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Memorization Makes Progress

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Abstract—There are disputes over the role of memorization in language learning. Memorized language, a mainstay of education for almost all of recorded history, was widely repudiated for suppressing creativity, understanding and enjoyment in learners. This paper aims at highlighting the fact that, despite these criticisms, memorization is a helpful strategy which can be employed by the learners and teachers in their process of language learning and teaching. It is discussed that memorization: 1) provides the learner with linguistic data; 2) is the first step to understanding; 3) enhances association in memory; 4) causes cognitive development as a learning strategy; 5) helps noticing; 6) provides rehearsal; 7) is especially helpful in early stages of learning. It is also pointed out that all these become possible when memorization is accompanied and complemented by other strategies and techniques.

Index Terms—memorization, cognitive strategy, rehearsal, understanding

I. INTRODUCTION

Due to the shift of emphasis in education in favor of communication and negotiation for meaning, memorized language, which was a mainstay of education for the whole recorded history, has been promulgated in language classes. Memorization and any other kinds of rote learning were widely repudiated for suppressing creativity, understanding and enjoyment in learners. "If there is one thing progressive educators don't like, it's rote learning" (Knox, 2004). The basic principle advocated by almost all scholars in the field of ELT is that "it would be counterproductive to base language-teaching methodologies on something other than an understanding of how language learning does and does not take place" (Gass & Selinker, 2008, p.4). Memorization which is a parrot like imitation and production does not have a place in such a paradigm.

II. CHALLENGES AGAINST MEMORIZING

Traditionally, second language teaching methods were based on the assumption that language consists of a series of rules and patterns. Therefore, learning a second language was equivalent to learning the L2 code. This led to the learning of grammar rules in the Grammar Translation Method or the memorization of contextualized chunks of language in the Audiolingual Method. Gradually criticisms were levied against memorization. Memorization became synonymous with learning mechanically and repeating material without attention to understanding or meaning (Vassall-Fall, 2008). The "drill and kill" method (Knox, 2004), in which according to Iran-Nejad (1995) learning "is relegated strictly to external control of list-like memorization and is easily forgotten and not meaningfully related to internal themes" (P. 25) were among the practices looked upon with disfavor.

Thus Gass and Selinker (2008) maintain that studies in second language acquisition show that language learning is more than rule memorization and "more important, perhaps, it involves learning to express communicative needs." (p. 4). Clearly, to such educationists memorization does not foster understanding, analysis or retention of information nor is it authentic and communicative, hence it should be discarded and abandoned in language classes. "Educators have lamented the fact that often students were trained to be passive receptors of information instead of being taught to critically analyze information (Oliver & Utermohlen, 1995 as cited in Vassall-Fall, 2008). The optimum methodology now was based on this new conceptualization of language learning and new methodologies have been generated which emphasized the need for communication and meaning negotiation. Thus memorization became like an art form, which according to Knox (2004), has lost its popularity. "One of the most damaging doctrines ever to invade teachers' colleges" is, as Pudwa (2005) regrets, "the concept that memorization was at best unnecessary and at worst downright harmful" (p. 2). This led to the ignorance of the instinctive desire of memorization.

III. THE BENEFICIAL EFFECTS OF MEMORIZING

But the role of memorization has been much underestimated in these studies. Pudwa (2005) puts forward the principle that "you can't get something out of a child's brain that isn't in there to begin with." The child learns by

developing a large database in the "brain of reliably correct and sophisticated language patterns." (p. 2). Memorization can be considered as one of the techniques which can provide the child with this linguistic foundation. Young children will naturally memorize language patterns from their environment. Rather than considering rote memorization as a direct opposition to understanding, it can be viewed in a complementary role. Adamson (1990) points to the well documented fact that "English learners use memorization in different ways, ranging from learning to coping with assignments or exercises (p. 76). Oanh's (2006) study investigated the role of memorization and found that to some English learners memorization seems to be a normal practice. Therefore they assign a significant role to "good memorization" which helps them in learning English. Oanh (2006) states that as a way of internalizing what they have been taught, memorization is an ideal practice for English learners which leads to the natural production of the learned expressions.

