Teachers' Roles in Promoting Students' Use of Cognitive Capacities and Strategies

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Abstract

Cognitive structures are the basic mental processes people use to make sense of information. In a language classroom setting, learners use those mental processes to understand academic content and create output that reflects what has been perceived and learnt. However,one issue teachers can ecounter is that when they present a very well organized, suitable lesson, they wonder why some learners 'get it' and others do not.In effect, in order for language learners to be proficient , teachers can help them develop their intellectual capacity so they can meet the academic experience with success. To fulfill this aim, students need cognitive strategies to fully understand and construct meaning from their experiences. Hence, the purpose of the present paper is to shed some light on teachers' perspectives, standpoints and ways they adoptd to help students foster their cognitive capacities when learning a foreign language at the depatment of Letters and English Language, University of Frères Metouri Constantine. The analysis of the teachers questionnaire yielded valuable information obout different issues connected to instruction, learning and learners cognitive capacities. These information would help us understand better the teaching learning processes and so offer possible solutions and recommandations for future use.

1. Introduction

In every day life, we often use our mental abilities to perform different tasks which can be, in fact, considered cognitive tasks. Thetasks can be reading an article in a news paper or even remembring the ingredients to prepare a meal. In effect, a cognitive or a mental activity involves a variety of mental processes that helps us learn and make use of what we learn. In classroom settings, cognitive capacities are highly activated most importantly highly needed. As students learn, acqiure information or do a task they actively use thier cognitive abilites; for better learning to take place, learners use different cognitive processes according to the nature of the task they are doing. The way they approach this are strategies used to facilitate learning in which learners adopt a given strategy or technique which is suitable for a given task. To better remember information, students can visualize it by means of pictures or draw a digramme for it. Teachers, on the other hand, can assist students to use strategies that most suit their learning style and the task at hand.

2. Cognition Defined

Writers define and refer to the word cognition in different ways. In Collins Cobuild English Language Dictionary (1991), " cognition is a mental process of knowing, learning and understanding things". This mental process entails not only the consious thinking and knowing but also the things that occur in someone's mind he may not be aware of; they happen unintentionally. For Turkle (1984), cognition occupies a place in the brain; it is the process that develops in the context of certain activities or interactions. In this sense, it is refered as a lifestyle that involves a set of behaviours that covers the process of reasoning and making decisions (Grush and Damn, 2012).

3. Language Learning Strategies

Interest in learning strategies has increased over the past twenty years. Accordingly, different references related to them have been published. In this sense, the concept of language learning strategies is described from different perspectives by numerous researchers; some consider language learning strategies as specific or intentional actions, behaviours, mental activities, techniques, approaches or methods used by learners in learning any language.

Ellis (1985), for example, refers to them as the mental processes of acquiring and using the L2. Accordingly, Cohen (1998, cited in Tacač, 2008) defines them as the "actions that learners consciously use to of L2, the use of it or both" (p. 49). Oxford (2001), on the other hand, defines them as those "operations employed by the learner to aid the acquisition, storage, retrieval and the use of information, specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective and more transferable to new situations" (p.166). This implies that learners are provided with some strategies that aid to understand and use them, encourage them to be autonomous in his learning. Moreover, for Chamot (1987):

> learning strategies are techniques, approaches or deliberate actions that students take in order to facilitate the learning and recall of both linguistics and content area information (p. 71)

Based on this definition, learning strategies are all techniques. Theycan be referredto as tools or manners the learners use when taking part in an activity. A learning strategy is also an approach or a general plan that students use to deal with something. By mentioning deliberation actions on the other hand, Chamot (1987) referred to the intentional and conscious actions that learners use as strategies to facilitate their learning process. In this respect, she proposed the following:

> Learning strategies are steps, plans,, insights, and reflections that learners employ to learn more effectively. Learning strategies are intentional on the part of learners, and are used for the purpose of facilitating learning. (p.13)

Another definition is suggested by Willing (1988); it is related to a categorization of mental process associated to the use of strategies, as he states "processing, associating, and categorizing information" (p.7). According to him, the term strategy includes the aspect of difficulty or efforts that can only be dealt with when a suitable mode or plan is used. Among the different main strategies distinguished in language learning, metacognitive and cognitive strategies are two fundamental ones.

3.1.Cognitive strategies

Cognitive strategies refer to mental actions that help learners to restructure information and make connections between unfamiliar and already known information like 'memory strategies', also called 'mnemonics strategies' which refer to those involving relations and connections between new materials and previously learned or existing information. They play an important role in helping learners memorize new words in the whole process of learning. Examples of memorization strategies, suggested by Schmitt (1997), are use of semantic maps, studying the spelling of a word, associating the word with its coordination or keyword method.

