

From Cognition, Metacognition to Autonomy: A Framework for Understanding Language Learning Dynamics

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Abstract

Learning a language is not possible without cognition as cognition and language are inseparable. Metacognition and autonomy are well-established concepts in the domain of teaching and learning languages. Although these two constructs, metacognition and learner autonomy, introduced by John Flavell (1979) and Henri Holec (1980s) respectively, have received considerable attention, the close relationship of cognition, metacognition, and autonomy and their impact on language learning as a tripartite framework remain under-researched. This paper argues that understanding the role of cognition, metacognition, and autonomy substantiates the understanding of language learning dynamics. It concludes with a proposition of a framework of cognition, metacognition, and autonomy for language learning and an attempt to explain why this framework is essential and how it can be promoted in the language learning process.

Keywords: autonomy; cognition; framework; language learning; metacognition

Cite as: Haque, M. M. (2019). From Cognition, Metacognition to Autonomy: A Framework for Understanding Language Learning Dynamics. *Arab World English Journal, Special Issue: The Dynamics of EFL in Saudi Arabia*. 207-222.

DOI: <https://dx.doi.org/10.24093/awej/efl1.15>

Introduction

Humans are uniquely attributed to learn and use language and even called language-specific-species. Language is defined as “an observable manifestation of hidden and highly abstract cognitive constructions” (Escribano, 2004, p.89). Widdowson (1996) describes human language as “species specific”, “generic accomplishment”, and “genetic endowment”(p. 11-12).

According to Encyclopedia Britannica. (n.d.), cognition is defined as:

...the states and processes involved in knowing, which in their completeness include perception and judgment. Cognition includes all conscious and unconscious processes by which knowledge is accumulated, such as perceiving, recognizing, conceiving, and reasoning. Put differently, cognition is a state or experience of knowing that can be distinguished from an experience of feeling or willing.(par. 1)

Cognition enables humans to exploit the best form of communication, using words that can carry along the semantic of not only concrete objects but concepts/ideas also. Taylor (1995) postulates that “language, being at once both the creation of human cognition and an instrument in its service, is thus more likely than not to reflect, in its structure and functioning, more general cognitive abilities”(p. IX). Indeed, language is “an essential human feature” (Escribano, 2004, p. 88), and the human ability to master languages indicates the presence of a cognitive specialization.

Language learning begins with cognition in the sense that cognition refers to the brain functions, but cognition involves many other mental processes as well. For example, metacognition plays a crucial role in learning languages. Flavell (1979) has introduced the term, metacognition, and defined it as “thinking about thinking” (p. 906) and later filtered it as “cognition about cognition” (Flavell, 1985, p. 104) to capture the core meaning. Metacognition enables language learners to monitor and control their cognitive processes. Therefore, when language learners employ metacognition, they start taking control of their language learning more effectively and thus gaining autonomy in their learning process.

Another important concept, which is deeply associated with language learning and holding the current trend of language research, is autonomy, coined by Henri Holec in the 1980s. Holec (1981) defines autonomy as “the ability to take charge of one's own learning” (p.3). Little (1994) broadly classifies autonomy into the general educational level and psychological level. The former refers to the responsibility of a state to ensure the development of its citizens' capacity so that they can freely think and act as self-determining individuals, and the latter refers to the responsibility of an individual who turns himself/herself into an efficient learner by building up their capacity to assimilate new information from what is already known and to transfer their gained knowledge to a new learning context.

Research abounds in the area of language learning in connection with learner autonomy and metacognition (e.g., Benson, 2007; Little, 2010; Yaylı, 2010; Ismael, 2015). The research on the significant role of metacognition in fostering learner autonomy (e.g., Cubukcu, 2009; Koban-Koç & Koç, 2016; Haque, 2018; ZHIRI, 2019) is also reported. Similarly, much research is conducted in the area of language and cognition (e.g., Chomsky, 1981; Sangpanasthada, 2006; Perlovsky, 2010; Deak, 2014; Langley, 2016; Carlo, 2017). Anderson (2002) has emphasized the relation of cognition and

language and commented that “understanding and controlling cognitive processes may be one of the most essential skills that classroom teachers can help second language learners develop” (p. 3).

