

# A Research Design: Investigating the Effects of Self-Regulated Learning Strategies on EFL Learners' Writing Performance: A Case Study of a Chinese University

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## **Abstract**

*Extensive research has recognized Self-Regulated Learning (SRL) as an essential means to explore learner's intrinsic nature like learning motivation and strategies, and investigated its effects on learner's learning outcomes. In such a rich theoretical framework, this paper aims to raise a specific research question on what SRL strategies Chinese EFL learners prefer to use and how the SRL strategies affect Chinese EFL learners' writing performance. The process of the research design begins with the articulation of the author's ontological and epistemological stance, then a discussion on the methodological considerations will be provided. The choice of a mixed method approach with specific techniques—questionnaire and interview—will be explained. Other concerns on ethics, validity and reliability, and limitations in the research design will be further expressed.*

## **Keywords**

*Self-Regulated Learning (SRL), L2 Writing, ontological and epistemological stance, methodological considerations, a mixed method approach*

## **1. Introduction**

It is commonly accepted that writing in second language (L2) is a challenging task to complete as it requires an integrated skill in formulating, organizing and expressing ideas (Zimmerman & Bandura, 1994; Hashemian & Heidari, 2013), the knowledge of writing conventions including grammar, vocabulary and even punctuation and the engagement of a specific audience (Baker et al., 2009). In Chinese EFL context, college students have encountered many difficulties in academic and general writing heavily influenced by external factors such as limitations in learning environment and shared resources, and intrinsic factors such as the lack of learners' confidence (Deng, 2002) and linguistic ignorance (Wu, 2001; James, 2001). The most important reason of learning failure is the insufficient

investment of individual time and energy. It is imperative that EFL learners have to exert great efforts outside the classrooms and continue to be lifelong and effective autonomous learners in order that their writing skills of all genres can be acquired and developed. In other words, writing poses radical challenges to self-regulation (Bandura, 1986; Bereiter & Scardamalia, 1987; Wason, 1980; Zimmerman & Bandura, 1994).

In this research we hereby focus on the Self-Regulated Learning (SRL) strategies and further seek for the contributing factors that constitute EFL students' self-regulated L2 writing learning in a Chinese college, ultimately, examine the effects of the aforementioned strategies on their L2 writing achievement from students' perspective. The following research question is aimed to be answered in this study: What are the SRL strategies adopted by EFL learners in a Chinese college and how do these strategies affect their writing performance from their perspective?

In this paper, the review of literature on definitions and relevant conceptions of SRL and the relationship between SRL and writing practices will be firstly introduced. Next, a discussion on the choice of ontological and epistemological positions will be provided, then explain and justify the methods and methodologies of this research. The ways of analyzing research data, in turn, will be explored in relation to the ethical concerns as well as the research validity and reliability, and limitations of the study will be discussed lastly.

## 2. Understanding the Research Area

### 2.1 Definitions of Self-Regulated Learning (SRL)

Research on how students self-regulate themselves as autonomous learners in academic learning and performance has been starting since the late 1970s. A term in educational psychology *self-regulation* originated from cognitive psychology (Nakata, 2014), significantly affected by Albert Bandura who initially in his publications of 1970s shaped the direction and developed the concept of *self-regulation* (Dinsmore, Alexander, & Loughlin, 2008). With the development of the construct, the increased research focus has been shifted away from formulating theories to testing the self-regulation theory in the education of academic domains (Graham et al., 1991; Zimmerman & Schunk, 2001; Dinsmore, Alexander, & Loughlin, 2008). In the 1980s, a new term *Self-Regulated Learning (SRL)* which is deemed to be an integrated theory of learning (Corno & Mandinach, 1983), emerged and generally gained popularity in the academia. Theorists illustrated their point that compared with metacognition and self-regulation, this construct has a boarder focus, combining all contributing factors including cognition, motivation and context (Dinsmore, Alexander, & Loughlin, 2008). Later researcher and practitioners in their findings re-directed their attention to applying the theory to educational practice by using models and strategies. *Self-Regulated Strategy Development (SRSD)*, part of SRL research (Mason, 2004; Harris et al., 2006), achieved world prominence in teaching self-regulation to learners with difficulties in self-learning.

