The role of Metacognitive Strategies in the Creation of Discourse

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Abstract

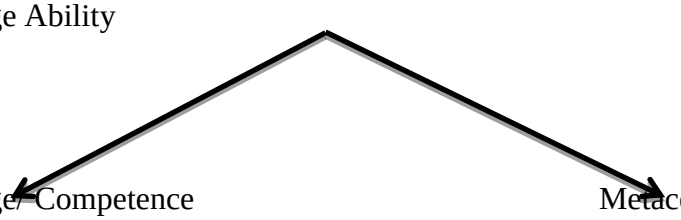
Bachman and Palmer (1996) define communicative competence as the ability to create and interpret discourse. According to the authors, this ability is organized into two main constituents: language competence and metacognitive strategies. The former refers to the domain of information stored in memory; and encompassing grammatical, textual, functional and sociolinguistic knowledge. The latter refer to the metacognitive, the neurological and physiological processes that provide a cognitive management for language use. On the one hand, these mental processes make it possible for the different sectors of language knowledge to interact internally to create language. On the other hand, they serve as a mediator between these internal traits and the external context. This paper attempts to shed light on therole of metacognitionin the creation and interpretation of discourse.

Introduction

Bachman and Palmer (1996) provide a very concise definition to communicative language ability (CLA). They refer to it as the capacity to create and interpret discourse. According to the authors, this ability is organized into two broad competencies: language knowledge or competence and metacognitive strategies (see fig 1). The former refers to the domain of information stored in memory and available for use by the mental processes. The latter refer to the cognitive and metacognitive processes that provide management for language use. In this model, Language knowledge is subdivided into two competencies organizational and pragmatic knowledge.Organizational knowledgeincludes grammatical and textual knowledge; while pragmatic knowledge covers areas of functional and sociolinguistic competencies. The second component of 'CLA' refers to strategic competence. This is made up of cognitive and metacognitive processes responsible for the internal interaction amongst the different sectors of language competence. Additionally, these processes can serve as an interface or mediator between language users' internal traits and the external context for the purpose of creating and interpreting discourse.

Fig 1: Components of Communicative Language Ability

Communicative Language Ability



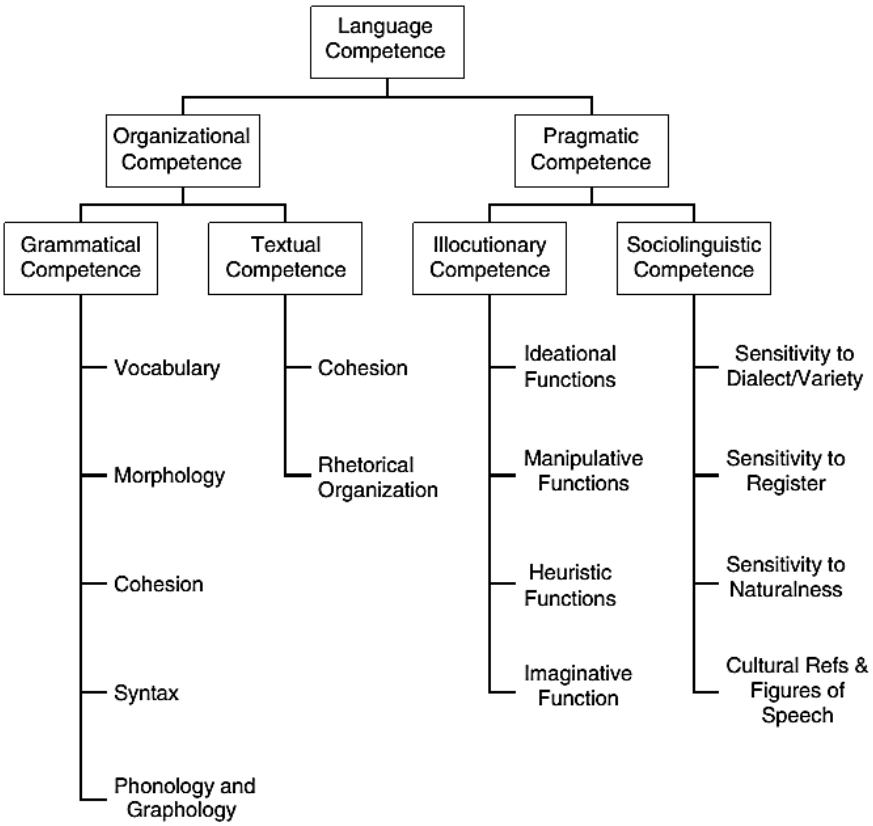
Language Knowledge/ Competence Metacognitive Strategies