Moreover, cognitive strategies enable the learner to manipulate the language material through reasoning, analyzing, synthesizing, recognizing information to develop stronger knowledge structures, practicing in naturalistic settings,and practicing structures and sounds formally. They include verbal and written repetition, which consists of writing or saying a word repeatedly over and over again in addition to some mechanical means involving language learning. Another kind of cognitive strategy is using study aids such as taking notes in class. Learners tend to create their own personal structure to learn new words, based on their notes. Other cognitive strategies involve making tape recording of word lists and studying by listening or using notebooks to facilitate the learning process.

3. 1.1. Instruction and visualization

Visual strategies are widely used to teach and convey meaning; they are considered a direct methods since they are done rapidly, easily and clearly. According to Pearson et al (1992; in Tomlinson 1998), to illustrate the use of mental imagery, the instructor needs to model it by describing images explicitly. These images are formed in learners mind through the reading process of a passage. In effect, when modeled, practised and used within the association of reading, the presence of visual mental imagery will promote students motivation to interact and thus comprehend better text passages"(ibid.).

Furthermore, the use of imagery during reading has been proved to be more engaging andsatisfactory when readers verbalize imaged scenes. This latter is considered, according to Butler (2002; in Tomlinson 1998), to be powerful strategy

since it evolves the vividness of mental imagery and enhances new possibilities of comprehending the text. Another way to make this strategy useful is to elaborate cognitive connections when questions were used. This latter "can activate students' background knowledge by generating images, illustrations, analogies, metaphors and summary sentences" (ibid. p.88).

3.1.2. Association

This strategy covers the relation between what learners want to learn with their previous knowledge; it is defined by Oxford (1990) as "relating new language information to concepts already in memory, or relating one piece of information to another, to create associations in memory" (p.41). In effect, the amount of knowledge learners will learn will be reduced in the sense that they will recall their information and gain the advantage of making associations to new situations. Thisstrategy covers the use of analogies, metaphors, examples, comparing and contrasting or rewording.

3.1.3. Using Clues for Reading Comprehension

Another cognitive strategy student can make use of is using clues to understand texts as they read. When students get stuck finding the meaning of some difficult or unfamiliar words, this cognitive strategy would help them relate the meaning of the known words with that which are not understood to them. In this context,Myres (2006) states that the meaning of clues help in reading comprehension and by carefully looking the surrounding vocabulary and phrases, learners can figure out hints and clues that aid them understand the meaning of unfamiliar words and the text in general.When students use this strategy they activate their mental capacities in which prior knowledge about the language is used, they recall the meaning of other words and try to connect their meaning to discover the concept of the unknown words in a text. This strategy is very useful in that students would stop looking up the definition of every unfamiliar word. Besides, learning context clue strategies can assist students to comprehend texts and enrich their vocabulary repertoire (Pennington, 2009).

3.1.4. Underlining Key Words

Identifying key words ina sentence, text or question is another cognitive task or strategy students use to learn. About underlining key words in question, Van Blerkom (2006: 38) explains the cognitive process a student go through:

> By underlining key words in a question, you can better focus attention on what's beingAsked. In addition, you may find that underlining key words help you identify …That triggers you long-term memory. Finally, teaching the time to underline key words in both the question and the possible answer forces you to slow down andread the question and answers more carefully.

Identifying key words centers students' attention to what is required from them to do. Singer and Bashir (2004) suggest that when an assignment given to students is long and/or complicated, they need an explicit and active strategy for reading the assignment that is circling or underlining words that would help them understand it. Scanning is an essential strategy; it is basically "a perceptual recognition activity that compares sets of well-defined objects with an object that is clearly represented in the information seeker's mind".

3.1.5. Scanning

In the language learning, scanning is a cognitive strategy that is closely associated with the reading skill. For Richardson et al (2012) scanning is a quick reading for given aims for example to figure out where, when or how something happened. They add that when students scan a text, they may read an introduction or an opening paragraph, a summary, and the topic or the concluding sentences of each paragraph, things written in bold print and a glance at visual aid as pictures, diagrams etc. The scanning strategy requires the students to be, quick, selective and attentive. According to Diamond (2012), scanning is a mean of making use of visual signs. To choose the information you need at the same time to disregard irrelevant information; to explain this he puts the following example:

> Imagine that you are looking for your spouse in a crowded room; you do not stop to look at each individual person. Instead you scan the crowd for the person that you are looking for. The only information which you register is the face of the person that you are looking for.