Dating back to the original background of *SRL*, the core social cognitive theory offered by Albert

Bandura suggested the crucial theoretical element is reciprocal determinism which indicated that learning is the result of personal, environmental and behavioral factors (Schraw, Crippen, & Hartley, 2006), which was acknowledged as advantageous of emphasizing not only student academic performance but also the motivational and motoric dimensions of learning and knowledge (Zimmerman, 1983). Based on Bandura's social cognitive theory, *SRL* has been attempted to be elicited from abundant approaches. It is widely admitted that the mainstream approach focuses on individual factors. The study on this issue can be categorized as component-oriented approach and process-oriented approach (Ziegler, Stoeger, & Grassinger, 2011). The former approach stresses the importance of individual components that shape students learning behaviors. There are three key components involved—cognition, metacognition, and motivation (Butler & Winne, 1995; Zimmerman, 2000; Schraw, Crippen, & Hartley, 2006; Shuy, 2010) or cognition, metacognition, and management of internal and external resources (Pintrich & De Groot, 1990; Ziegler, Stoeger, & Grassinger, 2011), or most commonly described students as “metacognitively, motivationally, and behaviorally active participants in their own learning process” by Zimmerman (1986, 1989a). The process-oriented approach underlies the direct and indirect correlations between all the components mentioned above. Zimmerman (1990) developed the definition by introducing students' responsiveness to self-oriented feedback on learning effectiveness and completed it as “self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals” (Zimmerman, 2000). Self-regulatory processes, in other words, refer to the cyclical behavioral cycles of self-monitoring, self-instruction, self-evaluation, self-correction and self-reinforcement (Shunk, 1996; Harris & Graham, 1999; Schraw, Crippen, & Hartley, 2006; Mace, Belfiore, & Hutchinson, 2001).

Other factors such as learning environment attracted the attention of the researchers. Elements of the learning environment cover the influences from peers (Jones, Estell, & Alexander, 2008) and teachers (Kistner, Rakoczy, Otto, Dignath-van Ewijk, & Klieme, 2010; Maggioni & Parkinson, 2008) inside and outside the classroom as well as home surroundings (Abar, Carter, & Winsler, 2009; Purdie, Carroll, & Roche, 2004) and community environment (Bandura, 1986). Research on both approaches focusing on individual and environment tend to blend them into one systematic approach that views the relationship of mutual adaptation between environment and individual learners as complementary (Boekaerts et al., 2000; Ziegler, Stoeger, & Grassinger, 2011; Zimmerman & Schunk, 2011).

In sum, *self-regulated learning*, as implied literally, refers to one's ability to autonomously monitor, direct and regulate one's behaviors towards the setting goals of information acquisition, expertise expansion and self-reinforcement by understanding and control one's environment (Paris & Paris, 2001; Shuy, 2010).

## 2.2 *The Relationship between SRL Strategies and L2 Writing*

One of the reasons for studying *SRL* is that it is regarded as an effective means contributing positively to the improvement of academic achievement of students with a wide range of proficiency (Schunk, 1981, 1984). Extensive research showed a positive correlation between *SRL* and learners' academic

achievement. The calculation result of effect sizes in the meta-analyses is between 0.45 and 0.62 (Dignath, Büettner, & Langfeld, 2008; Ghonsooly & Shirvan, 2010). On the other hand, different finer-grained empirical analyses proved the significant influence of *SRL* strategies on learner's achievements in academic settings such as schools (Pintrich, 2000, 2004; Svinicki, 2010; Winne, 1995; Zimmerman, 2001, 2008; Zimmerman & Schunk, 2001) or domains such as young learners' writing (Graham et al., 1991). Even though the studies of Graham and Harris (1996, 2005) provided insights to the relationship between *SRL* and language learning, the number of research on this topic is still limited. Yet, although theorists in the field endeavor to resolve the problems that second language learners encountered intrinsically, pedagogical and empirical research in college EFL context is scarce in L2 *self-regulated learning* (Tsuda & Nakata, 2013), let alone in L2 writing *self-regulated learning* specifically.