However, the holistic approach of combining cognition, metacognition, and autonomy as a tripartite language learning framework appears to remain under-researched. The relevant literature makes almost no reference to the implication that a comprehensive approach towards language learning, which integrates cognition, metacognition, and autonomy is an essential reality.

This paper examines the literature on cognition, metacognition, and learner autonomy in connection with language learning and presents a summary of research on these areas. It argues that understanding the role of cognition, metacognition, and autonomy in language learning substantiates the understanding of language learning dynamics and proposes a framework of cognition, metacognition, and autonomy for language learning. Finally, it explains why this framework is essential and how it can be promoted in the language learning process.

Cognition

It is not an easy task to define cognition because it is related to the human mind, much of which is yet to be explored. Minsky (1985) has appropriately pointed out this dilemma and commented that the knowledge of the human mind is still so little that it is even hard to confirm if ideas about psychology are appropriately aimed at. He has warned that it would be a mistake to define things that are still in the process of knowing. Pinker (1994) also opines that the serious investigation of the human cognitive system would prove to be as marvelous and intricate as the physical structures existing in the life of an organism.

In dictionaries (see Webster’s 1913 edition and American Heritage Dictionary of the English Language, 4th edition, published in 2000), cognition refers to both a process of knowing and a state of knowing. However, researchers in the field seem to be in favor of defining cognition as a process of knowing. Neisser (1967) identifies cognition as “the activity of knowing: the acquisition, organization, and use of knowledge” (p.1) whereas the history of cognition informs us that cognition means knowledge.

Brandimore, Bruno & Collina (2006) explain the reasons why cognition should mean to be a process:

Cognition indeed refers to the mental process by which external or internal input is transformed, reduced, elaborated, stored, recovered, and used. As such, it involves a variety of functions such as perception, attention, memory coding, retention, and recall, decision making, reasoning, problem-solving, imaging, planning and executing actions. Such mental processes involve the generation and use of internal representations to varying degrees, and may operate independently (or not) at different stages of processing. Furthermore, these processes can to some extent be observed or at least empirically probed, leading to scientific investigation by means of methods akin to those of the natural sciences. (p. 3)

To sum up, cognition refers to both the mental process of knowing and the product of knowing as two facets of the same coin. Humans employ cognition in their pursuit of any learning, using their brain as the fundamental instrument, and the uniqueness of human cognition lies in its creative abilities to build on the existing repository.

Cognition and Language Learning

Cognition is responsible for language learning. Perlovsky (2010) suggests that “human language and cognition have evolved jointly” (p. 7) whereas Matlin (1989) observes that “[t]he use of language is ... the one ability that most differentiates humans from other animals” (as cited in Sangpanasthada, 2006, p. 31). Deak (2014) comments that though it is not possible to draw a straight conclusion between language development and cognition, it is recognized in the language development research that “language processing is cognition, language use is distributed cognition and understanding children’s capacity for language means understanding the development and recruitment of general learning and cognitive processes” (p. 290).

Perlovsky (2010) has developed a hypothesis that postulates language and cognition as “two separate but closely connected mechanisms” (p. 2). He refers to language as the stores of cultural wisdom and cognition as the “mental representations modeling surrounding world” and the adaptation of “cultural knowledge to concrete circumstances of life”(p. 2). He argues that cognition requires experience, but it is not possible to acquire cognition directly from experience without using language as the necessary intermediary. In fact, “cognition cannot be learned without language” (p. 8).

Chomsky (1981) separates language from cognition. He argues that the particular module, LAD (i.e., Language Acquisition Device) is solely devoted to language and that the inborn leaning mechanism, UG (Universal Grammar) is responsible for the acquisition of complex language system. However, cognitive linguistics has rejected Chomsky’s claim about LAD and Universal Grammar on the ground that there is no difference between language and cognition, and cognitive linguists have tried to unify language and cognition.

