

REFLECTIONS on MARILEE SPRENGER'S SEVEN STEPS: SEVEN STRATEGIES For MAXIMUM LEARNING

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Abstract

Teaching and learning are inextricably linked cognitive process. Since the beginning of the 20 century, professionals and scholars in language teaching have strived for ways that could guarantee better outcomes in foreign language teaching classes. In their quest for better achievements, teachers, educators, and other involved parties moved beyond the age of traditional and archaic methods to effective and creative teaching practices. The present study focuses on highlighting the extent to which teachers as agents of change incorporate innovative strategies for success in the in an age of the 21st century's fast-changing globalized society who can teach effectively in diverse classrooms. Furthermore, this paper explores clear-cut strategies that aim to transform students from passive recipient's of knowledge to active players, highly engaged and autonomous learners in their learning progress. A significant relationship exists between the seven strategies is interweaving all the threads of the process from motivation, memory, feedback, assessment and instructional practices. Substantially, this article deals with the impact of the seven teaching strategies that teachers learnt new things while teaching; the teachers learnt from their own experiences as learners and as teachers; and the teachers developed their teaching skills and continuously improved their knowledge which in return results in improving students achievement.

Keywords: *Assessment, Instruction, Memory, , Students' Learning, Teacher's Feed-back*

Introduction

This article sheds light on how teachers lay the foundation of making a healthy and comfortable atmosphere where students can strive and thrive in their learning to reach maximum achievement. In the 21 st century fast changing world in all domains and education is no exception. In the field of foreign language teaching teachers are urgently asked to keep abreast with these current shifts to keep the profession updated and thriving for the purpose of igniting students' progress and achievement. In this article, Marilee Sprenger (2018) fully delineates the seven strategies that make students learning memorable and enjoyable. These strategies are aimed to increase students' learning and help them improve their memory abilities. The first step, teachers learn how to reach students minds and hearts when injecting knowledge into their minds. The second step is to support students to be reflective learners. The third step enables students to recode information to better transfer and connect with prior experience. The fourth step is to offer students feedback that help them recycle their thoughts and ideas for better understanding. The fifth step is to integrate the rehearsal process to support the material being stored in memory. The sixth step is to sustain the review process in order to stick the information for longer periods. The seventh step is to incorporate assessment and tests with instruction to boost students' information retrieval.

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1.Strategy 1: Reach and Teach

According to Shaun Kerry (2002) of the American Board of Psychiatry and Neurology, whether certain events or information are retained in memory is “dependent upon an individual’s love for the subject matter and its dramatic, emotional, auditory, and visual impact.”

I used to always consider “attention” only in the context of attention spans. How long could I keep students’ attention before their minds drifted away? The formula I’d learned was that attention spans are equal to students’ ages in minutes. So, for example, a 7-year-old student has a seven-minute attention span.

According to Tate (2016) brain-based research argues that there are four essential criteria for gaining attention: need, novelty, meaning, and emotion. Attention means the cognitive process that allows the student to ignore irrelevant stimuli, notice important stimuli, and shift from one stimulus to another (Andreason, 2004). According to Andreason, divides attention can be categorized into five types: sustained, directed, selective, divided, and focused:

- Sustained attention involves focusing for a long period of time. Creating lesson plans or assessments requires this type of attention.
- Directed attention occurs when we consciously select a particular stimulus from all that bombards us. This is the attention we give students who disrupt the class, for example.
- Selective attention involves focusing on one particular stimulus for a personal or sensible reason. For instance, a student may select to listen to a whisper from another student rather than to the lecture being given.
- Divided attention occurs as we rapidly shift focus from one thing to another. Our students are dealing with divided attention when they do their homework in front of the television.
- Focused attention is directed to a particular aspect of some stimulus. When we ask students to focus on the answer to an essential question as they research on the internet, we are asking them to engage in this kind of attention.

Attention is necessary for thinking. The brain scans the environment, sifting through sensory messages to find something to pay attention to. The brain is always attending; our students just may not be attending to what we desire.