Second language writing or L2 writing is considered as an every bit difficult process in a second language learning (Grabe & Kaplan, 1996) because many L2 learners never manage to find an appropriate way to write coherently for specific purposes (Al-Gharabally, 2015). Many EFL learners, even those in college who have been continuously studying English for years, often feel overwhelmed when asked to start writing on a topic. In light of the difficulties faced by EFL learners in L2 writing, introducing the *SRL* strategies to assist students to improve their writing skills becomes significant for the reason that students are generally dependent on the external supports such as teachers' instructions and feedbacks (Andrade & Evans, 2013). After students are equipped with the strategies, they are expected to utilize them for processing their learning and become an autonomous writer in an EFL context.

### 3. Philosophical Beliefs and Position in This Study

#### 3.1 Philosophical Concepts and Quantitative/Qualitative Methodology

Two conventional ways of conceiving the social reality are known as the assumptions of *ontology* and *epistemology*. The primary concern of ontology is "the science or study of being" (Blaikie, 2010), in other words, "the very nature or essence of the social phenomena" (Cohen, Manion, & Morrison, 2011, p. 5). Based on the ontological assumptions, epistemology is generated as a concept of acceptable realistic knowledge, analyzing the relationship between the nature of knowledge and human beings. The core of this philosophical belief is to understand the ways adopted by humans to acquire the knowledge and communicate to other human beings. In turn, *axiology*, a new assumption that concerns the values and beliefs that humans hold on the world, as well as *methodological considerations* are thus produced contingent on the two aforementioned assumptions, finally *research methods* are introduced (Hitchcock & Hughes, 1995). Methodology concerns the questions asked by researchers, that is, the strategy or plan of action that lies behind the choice and use of appropriate methods to find out the knowledge (Crotty, 1998, p. 3; Scotland, 2012). Research methods, therefore, are the specific strategies, instruments and procedure for data collection and analysis (Crotty, 1998, p. 3; Cohen, Manion, &

Morrison, 2011, p. 375).

With regard to a research paradigm that can be viewed as “a way of looking at or researching phenomena, a world view, a view of what counts as accepted or correct scientific knowledge or way of working” (Kuhn, 1962, p. 23), namely, a shared set of principles or beliefs to guide actions, the choice of the appropriate research paradigm for specific knowledge is subject to different positions in relation to these assumptions underpinning the particular research approach adopted. In other words, scientific research is conducted within a paradigm that is based upon its own ontological, epistemological and methodological assumptions.

The most commonly accepted categorization of research paradigms are suggested as *positivism*, *post-positivism* or *interpretivism* and *critical theory* (Scotland, 2012). Within social science, the ontological position of positivism is realism, believing that all human beings are rational individuals whose behavior follows the natural laws or law-like generalizations, and also its epistemological assumption is objectivism, that is, perceiving the social world as objective regardless of everyday subjective interpretations and any specific context (Guba & Lincoln, 1994). The traditional social research approach in the nineteenth century was quantitative. Quantitative methodology has its base on the positivist paradigm underpinned by its objective epistemological assumption. Comte, the creator of “*positivism*”, suggested that natural science research methods should also be adopted by social science research, believing that numerical measurements like surveys, experiments and statistical computation result in objective knowledge. A quantitative researcher, therefore, may provide a list of behaviors to be checked or rated by a participant using a presetting scale as an instrument in the research methods (Golafshani, 2003). Numbers and objective hard data can be generated for the research purpose. On the other hand, the deductive procedure of this approach begins with the formulation of a theory or hypothesis then test it. The focuses of this approach is prediction and control, and it aims at testing the existing theory instead of generating any data on social life.

Nevertheless, it is not merely possible that social science can be completely objective as other factors like the values of researchers might alter the results of the research. Therefore, from the twentieth century onwards, *anti-positivism* or *post-positivism* emerged from the opposite viewpoint of positivism. *Interpretivism*, along with other branches and schools of thought, tend to be anti-positivist paradigm for the reason that they both shared the basis of the subjective epistemological position, that is, viewing the social world is created by human personally and stress the importance of understanding how individuals interpret the social world around them (Cohen, Manion, & Morrison, 2011, p. 6; Scotland, 2012). Social science, in this sense, attempts to manage the direct experience of individuals in specific contexts as well as understand, explain and uncover social reality from different perspectives of different participants (Sarantakos, 1998; Cohen, Manion, & Morrison, 2011, p. 15). For fitting this subjective purpose, an alternative to positivist approach, qualitative methodology was introduced. Making distinction from the numerical nature of quantitative methodology, qualitative approach can be broadly defined as “any kind of research that produces findings not arrived at by means of statistical