3.1.6. Self-testing

Self-testing strategies aid students to monitor learning and memory as well. According Van Blerkom (2009) when a learner quiz himself on a given material, he can discover what he knows and what he is still ignorant of. She states a number of self-testing strategies:

- Reciting the answers to questions written in the margin of a text and picture notes.
- Reciting or writing the definitions to the technical terminology or other identifying terms one needs to know.
- Covering the details in one's notes and reciting them using only the heading.
- Taking end-of- chapter tests, online tests, or answers sample questions provided by the teacher.

- Discussing the material in small groups and then ask each other questions on the information
- Writing one's own exam questions using the same format as the questions one will have on the test.

On the other hand, Hopper (2010) postulates that one of the best ways to recall information is by self-testing because when a student inquire himself about certain information this gives him proactive in taking tests and gives him feedback so that he knows whether he remembers what he needs to remember. Hopper (2010) adds that self-testing is a kind of rehearsal support the recall process and deepen students long-term memory.

3.2.Metacognitive Strategies

Metacognitive strategies are defined as "strategies that can be used to regulate learning, i.e. plan, monitor and evaluate the range of cognitive strategies used to learn" (Wenden, 1987, p.160). They involve " a conscious overview of the learning process and making decisions about planning, monitoring or evaluating the best way to study. Generally speaking, learners need to define their goals. According to Lund (1990), there are different goals like identification, orientation, comprehension, or replication that they need to be determined. Hence, learners should develop an action plan. They need to deal with a source of difficulty to solve it by asking information as stated by Chamot (1995, p. 158) "learners need to learn to continually monitor their degree of comprehension and try to define what the source of difficulty can be". Starting with monitoring, it consists of asking about the degree of comprehension and associate with difficulties encountered by learners. Another fundamental element is evaluation. Its importance lies in estimating the effectiveness of the strategies used. Comprehension, on the other hand, exhibits whether the strategies being applied need revision and review or not. Therefore, when learners find out that they confront considerable difficulties or problems, they may need to alter their plans, goals or strategies used. Regarding this category of strategies, learners will take more responsibility for their studies and, eventually, their learning will be improved.

4. How to help students use cognitive learning strategies

As students acquire/learn language, they make use of different cognitive strategies. On the other hand, teachers can help student employ these strategies adequately in the learning process. "one approach to helping students develop cognitive strategies is study and identify the strategies that experts use and then teach these strategies to the students. Experts strategies were identified by researches who presented experts with problems to solve and asked them to think aloud as they attempted to solve the problems. These cognitive strategies can be taught to students with successful results" (Federal Aviation Administration et. al 2009: 2-277).

According to Westwood (2004) teaching students to employ cognitive strategies can result in an improved rate of success; this is possible by direct explanation and modeling that is when the teacher 'thinks aloud' while he is presenting a strategy for a

given task, the learners are asked to observe and adopt the same 'self-talk' to assist them use the learnt strategy efficiently. By so doing, learners can figure out strategies that would fit other tasks.

Many learning difficulties can be caused by learners' lack of adequate use of these strategies. Accordingly, Hartley and Mckeachine (1990) state that students require an explicit instruction of learning strategies for long-term learning to take place.

5. Aim and Description of the Teachers' Questionnaire

The teachers' questionnaire is designed to 14 teachers at the Department of Letters and English Language, DesFrères Mentouri, Constantine touncover the teachers' perspectives, standpoints and ways they adoptd to help students foster their cognitive capacities when learning a foreign language. That is, the questionnaire is meant to scan how cognitive learning strategies are implemented in our department. It is mainly administrated to check whether teachers truly aid learners to better use these strategies in their process of learning.

The questionnaire contains a total of 19 items; we used various types of questions: closed and open-ended ones. It includes questions on general information about thestudents cognitive capacities, cognitive learning strategies, the difficulties students encounter when they use cognitive strategies and possible solution to over come them.

6. The Analysis of the Teachers' Questionnaire

Question 01: Gender

Most of the respondents are females 85.71%, and 14.28% are males.

Question 02: Teachers' degree held

Of the total participants (N=14) 71.42% are Maters holders against 28.57% who have a PhD.

Question 03: Teachers' teaching experience

- How long have you been teaching?

With this question, we wanted to know to what extent our participants are experienced in teaching. The teaching experience years range from three to four years which is an indication that our respondents are more or less experienced.

Question 04: Teaching cognitive strategies

- Do you teach students cognitive strategies?

The aim of this question is to uncover whether our teachers explicitly teach cognitive strategies to their students. Most of them 78.57% assert that they do against 21.42% who do not.

