Improve the Efficiency of Classroom Teaching: Using Episodic Memory to Motivate Transition to the Formation of the Semantic Memory

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Abstract. As we know, our traditional classroom teaching still focuses on knowledge learned purely. However, with the further development of the reform of classroom teaching, in order to improve the teaching effect, we should pay more attention to episodic memory. It has been demonstrated that the process of memorizing knowledge is the transition from episodic memory to semantic memory. Apart from this, episodic memory can preferably motivate the formation of semantic memory. Our teachers could create a positive and vivid scene to inspire the students' association and help them study effectively instead of teaching knowledge tediously and simply. And this kind of episodic memory can also motivate the transition from episodic memory to the formation of semantic memory.

Introduction

For many teachers, how to improve the efficiency of classroom teaching and realize their ideal teaching effect has been always a relatively difficult problem to deal with. Several years ago, some scholars and specialists researched the process of memorization from the perspective of changing consciousness. They think that in the process of classroom teaching and learning, the knowledge that students have learned is first reserved in the form of episodic memory. With the consolidation and deepening of knowledge, the representation of knowledge gradually transform from episodic memory to semantic memory. That is to say, how to accelerate the progress of transforming students’ episodic memory to semantic memory is very significant for every teacher.

1. Definition

1.1 Episodic Memory and Semantic Memory

Memory in psycholinguistics means that information is encoded, stored, and retrieved. Encoding allows information from the outside world to be sensed in the form of chemical and physical stimuli. Storage is the second memory stage or process. The third process is the retrieval of information that has been stored. Such information must be located and returned to the consciousness. According to Tulving and Konaldson, memory contains instant memory, short-time memory, and long-time memory. Then, long-time memory is further divided into episodic memory and semantic memory.

Episodic memory is the memory of previous events (times, places, associated emotions, and other contextual who, what, when, where, why knowledge) that can be explicitly stated. It is the collection of past personal experiences that occurred at a particular time and place. For example, if one remembers the first time he went to Germany on his or her 7th birthday, this is an episodic memory. It is a kind of human’s superb and mature memory system.

Semantic memory is one of the two types of declarative or explicit memory (our memory of facts or events that is explicitly stored and retrieved). Semantic memory refers to general world knowledge that we have accumulated throughout our lives, such as the memory of word, concept and practical knowledge. It does not relate to any specific memory system. Semantic memory is distinct from
episodic memory, which is experiences and specific events that occur during our lives, and from which we can recreate at any given point. For instance, semantic memory might contain information about what a cat is, whereas episodic memory might contain a specific memory of petting a particular cat.

1.2 Comparison between Episodic Memory and Semantic Memory

Episodic memory is concrete and relates to personal experience. The information it receives connects with specific time and space. In addition, episodic memory is autonoetic awareness, which reflects learners trying to encode the project and automatically associates with the project. For example, during an exam, the reason why you choose that answer is that the teacher was standing near the window of classroom when he or she asked this question. That is to say, you remember the specific scene happened when you answer this question.

Semantic memory is about the common knowledge reserved in human’s brain. It is generalized and abstract. The information it receives does not relate to specific time and place. In addition, semantic memory is noetic awareness, which is a kind of consciousness when abstracting information reserved in human’s knowledge. For example, bird is a kind of animal; Beijing is the capital of People’s Republic of China.

Several scholars like Conway find that in the process of memorization, the episodic memory will disappear little by little with time going by. And the ability to acquire episodic information decreases. Then, the semantic memory will dominate the main position. The graphical representation is gradually formed. During the course of accumulating knowledge and continuing further research and study, the graphical representation of knowledge is becoming more and more clear, while the memorization of specific details gradually fade away. The appearance of repeated graphical representation accelerates the formation of one’s knowledge structure. Therefore, the knowledge structure reserved in human’s brain is finally in the form of semantic memory.

Some scholars such as Sui Jie, Wu Yanhong, Wang Jinfeng and Zhu Ying have studied that the process of memorizing knowledge is the transition from episodic memory to the semantic memory. Besides, on account of the features of episodic memory, such as concreteness, it can preferably motivate the formation of semantic memory. The reason why some students can do better than others is that the speed of this kind of transition is very fast. So do some top students. After students solve problems using some concepts learned before many times, those episodic details will disappear. Then, semantic memory formed. The implication is that during the process of classroom teaching and learning, teachers should create a proper situation to help students memorize better and activate the formation of their knowledge structure. Memory to semantic memory is very significant for every teacher.

2. Several Methods of Using Episodic Memory to Motivate Efficient Transition

2.1 Knowing the Features of the Subject being Taught

As we all know, different subjects have different features. Some subjects have higher graphical representation, while others are not. For example, some scholars find that those subjects like physics have higher graphical representation, because physics is systematic and regular. It has concept system. Compared with some subjects like Chinese, it is more rigorous and serious. Based on this, after class, teachers should arrange students to do a lot of exercises and apply the knowledge acquired in different situations. All these accelerate the progress of graphical representation. Hence, transition from episodic memory to semantic memory is rather quick. Those subjects like Chinese belong to social science, whose features are disperse and multifarious. Apart from this, it has much irregular humanistic knowledge to be memorized. For most of students, it is a difficult thing to deal with.