Langley (2016) emphasizes that the acquisition of language skills occurs in stages in which the initial process starts with the comprehension and production of words. He points out that the acquisition of language incorporates the previously learned cognitive structures as important scaffolding. So, it is evident that cognition and learning are closely connected as “theories of cognition and intelligence were necessarily incomplete without an account of learning” (p. 4). However, “learning mechanisms are best viewed as additional components that interact with other elements in an integrated cognitive system” (p. 8).

While there is a consensus among researchers about the central role of cognition in learning, opinions differ on whether language learning requires the same cognitive abilities as other nonlinguistic learning activities do. Modular perspectives claim the involvement of cognitive abilities in the process of language learning, which is independent of other cognitive abilities, (i.e., “language specific learning processes and products”), whereas constructivist and biologically based perspectives seem to defy this claim of modular perspectives by favoring “domain general cognitive capacities and processes” for the development of language (Deak, 2014, p. 284). VanLehn (1995) tends to focus on a different aspect of cognition while defining cognitive ability as “acquiring the ability to solve problems in intellectual tasks, where success is determined more by the subjects’ [learners’] knowledge than their physical prowess” (p. 1).

Carlo (2017) shows the close relation between cognition and language. He defines language as a cognitive ability which cannot be separated from other human cognitive abilities because language is

used to “explain the nature of any other cognitive ability of human beings, such as conceptualization, reasoning, problem solving, and decision making, among others” (p. 115).

For all intents and purposes, language learning cannot be separated from cognition. It can be debated if language learning requires the same cognitive abilities used in other types of learning, but the prime role of cognition in language learning cannot be overlooked.

Cognitive Strategies and Language Learning

Language learners use various learning strategies for successful language learning and notably employ them when they encounter difficulties. Usually, learners are aware of the application of their learning strategies and can explain the way they use it while trying to learn something. Cognitive strategies are identified as one type of three learning strategies (the other two types are metacognitive and social/affective strategies). Cognitive strategies are the learning strategies which are used to organize new language, summarize meaning, guess the meaning from context, and use imagery of memorization as the deliberate manipulation of language for improving learning (Cognitive strategies, n.d.).

Ellis (1997) defines cognitive strategies as “...those that are involved in the analysis, synthesis, or transformation of learning materials” (p. 77) and exemplifies ‘recombination’ as one of cognitive strategies in which known elements of the second language are combined in an unknown way in order to construct a meaningful sentence. Similarly, O’Malley and Chamot (1990) describe that cognitive strategies are those which “involve analyzing and synthesizing information” (as cited in Koban-Koç & Koç, 2016, p. 60). Paris and Paris (2001) summarize the main points by identifying ‘cognitive strategy’ as a person’s mental processes which they apply to either acquire a particular goal or complete a learning task. They also argue that activating the cognitive strategy is a deliberate process, which involves an active role and control and that employing cognitive strategies should not be interpreted as a mere compliance with instructions. Acquiring cognitive strategies may take various forms. For example, learners as observers can acquire new cognitive skills and patterns of behavior by “observing the performance of other” (Bandura, 1986, p. 49).

In short, the realization of cognition in language learning comes through cognitive strategies. Cognition is an essential human attribution, which may even run unconsciously, but when cognition is exploited strategically, it becomes a conscious and controlled process to serve deliberate purposes. In the case of language learning, cognitive strategies seem to be synonymously used for cognition.

Metacognition

Metacognition refers to “the processes involved when learners plan, monitor, evaluate, and make changes to their own learning behaviours” (Cambridge, 2015, par. 1). The concept of metacognition is introduced by John Flavell in 1970s and is referred to as the knowledge and regulation of cognitive activities in the process of learning. Metacognition is popularly known as ‘thinking about thinking’ or ‘learning about learning’. Over the course of time, metacognition has eventuated in an umbrella term, which includes self-regulation, higher-order skills, executive skills, metacomponents, metamemory, comprehension monitoring, feeling of knowing, judgment of learning, heuristic strategies, and learning strategies as its associative terms and thus makes the research of metacognition a domain which is lacking consistency. Veenman, van Hout-Wolters & Afflerbach (2006) identify this proliferation of metacognition as the inconsistency that “marks conceptualization of the construct

[metacognition]” (p. 4) and recommend that there is a need for more theoretical work to establish a unified definition for metacognition and its components. With that being said, there is no scope of minimizing the significant impact of metacognition on the process of learning as Flavell (1979) emphasizes that metacognition could help both adults and children “make wise and thoughtful life decisions as well as to comprehend and learn better in formal settings” (p.910).