1.2.Motivation

According to Merriam-Webster (2003) motive can be described as “something (as a need or desire) that causes a person to act” (p. 759). There are two types of motivation: Intrinsic and extrinsic. Intrinsic motivation comes from within—it is a desire or need that the brain determines is pleasurable or important. When we are intrinsically motivated, neurotransmitters such as dopamine and norepinephrine are released in our brains. These chemicals provide the “get up and go” necessary for us to accomplish our goals. The same neurotransmitters are released anew when our

goal is attained. Dopamine, the pleasure chemical, makes us want to achieve goals again to repeat the good feeling. Extrinsic motivation, by contrast, is associated with rewards and punishment. Kohn (1993), contends that extrinsic motivators can alter the brain to shift a goal from attaining the nominal objective to either attaining some tangible reward or avoiding a punishment.

1.3. The Impact of Emotions on Learning

Emotions have a strong influence on learning (Small, 2003). If students are anxious, depressed, or even angry, they do not receive information in an efficient way. The brain is captivated by the emotion and turns attention to it. When these emotions capture the brain's attention, working memory is flooded and cannot work on the task at hand.

Most researchers refer to the six universal emotions: happiness, sadness, fear, anger, surprise, and disgust. These are primary emotions that are found and recognized in all humans all over the world. Secondary emotions are socially oriented; jealousy, guilt, and embarrassment are a few. Finally, some emotions, like tension and well-being, are what Feldman (2007) calls "background emotions."

In a nutshell, novelty, emotion, and need are required to reach attention and motivation. Scientifically speaking, if the students' basic needs are not met, the brain cannot focus on learning. Although individual learning styles are not truly representative of our students' needs today, teaching in a multisensory and innovative fashion can help close the achievement gap. Interestingly, attention and motivation can be directed through personal relationships and finding connections with students. Our students remember what affects their lives.

2. Strategy 2: Reflect

To be reflective means to mentally wander through where we have been and to try to make some sense out of it. Most classrooms are oriented more to the present and the future than to the past. Such an orientation means that students (and teachers) find it easier to discard what has happened and to move on without taking stock of the seemingly isolated experiences of the past.

2.1. A Time to Be Silent and a Time to Speak

A response delivered too early or too late may not have the effect we expect. If a teacher responds too quickly, students don't learn as well (Stahl, 1994). Now is the time to examine moments when our students need our silence. Silence that encourages reflective thinking can eventually lead to long-term memory. The ability to reflect critically on one's experience and connect it to prior knowledge is essential to taking information from immediate memory and processing it in active working memory. Keep in mind that active working memory allows us to hold onto incoming information while our brains search long-term memory for patterns or connections that it recognizes. According to Williamson (1997), reflective practice may be a developmental learning process, and Wellington (1996) considers the possibility of different levels of attainment. Taking these views into consideration, teaching our students about the value of reflection may be a first step toward a habit of reflection.

2.2. Time for Reflection

Atkins and Murphy (1993) have identified three stages in the reflective process—an awareness of uncomfortable feelings, followed first by a critical analysis of the situation and then by the development of a new perspective on it. Burrows (1995) defines the process of reflecting as an “exploration and discovery to make sense of new information and leads on to a process of critical reflection, reframing problems and identifying probable consequences” (p. 346). According to Kemmis’s (1985), the reflective process is analytical, focusing inward on one’s own thoughts and processes and focusing outward on the situation at hand. From the learner’s perspective, Boud, Keough, and Walker (1985) suggest that reflection is a combination of intellectual and affective activities in which students engage to explore their experiences, leading them to a new understanding. According to Dewey (1910/1997), “Reflection—thought in its best sense . . . is turning a topic over in various aspects and in various lights so that nothing significant about it shall be overlooked—almost as one might turn a stone over to see what its hidden side is like or what is covered by it” (p. 57).

