The Concept and Instruction of Metacognition in Translation Competence Development

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[Abstract] How to enhance students' translation competence (TC) is the essential issue in translator education, but scholars have not reached an agreement on the constitution of translation competence. Reviewing the development of translation competence, this study tries to clarify the constitution of TC in the present context, and reveals strategic competence—metacognitive competence, the central competence that dominates, harmonizes, and optimizes other sub-competences. Based on the review of the understanding of metacognition, the study elaborates the definition of metacognition, the significance of metacognition in learning, and the value and function of metacognition in translator education. In light of previous research, the study proposes the model of metacognition—ALERT, and explores how to integrate the model in translator education to enhance translation competence effectively, to improve translation quality and efficiency, and to cultivate metacognitive-conscious, autonomous, self-directed, competent translators, and lifelong learners.

[Keywords] translation competence; metacognition; concept and instruction

Introduction

Being a complex, multifaceted concept that involves a number of factors, translation competence (TC) has become one of the most widely discussed issues in translator education. However, scholars have not reached an agreement on a lucid definition and constitution of TC. Reviewing the development of TC and metacognition, this study aims to explore the following questions: (1) What comprises TC? What is the role of metacognition in TC? (2) How is metacognition—strategic competence developed to enhance TC and cultivate metacognitive-conscious, autonomous, self-directed, competent translators?

The Concept and Constitution of Translation Competence

TC models have been discussed by scholars from different perspectives for the past four decades. Harris (1973) considers translating as an innate skill of bilinguals that does not differentiate TC from bilingualism. The following researchers develop translation competence with various foci. Delise (1980), Campbell (1991), Presas (1997), Yang (2002), and Wang (2013) interpret TC from the linguistic-oriented perspective, holding that the language competence is the central competence. Wilss (1976), Robert (1984), Hurtado (1996), Neubert (2000), and Jiang and Quan (2002) offer TC models from a transfer-oriented perspective, considering the transfer of two languages the core competence without pointing out the contextual, dynamic feature of translation. Nord (1991), Bell (1991), Hatim and Mason (1997), Schäffner (2000), Beeby (2000), PACTE (2000), and Davies (2004) present models from the perspective of transfer concerning the dynamic context, believing that transfer ability, which involves contextual, functional and communicative factors, is the core. Gile (1992), Kiraly (1995), Nord (1996), Campbell (1998), Pym (2003), Kelly (2005), and Ma (2013) put forward TC models from a communicative perspective, considering the ability to produce effective target texts as achieving the functional and communicative purpose as the core. Hönig (1988), Cao (1996), Vienne (1998), Fox (2000), PACTE (2003), Göpferich (2009), and Wen and Li (2010) propose TC models with strategic competence as the core sub-competence in the communicative, functional context, believing that translation is to realize the communicative and functional purposes with a number of sub-competences, among which strategic competence is the decisive factor that dominates and optimizes the other sub-competences. With the development of the past four decades, most scholars "agree that translation competence consists of several different sub-competences which integrate declarative and procedural knowledge" (Alves, 2005,

p.1).

From a comprehensive survey of the TC models in the 1970s, we have seen the understanding of TC developing from linguistic-oriented, transfer-oriented models to strategy-oriented ones, from fundamental, partial models with basic sub-competences to comprehensive, profound, and systematic models with well-defined core sub-competences and peripheral factors, from static models in linguistic perspective to dynamic models in functional and communicative perspective, which is great progress. Since the world we are facing today is developing unceasingly with varying requirements, updating information, advancing technologies, and multiplying subjects and disciplines, translation, as a result, experiences consequent changes; the purpose of translation, functions of text, target readers, the time, places, and media of target texts in translation are becoming diversified, and the contextual, communicative, functional, and dynamic features of translation are more and more conspicuous and highlighted. Thus, translators are expected to be observant of the development of society, see the whole picture, and try to adjust to the changes of requirements.

Considering the current context of translation, the author regards the TC model proposed by PACTE the most comprehensive and elaborate model with profound understanding of the central competences specific to translation; it defines TC as the underlying knowledge system needed to translate with five sub-competencies: bilingual sub-competence, extra-linguistic sub-competence, translation knowledge sub-competence, instrumental sub-competence, strategic sub-competence, and psycho-physiological components, among which the strategic sub-competence is the most important, as it is responsible for solving problems and comprises the efficiency of the process (PACTE, 2003). Göpferich, also, identifies the strategic competence as metacognitive competence, which sets priorities and defines hierarchies between the individual sub-competences (Göpferich, 2009, p.22). Consequently, the strategic competence, which is a macro-strategy that belongs to metacognition, is the core sub-competence that affects the application and development of other sub-competences and plays a decisive role in enhancing the translation quality and efficiency. Metacognition is what translators need to satisfy the demands of the age, to meet the requirement of translation in the current context, and a powerful weapon that translators must develop to fulfill communicative tasks.