It is said that the real character of metacognition cannot be identified if there is no distinction made between cognition and metacognition (see Nelson, 1999; Nelson & Narens, 1994). Nelson (1999) refers to metacognition as “the scientific study of an individual’s cognitions about his or her own cognitions” (p. 625). Therefore, metacognition can be termed as a subset of cognition, better to say, a certain kind of cognition as Mahdavi (2014) notes that “cognition is a general term for thinking, while metacognition is thinking about thinking” (p. 532).

Flavell (1979) has prescribed a model of metacognition and named it as ‘A Model of Cognitive Monitoring’. He describes the model as “the monitoring of a wide variety of cognitive enterprises” (p. 906), in which metacognitive knowledge, metacognitive experience, goals (or tasks), and actions (or strategies) are the key components that act and interact. Nelson & Narens (1990) have developed three abstract principles of metacognition: the cognitive processes are split into two or more specifically interrelated levels, the meta-level contains a dynamic model (e.g., a mental stimulation) of the object-level, and there are two dominance relations, called ‘control’ and ‘monitoring’, which are defined in terms of the direction of the flow of information between the meta-level and the object-level. Their division of metacognition into ‘Object-level’ and ‘Meta-level’ help concretize the concept of metacognition.

According to Anderson (2002), metacognition is “the real key to learning” (p.3). He has identified metacognitive learners as the learners who “know what to do when they don’t know what to do” (p.3). His metacognitive model describes five primary components: (a) preparing and planning for learning, (b) selecting and using learning strategies, (c) monitoring strategy use, (d) orchestrating various strategies, and (e) evaluating strategy use and learning. He concludes that the reflective episode of how those strategies interact provides learners with the opportunity of improving their strategy use and that “strong metacognitive skills empower second language learners” (p.4).

To put it simply, metacognition is a mental process for monitoring and controlling cognition. Metacognition plays a crucial role in learning, and the use of metacognition indicates effective learning. Considering its vast impact on learning, different models for metacognition have been proposed so that metacognition can be utilized in its entirety.

Metacognition and Language Learning

Metacognition has “a crucial function in successful learning” (Naznean, 2010, p. 756) and is “a powerful predictor of learning” (Cambridge, 2015, par. 12). Flavell (1979) explains how metacognition impacts on learning a language and informs that metacognition plays a crucial role in language learning when language learners try “to select, revise, and abandon cognitive tasks, goals, and strategies in light of their relationship with one another and with learners’ own abilities and interests with respect to language learning efforts” (p.908). Kuhn and Dean (2004) establish the relation of metacognition and language learning by indicating that metacognition “enables a student who has been taught a particular

strategy in a particular problem context to retrieve and deploy that strategy in a similar but new context” (as cited in Lai, 2011, p. 5).

Haque (2018) reports that “metacognition and language learning are tied together” and “learners who employ metacognition turn out to be better at language learning” (p.189). Wu (2008) has conducted a longitudinal study on implementing metacognition in English as a foreign language (EFL) writing class and discovered that three metacognitive components, namely metacognitive strategies, metacognitive assessment, and metacognitive experiences, mainly play active roles in the EFL writing class. She suggests that providing EFL learners with metacognitive instructions can help improve their writing performance. Guo (2012) analyses the relationship between metacognition and English autonomous listening ability and identifies the contributory functions of metacognition in enhancing autonomous listening. She holds the view that “the cultivation of students’ metacognition is favorable for the improvement of their ability to learn English listening autonomously” (p. 2446). Zhiri (2019) has conducted an experimental study in Morocco to understand why Moroccan learners of English perform poorly and found that the lack of training on self-directed learning and metacognition can be held responsible for that. He suggests that quality education in English can be materialized “by willingly adopting elements such as metacognition, learner autonomy, and meaning oriented instruction” (p. 572).