Perkins (1995) refers to three intelligences: neural intelligence, experiential intelligence, and reflective intelligence. Neural intelligence refers to how well the brain makes and keeps connections. Experiential intelligence encompasses the personal experiences we have that contribute to intelligent behavior. Reflective intelligence comprises knowledge, understanding, and attitudes about how our minds should be used. Perkins states that the second two, experiential and reflective, are learnable intelligences, and he considers reflective intelligence as the control system for the other intelligences. As students begin to change their mindsets, the reflection process will allow them to see more possibilities for the material they are reflecting upon and for themselves.

In a nutshell, reflection is the first rehearsal. As teachers, we reflect as we learn. Teachers who use and model reflective practice will have a better understanding of and higher expectations for their students’ reflective capabilities. The process of reflecting can be affected by learning preference, emotional states, or specific content. Research shows that reflection is a learned habit. The teachers should make time to take time. The students within their focus time, they extend their attention span. Moreover, students need time to answer and to question. As a result, wait time allows students to search their long-term memory while holding onto new information.

3.Strategy 3: Recode

Recoding is the ability to take information from different sources and generate it in your own language. It can be symbolic, as in drawing pictures or constructing through movement—though when students are tested, they must have the ability to share information linguistically. At some point in the seven-step process of teaching students to remember, therefore, information must be manipulated through paper and pencil.

According to Levine (2002), some students who have trouble recoding are experiencing short-term memory problems. He defines recoding as the ability to summarize and paraphrase. Levine suggests that we encourage students to use their strongest sensory pathway in order to work with this problem. During the recoding step, we want students to be able to write down what they understand thus far about what they’re learning. At first, some students may have trouble with writing and need to use a different mode of expression.

3.1. The Eminence of Recoding

Most memory experts (e.g., Small, 2003) suggest that organization is the key to a good memory. Systematically arranging information according to groups, patterns, and other structures can make the difference between success and failure in the storage and retrieval of information.

Other research supports the effectiveness of self-generated material. Bruning, Schraw, and Ronning (1999) demonstrated that when students generate their own context for meaning, memory improves. An example of the application of this research is found in current curriculum design for vocabulary. It is important that students generate their own definition or description of a word, as doing so makes the word and its definition personally relevant (Tileston, 2011). Research on the generation effect consistently shows that students do better when they make their own meaning (Rabinowitz & Craik, 1986).

Self-generation makes sense, because students create their own understanding, which involves taking explicit, semantic material and coding it in a personal way. This adds some implicit memory to the memory-making process. When true understanding takes place, emotions are involved. The process of recoding in some cases will involve movement and perhaps a procedural component, both of which strengthen the possibility of long-term retention.

Organization is significant in the recoding process of factual information. Our brains will organize information, but if we are not in control of that organization, we may have difficulty accessing the relevant memory. Recoding offers students the opportunity to organize thoughts, facts, and concepts in a way that is compatible not only with the way their brains think but also with the specific type of material. The recoding experience will offer them strategies, sometimes called mental models or schemata, that will be useful in many situations.

3.2. Factual, Conceptual, and Procedural Knowledge

Information that has been received and reflected upon is developed for recoding. This may include factual knowledge, conceptual knowledge, or procedural knowledge. According to Anderson and colleagues (2001)

- Recoding falls into the cognitive process category of understanding for conceptual knowledge—constructing meaning from instructional messages, including oral, written, and graphic communication.
- Procedural knowledge is in the process category—applying, carrying out, or using a procedure in a given situation.
- Factual knowledge falls under the remember category: Recoding allows us to assess the perceptions and comprehension our students have of the content being covered. In some instances, the significance of the content to the student may also be derived from this practice.

In a nutshell, self-generated material is better remembered. It is statistically proven that asking students to retrieve information right after it has been introduced promotes retention. Initially, students create their own memories when they recode new material. Most importantly, students

must understand the concepts underlying the procedures they learn to make the information transferable.

4.Strategy 4: Reinforce

Reinforcement can be defined as the act of encouraging and strengthening, is dependent on clear goals and targets. Once the learners have grasped and recoded the material to help them with their conceptual and procedural knowledge, it is time for timely feedback. Put simply, asking the age-old question poses itself, “Do they get it?” If not, we must determine what it is they don’t get and how we can lead them to understanding.