procedures or other means of quantification” (Strauss & Corbin, 1990, p. 17), “enjoying the rewards of both numbers and words” (Glesne & Peshkin, 1992, p. 8). Based on the subjective interpretivist paradigm, research techniques like interviews and observations are dominant to underpin the research approach. Unlike the focus of quantitative research on causal relationship, prediction and control, qualitative research seeks instead illumination, understanding and extrapolation to similar situations (Hoepfl, 1997). In this sense, the model of inductive approach in qualitative research is employed, conducting the research before theory and seeks to generate theoretical propositions on social life from data (May, 2001). Furthermore, employing the epistemological and ontological viewpoints of interpretivism, qualitative research involves the value of researchers and participants as an integral part of the research (Smith, 1983) as opposed to the exclusion of external observers in quantitative research.

### 3.2 My Philosophical Stance in This Study

Significantly, this study takes a stance within post-positivist paradigm. Post-positivism, similarly to positivism, supports the ontological position of realism that believes the continuing existence of the objective world, but different from positivism, challenges that the world must coexist with multiple external realities, developing to a critical realism in ontology. It assumes the “real” reality exists independently and intractably, but is only imperfectly and probabilistically apprehensible (Guba & Lincoln, 1994). The singular foundational knowledge is replaced by the tentative speculation and deemed to be subjective rather than objective. Research on acquiring such knowledge is thus premised on a subjective epistemological assumption, that is, there is an affinity with the naturalist and interpretive methods to research (Cohen, Manion, & Morrison, 2011, p. 27).

This research can be broken down into two sub-questions as “what” and “how”. Firstly, *SRL* strategies are generally introduced and known by learners and practitioners. Both the theory and its strategies are deemed to objectively exist. Within the specific Chinese EFL context, studying the kinds of strategies used by Chinese EFL learners in self-instructing their writing can be of great accounts to provide an insightful and pragmatic viewpoint for the future development of EFL pedagogical instruction. The answers to the first sub-question about “strategies” provide the academic research area with a singular reality of the concept of *self-regulated learning* and its existing strategies to L2 writing adopted by the Chinese college EFL learners. The findings can be descriptive, general and objective.

Second, the “how” question is indeed interpretative in nature. Researchers of *self-regulated learning* theory acknowledged the considerable experiences that autonomous learners have in using its useful strategies to improve their learning outcomes. The examination of human experiences in creating the social world is the essence of interpretativism. The perceptions of individual learners on the effects of *SRL* strategies on their writing achievements interact with the specific external reality, namely, Chinese EFL phenomena. The standpoint of EFL learners as the research participants to interpret the world is narrative and subjective. Similarly, the standpoint of mine as the external researcher to understand and investigate the behaviors or experience of the participants too is interpretive, specific and subjective.

It is necessary to adopt both quantitative and qualitative methodology to achieve the research purpose

by drawing on a wide range of relevant research methods to analyze the quantitative and qualitative data for different purposes in specific context. In other words, a pluralist methodology of combining quantitative and qualitative approaches, namely, a mixed method approach is in demand.

### 3.3 Adopting Mix Methods Research

Specifically, the combination of quantitative and qualitative methods, namely, mixed methods fits the purpose of this research. On the one hand, a mixed method approach is applicable to the research regarding “reality” as both objective and socially constructed (Johnson & Onwuegbuzie, 2004). In this case, the social reality refers to autonomous learners select a range of *SRL* strategies in a specific Chinese college EFL context, in which the theoretical framework of *self-regulated learning* and the Chinese college EFL learners are considered objective, whilst the reasons of choosing certain strategies given by EFL learners, the measurements of evaluating their L2 writing outcomes and other external factors such as the peer-assisted or teacher-instructed learning environments are subjective.