In summary, the effective learning of a language requires planning, monitoring, and evaluation, and metacognition serves those purposes as a reflective process. Research on metacognition provides the evidence that the application of metacognition enhances language learning.

Metacognitive Strategies and Language Learning

Language learning strategies are considered to be the critical factors in enhancing autonomy (see Wenden, 1991; Brown, 1994; Oxford, 1996) whereas metacognitive strategies play a decisive role in increasing language learner autonomy as they direct toward more individual instructions (see Fewell, 2010). Metacognitive strategies also help to develop learners’ metacognition (see Du Toit & Kotze, 2009).

According to Flavell (1981), when learners are consciously monitoring their cognitive strategies to gain specific goals, they are employing metacognitive strategies. For example, when learners ask themselves questions about their works and then observe how well they answer these questions, they are engaged in metacognitive strategies. Anderson (2002) points out that the importance of teaching students about metacognitive strategies along with the cognitive strategies and that there is a particular need for second language learners to be able to think about their language learning process because it helps learners develop stronger learning skills. Importantly, the mere focus on the cognitive process may prevent the metacognitive process from taking place.

Graham (1997) goes further to claim the supremacy of metacognitive strategies over cognitive strategies and stresses the importance of distinguishing between cognitive and metacognitive strategies because it leads to the realization of the appropriate strategy use in making the learning most effective. Rahimi and Katal (2012) conclude that there is a significant relationship between the use of metacognitive strategies and higher achievement and better learning outcomes. Boghian (2016)

describes metacognitive strategies as the “strategies for acting on what you know - i.e., directing, improving, increasing, etc. what you know” (p. 58) and explain how metacognitive strategies can be effectively used in an English language classroom.

To sum up, successful language learners use more metacognitive strategies than unsuccessful language learners. This establishes the close relationship of metacognition with high achievement and better learning outcomes in language learning.

Autonomy

According to Holec (1981), autonomy is “the ability to take charge of one’s learning” (p.3). Little (1991) defines autonomy as “a capacity for detachment, critical reflection, decision making and independent action” (p.4). Benson (2001) identifies autonomy as “the capacity to take control of one’s own learning” (p. 47). Benson and Voller (1997) seem to cover all the possible aspects of autonomy as they use the term, autonomy for situations in which learners study entirely on their own, a set of skills which can be learned and applied in self-directed learning, an inborn capacity which is suppressed by institutional education, the exercise of learners’ responsibility for their own learning and the right of learners to determine the direction of their own learning.

Omaggio (1978, as cited in Wenden, 1998, p. 41-42), has mentioned seven distinguishing features of autonomous learners in the educational context: autonomous learners have insights into their learning styles and strategies; they take an active approach to the learning task at hand; they are willing to take risks, (i.e., to communicate in the target language at all costs); they are good guessers; they attend to form as well as to content, that is, place importance on accuracy as well as appropriacy; they develop the target language into a separate reference system and are willing to revise and reject hypotheses and rules that do not apply; and finally, they have a tolerant and outgoing approach to the target language.

Dam (1990 as cited in Gathercole, 1990, p. 16) situates autonomy in terms of willingness and capacity by which learners control their learning. She will call a person autonomous if he/she can independently choose aims and purposes, set her/his goals, select materials, methods and tasks, exercise choice and purpose in organizing and executing the tasks chosen and finally set criteria for evaluation.

Littlewood (1996) views an autonomous person as “one who has an independent capacity to make and carry out the choices which govern his or her actions” (p.428) and believes that this independent capacity depends on ability and willingness. In order to explain why both ability and willingness are required for being an autonomous person, he points out that a person may have willingness “to make independent choices but not have the ability to do so” (p.428) or the other way round.