The Concept of Metacognition

The importance of metacognition in the process of learning is an old idea that can be traced from Socrates' questioning methods to Dewey's (1933) perspective that we learn more from reflecting on our experiences than from the actual experiences themselves. What is more recent is the coining of the term "metacognition" and the emergence of a metacognition research field in the last four decades. (Tanner, 2012)

It is John Flavell who puts forward the term in the 1970s and recognizes that metacogniton consists of both monitoring and regulation aspects, and defines it as follows: Metagognition refers to one's knowledge concerning one's own cognitive processes and products or anything related to them… Metacognition refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective. (Flavell, 1976, p. 232)

In 1979, Flavell proposes a model of metacognitive monitoring, which includes four classes of phenomena: metacognitive knowledge, metacognitive experiences, goals (or tasks), and actions (or strategies). Metacognitive knowledge is that segment of a person's stored world knowledge that has to do with people as cognitive creatures and with their diverse cognitive tasks, goals, actions, and experiences. Metacognitive knowledge can be subcategorized into three variables—person, task, and strategy. Metacognitive experiences are any conscious cognitive or affective experiences that accompany and pertain to an intellectual enterprise. Goals (or tasks) refer to the objectives of a cognitive enterprise. Actions (or strategies) refer to the cognitions or other behaviors employed to achieve them (Flavell, 1979, p. 906-911). Flavell also emphasizes that these types of variables overlap, and the individual actually works with combinations and interactions of the metacognitive knowledge that is available at that particular time.

Metacognition then is discussed from different perspectives with various foci (Wellman 1977; Cavanaugh 1982; Gardner, 1987; Schoenfeld, 1987; Afflerbach, 1990; Borkowski, 1990,1992; Baker, 1994; Davidson, 1994; Metcalf, 1994; Butler & Winne, 1995; Zimmerman, 1995; Nelson, 1996; Whitebread, 1999; Zohar, 1999; Pressley, 2000; Borkowski et al., 2000; Hartman H.J., 2001; Veenman, Prins, & Elshout, 2002; Kramarski et al., 2002, 2004; Smith, Shields, & Washburn, 2003; Veenman & Spaans, 2005; Schneider, 2008; Shreve & Angelone, 2010; Frith, 2012; Bergen, 2009; Fleming & Dolan, 2012; Echeverri, 2015); only a few scholars' views will be discussed to clarify the definition with full respect to other researchers.

According to Brown (1978), metacognition has two main components: knowledge of cognition and regulation of cognition. However, the metacognitive knowledge in her interpretation does not include the cognition of others and cognitive universals. Kluwe (1982) includes not only the cognition of the subject, but also that of other persons. Paris and Winograd offer a succinct definition: metacognition "captures two essential features… self-appraisal and self-management of cognition" (1990, p.17), which focuses on the subject and the central function of metacognition, excluding the cognition of others and cognitive universal. Pressley (2000) points out the connection between metacognition and cognition: "It is very hard to have adequate metacognitive knowledge of one's competencies in a domain without substantial (cognitive) domain-specific knowledge." Schraw (1998) defines metacognition as knowledge and regulation of cognition, while knowledge of metacognition includes what students know about their own cognition or about cognition in general. Hacker generalizes the definition of metacogniton with at least these notions: knowledge of one's knowledge, processes, and cognitive and affective states; and the ability to consciously and deliberately monitor and regulate one's knowledge, processes, and cognitive and affective states. Veenman (2005) reveals some factors that may affect the use of metacognition-- task difficulty, test anxiety, lack of motivation, or the inability to see the appropriateness of metacognition in a particular situation.