On the other hand, the choice of methodology is determined by the research questions rather than the preferences of the researcher (Cohen, Manion, & Morrison, 2011, p. 23). A strong mixed methods study starts with a strong mixed research question which always ask “what and how” or “what and why” questions (Tashakkori & Creswell, 2007, p. 207). Questions of this kind are labeled “hybrid” as it requires both numerical or qualitative data to analyze for understanding the social reality. As the research question states, the quantitative data might indicate the extent of the “what” question answers, listing the *SRL* strategies the Chinese EFL learners draw on and prefer, thus complementary to the qualitative research for the “how” question, whilst the qualitative data might offer the responses to the “how” question, that is, the effects of the *SRL* strategies have on Chinese EFL learners’ writing performance, the core in the research. In regard to the research design, “*sequential mixed design*” (Teddlie & Tashakkori, 2009, p. 26) is adopted as it emphasizes the sequence of using different approaches, therefore, the criteria of *fitness for purpose* can be met. In this research, quantitative inquiry runs firstly, for the reason that without knowing the strategies chose by Chinese EFL learners, it is inaccessible to the next question because the general picture of what *self-regulated learning* and its strategies are and what Chinese EFL learners prefer to use when learning L2 writing skills is not built as the basis of the research. Subsequently, qualitative inquiry comes next to address the “how” question, that is, investigating the influential strategic factors perceived by learners’ in specific knowledge phenomena on their L2 writing study. In processing the data, the quantitative data (i.e., strategies) might be converted into narratives for complementing the qualitative research.

Advantages of using a mixed methods approach are to generate real answers to real questions in the real world, provide a broader perspective for researchers to view the issue, offer rich data to afford triangulation, assist researchers to approach the research from a standpoint of integrated purposes and research questions (Cohen, Manion, & Morrison, 2011, p. 26) and enhance transferability, generalizability, and practical significance (Onwuegbuzie & Leech, 2004). In this study, a mixed method approach employed can provide other researchers in the field with other pragmatic perspectives

to view the same topic (i.e., the SRL strategies) in the other context (i.e., Chinese college EFL class). However, there are other challenges that mixed methods faced such as the conflict in data collected from the quantitative and qualitative approach, for example, in this case, the quantitative data that looks for SRL strategies used by EFL learners for learning writing is not consistent with the data of qualitative methods like interviews that reveal a variety of different information.

In sum, though doubts on the validity and reliability of data generated from mixed methods still exist, in this study, drawing on a qualitatively led mixed methods approach fits the purpose of the study for capturing the complexity of educational issues and yielding valuable insights into the related research.

#### **4. Research Methods and Concerns**

##### *4.1 Research Style—Case Study*

A rigorous research design firstly relies on a rational choice of research strategy. Yin (2003) presented in her writing that three predominant conditions for choosing one proper research strategy over another consist of:

- *the type of research question being posed,*
- *the extent of control an investigator has over actual behavioral event, and*
- *the degree of focus on contemporary as opposed to historical event.*

This study draws on the case study research strategy. The justification of selecting case study strategy in this research is based on the post-positivist paradigm underpinned by the subjective and naturalist epistemological assumption.

Regarding definitions, the widely accepted concept of case study is “a single instance of a bounded system, such as a child, a clique, a class, a school, a community” (Creswell, 1994, p. 12) which focuses on investigating an extreme or unique account of one or more cases or phenomena within a real-life specific context. The term “case” refers to an individual, organization or institution, event, or action, existing in a specific time and place (Robson, 2002, pp. 181-182). In case study research, single or multiple cases can be studied through blending quantitative and qualitative data obtained from a mixed methods research approach (Cohen, Manion, & Morrison, 2011, p. 24).

Based on my interpretation of the nature of case study strategy in which three considerations are emphasized, including the questions being answered, how much control the researcher can exercise and the contemporary contextual situation the research focuses on, the following reasons explain the principles I follow in this study: firstly, the focus of the research question in this study refers to not only the *SRL* strategies used but also the effects of these strategies investigated by the participants. The former part of the question tends to be descriptive and exploratory while the latter one is considered explanatory by nature, matching the mixed method paradigm. Importantly, the findings of the latter question are valued considerably for the continuity of this study. Second, the perceptions of the participants are subjective, therefore, there is little control that I as the researcher can exercise on the results. Lastly, the contextual conditions are preset in the research as EFL in Chinese educational



phenomenon that is specific and unique by nature. All these realistic conditions thus enable the usefulness of the application of a case study strategy.