To conclude, autonomy entails the ability or capacity to make informed choices with learning. Autonomy should not be confused with independence, as interdependence is its default feature in the context of learning. Autonomy involves both ability and willingness, and the absence of one comes in the way of real autonomy.

Autonomy and Language Learning

The impact of learner autonomy on language learning is well documented in the research literature (e.g., Holec, 1981, 1988; Dickinson, 1987; Little, 1991, 2007; Dam, 1995; Ablard & Lipschultz, 1998; Smith, 2000; Benson, 2001, 2007; Palfreyman & Smith, 2003; Zhang & Li, 2004; Lamb & Reinders, 2006; Barfield & Brown, 2007). Dafei (2007) has conducted a study to explore the relationship between learner autonomy and English proficiency and reported that there is a significant positive relationship between learners' English proficiency and their autonomy. He confirms that "...the more autonomous a learner becomes, the more likely he/she achieves high language proficiency" (p. 15). Little (2009) also believes that the relation between autonomy and language learning is proportionately distributed and points out that learners become more autonomous in language learning when learners can become more autonomous in language use. However, he warns that autonomy should not be interpreted as '100% free' as learners "who are ENTIRELY free and detached from all responsibility are not autonomous, they are autistic" (p. 223).

Ünal, Çeliköz & Sari (2017) have tried to find out the relationships between English learners' perceptions of learner autonomy and their proficiency level in language learning. Although they can't trace a significant difference between perceptions of English learners' autonomy and their proficiency level, they recognize that English language learners have "a positive attitude towards learner autonomy" (p.121). Similarly, Yasmin & Sohail (2018) have investigated the relationship between learner autonomy and English language learning and found an active link between them. They argue that learners' autonomy features such as curiosity, motivation, and confidence play pivotal roles in surviving the challenges related to language learning.

Godwin-Jones (2019) argues that learner autonomy has gained new momentum with the advent of modern language learning materials such as mobile devices and streaming videos. He explains why and how the informal language learning and learner autonomy are so connected on the basis of the fact "that learner autonomy in language learning entails the use of innate cognitive functions and a social tool—language—its manifestation necessarily combines independence and interdependence" (p.8).

In summary, it can be said that learner autonomy is a central concept in language learning theories and language teaching practices. The proficient language learners appear to be more autonomous, and autonomy in language learning is strongly connected to autonomy in language use.

Cognition, Metacognition, and Autonomy: A Framework

The discussions in the preceding sections show how cognition, metacognition, and autonomy are intertwined in the process of language learning. Veenman, Van Hout-Wolters & Afflerbach (2006) describe the relation of cognition and metacognition succinctly and comment that "one cannot split one's self in two, of whom one thinks whilst the other observes him thinking" (p.5). They argue that it is almost impossible to have metacognitive knowledge without a good grip on cognition and identify metacognition as "(knowledge of) a set of self-instructions for regulating task performance" and cognitions as "the vehicle of those self-instructions" (p.6). Much research is also conducted to explore the significant relation of metacognition and learner autonomy (e.g., Vandergrift, 2005; Chen, 2008; Cubukcu., 2009; Little, 2010). Therefore, the essential connections of these three constructs necessitate a holistic understanding of their interactions in language learning because dealing with them in a separate way leaves a knowledge gap, which may hinder a comprehensive approach to the language learning dynamics.

Autonomy is the ultimate goal of any language learning because the general aim of any language learning is to gain the ability to use language autonomously. But, learners cannot gain autonomy automatically, instead autonomy comes through knowledge and skills and over time. It is a gradual complex process with the interaction of many factors. Apart from the factors lying beyond the control of learners such as teaching strategies, learning materials and institutional supports, perhaps the most impacting factors are those related to cognition and metacognition as Darasawang and Reniders (2010) describe that “one way to develop learner autonomy is to train students how to use cognitive and metacognitive strategies so that they can manage their learning without the help of a teacher” (para. 3). Reinders (2017) recognizes the incorporation of cognition in building the theory of learner autonomy and “for theory building, it is important for LA to take into account, at least in part, cognitive aspects of language learning” (p.3) whereas Radovan (2019) explains how autonomous learning involves the integration of cognitive and metacognitive strategies.