Question 05: Raising students' awareness of using cognitive strategies in learning

- Do you make students aware of using cognitive strategies when they learn or do a task?

In this question, we wanted to know further about making students aware of employing cognitive strategies when they learn. The majority of the informants 92.85% have responded positively to the question while only 7.14% indicated that they do not.

Question 06: Teachers' help to students to use cognitive capacities

- Do you help your students use their cognitive capacities to learn or do a task?

Of the total respondents 92.85% stated that they assist, their students use their cognitive abilities in the process of their learning. On the other hand, only one respondent (7.14%) said that he does not.

Question 07: The way teachers help students use their cognitive capacities

- If yes, how?

With this question, we wanted to know further about the way they adopt to better make students' use their cognitive capacities. In what follows, are the answers of the teachers who said 'yes':

- I often use fun games and/or interesting activities that seem to engage my students, cognitively; such activities as vocabulary contests, video-based learning, cooperative games, etc. I do take into consideration the affective domains, elaborating and organizing strategies in my teaching.

- Giving instructions and recommendations, raise their awareness
- Making associations, applying memory games and underlying key words.
- Making associations, applying memory games , giving instructions
- I usually helped them by asking them to repeat new vocabulary to memorize them and through asking them to make summaries about the texts they read or to guess meaning from the context they have.
- Frequently, I ask questions to make them think. I also give them passages to read, to analyze and discuss the content so that they develop the skill of reading as well as the capacity of thinking.

- Giving them alternatives of how to do a task cognitively speaking, and ask each student to go for the most appropriate cognitive strategy for them. Once each student has recognized his way of doing the task, I try to be as helpful as possible during the process.
- After giving them the exercise, I ask them to think and to ask themselves questions then answer them. Sometimes I ask them to think a bit and try to imagine the scene.
- By verbalizing and acting out the strategy and explicitly explaining its outcomes.
- I ensure a field work which necessitates hands-on and involvement. I use expressions which are thought to stimulate thinking capacities such as : remember,think over, what do you think etc. and I include activities which require thinking and communication.
- Especially in listening to help learners to process information they hear by retrieving their background knowledge and linguistic knowledge
  Ask them always to give me a summary about what we have discussed

- Highlighting important words.
- I ask them to give me some definitions or synonyms of some words which we have already seen and try to pronounce them correctly.
- Relating some concepts and ideas with things we have seen previously.
- Reading quickly to get the main idea.
- Synthesizing long passages, breaking down expressions.

Question 08: Teachers' use of activities/task/games that help students use their cognitive capacities

- Do you use activities/task/games that help students use their cognitive capacities?

85.71% of the informants asserted the use of such activities that would aid learners use their cognitive capacities. 14.28% indicated that they do not.

Question 09: Teachers' use of certain techniques that particularly help students remember information they learn.

- Do you use certain techniques that particularly help students remember information they learn?

The purpose of this question is to uncover some specific techniques that help students recall information they learnt. The majority of the teachers 78.57% indicated that they do against 21.42% who do not.

Question 10: Teachers' techniques that particularly help students remember information they learn.

- If yes, what are they?

The aim of this question is to know exactly the techniques that the teachers under study apply in order to help learners remember information. The teachers' answers comes as follows:

- Graphic organizers, mnemonics, writing lyrics, memory games, storytelling writing.
- I ask them to take notes and use the words/information more than 10 times and in different context. I also instruct them to share/discuss what they have learnt with others.
  Each week, I would organize a competition or set a game/ role play that revolves around the words/information dealt with in the classroom during the previous week.
- Using cues and storytelling/ Breaking information into smaller topics/ Repeating the teacher's directions/ Giving prepared handouts before the lecture/ Recalling the information at the end of the class.
- Basically, I present information in a sort of maps, making connections between aspects they learn and explaining the purpose behind learning what they learn.
- Create contexts where students can use the newly acquired knowledge.
- Practice to help learners recall expressions they learnt before.
- At the end of each session, I ask them to give a summary of what we have discussed.
- Each session, I ask them to give me definitions of the technical words which we have already seen or to give me also a summary of what we have seen in the previous unit.
- Relating new ideas with already seen ones.
- Watching techniques that models what learners practice later on.

Question 11: Students' use self-questioning strategy to comprehend texts.

- If you use reading tasks, do you ask your students to use self-questioning strategy to comprehend texts?

For this question, 50% said that they ask their students to use self-questioning strategy and 50% indicated that they do not do.

Question 12: Teachers' evaluation of the content they cover according to students' cognitive capacities

- Do you evaluate the content you cover according to your students cognitive capacities?