Reviewing the connotations of metacognition, the definition is becoming lucid and succinct. First, early research distinguishes between metacognitive knowledge and metacognitive experiences (Flavell, 1979), while subsequent researchers come to agree that the metacognitive experiences could be included in metacognitve knowledge as cognition of one's affective state, which is plausible. Second, recent investigations and researches tend to simplify the definition to self-appraisal and self-regulation, excluding the cognitive context, such as cognition of others, cognitive universals, and task. Researchers hold different views about the connotation of metacognitive knowledge--whether the cognition of others and cognitive universals should be included in metacognitive knowledge or whether the cognition of task should be included. We do think that the cognition of oneself is of essential significance in metacognition, while the cognition of others and cognitive universals would offer a context for better understanding of oneself; thus, these factors should be included. Furthermore, the cognition of task provides the necessary information for strategy selection and affects the monitoring and evaluating process; as a result, it should be included. While the core of metacognitive knowledge is to develop a better understanding of oneself and regulate one's performance better, the whole picture would offer sufficient information to develop a comprehensive understanding of oneself, to maximize one's knowledge, abilities, and resources, and to evaluate and monitor the process more effectively so that progress will be achieved.

In summary, metacognition in this research is defined as knowledge and regulation of cognition: metacognitive knowledge includes the cognition of the subject (knowledge, ability, resources, cognitive, affective, and physiological state), others, cognitive universals, and the task, as well as metacognitive awareness; metacognitive regulation involves planning to maximize the resources in certain contexts prior to performing a task; monitoring, regulating to optimize the performance during the task; and evaluating and reflecting cognitive process after the performance.

Metacognition in Translation Competence

The importance of metacognition in learning has been recognized: meta-cognition can be observed as one of the most important factors leading to success in learning (Schraw, 1998; Veenman, Prins, & Elshout, 2002). First, the impact of metacognition in learning has been proved. Students will not really

learn new information if they do not go through a metacognitive realization that requires them to examine how they thought about the topic before and how they are thinking differently about that topic now (Posner et al., 1982), which is in accordance with Dewey's (1933) assertion that reflection on an experience is the key step in learning. Furthermore, there is evidence that improved metacognition is associated with promoting young students' overall academic success (Adey & Shayer, 1993; Kuhn & Pearsall, 1998), the most effective learners are self-regulating(Butler & Winne, 1995, p.245), and students with greater metacognitive abilities tend to be more successful in their cognitive endeavors (Livingston, 1996); individuals with poor metacognitive skills perform less well academically than peers (Kruger, 1999; Dunning et al., 2003). Second, researchers reveal the significant effects of metacognition in problem-solving (Teong, 2003; Berardi-Coletta, B. et al., 1995; Bryce, D. & Whitebread D., 2012). The process of problem-solving involves metacogniton, which plays a unique role that could not be substituted by subject knowledge (Schoenfeld, 1987). Moreover, metacognitive training could improve students' competence in problem-sovling (Mevarech & Zemira, 1987). Third, an adequate level of metacognition may compensate for cognitive limitations (Veenman, Wilhelm, & Beishuizen, 2004; Veenman & Spaans, 2005). Metacognition helps to maximize what one has learned and makes one "do 20% better – you get an extra Friday every week" (Heppell , 2014).

While the significance of metacognition in translation competence is highlighted by PACET, some researchers explore metacognition in translation from different perspectives. Several studies prove the connection between translation expertise and monitoring (Fraser 2000, Hansen 2003, Tirkonnen-Condit, 2004). Göpferich identifies the strategic competence as metacognitive competence (2009, p. 22). Bergon recognizes the central, dominant role of metacognition in translation and proposes that cognitive conflicts could accelerate the translation competence acquisition process besides learning journals (Bergon, 2009, p. 246-248). Based on the recognition of metacognition in translation, Angelone (2010) proves Shreve's (2006) point that both students and professionals utilize metacognition in translation, and expertise in translation is in direct correlation with more efficacious use of metacognition.

However, the value and function of metacognition remains to be elaborated in TC and translator education. First, the enhancement of metacognition is the call of the age. With the constant development of disciplines and technology, especially information technology, translators are facing a world with constantly updating information, with unpredictable problems to be solved in translation tasks, which require more than cognition but also metacognition to optimize the knowledge, abilities, resources mastered, to monitor the process of problem-solving and reflect on what has been performed in order to complete tasks efficiently and effectively while keeping on the track of progress. As Kelly says, translator training is becoming more challenging because the programs "have to try to cater for the huge diversity in the current market, while at the same time foreseeing likely future developments students should be prepared for" (Kelly, 2005, p.27).

