regulated learners in middle schools in China.

4.2.Samples: Brief description of samples (participants)

The participants consisted of 24 in-service teachers from middle schools in 2 regions, including Beijing and Henan province in China. They both included male teachers (41.7 percent) and female teachers (54.2 percent). Teachers all had experience using computers and Internet as well as teaching in schools from 1 year to more than 14 years. The participants' age ranged from 25 to 54 years old. For this study the teachers from public schools and private schools were both included.

4.3.Instrumentation: Brief description of online survey

A comprehensive questionnaire was developed by the author based on the literature review and her teaching experience. The questionnaire consisted of four sections and was posted online in English considering the target participants were English teachers who were competent in English and had no language barriers in understanding the questions in the questionnaire.

Section 1 focused on collecting demographic data including gender, age, and teaching experience. Section 2 contained 12 statements examining teachers' beliefs towards SRL. Section 3 contained 4 statements examining teachers' knowledge and practices towards SRL. Section 4 contained 12 statements examining teachers' perceptions of their students' self-regulated learning practices.

The author used Think-Aloud strategy to conduct my pilot testing. To do the pilot-testing well, the author tested all the survey steps with the representatives from the sample size. Due to the time conflicts in a limited period, the size of the pilot sample was 3. The author told the participants to share the experience and talked about any question they had. The author also broke down the questions they had and asked them to tell the author more about the details for their

confusion. In the end all participants were all asked to reflect upon the questions encountered and responses provided to see any additional information the author should pay more attention to.

4.4.Procedures: Brief description of IRB approval, recruiting process, timing of survey administration

The author submitted applications and required documents initially on Mar. 3. The author received modification requests from IRB on Mar. 12. Then the paper consent form was updated by adding "the participant is 18 years of age or older." and the duration for competing the survey by participants. Later the forms were resubmitted. The author received approval from IRB. It has been determined by the IRB that the author's protocol qualifies for exemption and has been assigned to category 2. This authorization will remain active for a period of five years from March 17, 2020 until March 16, 2025.

After the author negotiated with our professor, the author decided to use the convenience group to recruit around 50 participants in-service English teachers in Beijing and Henan province. In terms of the advantages of this stand-alone mode of data collection, such as speedy responses, lower cost, and accommodations to smart phones and tablets, the author had more concerns on how teachers interpreted the questionnaire because the teachers were from different parts of districts in China. It was also important for the author to choose reliable English teachers who had the capability to conduct and implement the questionnaire that met the author's desired goal. I organized a WeChat group to invite my friends who would distribute my questionnaire together, introduced my survey step by step and make sure they understood my intention and the procedure before they shared my link with their colleagues. In addition, I asked them to share the screen with me to make sure they had the moderate level of technical proficiency with the Internet and tech gadgets to complete the questionnaire.

For this one-time survey, I used Qualtrics, which provides versions of the questionnaire that could be reviewed by web browsers, mobiles and tablets. After I got approval from Institutional Review Board on March 17, I sent the first message and shared the link with our WeChat group on the next day. I asked my friends and their colleagues to complete the questionnaire for me. The results were not satisfying on the first day. Only 5% responses were well received. To increase response rates, I used incentives on March 22 as well as a message reminder. I used one of the WeChat features Red Pocket Envelope as a tool for incentives. Monetary gifts contained $10 were randomly assigned to participants by clicking the red envelope in the WeChat Group. Incentives assigned on March 22 effectively improved response rates compared to sending no incentive on March 18. I sent a third message on March 24 to remind participants to complete the questionnaire. The survey was open for one week to receive desired responses. Totally the author assumed 75 responses were collected and 15 responses were more than the target sample size.

4.5.Data analysis

Since there were no open-ended questions except one question that required teachers to provide the educational programs they have participated involving self-regulated learning, only quantitative data were gathered from the survey. In line with the research questions, these data were analyzed using SPSS 22.0, descriptive statistics and inferential multiple linear regression (MLR). The descriptive statistics were used for overall mean scores of the different investigated variables. MLR was used to determine multiple independent variables are related to one dependent variable so that an accurate prediction on the level of effect they have on the outcome variables: teachers' perceptions of the importance of teaching students' self-regulated learning strategies and skills.