As Cook (1994) puts it:

yet, as is now widely acknowledged, research both on child language development and on adult language, while not denying the capacity for novelty and focus on meaning, has also stressed the role of memory for unanalyzed 'chunks' of language. The well-documented discourse of the infant first language acquirer is characterized by repetition of set phrases, rituals, stories, and rhymes, in many of which, for the child, there is neither meaning nor purpose." (p. 136)

This is similar to the belief of Islamic educators who, according to Boyle (2004), view memorization as "the first step in a life-long enterprise of seeking understanding and thus knowledge" (p. 125). Boyle cites Al-Ghazali who pointed out that memorization of the Koran may be the first step to learning it but that does not necessarily mean that comprehension is precluded:

"[the] creed ought to be taught to a boy in the earliest childhood, so that he may hold it absolutely in memory. Therefore, the meaning of it will keep gradually unfolding itself to him, point by point, as he grows older. So, first, is the committing to memory, then understanding, then belief and certainty and acceptance" (p. 125)

A. *From the Neural-network Standpoint*

Thing can also be discussed from a neurological point of view. From this perspective, memorization develops the brain in a way nothing else can. Davelaar and Abelmann (2004) remind that "it has become clear that the human memory is associative and that the relations between neurons -their mutual connections by synapses- are very important in memorization"(p. 190).Neurons, Pudewa (2005) maintains, "make connections through frequency, intensity and duration of stimulation" (p.3). He further maintains that through memorizing, all three of these variables become involved, and thus the network of neural connections which build the foundation of raw intelligence is strengthened. He concludes that the strengthening of this network of neural connection, metaphorically, leads to the existence of more "RAM" in the CPU of our brains so memorization is a useful strong tool for managing storage. "Not only is organized memorization important for neurological growth, it also builds a mental discipline which will carry over into other academic areas" (Pudewa, 2005, p. 4). Memorization mostly takes the form of repetition of substantial stretches of language. Özkan and Kesen (2008) believe that repetition of chunks of language provides the mind with something to work on irrespective of not being understood or used to communicate. Grammar and meaning may unfold itself gradually. "As educators have known for centuries, memorization exercises deliver unique cognitive benefits" (Özkan, & Kesen, 2008, p. 60).

B. *From the Information Processing Perspective*

Due to the existence of capacity limit of human attention, not all the information stored in the sensory register can move on to working memory. Unfortunately, our working memory is also limited and we can attend to only a small amount of information at any one time. As a result, of the information received by our sensory register, only a small amount is not lost from the memory system. After being bombarded by stimuli, our working memory screens and decides what to do with them. To Eggen & Kauchak (1997) three choices are available for the receiver:

1. purging the memory by disregarding the information
2. Retaining the information in working memory by repeating (rehearsal)
3. Transferring the information into long-term memory through rehearsal or by connecting it with.

One way through which the limitations of working memory can be partially overcome is automaticity. If a mental operation is performed with little awareness or conscious effort, it will become automatic (Schneider & Shiffrin, 1977). Sowell (1981 cited in Banikowski & Mehring, 1999) found that "normal" learners require approximately 40 exposures to information before it becomes automatic. Automaticity can be developed through the famous saying that practice makes progress. In language classes, one of the best strategies to practice a new language item is through repetition.

As it was mentioned earlier in this paper, human attention span is limited. When attention shifts away, humans can no longer attend to the information. Banikowski and Mehring (1999) maintain that rehearsing the information mentally can help the individuals to keep information activated in working memory for longer than 20 seconds. Robinson (1995) believes that the processing of information to long-term memory from working memory includes encoding that is dependent upon additional processes known as rehearsal. He identifies two types of rehearsal:

1. a data-driven process known as maintenance rehearsal and
2. a conceptually-driven process known as elaborative rehearsal.

Craik and Lockhart (1972) explain that maintenance rehearsal involves repeating the information in your mind. Information is retained in working memory as long as it is repeated. That is why Ding (2007) concludes his study by claiming that the practice of text memorization and imitation can enhance noticing. When learners are relieved from the pressure imposed by the real time communication, they are able to attend to the use of minute features such as intonations, inflectors, and function words. Freed from any preoccupation with content understanding and expression, learners can practice what they might have ignored. With repeated practice, text memorization and imitation can also enhance rehearsal. "The initially noticed new feature becomes familiar and is transferred from the working memory to the long-term memory, retrievable when need arises" (Ding, 2007, p.9).