4.1. Reinforcement Defined

According to Marzano(2007), reinforcement intends to provide a verbal or symbolic reward for academic performance or effort. Hence, feedback as reinforcement offers encouragement and the opportunity to fortify what students understand. We can let our students know whether their perceptions and understanding are correct and, if necessary, we can reshape or reteach. We want to be able to ascertain whether our students understand what they’re learning so far. Once we know that they do, we want to strengthen that understanding and start the process of permanent storage. This is not the time for delivering grades. This is only the launch of students’ learning. Reinforcement provides time in working memory to make necessary changes. In simpler terms, information must be “perfect” before it enters permanent storage.

Teachers who genuinely dispense feedback and reinforcement concerning students’ progress, they in turn enhance results. The reinforcement step is always dependent on an academic goal.

Feedback is effective if it “feeds forward” (Moss & Brookhart, 2009, pp.44–59)—if it “is used by the learner in improving performance” (William,2011, p. 120). Van der Kleij, Feskens, and Eggen (2015) found that elaborate feedback—that is, feedback that concentrates on evidence of what students were thinking and not merely about whether their answers were correct— leads to more improvement in learning than simple knowledge of results.

According to Hattie (2012), “For feedback to be effective, teachers need to clarify the goal of the lesson or activity, ensure that students understand the feedback, and seek feedback from students about the effectiveness of their instruction. The aim of feedback is to reduce the gap between where students are and where they should be. The teacher, therefore, needs to know what students bring to each lesson at the start and to articulate what success looks like.”

4.2.Types of Feedback

Feedback comes in many forms and from many different sources. Students receive feedback from teachers, classmates, and even themselves. Just as reflection is needed every step of the way for long-term retention, so too is reinforcement. To improve memory, feedback increases interest to keep students on task, and it allows for adjustments.

Connellan (2003) describes three types of feedback: motivational feedback to accelerate improvement, informational feedback that gives students a way to measure progress, and

developmental feedback to help those students who are underperforming. Each of these types of feedback is useful in the classroom and helps with reinforcement. We need to value all forms of feedback and possibly use them all together.

4.2.1. Motivational Feedback

Motivational feedback can be divided into three distinct forms: positive feedback, negative feedback, and what Connellan (2003) calls extinction. Positive feedback reinforces good or correct behavior, negative feedback addresses poor or incorrect behavior, and extinction is the complete lack of any feedback at all. Goleman (1998) cites research showing that students who don't receive any feedback on their actions suffer the same loss of self-confidence as those who receive negative feedback.

4.2.2. Positive Feedback

Positive feedback is the reinforcement that makes students want to keep doing what they've been doing. Connellan (2003) offers five principles of positive feedback:

1. Reinforce immediately.
2. Reinforce any improvement, not just excellence.
3. Be specific in your reinforcement.
4. Continuously reinforce positive new behaviors.
5. Intermittently reinforce good habits.

4.2.3. Negative Feedback

Colbert and Knapp (2000) suggest the following six steps for addressing issues that need correcting:

1. Focus the evaluation.
2. Point out the original goals.
3. Identify responsibility.
4. Communicate specific components.
5. Discuss a new plan of action.
6. Confirm correct results.

4.2.4. Informational Feedback

Whereas motivational feedback acts to hasten improvement, informational feedback offers students a visual representation of progress. According to Connellan (2003), informational feedback should be goal oriented, immediate, and graphic.

4.2.5. Developmental Feedback

Feedback is developmental when it affects student performance. As Brookhart (2017) reminds us, oral feedback is very often developmental, especially for younger students who are still learning to read and write. Conventional developmental feedback includes a statement of the problem, followed by some questioning strategies. You want to be sure to provide this sort of feedback before students experience a sense of helplessness.