Organized from Bachman and Palmer, 1996

1. Components of Language Competence

Language competence or language knowledge (LK) is made up of two competencies: organizational and pragmatic knowledge (see Fig 2). The first type "is involved in controlling the formal structure of language for producing or comprehending grammatically acceptable utterances or sentences, and for organizing these to form texts, both oral and written. (Bachman & Palmer, 1996, pp. 67-68). Organizational knowledge includes grammatical and textual knowledge. The former concerns the organization of individual utterances and sentences and includes knowledge of vocabulary, syntax, phonology and graphology; while the latter which refers to the way sentences or utterances are organized to form texts includes knowledge of cohesion and conversational organization. The second component of 'LK' is pragmatic knowledge. This competency "enables us to create or interpret discourse by relating utterances or sentences and texts to their meaning, to the intentions of language users, and to relevant characteristics of the language use setting" (p. 69). Bachman and Palmer (1996) divide pragmatic knowledge into illocutionary (functional) and sociolinguistic knowledge. Illocutionary knowledge covers areas of ideational, manipulative, heuristic and imaginative functions. Sociolinguistic competence accounts for sensitivity to dialects, registers, naturalness and cultural differences and figures of speech (Alderson, 2000; Bachman, 1990; Bachman & Palmer, 1996; Douglas, 2000;Lumoa, 2004; Purpura, 2004)

Fig 2: Bachman's (1990) Conceptualization of Language Competence



Source: Fulcher, 2010, p. 109

Metacognitive Strategies

The second component of Bachman and Palmer's (1996) communicative language ability refers to metacognitive strategies. These are thought to be as higher order mental processes which enable individuals' internal traits or language knowledge constituents to interact with one another; and asneurological and psychophysiological processes responsible for mediating between these internal traits and the external context (Bachman, 1990; Bachman and Palmer, 1996; Douglass, 2000, 2010; Purpura, 2004; Luoma, 2004). However, for a better understanding of how these processes function to create and interpret discourse, we need first to explain some concepts relevant to cognition and metacognition.

Metacognition

Before providing a definition to metacognition let us first differentiate it from the concept 'cognition'. The latter refers the conscious mental processing of information such as thinking, understanding, learning, reasoning, judging, acquisition, retention and so on (Carroll, 1996; Flavell, 1976, 1979). However, metacognition refers to the 'cognition' and monitoring of our own cognitive system. In this context, Flavell (1976) defines metacognition as "one's knowledge concerning one's own cognitive processes and products or anything related to them.[This includes]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).Flavell (1979) emphasizes that metacognition "plays an important role in oral communication of information, oral persuasion, oral comprehension, reading comprehension, writing, language acquisition, attention, memory, problem solving, social cognition, and, various types of self-control and self-instruction" (p. 906).

Flavell (1979) organizes his model of metacognition into four constituents: (a) metacognitive knowledge, (b) metacognitive experiences, (c) goals (or tasks), and (d) actions (or strategies).Metacognitive knowledge refers to the long-term 'segment' of knowledge about ourselves and other people as thinking creatures, and that these beings are differentin their cognitive abilities.As far as metacognitive experiences are concerned, these are definedas "any conscious cognitive or affective experiences that accompany and pertain to any intellectual enterprise"(Flavell, 1976, p. 906). People or learners may experience the fact that they have understood, learned; or quickly have forgotten and can hardly remember what other people or teachers said. Goals or tasks refer to the objectivesthat one has planned to achieve through this 'cognitive enterprise; while the strategies refer to the techniques that one employs to attain one's goal.

Educational psychologists organize metacognition into two broad sectors: metacognitive knowledge and self-regulation (cognitive monitoring/regulation)(see table 1)(Flavell, 1971, 1979; Larkin, 2010). The former refers to "the stored knowledge about one's own cognitive states, about others' cognitive states or about the nature of cognition in general. Metacognitive knowledge also refers to an understanding of how different factors may interact to influence our own thinking" (Larkin, 2010, p. 8). The latter refers to the conscious planning, controlling and assessment of our cognitive activities (Harris, Santangelo& Graham, 2010).