It can be concluded that rehearsal can be one of the useful strategies which must be employed by teachers in language classes. Teachers must be careful not to bombard the learners with too much information. After being exposed to the new information, time is needed to be allocated to rehearsal. If the new information is not transferred to the long term memory through rehearsal activities, it will be easily decayed and lost.

C. *Memorization as a Learning Strategy*

Over the last few decades, there was a gradual but significant shift from emphasis on teachers and teaching to learners and learning. There is lots of research that indicates language learning strategies play an important role for language learners. Language learners need to use different strategies to overcome their difficulties in second/foreign learning and production. Language learners use language learning strategies either intentionally or unconsciously when processing new information and performing tasks in the language classroom. They use mnemonics and other memory strategies to recall what has been learned.

In the literature on the learning strategies, memorization is considered as one of the cognitive strategies used by the language learner. Memorization can be defined as a strategy that focuses on the storage and retrieval of language. In their study, Kato (1996) and Oxford and Ehrman (1995) show that memory-related strategies relate to L2 proficiency. As indicated by Oanh (2006), experience in EFL teaching has revealed that memorization can be a valid learning strategy if used appropriately as a tool helping the internalization of what has been learned by the learners to be applied to in real time communication. The interviewees in Ding's (2007) study regarded text memorization and imitation as the most effective methods of learning English. The finding is also documented by some other researchers in Chinese context (Parry, 1998; Ting, 1998, as cited in Ding, 2007).

Cohen and Oxford (2003) identify memorization as a strategy students use to improve the development of their language skills. Strategies such as memorization has the power to affect the language learning process by increasing attention and retrieval of information and also enhancing rehearsal, integration and encoding of language material. Maria-Luise (1997) refers to the sensitivity of associative memory to the frequency of input which explains why simple memorization strategies such as repetition can enhance learning. Oxford (2003) might be right to claim that "memory-related strategies help learners link one L2 item or concept with another but do not necessarily involve deep understanding" (p.13); but if used appropriately, lots of benefits are withdrawn from the use of such strategies. Robinson (1995) claims that after the form has been noticed in short-term memory, rehearsal leads to further encoding of the form in long-term memory. Noticing the gap is not sufficient for the learner to retain the information. "Even if the learners have noticed the gaps, they are often forced to empty their working memories for the next wave of incoming input; as a result, they abandon the noticed new forms rather than turning them into linguistic knowledge" (Robinson, 1995, p. 318).

Cohen (1996) classifies language use strategies into four categories: retrieval strategies, rehearsal strategies, cover strategies, and communication strategies. He classifies memorization as one of the cover strategies. He maintains that:

Cover strategies are those strategies that learners use to create the impression that they have control over material when they do not. They are a special type of compensatory or coping strategies which involve creating an appearance of language ability so as not to look unprepared, foolish, or even stupid. A learner's primary intention in using them is not to learn any language material, nor even necessarily to engage in genuine. An example of a cover strategy would be using a memorized and not fully-understood phrase in an utterance in a classroom drill in order to keep the action going (p.4)

But it must be made clear that memorization is not used as a kind of compensation. It is an aid to the learner to make things more accessible for the learner. Sivell (1980, p. 52) enumerates the merits of using memorization by students which give them a feeling of accomplishment and success, security and familiarity, esthetic pleasure, and a body of knowledge. Rather than condemning the students' desire to memorize, Teachers need to approach it with understanding and appreciation. There are ways which can help the teacher to overcome the shortcomings which are claimed to accompany memorized language.