5. Results/ Findings

5.1. Research Question 1: The importance of teaching students SRL strategies and skills

Descriptive statistics were used to answer RQ1. The responses to Item 2 probing into in-service English teachers' perceptions of the importance of teaching students SRL strategies and skills. With a Likert scale of 1-5, 1 being strongly agree and 5 strongly disagree, the mean scores of the importance of teaching students SRL strategies and skills was 1.61 while ranging from 1 to 4 scores chosen from 23 respondents, which means the mean score is between "strongly agree" and "agree" as seen in Table 1.

5.2. Research Question 2: The teachers' beliefs towards developing self-regulated learners

Similarly, descriptive statistics were also used to answer RQ2. The mean scores of each item in Table 1 were moderately low, ranging from 1.43 to 2.27. The participants' mean score is between "strongly agree" and "neutral" as seen in Table 1.

The comparatively high score was for the item "Students in class have the space to determine what they want to learn."

Table 1 Participants' perception of Self-Regulated Learning

Field	Min	Max	Mean	SD	N
It's important for me to develop students' self-regulated learning strategies and skills.	1	3	1.43	0.590	23
It's important for me to teach students self-regulated learning strategies and skills.	1	4	1.61	.783	23
Students are able to make decisions about the sequence and duration of their learning activities frequently.	1	4	2.09	.949	23
Students are able to make decisions on when they do their assignments more often.	1	4	2.00	.905	23
Students in class have the space to determine what they want to learn.	1	4	2.27	1.120	22
Students in class have the required self-discipline to take responsibility for their learning.	1	4	2.05	.899	22
Self-regulated learning makes students evaluate their learning ways better.	1	3	1.73	.631	22
Each student in class should be given the opportunity to regulate his/her own learning.	1	5	1.91	1.019	22

Self-regulated learning is workable in middle schools.	1	4	2.14	.834	22
Self-regulated learning leads to a more efficient collaboration between students in class than traditional teacher-centered learning styles.	1	4	1.82	.795	22
Self-regulated learning provides students with a more thorough preparation for their transition to high schools than only in traditional teacher-centered learning styles.	1	3	1.67	.577	21
A self-regulated environment makes it easier to take into account students' experiences and interests than only in traditional teacher-centered learning styles.	1	3	1.62	.590	21

5.3. Research Question 3: The knowledge and practices in developing self-regulated learners

For this question, teachers were asked to rate their own perceptions of their knowledge and practices as well as their perceptions of their students' self-regulated learning. Descriptive statistics were applied to answer RQ3. The mean scores (Table 2) of teachers' perceptions of their knowledge and practices in SRL are comparatively lower. The participants hold the attitude between they "agree" and "neutral" towards the items.

As for the items used to investigate perceptions of their students' self-regulated learning, teachers have lower mean scores in students self-regulated learning in goal settings, strategic planning and varying their strategic approach according to their periodic learning outcomes than feeling self-efficacious to achieve goals they set. In other words, teachers need more support in motivational self-regulation instruction and motivation strategies as seen in Table 3.

Table 2 Participants' perceptions of their knowledge and practices in SRL

Field	Min	Max	Mean	Std	N
I have concrete experience in authentic self-regulated learning situations.	1	5	2.13	1.076	24
I question my intuitive beliefs on self-regulation teaching, identify misapprehension, and replace them with new proper action.	1	4	2.21	.977	24
I am skillful in selecting and combining strategies to help my students arrange skills in their studies.	1	4	2.13	.900	24

I am skillful in selecting and combining strategies to help my students generalize questions.	1	4	2.09	.733	23

Table 3 Participants' perceptions of their students' self-regulated learning

Field	Min	Max	Mean	Std	N
My students can work towards their learning goals with my help.	1	3	1.75	.608	24
My students can refine their learning goals when necessary with my help.	1	3	1.87	.626	23
My students can design their own action plans with my help.	1	3	1.77	.528	22
My students can extend or revise their own action plans when necessary with my help.	1	3	1.91	.684	22
My students have the ability to monitor their own behavior with my help.	1	3	2.09	.610	22
My students have the ability to detect mismatches in their learning with my help.	1	4	2.18	.853	22
My students have the ability to determine progress toward their goals with my help.	1	4	1.95	.722	22
My students are prompted to put in more effort to study.	1	4	2.10	.944	21
My students have the ability to regulate their motivation with my help.	1	4	1.95	.669	21
My students have faith in their motivational regulatory strategies when they are learning by themselves.	1	4	2.19	.928	21
My students have the ability to reduce their negative emotion.	1	5	2.43	1.076	21

5.4.Research Question 4: Demographic factors impacting the English teachers' perceptions of teaching SRL strategies and skills in middle schools

To address RQ4 to examine teachers' demographic information predict, multiple regression analyses were conducted. English teachers' perceptions of the importance of teaching SRL strategies and skills in middle schools was treated as the independent variable, with Teachers' demographic information predictors, along with other teacher characteristics including gender, age and teaching experience (In Table 4).