Furthermore, this study employs the embedded, multiple case study design, concerning a comparative purpose of data collection in different circumstances. Akin to a quasi-experiment known as an empirical study used to test the casual hypotheses that the intervention might or might not have an impact on its target population, I as a researcher, desire to know the influences of the *SRL* strategies (i.e., the intervention) on the writing performance of EFL learner's in a Chinese university. The unit refers to EFL learners in a Chinese university and the sub-units include the schools, the classes and teachers in this college. The analysis of the units of all kinds is practical, generating real results in real situations, therefore, it is expected to be understood by a wide audience, particularly researchers in the academia, as well as assist other researchers to interpret other similar situations or cases.

Conversely, it is argued that the results from a case study research are not generalizable and may be selective, biased, personal and subjective (Nisbet & Watt, 1984). Though these weaknesses are unavoidable for its subjective nature of the case study strategy, it should be cautious for researchers to avoid worsening the situation when planning and conducting the research.

#### 4.2 Sampling Concerns

As mentioned in section 3.3, a *sequential mixed method* approach is employed, and the sampling strategy in this study adopts both probability and non-probability samples (Yu, 2007; Teddlie & Tashakkori, 2009, pp. 108-191). *Stratified purposive sampling* is a useful strategy by which the researcher decides subgroups within the target population (i.e., EFL learners in a Chinese college) and selects limited cases from within each subgroup. The selection is based on purposive sampling strategies, namely, the criteria of fitness for purpose (Cohen, Manion, & Morrison, 2011, p. 163). In this case, the numerical data gathered from the quantitative research is used to set the scene for qualitative approaches as the qualitative data is emphasized, laying great stress on purposive and non-probability sampling.

#### 4.3 Research Instruments

Data collection relies on a wide range of research procedures and instruments. Often the quantitative approach favors close-ended questionnaires and tests to gather numerical data, whilst, the qualitative design make use of open-ended questions questionnaires, interviews and observations. Decisions of choosing the research methods in any paradigm should be made on their suitability, that is, the criterion of *fitness for purpose*. The research procedure starts with a questionnaire in the early stage, aiming primarily at present the choices and preferences of EFL learners' on the *SRL* strategies, followed by in-depth investigations in the form of interviews and classroom observations, leading to a further illustration on how these strategies affect Chinese EFL students' writing performance.

##### 4.3.1 Questionnaire

Questionnaire design, objective by nature, is widely used as a quantitative instrument in the science research. The questionnaire can effectively function in collecting survey data, providing structured and

quantitative statistics and assisting the comparative study for research (Wilson & McLean, 1994). The advantages and disadvantages of the questionnaires coexist from different perspectives of researchers. Advocates give some reasons that the questionnaire is (Cohen, Manion, & Morrison, 2011, p. 377; Zohrabi, 2013):

- *time and cost-efficient;*
- *able to collecting data on a large-scale basis;*
- *able to be sent simultaneously to a great number of people;*
- *able to be conducted without the presence of the researcher.*

It is argued by the opponents that the questionnaire is (Cohen, Manion, & Morrison, 2011, p. 377; Zohrabi, 2013):

- *possible unsophisticated;*
- *collecting limited scope of data;*
- *receiving limited flexibility of response;*
- *collecting inaccurate and ambiguous data;*
- *in a lower return rate when sent by post or email or without the presence of the researcher.*

The primary concern of designing a questionnaire, therefore, is to ensure that it is “valid, reliable and unambiguous” (Richards & Schmidt, 2002, p. 438). Planning a questionnaire method begins with the selection of sample. The target population in this phase of study is all students in the English language classes of a Chinese college, specifically, this is a group of learners with fine language proficiency, estimated around 1.000 college students of different grades and schools in an equivalent number of male and female. After that, the type of questionnaire is a mixture of closed-ended and open-ended question semi-structured format. The questionnaire comprises the demographic, attitudinal sections in questionnaire items like multiple choices, rating scales, ratio data questions and open-ended questions. The anticipation of using such question items is to understand the Chinese EFL learners’ attitudes towards SRL strategies, their learning experiences of self-regulation, their preferences to the SRL strategies in relation to writing and the reasons why they choose such strategies over others. After devising the questionnaire, piloting and refinement are conducted to modify the content like wording and sample demonstration.