D. *How to Delineate the Negative Points*

The real problem occurs when memorizing and understanding are perceived as mutually exclusive processes. We must wear a broader lens through which memorizing and understanding are seen to go hand in hand with each other. Both of these processes contribute to each other (understanding makes memorizing easier and memorizing helps understanding). They might happen simultaneously or one might precede the other. It all depends on the kind of learner's (their age and level of language proficiency) and the classroom technique used. Either of these two processes can act as the starting point and the other as the complementary one. Many are able to combine the processes of

memorizing and understanding very effectively, or they can even come one after the other. This is the same belief held in Islamic education in which according to Boyle (2004) "memorization is generally considered as the first step in understanding (not a substitute for it) as it ensures that sacred knowledge is passed on in proper forms so that it can be understood later" (p. 124).

Studies have also shown that there might be a pattern change in the use of strategies due to a change in maturation or proficiency level in the target language. Schmitt (1997) refers to the study conducted by Chesterfield and Chesterfield which indicated that in bilingual classrooms, an implicational scaling technique was used by Mexican-American students by which a sequence of strategy use was determined. The receptive and self-contained strategies like repetition, memorization, and formulaic expressions were among the first strategies used. They were later replaced by strategies related to interaction and metacognition. In his own study Schmitt (1997) have found that the uses of wordlists and flash cards have been abandoned as the subjects got older. It can be concluded that "some learning strategies are more beneficial at certain ages than others, and that learners naturally mature into using different strategies." (p. 225).

It was noted that memorization can enhance rehearsal. Two kinds of rehearsal have been identified: maintenance and elaborative (Craik and Lockhart, 1972). Maintenance rehearsal is useful for retaining something you plan to use and then forget, such as a phone number. In order to transfer the information to the long term memory, it must be further elaborated. We must move from maintenance rehearsal to elaborative rehearsal which involves connecting the information you are trying to remember with something you already know, with information from long-term memory. To Combs, (2005, p.7), elaborative rehearsals are "non-automatic learning process, which are engaged by the learner's conscious intention to learn generalization. This form of rehearsal, he argues, necessitates establishing connections between the information in short-term memory and the structures in long-term memory, through which new information is embedded in old memory structures or "schemata".

The issue could also be clarified by the depth-of-processing theory proposed by Craik and Lockhart in 1972. They claimed that the chance that some piece of information will be stored in long-term memory is not determined by the length of time that it is held in short-term memory but rather by the shallowness or depth with which it is initially processed. Laufer and Hulstijn (2001) used Craik and Lockhart's depth-of-processing theory to formulate their involvement hypothesis for second-language vocabulary learning. their notion of *involvement*, consists of (i) a motivational component, comprising the *need* to determine a new word's meaning, and (ii) a cognitive component, comprising *search* (e.g., dictionary look up) and *evaluation* (e.g., evaluating whether the information obtained from the dictionary applies to the verbal and non-verbal context). So if memorization is not followed by activities making learners involved with the new piece of information, the new information is not deeply ingrained in their memory, and hence easily forgotten.

IV. CONCLUSION

Memorization seeks "to plant the seeds that would lead to understanding." (Boyle, 2004, p. 125). Pennycook (1996) makes a big claim when he states that "all language learning is, to some extent, a practice of memorization of the words of others" (p.202). But he is right to some extent. As one of the participants in Stevick study (cited in Ding, 2007) claims about memorization "this was the most stupid method in the world but, towards the end of the semester, proved amazingly effective – even the staunchest opponents had to admit this." (p.8). Cook (1994) also believes that:

repetition and learning by heart are two of the most valuable, pleasurable and efficient uses of language learning activities, and that they can bring with them sensations of those valuable goals for the language learner who aims at being involved in the authentic and communicative use of language (p. 133).

It is a learning strategy which is mostly helpful in early stages of learning. It can be considered as the way through which controlled processes are changed into automatic ones, and hence available for easy retrieval. In EFL contexts, it is an effective method of rehearsal for drawing learners' attention to form. A word of warning here; memorization is a helpful strategy but not a sufficient one in learning a complex phenomenon like language. It must be used with a gradual shift of emphasis from memorizing to understanding. Otherwise, it wouldn't lead to what is expected from a language learner. That is why Oxford (2003) maintains that "memory strategies are often used for memorizing vocabulary and structures in initial stages of language learning, but that learners need such strategies much less when their arsenal of vocabulary and structures has become larger" (p.13).

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