Table 1: Typology of Metacognitive Components

Metacognitive Component	Type	Terminology	Citation
Cognitive knowledge	Knowledge about oneself as a learner and factors affecting cognition	Person and task knowledge	Flavell, 1979
		Self-appraisal	Paris & Winograd, 1990
		Epistemological understanding	Kuhn & Dean, 2004
		Declarative knowledge	Cross & Paris, 1988 Schraw et al., 2006 Schraw & Moshman, 1995
	Awareness and management of cognition, including knowledge about strategies	Procedural knowledge	Cross & Paris, 1988 Kuhn & Dean, 2004 Schraw et al., 2006
		Strategy knowledge	Flavell, 1979
	Knowledge about why and when to use a given strategy	Conditional knowledge	Schraw et al., 2006
Cognitive regulation	Identification and selection of appropriate strategies and allocation of resources	Planning	Cross & Paris, 1988 Paris & Winograd, 1990 Schraw et al., 2006 Schraw & Moshman, 1995 Whitebread et al., 2009
	Attending to and being aware of comprehension and task performance	Monitoring or regulating	Cross & Paris, 1988 Paris & Winograd, 1990 Schraw et al., 2006 Schraw & Moshman, 1995 Whitebread et al., 2009
		Cognitive experiences	Flavell, 1979
	Assessing the processes and products of one's learning, and revisiting and revising learning goals	Evaluating	Cross & Paris, 1988 Paris & Winograd, 1990 Schraw et al., 2006 Schraw & Moshman, 1995 Whitebread et al., 2009

Source: Lai, 2011, p. 7

Metacognitive knowledge

Variablesof Metacognitive Knowledge

Psychologists identify three main factors or variables of metacognitive knowledge. These include person groups, task groups and strategy groups (Flavell, 1976; Larkin, 2010; Harris, Santangelo& Graham, 2010).The first category"encompasses everything that you could come to believe about the natureof yourself and other people as cognitive processors"(Flavell, 1976). Explaining this point, Larkin (2010) pointsthat "our knowledge of ourselves and others as thinking beings, including that people think differently; that different people have different beliefs about thinking; that different people may be better at some tasks than others" (p. 8). This factor can further be subdivided into:intra-individual differences, inter-individual differences, and universals of cognition.Intra-individual differences can be manifestedin the way, or the manner we prefer to interpret discourse. For example, some learners feel that they can learn through reading better than they can do through listening or vice versa. This variable which can be defined as "as an individual's preferred and habitual modes of perceiving, remembering, organizing, processing, and representing information" (Dornyei, 2005, p.124)is known as people's cognitive styles. However, inter-individual differenceshave to with cognitive variancesamongst language learners/users. Concerning the universals of cognition, these are "beliefs

about universal properties of cognition that the children might gradually acquire. They could learn that there are various degrees and kinds of understanding (attending, remembering, communicating, problem solving,etc)." (Flavell, 1976, p. 907). As far as the second set of variables (task groups) are concerned, this refers to the extent of information available to participants during the performance of a cognitive task. The latter can be defined as the "one in which suitable processing of mental information is the major determinant of whether the task is successfully performed" (Carroll, 1993 p. 10). Of course, the amount of information relevant to this set of variables can be "be abundant or meager, familiar or unfamiliar, redundant or densely packed, well or poorly organized, delivered in this manner or at that pace, interesting or dull, trustworthy or untrustworthy, and so on" (Flavell, 1979, p. 907). Being aware of these variations helps us attempt to achieve our goals in the most appropriate way. Finally, the strategy groups imply that "there is a great deal of knowledge that could be acquired concerning what strategies are likely to be effective in achieving what subgoals and goals in what sorts of cognitive undertakings" (p. 907).

Sectors of Metacognitive knowledge

Educational psychologists identify three distinct sectors of metacognitive knowledge: declarative, procedural and conditional knowledge (Harris, Santangelo& Graham, 2010). Declarative knowledge can be defined as the extent of information, tasks and strategies that language participants require so that they can do a task or a set of given tasks. This refers to what it is stored in our memories in terms of world knowledge. On its part, procedural knowledge includes information about the best way or how successfully we can implement the different strategies in achieving the task. The third feature 'conditional knowledge' represents our understanding of "when and how to use what we know, e.g. when to use different strategies such as committing facts to memory, making mind maps or writing notes, and when to draw on our past knowledge" (Larkin, 2010, p. 10).

Self-Regulation

As wehave mentioned previously metacognition is made up of two constituents metacognitive knowledge and processes for monitoring this knowledge such as monitoring or self-regulation involving "active control over the cognitive processes engaged in learning. Activities such as planning how to approach a givenlearning task, monitoring comprehension, and evaluating progress toward the completion of atask are metacognitive in nature" (Larson, 2009, p. vii).Self-regulated learners according toWinne, Randi and Corno (2000) are those who‘‘seek to accomplish academic goals strategically and manage to overcome obstacles using a battery of resources’’ (p. 651).Self-regulation involves monitoring the progress of the knowledge that persons learn and regulating its processing and progression especially by metacognitive strategies