Abiding the rules of planning, devising, piloting, refining and managing the questionnaire, the data is collected successfully for further analysis. The task of editing the questionnaire is introduced for error identification and elimination in three main criteria: completeness, accuracy and uniformity (Moser & Kalton, 1977). Pre-coding is an effective tool to use in data reduction for the close-ended questions while for the open-ended questions, a post-coding frame is more suitable. Currently, SPSS, a popular computer-based statistical analysis software, is used to aid the process and comparative analysis of the numerical data in this study.

In this research, the implementation of a questionnaire method is deemed to guide the in-depth qualitative research and analysis in the next stage through topic exploration and content design.

#### 4.3.2 Interview

Subsequently, the qualitative stage of research is then planned and manipulated after the completion of analysis in quantitative data. Interview, as a popular and distinctive technique of collecting qualitative data, proceeds to assist the researcher to obtain the information given by the respondents and investigate their intrinsic ideas. It has been defined by Cannell and Kahn (1968) that an interview is “a two-person conversation initiated by the interviewer for the specific purpose of obtaining research-relevant information, and focused by him on content specified by research objectives of systematic description, prediction, or explanation”. Part of the strengths of an interview tool include (Johnson & Turner, 2003, p. 308; Cohen, Manion, & Morrison, 2011, p. 411):

- *direct interaction allows for greater depth;*
- *direct verbal interaction is allowed;*
- *Relatively high response rates often attainable;*
- *Good for measuring attitudes and most other content of interest;*
- *Useful for exploration and confirmation;*
- *Allow good interpretative validity.*

The weaknesses of the interview are presented as follows (Cohen, Manion, & Morrison, 2011, pp. 411-412; Zohrabi, 2013):

- *Interviewer bias and subjectivity;*
- *expensive to pay for interviewees and time-consuming in data collection and analysis;*
- *Perceived anonymity by respondents possibly low.*

In this study, a semi-structured interview approach is loaded for its flexible and moderate in nature. The preset outlined topics enable the interviewer to follow the systematic ideas while the flexible form of implementation allows the interviewer the adjust the questions according to the responses of the interviewees. In planning the interview, the preliminary and critical stage is the matizing, that is, the determination of the both general and specific research purposes. Specifically, in this qualitative interview method, the goal is to understand the positive and negative effects of the SRL strategies on their writing performance, taking into account the factors of individual personality, self-efficacy, motivation and culture, furthermore, probing the perceptions of learners on comparing SRL-guided autonomous learning and teacher-instructed autonomous learning. After that, the sample size of interviewees is decided based on purposive sampling strategy. Twenty students—half male and half female—in different EFL classes categorized in terms of language proficiency level are invited. Prior to piloting and conducting the real interview, question format and response mode are first constructed. Interview questions are experience questions adapted from the Self-Regulated Learning Interview Schedule (Zimmerman & Martinez-Pons, 1986, pp. 617-618), exploring their learning strategy use, learning motivation, self-efficacy beliefs and even negative feelings like anxiety and self doubt.

Once data from interview have been collected then transcribed, the following step is coding, that is, the translation of question responses and respondent information to specific categories for the purpose of

analysis (Kerlinger, 1970). Content and discourse analysis are undertaken for open-ended questions and data presentation in this research approach is in the form of discursive manner. NVivo, a popular qualitative data analysis software, is used to assist the data analysis.

Therefore, the combination of quantitative and qualitative data is used to address the research questions of “what” and “how”. Through comparing and integrating the data, findings might carry some important implications for Chinese EFL teachers to improve their language instructions and understand students’ internal factors.

#### *4.4 Ethical Issues*

Before concerning the access of a research, ethical issues should be taken into account first. The key ethical issues—informed consent, confidentiality, privacy and anonymity are applicable to both the quantitative and qualitative methods (Cohen, Manion, & Morrison, 2011, p. 377, p. 442).