Second, metacognition is the call of the essential features of translation competence for the time being. With a comprehensive survey of the TC models from 1970s, we have seen the understanding of TC developing from linguistic-oriented, transfer-oriented models to strategy-oriented ones, from models in static linguistic perspective to models in dynamic, functional, and communicative perspective. Drawing lessons and inspirations from the TC models of the past several decades, we are supposed to take a historical perspective to look at them. When information technology was less developed in the 1970s and 1980s, the instrumental and strategic competences were not as prominent; when translation was largely confined within religion and literature with less need in applied translation, the communicative, functional, and dynamic features were not as significant in the 1970s and 1980s, while the linguistic competence did play an importance role in TC for that period of time. However, with the great development in information technology and multiplying requirement in applied translation, the constitution of TC of qualified and competent translators is being clarified, highlighting the contextual, communicative, functional, and dynamic features of translation, which demands cognition and metacognition to perform the complex, unfamiliar, and non-routine tasks with dynamic requirements. Consequently, metacognition plays the dominating role in TC, which sets priorities and defines hierarchies between the individual sub-competences (Göpferich, 2009, p.22).

Being the central, decisive component in TC for the time being, metacognition dominates, coordinates, and facilitates the development of other sub-competences. Metacognition maximizes and optimizes the knowledge, abilities, resources at disposition with certain language competence, and supports the improvement of translation quality and efficiency; it is the prerequisite to satisfy the demands of the dynamic, contextual, communicative, functional translation tasks; it is what equips and ensures translators become self-directed, autonomous, competent, and lifelong learners who keep making progress in translation; it is what qualified translators need to adjust to the ever-changing and developing society, information, and technology; it is the core to becoming capable and efficient translators in the current context. Therefore, metacogntion is to be stressed and highlighted in TC and translator education. As Baer and Koby write, "We may hope to better prepare students for the workplace by offering them appropriate tools but if our teaching methodology is of the traditional kind—performance magistrate described by Jean-René Ladmiral" (1977) in which the master passes on his/her knowledge to passive apprentices—we may fail to produce translators who are capable of flexible teamwork and problem-solving that are essential for success in the contemporary language industry (Baer & Koby, 2003, p.vii-viii).

Instruction of Metacognitoin in Translation Competence

Metacognition is expected to develop over years (Flavell, 1979); however, metacognitive instruction can help increase this development process. Researchers note that features of self-regulated behaviors can be learned through practice and reinforcement (Schoenfeld, 1987; Mevarech & Kramarski, 1997; Kramarski, Mevarech, & Arami, 2002).

Students, however, show a considerable variation in their metacognitive adequacy. College professors often point out that their students never learned how to learn. Professor Derek Cabrera (2012) was surprised to find that even the "cream of the crop of our education system" was not good at dealing with novel problems in unstructured assignments, which is consistent with the author's observation in teaching and interviewing. Nevertheless, the ability to use meta-cognition does not necessarily come naturally for translation students; thus, learning how to learn cannot be left to students. It must be taught (Gall et al., 1990).

Models of Metacognition for Instruction

Researchers propose models of metacognition to facilitate its development. Bransford's (1993) Ideal Problem Solver has incorporated aspects of metacognition into its model of the IDEAL problem-solver. IDEAL means: (a) *Identify* an important problem to-be-solved; (b) *Define* the subgoals involved in solving the problem; (c) *Explore* possible approaches to the problem; that is, select a set of potential strategies; (d) *Anticipate* potential outcomes before acting on the best initial approach; and (e) *Look* back and learn from the entire problem solving experience. This model emphasizes the identification and definition of problem, selection of strategies, and the prediction and reflection of performance, and overlooks the analysis and assessment of the state of the subject and the task and the regulation of the performance besides reflection. Furthermore, it is a question as to whether or not the identification of the problem is supposed to be set as the first step. It is reasonable to do so for simple tasks, which do not need to be analyzed thoroughly to recognize the problems; the cognition of the subject is to some extent internalized, which does not always demand conscious assessment. However, for complicated and intricate tasks, it does require analysis and assessment of the subject and the task to identify problems.

Mevarech and Kramarski (1997) designed the IMPROVE metacognitive self-questioning model: Introducing new concepts, meta-cognitive questioning, practicing, reviewing and reducing difficulties, obtaining mastery, verification, and enrichment. Studies using this instructional method produced significant results within heterogeneous groups (Kramarski, 2004; Kramarski et al., 2002; Mevarech & Kramarski, 1997). This comprehensive model starts with introduction and meta-cognitive questions, emphasizing regulation and evaluation; however, it moves from meta-cognitive question to practicing directly, without differentiating the analysis and assessment of the subject and the task from the exploring, selecting, and optimizing strategies; additionally, this model, starting with introduction of new

concepts, seems designed in perspective of teaching rather than learning. Veenman (1998) proposes the WWW&H rule (What to do, When, Why, and How). This rule overlooks the metacognitive awareness, omits analysis and assessment of the subject and the task to identify problems, overlooks the maximizing and optimizing of the resources at disposition and selection of strategies, and monitoring, evaluating, and reflecting are not included. Each of the above-mentioned models has its advantages with certain emphasis, while a model of metacognition for translator training remains to be elaborated.