Due to this situation, our teachers should know about the features of subjects being taught. If you are a teacher who teaches physics, you can make contents graphicalization in class to accelerate the
progress of transition from episodic memory to semantic memory. However, if you are a teacher who teaches Chinese, in order to make students memorize so many knowledge points, you can create and design a vivid scene associated with the target point so as to realize ideal teaching effect. For example, in class, a teacher wants to introduce a famous female author named Lin Haiyin. So how to attract students’ attention and make the memory reserved in students’ brain? A suggestion is that this teacher sings the song 'Farewell', which is sung by the protagonist in Lin Haiyin’s novel “My Memories of Old Beijing”. In this process, students who are in class will have a deep impression about this author. Compared with introducing the writer simply and tediously, the teacher creates and designs a vivid scene to memorize this knowledge point deeply and accelerates the completion of transition progress. Each time students recall the female writer’s life experience, the scene of singing a song is also activated. Many times later, this kind of episodic memory will be transformed into semantic memory.

2.2 Teaching Based on Students’ Life

Life closely connects with study. And life is full of learning resources. It has been proposed that the situation designed and created should be actual and approach students’ life as much as possible. Only based on real life, will students count it as a personal favor and are prone to understand it. Thus, this kind of episodic memory accumulated in real situation will be transformed into semantic memory more easily.

The famous educator Tao Xingzhi thinks that education without emphasis on life will be finally doomed to death and that textbooks without paying attention to life will be useless in the end. Only connecting with students’ real life, the teacher changes the silent books into living books so as to present a positive and interesting class.

For example, in a class about “autumn”, with the purpose of making students appreciate the beauty of autumn, a teacher takes her students to the woods. Standing there quietly, pieces of golden leaves fall from the sky. Pick up these leaves and put them in the book. Students can make leaves into various shapes. Education is part of life. Teaching resources should come from real life, which is also the important source of students’ cognition. By this way, students could have a more profound experience about the beauty of autumn. Thus, when referred to autumn next time, they will recall it quickly. After several times’ repetition, the kind of episodic memory will finally motivate the formation of semantic memory.

2.3 Pay Attention to Students’ Interests

Interest is the forerunner of knowledge and the motivation for learning. What successful teaching needs is not compulsion, but interest. Interest is the best teacher for students. With interest, students generate the desire to continue learning; with interest, students have the motivation to research and study; with interest, students will have positive thinking. Thus, when designing classes, the teacher should be based on students’ tastes so as to give them a deep impression. This kind of episodic memory is also beneficial to the formation of semantic memory.

For example, in a class referring to communication among different animals, given that most students like animals, the teacher lets these students perform different animals. Student who wears monkey’s topknot will read what monkey has said. Student who wears tiger’s topknot will read what tiger has said. Just like this, and students are very interested in this kind of role-play activity. During this class, they actively take part in this activity and have a better understanding about characters and psychological activities of different animals. In the process, the teacher achieves good teaching effect. As for students, episodic memory internalizes their semantic memory in the process of role-play activity.

3. Some Problems during the Transition to the Formation of Semantic Memory

3.1 Unclear Purposes

When using episodic memory to motivate the formation of semantic memory, the scene designed should have a clear purpose: what kind of ability the student should acquire or what the student should
learn in class. However, some teachers are not aware of it. They design the scene casually. For example, in their classes, they first let students draw pictures; then, they let students perform a role-play activity; after that, they will again let students recite poems. On the surface, the class atmosphere is relatively active and boisterous. Students are also glad to do these activities. Actually, because of not having a clear goal, this class is a little disordered. Some students start to draw without opening their books and have no time thinking about it. Separating this class into three parts, it is difficult for teachers to grasp the unity of teaching objectives. Students may be confused and get nothing and cannot realize efficient transition to motivate their episodic memory to semantic memory finally.

3.2 Emphasis on Connection between Episodic Memory and Semantic Memory

Sometimes, during the process of scene designed, the teacher should pay attention to the connection between episodic memory and semantic memory. The more closely the content of episodic memory connects with semantic memory, the faster the progress of forming semantic memory is. For example, when a teacher wants to describe the beauty of autumn, he will use the imagery of maple trees rather than pine trees. That is because the autumn more closely relates to the maple leaves. Therefore, using maple tree is relatively appropriate in the process of creating the scene.

Conclusion

This paper mainly tells us about using episodic memory to motivate transition to the formation of the semantic memory in efficient classroom teaching. The process of memorization is from episodic memory to semantic memory. It is of great significance for students to reserve the knowledge they have learned in the form of semantic memory. Therefore, our teachers should create and design appropriate scene to help students' knowledge reserved in the form of semantic memory. Also, during this process of scene created and designed, the teacher should have a clear purpose and pay attention to the connection between semantic memory and episodic memory.

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