Questionnaire respondents and interviewees can only be encouraged rather than forced to complete a questionnaire or participate in an interview. Researcher has the obligation to explain the research facts like the nature and purpose to the participants, emphasizing no harm will be done to the participants physically, mentally and emotionally (Coles & McGrath, 2010, p. 61). For that, an informed consent should be given to all participants (i.e., the learners and their teachers or parents), stating clearly that the researcher respects the right of individuals to exert control and take decisions in the research, in other words, they can choose whether or not to take part in the research or withdraw at any stage. Regarding this research, the participants are adults mostly aging from 18-20 years old, thus they have the right or freedom to make their own decisions without any supervision from guardians or parents.

Additionally, researchers should guarantee the confidentiality of participants’ identities by the direct means of not revealing the participants’ names or other identifications. The quantitative method like a questionnaire normally bears no identifying marks, so it is ensured complete and total anonymity. By contrast, the principal means of guaranteeing the anonymity in the qualitative method like an interview include the use of password-protected files when storing the data or the use of aliases or codes when reporting the data. On the other hand, another way to protect the participants’ right to privacy is the nondisclosure of any information that might enable the individual to be traced. For this purpose, the participants can require a signed statement from the researcher. During the interview process, the problems of threat or sensitivity are more often encountered than questionnaires for the reason that fact-to-face communication, even it is informal, can still make interviewees emotionally intense. In this case, there is a worry of personal power I have for the interview. My position in the college being investigated is a college English teacher with an experience of more than nine years so that my colleagues are likely to reveal my identity to their students who might become my research participants later. The interviewees might feel uncertain when they are asked some questions related to their English study and worry about receiving any criticism if they don’t answer the way that I expect. The results of the interview might be distorted and reduce the level of validity and reliability.

#### 4.5 Reliability and Validity

The two key criteria for evaluating the quality of research, namely, validity and reliability are indispensable to measure the effectiveness of a research. Reliability is defined as “a synonym for dependability, consistency, and replicability over time, over instruments and over groups of respondents” (Cohen, Manion, & Morrison, 2011, p. 199). It is widely accepted as “largely positivist” (Guba & Lincoln, 1994), that is, solely suitable for testing quantitative research, though it remains for questioning. Validity assesses whether the research instruments or methods are accurate and whether they measure what they plan to measure. Therefore, the idea, as important as reliability, is most often applicable to all kinds of research.

This study is intended to use triangulation (i.e., the use of two or more research methods) for data collection. Claimed by expert researchers, the more methods used, the greater confidence of the uninitiated researcher can boost (Cohen, Manion, & Morrison, 2011, p. 195). A mix of questionnaire and interview methods help achieve validity and reliability in this research. Whilst the questionnaire method is more reliable because its anonymous feature, face-to-face interviews encourage people to provide more information which improve validity in research. As both methods have their advantages and disadvantages, a combination achieve the purpose of complementation. For achieving higher levels of validity and reliability, sampling for questionnaire and bias of interviewers in this study are two major problems to be carefully tackled.

#### 5. Limitations of the Research Design

This study is limited in three points. Firstly, the pragmatic implication of this research is questioned for the reason that the research examines the findings from a limited scope-one Chinese college. Further studies should take a wider research scale into account for the purpose of generalization. Secondly, the target population of the questionnaire is relatively narrowed to a specific group of learners with relatively similar language proficiency level. This focus tends to also limit the value of the findings. Thirdly, the student interviewees are selected purposely from different classes led by teachers with different instructional styles and linguistic abilities. Lastly, the elusive nature of *self-regulated learning* concept leads to difficulties of motivating students to participate in the research. These limitations, conversely, can be transformed as useful insights for future research directions regarding the relationship between SRL and language learning, and other ways of exploring the writing techniques and strategies of Chinese college EFL students adopted. Research on aspects of gender and time as influential factors of the effects remains further explored.

#### 6. Summary

This paper firstly generated a research question after review a wide range of literature, then began justifying my ontological, epistemological and methodological positions in this research, along with the introduction of the quantitative and qualitative approaches within a post-positivist paradigm. Research

design and methods are explicitly indicated, followed by the prediction of data collection and analysis. Finally, the issues of ethics, validity and reliability are addressed.

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