In a nutshell, good practice with effective feedback makes perfect. Undoubtedly, feedback provides the reinforcement students need to remain motivated. There are three types of motivational feedback: positive, negative, and absent (extinction). Give positive feedback to students who are making small gains. Students benefit from providing feedback to other students.

5.Strategy 5: Rehearse

5.1.Rehearsal Defined

Information that enters immediate memory is lost rapidly unless it is manipulated in some way. Rehearsal, a form of such mental manipulation, comes in two types: rote and elaborative. Rote rehearsal is effective when the information will be used in the same way as it is rehearsed (Sousa, 2017). Multiplication facts, states and capitals, and the order of the presidents are examples of material that can be rehearsed in a rote fashion. Elaborative rehearsal is more useful for teaching semantic information because it relies on creating meaning, and meaningful information is more memorable.

According to Marzano, Pickering, and Pollack (2001), skill learning requires at least 24 practices to reach 80 percent proficiency. The Power Law of Learning (Anderson, 2000), which explains how long it takes to recognize accurately information that has been presented, suggests that it takes many exposures to information for it to be accurately memorized. Each time information is offered, the number of seconds before it is recognized decreases.

5.2.The Prominence of Rehearsal

To rehearse is to recite or repeat in private for experimenting and improvement. Students must try out their newfound learning. To help my students understand the idea that concepts and skills must be practiced. Marzano, Pickering, and Pollack (2001) cite studies showing that students who practice score between 21 and 44 percent higher on standardized tests than those who don't. This result makes sense, of course, because long-term memories are networks of neurons that have been strengthened through repetition. But to truly ensure mastery, we need our students to practice past perfection (Schenck, 2011). As the saying goes, "Don't teach it till they get it right—teach it till they can't get it wrong!" Rehearsal or practice usually ends when students know the answer, but continuing allows them to learn the material in more varied ways to form new associations and to aid retrieval under more diverse circumstances. (Overlearning is especially helpful for students who suffer from text anxiety, which interferes with their ability to recall information. Because information that has been overlearned is so firmly embedded in long-term memory, it is not susceptible to this problem.)

5.3. The Rehearsed Material

Any knowledge—factual, conceptual, or procedural—that is leading students to their target should be rehearsed. The goal, standard, benchmark, or performance descriptor you are aiming toward requires your students to have some long-term retention of the understanding. Information necessary for both classroom assessments and standardized tests needs to be rehearsed. As previously noted, some factual and procedural knowledge may be practiced through rote rehearsal.

We learn to ride a bike by trying to ride a bike—that is, practicing the skill repeatedly until we perfect it.

5.4. *The Rehearsal Craft*

Rehearsal consists of homework, practice, events, and experiences that will store information in multiple memory pathways. According to Medina (2014), “Repetitions must be spaced out, not crammed in” (p. 150), as doing so makes the memories more vivid. Because memories take a long time to form and can be subject to much interference, students must be re-exposed to information for later recall. The more elaborately they rehearse information, the more details they will remember.

5.5. *From Working Memory to Long-Term Retention*

The purpose of rehearsal is to expand connections for conceptual, procedural, and factual knowledge. By spacing out opportunities to rehearse using multiple memory pathways, students have the opportunity to catch up on sleep to enhance memory storage. Rehearsal allows permanent changes to take place in the brain, solidifying neural connections to aid transfer. If information can be stored in all of the memory pathways, then it can be accessed easily through various memory cues.

In a nutshell, Memories must be rehearsed in multiple ways to store them in many areas of the brain. Some information must be overlearned to become permanent. Multiple experiences lead to stronger memories. : Homework provides multiple rehearsals and raises student achievement. For transfer of learning to occur, students must be able to take their knowledge and understanding and use them when confronted with situations and problems that are unexpected or unusual. Mnemonics are made as a memory aid.