The significance of autonomy in language learning is paramount, and language learners’ success is the ultimate goal of any language learning and teaching. As autonomy never comes without effort, language learners must be prepared and supported before they become capable of taking the whole responsibility for their learning. Hurd (1998) puts a caveat for trying autonomy without preparedness: “if learners are not trained for autonomy, no amount of surrounding them with resources will foster in them that capacity for active involvement and conscious choice, although it might appear to do so” (pp. 72-73).

Admittedly, it is not possible to cater for individual language learners’ needs through classroom teaching because language learners differ in “their capacity to process, store, and retrieve information”, “terms of age, intelligence, beliefs about language learning” and “their approaches to learning” (Reinders, 2010, p. 42). Equally, language learning is a cognitive process, so any approach to language learning and teaching should not overlook the significance of cognitive functions. Language learners’ knowledge and regulation of their cognitive process enable them to exploit their cognitive abilities and thus help them utilize their metacognitive abilities. When language learners ‘go meta’, they become more autonomous in their endeavor to language learning. Language learners’ inner journey from cognition, metacognition to autonomy turns themselves into proactive, self-motivated, and confident learners: the features of successful language learners that any language program should strive to foster.

Therefore, the necessity of a framework which deals with the language learners’ mental capacities and the integrated interactions of cognition, metacognition, and autonomy is undeniable. The framework of cognition, metacognition, and autonomy focuses on the dynamics of the language learning process and revolves around a cyclic order of cognition, metacognition, and autonomy. While the practical realization of metacognition builds on cognition, metacognition is one of the important manifestations of autonomy. As the feeling of knowing indicates the presence of autonomy, the constructing components of this learning confidence could be gained from the maximum utilization of cognitive and metacognitive strategies/skills. The entire process starts with the activation of cognitive strategies which analyzes, synthesizes, and transforms linguistic information. Then metacognitive strategies are employed to plan, monitor, and evaluate the cognitive processes in the form of reflection. Once these cognitive and metacognitive processes are complete, language learners

become equipped with the ability or capacity to take responsibility for their learning. If this mental framework is applied to a particular language learning task and success is recorded, this provides the learner with the autonomy to replicate the whole process in a new learning context. Even if a case of the cognitive failure is reported, metacognition can be brought forward to identify the reasons during the evaluation stage and find solutions by selecting the appropriate cognitive method in the new planning stage. Thus, the interactions of cognition, metacognition, and autonomy are never parallel; rather any of them may intervene during this learning engagement based on their requirements.

Language learners' frequent recourse to this framework enables them to get the most of what is available around them and what they are offered. More importantly, as the development of learner autonomy is often significantly interrupted because of practical reasons such as disadvantages of certain groups in the wider population, state-led education policies, school curricula and the prescribed use of textbooks (see Reinders, 2010), the proposed framework can provide a feasible and desirable solution to overcome these often unavoidable challenges in fostering learner autonomy.

Conclusion

In this paper, the relevant research literature on cognition, metacognition, and autonomy in connection with language learning has been briefly reviewed. Admittedly, a detail review of cognition, metacognition, and autonomy as well as their connections with language is beyond the scope of this article. However, the effort has been made to present a comprehensive summary of these key constructs and their significant impact on language learning and to establish the argument that a framework of cognition, metacognition, and autonomy for language learning is an essential reality.

Cognition can be thought of as a learning canvas on which metacognition works to maximize the learning through reflection, planning, monitoring, and evaluation, and the operation of metacognition as such leads towards autonomy. The proposed tripartite framework portrays the cyclic functioning of cognition, metacognition, and autonomy as a mental framework for language learning. Empirical research is required to transform the theoretical knowledge into practice. Therefore, future research may aim at finding the methods of measuring the interaction of these three constructs in the process of language learning.

Acknowledgement

The author would like to thank Prof. Habib Abdesslem and Dr. Larisa Nikitina for their valuable and constructive suggestions during the development of this research work.

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