Model of Metacogniton ALERT

We would propose a metacognitive model from learners' perspective especially for complicated tasks as translation—ALERT (Figure1): *Analyzing* the task and assessing relevant knowledge, abilities, resources mastered, and the psycho-physiological state of the subject; *Locating* and identifying problems; Exploring and selecting strategies, maximizing and optimizing the knowledge, abilities, resources mastered and; *Run* the strategies in practice, apply the strategies to solving problems; *Tracking* and monitoring, evaluating and reflecting. There are two features of the model: 1) It sets problem identification after analysis and assessment of the task and the subject, since it would be difficult to identify problems without thorough understanding of where we are and where we are going for complicated tasks. 2) It stresses the maximization and optimization of the knowledge, abilities, and resources at disposition, which reflects the essential value of metacognition.
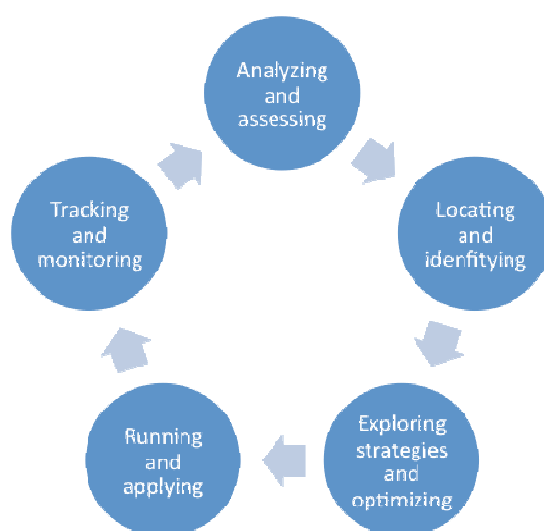

Figure1. Model of metacognition ALERT

Integration of Model ALERT in Translator Training

The strategic competence in the PACTE model has been criticized as being "ambiguous and difficult to put into practice in translator training" (Tao, 2012, p.292). This ALERT model is to facilitate the development of the central competence, strategic competence or metacognition in translation, so that the students' TC can be enhanced.

First, develop from product-oriented teaching to process-oriented teaching to activate trainees' metacognitive awareness and enhance their metacognitive competence. Teachers are expected to advance from product-oriented teaching to process-oriented teaching and emphasize the procedural and conditional knowledge, rather than the mastery of static, declarative knowledge: what metacognitve knowledge, strategies are to be adopted, and how to regulate, evaluate, and reflect on the translation process and products. What teachers are supposed to comment on is not confined to the product of translation but is used to analyze how to produce a better version -- the strategies, tools, resources adopted

to realize the communicative function and render an effective translation product. Second, the 3-phase method integrating model ALERT. Metacognition is supposed to be included in the course of translator education, and the model ALERT is supposed to be integrated in each phase of the course.

Phase one: highlight the significance of metacognition before concrete translation activities. (1) Introduce the concept and value of metacognition to students explicitly by providing the ALERT model, which assists students in realizing the significance of metacognition in learning, problem-solving, and daily life, to activate their motivation to exert the initial extra effort. This model facilitates students' realizing of the importance of metacognitive awareness; analyzing and optimizing of resources mastered; and regulating, evaluating and reflecting on the performance, which make a complete loop of learning and lead to the virtuous circle of improvement and enhancement.

(2) Reveal the central and dominant role of metacognition in TC and bring in the modified PACTE concept of TC. Teachers are supposed to demonstrate the superior, controlling, and decisive role of metacognition in TC to help students realize that they are not only to be informed, but to be enabled and equipped with necessary tools and competence, since they are not going to face the same translation materials and tasks in their future careers due to the contextual, communicative, functional and dynamic features of translation. However, simply providing knowledge without experience or vice versa does not seem to be sufficient for the development of metacognitive control (Livingston, 1996); thus, the following measures are introduced to integrate the ALERT model in concrete translation activities.