Table 4 Demographic information of Participants.

Demography Variable	N	%
Gender		
Male	10	41.7
Female	13	54.2
Prefer not to say	0	0.0
No response	1	4.2
Age		
Under 24 years old	0	0.0
25-34 years old	6	25.0
35-44 years old	15	62.5
45-54 years old	2	8.3
65 years old or older	0	0.0
No response	1	4.2
Teaching Experience		
3 years or less	3	12.5
4 to 8 years	2	8.3
9 to 13 years	5	20.8
14 years or more	13	54.2
No response	1	4.2
Total	24	100

Table 5 Multiple linear regression analyses for variables predicting teachers' perceptions of the importance of teaching students self-regulated learning strategies and skills.

Variable		b	SE	β	t	Sig.	R^2	ΔF
Teachers' perceptions of the importance of teaching students self-regulated learning strategies and skills							.268	2.197
	(Constant)	.234	1.110		.211			
	Gender	.827	.348	.534	2.375	0.029		
	Age	.089	.487	.066	.183	0.857		
	Teaching experience	-.040	.262	-.055	-.152	0.881		

P<0.005, N=24

Considering the second research question which investigated the predictors of English teachers' perceptions of the importance of teaching students self-regulated learning strategies and skills. The null hypothesis is no significant prediction of their perceptions of the importance of teaching students self-regulated learning strategies and skills by gender, age, or teaching experience (H0: $\beta 1 = \beta 2 = \ldots = \beta k = 0$). An alternative hypothesis is a significant prediction of their perceptions of the importance of teaching students self-regulated learning strategies and skills by gender, age, or teaching experience (H1: At least one β is not zero).

Table 5 presents the findings of the multiple linear regression analysis. The findings indicated that the null hypothesis failed to rejected, and that the alternative hypothesis failed to accepted, which claims no significant prediction of the teachers' perceptions of the importance of teaching students self-regulated learning strategies and skills by gender, age, or teaching experience (H1: At least one β is not zero). In the prediction of Teachers' perceptions of the importance of teaching students self-regulated learning strategies and skills, the model explains 26.8% of total variance and significance, $F (23, 2.197) = 0.124$; $p < 0.005$. The first predictor of gender ($t = 2.375$, $p < 0.005$) does not significantly contribute to and uniquely predicts the teachers' perceptions of the importance of teaching students self-regulated learning strategies and skills. The second predictor of age ($t = 0.183$, $p < 0.005$) does not significantly contributed to the model but with 0.066 value of β, it is the weaker predictor contributing to the teachers' perceptions of the importance of teaching students self-regulated learning strategies and skills. The third predictor of teaching experience ($t = 12.34$, $p < .01$) fails to significantly contribute to the model with -0.055 value of β, making teaching experience the weakest contributor to the teachers' perceptions of the importance of teaching students self-regulated learning strategies and skills.

Overall, all three failed to significantly contribute to the teachers' perceptions of the importance of teaching students self-regulated learning strategies and skills. The best predictor of the three is gender, which means gender relatively contributed to the teachers' perceptions of teaching students self-regulated learning strategies and skills.

6. Discussions

6.1. Discussion 1:

Based on the data the author collected, the mean of the items used for investigating teachers' perceptions of their knowledge, beliefs and practices was less than 2.43, that means the room for self-regulation is very limited for the English teachers in Beijing and Henan province.

However, this is contrary to the literature and the interview conducted after the current study. In teaching practice, Zimmerman et. al (1996) indicated that few teachers effectively prepared students to self-regulate their learning processes. Schunk and Zimmerman(1998) pointed out educators generally accept the important role in behavior played by students' self-regulatory activities, but they often do not know how to teach students self-regulatory skills or how to otherwise enhance students' use of self-regulation principles in classrooms or other learning settings.

On the other hand, this survey indicated 92% of the teachers have never participated in the SRL training program (See Table 7). However, the results demonstrated they have already developed SRL strategies and skills in teaching and have the strongest application of SRL. In the post-survey interview, some teachers reported that since this is a self-reported survey, teachers might have tended to choose positive responses to describe themselves. Taking a survey to measure teachers' perceptions of SRL might be subjective. Having teachers explain SRL during interviews and observing its application in the classroom might be more objective.