Half of the participants 50% asserted that they evaluate the content they cover according to their students' cognitive capacities; against 50% who do not.

Question 13: Teachers' determination about the necessary instructions support that assist students to apply cognitive strategies when they learn or do a task

- Do you determine in advance the necessary instructions support that assist students to apply cognitive strategies when they learn or do a task?

The aim behind asking this question is that we want to know whether our teachers are aware of determining the necessary instructions support that help students to use cognitive strategies when learning. Of the total respondents 71.42% said they do while 28.57% said they do not.

Question 14: Teachers' selection of learning/teaching approaches, method, activities, or games that complement the learners' characteristics and cognitive capacities

- Do you select learning/teaching approaches, method, activities, or games that complement the learners' characteristics and cognitive capacities?

78.57% of the informants sated that they do choose learning/teaching approaches, method, activities, or games that complement the learners' characteristics and cognitive capacities against 21.42% who said 'No'.

Question 15: Teachers' opinion about the importance of knowing students' cognitive or intellectual abilities

- Do you think that knowing students' cognitive or intellectual abilities is important?

All the respondents 100% asserted that they do believe that knowing students' cognitive or intellectual abilities is significant in learning.

Question 16: Teachers' attitudes toward the use of cognitive strategies in increasing the efficiency and confident with which the learners approach a learning task

- Do you think that the use of cognitive strategies can increase the efficiency and confident with which the learners approach a learning task?

All participants 100% responded positively to the questionwhich is very encouraging.

Question 17: The activities that can be described as cognitive strategies teachers usually use when teaching

- What are the activities that can be described as cognitive strategies you usually use when teaching?

Of the eight cognitive strategies ‘using clues for reading comprehension’ is the most appearing strategy; it appears 11 times. In the second position is ‘visualization’, it occurs 10 times, then ‘association’ and ‘underlining key words’; they appear 09 times. The next position is that of ‘min maps’; it occurs 08 times followed by scanning (07 times) then mnemonics and self-testing (05 times).

Question 18:the obstacles that hinder learners to adequately use strategies in the classroom

- What are the obstacles that hinder learners to adequately use strategies in the classroom?

The purpose of this question is to uncover the problems that hinder students to appropriately apply cognitive strategies in the classroom. In the first position is ‘lack of motivation on the part of the learners’; it appears 13 times followed by ‘poor instructions’, then ‘lack of interest on the part of the learners’ (09 times), ‘lack of motivation on the part of the teacher’ (07 times) and ‘poor presentation of the content’ (04 times).

Question 19: Teachers’ opinion on the best way(s) that enable learners to better consider and usecognitive strategies in the class

- What do you think is (are) the best way(s) that enable learners to better consider and use cognitive strategies in the class?

Teachers responses to this question show that the most occurring way is to include challenging and fun activities which easily allow students to use cognitive strategies; it appears 13 times. In the second position is ‘Explicitly teach cognitive strategies’; it occurred 09 times followed by ‘Encourage students to use cognitive strategies whenever they need’ which appears 08 times.

7. General Discussion of the Analysis of the Questionnaire

The analysis of the teachers’ questionnaire yielded information on issues connected to students’ cognitive strategies and capacities, the way teachers encourage students to use them and teachers standpoints about what can possibly affect their use as well as potential solutions that ameliorate applying them.

It has been deduced from the analysis that the teachers under study are more or less novice. In spite of that, they showed positive attitudes toward the application of cognitive strategies for the majority asserted that they teach these strategies to students; they make them aware of the using them in their learning process. About the techniques they apply to aid students use cognitive strategies, they put a rich list of activities and tasks which indicate in general that they are aware of the importance of activating students’ mental capacities to learn without which less learning would take

place. Their answers to questions 12 and 13 confirm such claim because teachers indicated that they take into consideration the intellectual capacities of the learners when they teach or prepare content/material. Concerning the obstacles that hinder to adequately use cognitive strategies, they mostly thought that lack of motivation on the part of the learners is the main cause and that the solution can be including challenging and fun activities that would easily allow learners to effectively use them.

8. Conclusion

Cognitive strategies are an important part in the learning/teaching process without which students can hardly make sense of information or learning. Though teachers take part in cognitive strategies promotion, students are highly responsible for using them adequately. Besides, cognitive strategies are greatly affected by learning styles, and so students are encouraged to know what style of learning they prefer so that they coordinate it with the most suitable cognitive Strategies. On the other hand, teachers should explicitly teach cognitive strategies and make students aware of them in their learning process. They are also recommended to use highly challenging and fun activities that would easily allow students to use them adequately and so succeed in their learning.

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