Phase two: integrate ALERT into translation activities. Cultivate the classroom culture to allow and encourage students to do self-guided questioning, strategies selection, evaluating, reflection, and review constantly the stage of the ALERT model they are in to ensure the task is performed effectively. (1) Facing a translation task, the first step, due to the contextual, communicative, functional and dynamic features of translation, is to analyze the translation task with the help of a translation brief and assessment of one's knowledge, abilities, resources mastered, psycho-physiological state, motivation etc. Students are to identify text functions; target addressees, place and time of reception, medium, motive for text production, and reception (Nord 1991, p.8)—the effect that the target text is to achieve and relate factors. If it is not offered, students are to be encouraged to use their metacognition to produce solutions: who to ask for help; or how to analyze the information at disposition to infer the possible answers. (2)The second step is to locate and identify the problems for the translator in accordance with the analysis and assessment of the person variable and task variable, concerning languages, subject, encyclopedic knowledge, knowledge about translation, and instrumental knowledge in achieving the task. (3)The third step is to maximize the knowledge, ability, and resources available, explore possible solutions to the problems, and try to select the most effective and efficient strategies. To produce the most productive strategies, one is supposed to optimize everything accessible, including tools and helpers besides linguistic, subject, encyclopedic competences, and knowledge about translation. (4)The fourth step is to run the strategies in practice, and apply the strategies to solve problems. (5)The fifth step is to monitor the translation, regulate if necessary when the strategies fail to help or achieve the goal in certain aspects, and to evaluate and reflect on the translation process from linguistic, cultural, instrumental, professional, and strategic perspectives after it is completed to draw lessons and inspirations for enhancement in future tasks.

In addition, a teacher's modeling must be convincing. Teachers must become alert to metacognitive strategies and consciously model them for students (Coasta, 1987; Blakey & Spence, 1990; Triliano, 1997), which might be the most influential instructional technique to improve students' metacognition--sharing their planning, describing their goals and objectives, and giving reasons for their actions; seeking feedback and evaluation of their actions from others; admitting they do not know an answer but designing ways to produce one, and so on (Papaleontiou-Louca, 2003, p.23).

The adoption of task-based and project-based teaching methods would offer students opportunities to encounter the possible difficulties and challenges; the employment of diverse classroom activities--jumpstart journal, the muddiest point, think-pair-share, letters to future students, the introduction of the Cornell note-taking system, group study, and peer review would activate students' metacognitive awareness and enhance their strategic competence, particularly the abilities to evaluate, optimize, reflect, regulate, and

monitor, which should be integrated to each and every session in translation—before, in, and after translation.

Phase three: reinforce with translation journal after class. The introduction of a translation journal after a translation is completed. (1) Teachers are supposed to guide students to realize the functions of a translation journal—to activate students' metacognitive awareness, to make use of and optimize the metacognitive knowledge, select the effective strategies, monitor, regulate, evaluate, and reflect on the performance, so that students' metacognition—strategic competence would be enhanced. (2) Furthermore, teachers could integrate monitoring and reflection into credited course work at the beginning to facilitate development of students' metacognition.

Additionally, teachers need to give timely, comprehensive, and systematic feedback to students from a process-oriented perspective. In tests, teachers are to move from diagnostic evaluation to formative evaluation. At the same time, teachers' metacognition needs to be enhanced. As Coasta (1987) says, "Instructional strategies intended to develop students' metacognitive abilities must be infused into our teaching methods, staff development, and supervisory processes."

Conclusion

Metacognition is the core of translation competence, which dominates, harmonizes, and optimizes other sub-competences. This study proposes the model of metacognition—ALERT, to develop students' meatcogntive awareness and metacognitive thinking, to integrate metacognition in translation education with the 3-phase method: highlight the significance of metacognition before concrete translation activities; integrate model ALERT in class translation activities, analyzing, locating problems, exploring strategies, run the strategies, and tracking and monitoring in the process of translation; and reinforce and reflect on the performance with translation journal after class. This 3-phase method helps students realize that the completion of each translation task is not the ultimate purpose, but that to develop the translation competence by monitoring, regulating, and reflecting on the performance is the goal; what they are supposed to learn is not only declarative knowledge concerning languages, cultures, instruments, professional knowledge on translation, but also procedural and conditional knowledge about maximizing and optimizing the resources accessible to enhance their translation competence. Metacognition equips students to satisfy the needs of the age and meet the requirement of translation for the current context; metacognition is the necessary power for students to become qualified and competence translators. Moreover, metacognition is supposed to be developed not only in translator education, but in all the other disciplines, which requires schools, universities and relevant organizations and institutions to attach importance to it. Besides, the role and function of metacognition in different stages of the TC acquisition process remains to be analyzed in the future research.

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