Definition of Metacognitive Strategies

For a better understanding ofmetacognitive strategies and their role in controlling knowledge, let us first distinguish between three types of strategies:

learning, cognitive and metacognitive strategies. The first type includes"specific actions, behaviors, steps, or techniques that students use to improve their own progress in developing skills in a second or foreign language. These strategies can facilitate the internalization, storage, retrieval, or use of the new language" (Dörnyei, 2009, 163).Cognitive strategies involve "the manipulation or transformation of thelearning materials/input (e.g., repetition, summarizing, using images).Metacognitive strategies, involving higher-order strategies aimed at analyzing, monitoring, evaluating, planning, and organizing one's own learning process" (p. 169).On their part, Bachman and Palmer (1996) define strategic competence "as a set of metacognitive components, or strategies, which can be thought of as higher order executive processes that provide a cognitive management function in language use, as well as in other cognitive activities" (70). The authors emphasize that it is these mental processes that enable language user's knowledge, their affective schemata and the components of their language ability to interact so as to create and interpret discourse in appropriate situational contexts. Language learning specialists delineate two main roles for MSs. First, they are "responsible for performance in situations not requiring language, such as carrying out a laboratory procedure, or operating an overhead projector" (Douglas, 2000, p. 77). At the same time communication strategies "work specifically with language by bringing relevant knowledge into use at the right time, and in the right relationship to the resources demanded by the task" (p. 79).

Phases of Metacognitive strategies

Applied linguists and educational psychologists identify four phases of metacognitive strategies (Bachman, 1990, 1991; Bachman & Palmer, 1996; Dörnyei, 2009; Douglass, 2000; Lumoa, 2004; Purpora, 2004). These phases which are listed in table (2) include**:**assessment, goal setting, planning and control of execution. In the first phase, language users assess the characteristics of the communicative situation and attempt to engage an appropriate discourse domain. Depending on the situation and the relevant discourse domain, language users try to set their communicative goals. In the planning stage, participants decide what aspects of language knowledge and background knowledge will be required for accomplishing their goals.In thefinal phase,language users retrieve appropriate language knowledge, organize it and engage either in creating or interpreting discourse (Bachman, 1990; Douglass, 2000).The execution components "draws on the relevant psychophysiological mechanisms to implement the plan in the modality and channel appropriate to thecommunicative goal and the context" (Bachman, 1990, p. 103).

Table (2) : Phases of Communication Strategies

Phases of Communication Strategies	
Assessment	Analyze the features of the communicative situation and attempt to engage an appropriate discourse domain.
Goal Setting	The discourse domain is used by the goal setting process, which determines the communicative goal

Planning	the communicative goal is the input for the planning procedures, which results in a communicative plan for accomplishing the goal. Planning strategies involve deciding what aspects of language knowledge will be needed to reach the intended goal.
Control of execution	The language user must finally execute the plan by making a communicative response. Retrieving appropriate language and knowledge, organizing it, and engaging in either production or comprehension by means of appropriate 'psychophysiological mechanisms' (Bachman, 1990)- mouth or ear, or eye or hand

Adapted from Douglas, 2000, pp. 80,81 &82

Conclusion

In conclusion, metacognition can be defined as the cognition of our own cognition. This process is made up of two main constituents: metacognitive knowledge and self-regulation. Metacognitive knowledge delineates three variables: person groups, task groups and strategy groups. The first set of variables which includes the belief that people are different thinking creatures is subdivided into intra-individual differences, inter-individual differences, and universals of cognition. Intra-individual differences refer to the styles through which individuals prefer to comprehend discourse. Inter-individual differences imply the fact that humans havecognitive differences. Universal properties of cognition denote that learners use different levels of understanding such attending, remembering, communicating, problem solving. On their part, task groups refer to the extent of information available to participants during a given cognitive enterprise.As for the strategy group, it refers to the extent of knowledge that we needforusing the most efficient strategies to achieve our communicative goals.In addition, metacognitive knowledge covers three sectors of knowledge: declarative, procedural and conditional knowledge. Declarative knowledge refers to the extent of information and strategies required for performing a given task.Proceduralknowledge includes information about the most efficient strategies that enable us to achieve our communicative goals in the most appropriate way. Conditional knowledge refers to the stored information which informs us how to use what we know.The second constituent of metacognition encompasses thecontrol and regulation of our own cognitive processes. This component includes activities such as planning, goal setting, strategy selection, monitoring or regulating, executing, and evaluating.

As far as the creation and interpretation of discourse is concerned, metacognitive strategies which form a part of the self-regulation constituenthave two main roles.On the one hand, they facilitate the interaction amongst language users' internal sectors of language knowledge; and mediatebetween these traits and the external context on the other. The interaction between the constituents of language competence and the external context occurs at four phases: assessment, goal setting, planning and execution. During the first phase, participants try to analyze the characteristics of the situation and attempt to engage an appropriate discourse domain. Then, they attempt to determine their communicative objective. Next in the planning

phase, they decide what elements and sectors of language knowledge will be needed to achieve their communicative goals. Finally, they execute the plan with appropriate production or comprehension.

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