Others indicated that they know how to use various cognitive strategies (rehearsal, elaboration and organization), how to plan, control and direct their mental processes towards achieving their students' personal goals based on their teaching experiences.

Table 7 Information about taking parting in programs involving SRL

Field	N	%
Have you ever participated in any educational program involving self-regulated learning?		
Yes	2	8.3
No	22	91.7
Total	24	100

6.2. Discussion 2:

The results didn't show significant differences based on demographic information. In other words, any of the demographic information didn't predict teachers' perceptions of the importance of teaching self-regulated learning strategies and skills. The insignificance difference between male and female teachers didn't conform to the results of previous researchers(Elmas, Demirdöğen, and Geban ,2011; Wilkesmann and Lauer 2015) who reported gender difference might be attributed to the social roles for males and females to implement what or how to learn the course in universities. The results were also contrary to the results mentioned by Yan (2018). She indicated that female teachers claimed to use more SRL instruction in their classes than male teachers. However, gender somehow contributed to the research but not significant based on the data collected(See Table . One possible reason is driven by the intensive standardized tests, the teachers have already developed effective strategies for different students in different contexts and have seen the correlation with academic achievements from their students. Also, as 74% of the teachers who have 9 years' experience or more participated in the survey, they have realized the importance of teaching SRL strategies and skills. Further research about how gender influenced the teachers' perceptions should be explored.

7. Limitations

Limitation 1: The study encountered several risks, including the design of demographic questions, low response rate and other technological problems.

One mistake that was initially made was considering all the 75 responses from the Qualtrics as the sampling size. In actuality, there were only 24 responses. More attention should have been paid to the survey results and the duration of the instrumentation distribution. Even within the small sample size, there were still a few nonresponse errors. Those errors appeared in the demographic section and the last few questions of the other sections. Further research might consider requiring participants to complete all the questionnaire to reduce lower response rates.

Limitation 2: Who distributed the survey is also essential for conducting the survey design.

Although the think-aloud strategy was used to "train" my friend, it was informal. During the talk, teachers showed they were familiar with questions. They didn't many questions about the instrumentation. In fact, teachers interpreted the questions in different ways. Having one administrator conduct the whole study together would be better control the high quality of responses.

Limitation 3: The sample size is too small and from specified chosen locations.

Therefore, this survey might not be generalized or applied on a large population. Data from this survey were collected in a few specific schools located in Beijing and Henan province. More than half of them are experienced teachers with 15-year or more teaching experience. Therefore, the results of the survey couldn't represent an entire population.

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Appendix 1

The results of pilot test

Participants:	n	Average age	Gender ratio: Female/ Male	Average year in school	One or two important information you think valuable to describe
	3	33	67%/ 33%	5	They are all representative samples of the target population. One teacher is from private school and the other two are from public schools in Beijing.
Ethnicity:	Asian				
Income Level:	Middle				

Appendix 2

Summary of the pilot test using think-aloud

Iteration #1	Participant #	Number of Structural Errors Identified	Number of Cognitive Issues Identified	Comments	Revision
1	1	1	1	S1 About age, she questions the span is too broad. C1 A paragraph in the consent form is too hard to understand based on cultural difference.	S1 I Kept the alternatives to make it inclusive. C1 I added Chinese translation to one paragraph that made her feel difficult in the consent form
	2	2	1	S1Too many demographic questions S2 On the consent form, no matter which one I chose, I will participate. C1 Q5 about the employment status, it's hard to define if we are hired by the communities.	S1I kept all the questions in the first section because I think they are important based on the literature review and my experience. S2 I tried to fix it, but failed. C1 Q5 I clarified if the school was a division from the public schools, they should choose the option "Employed by government".
	3	2	2	S1 Question about teaching experience: If I have been teaching for 3 years and a half, which one should I choose? S2Questions about the grade I am teaching? I am right now teaching 2 different grades, which one should I choose? C1& C2 Some words such as metacognitively, procedural and generalize are too difficult to understand in the context.	S1 Choose the rounding numbers when you can't find the exact number when you answer questions about the time or age. S2 I added "D. Others, please specify" to make sure teachers who are teaching students in two or more grades can find an answer to show their current teaching grade. C1& C2 I added an example to interpret how the leading leader in this area define SRL.