6. *Strategy 6 :Review*

6.1. *The Significance of Review*

According to Schacter (2001) three “sins” of memory are blocking, misattribution, and transience; and below a detailed description is provided. Schenck (2011) states that , spacing reviews during the learning and increasing the time between them gradually supports long-term networks to be strengthened. Both traditional and standardized testing alike , the timing between repeated reviews can potentially affect how much information students retain. According to Schenck , the typical test review takes place long after the initial learning and rehearsal. He declares s that we review from the beginning with short intervals in between, then increase the time between reviews. Additionally, Schenck (2011) designates that for the students to retain most of the information and knowledge for two to three months, they should have been actively engaged in their learning progress and review takes place two or three weeks later.

6.2. *The Way Retrieval Occurs*

The review process of factual information needs reorganization. Remember that we are taking information from long-term memory, bringing it into working memory(or short term-

memory), examining it to ensure accuracy, and taking an opportunity perhaps to reorganize it to enhance transfer. The following goals should be considered with any review:

- Match the review to instruction and assessment.
- Check for accuracy of the memory.
- Give students the conditions to use higher-level thinking skills to analyze, evaluate, and possibly create alternative ways to use the knowledge.
- Strengthen the existing networks.
- For high-stakes testing, practice similar questions under similar conditions.
- Eliminate cramming.

If review is done sporadically, as previously posited, then we may be able to prevent students from the last minute revision (cramming right before the test). As Tuckman (1998) delineates that students who procrastinate performed better on final exams if they had received frequent tests and quizzes. These results are concurrent with the study of Wenglinsky (2002), who significantly proved that students whose teachers periodically gave them paper-and-pencil tests scored higher on standardized tests.

6.3. Re-teaching

Review may show us that our students were unable to store information in long-term memory or that it is difficult for them to retrieve. In such cases, re-teaching is important. Crowley and Siegler (1999) found that comprehension increases when students first receive a visual demonstration of new learning. Then a verbal explanation follows from someone else. Finally, the recoding strategy is implemented—a reiteration of the material in the learner's own words. Even though you started out in this way when you followed the steps for memory building, this shortened version makes more sense at this point in the process. Because some of your students will not need the re-teaching component, perhaps they can be the teachers. This exercise will reinforce their learning, as it provides new and varied experiences for learners in need.

In a nutshell, without review, important information may be lost. Review can increase the length of time that students remember. Review encourages our students to retrieve memories from long-term storage areas. It provides more practice in accessing memories and manipulating them in new ways in working memory. Every time we access a memory, we are more likely to be able to access it again. We can continue to call on higher levels of thinking by asking students to recall conceptual understandings and apply them in different situations.

7. Strategy 7 : Retrieve

7.1. Retrieval Defined

Retrieval of memory in its most universal form is the ability to bring a past event or prior knowledge to one's mind. In other terms retrieval or recall is the re-accessing process of retained events, actions or information in the brain. It is this conscious recollection that we call memory. Usually this is called declarative memory because we can actually declare it (Squire & Kandel,

2008). The act of getting information back out of memory storage and keep it alive in conscious awareness is known as retrieval. This process happens after encoding (via effortful processing) and store some important information for later use (test or exam revision...). Our ability to retrieve information from long-term memory is vital to our everyday functioning. Retrieval is the ability to access long-term memories, bring them into the working memory process, and solve problems.

7.2. Retrieval Process: The mechanisms

Research-based facts ascertain that many people claim that they have trouble accessing memories. The recall process cannot happen unless full storage of the information is complete and done. Put differently, where there is no storage, there can be no retrieval. When the student is fully engaged and active agent, he enhances his learning and memory storage, whereas inattention does not. If no effort is being made to record new information for later use, then our interests and preferences influence the strength and even the nature of the memory. When we wish to remember, intending to hold onto information for a later result, the probability of having a lasting memory is increased. As Squire and Kandel (2008) indicated, "Memory appears to be stored in the same distributed assembly of brain structures that are engaged in initially perceiving and processing what is to be remembered" (p. 72). These neuroscientists suggest that the availability of the memory may depend on the strength of the cue provided. Sousa (2017) reported that people tend to store information in networks by similarity but retrieve it back into working memory by difference. Substantially, the brain stores the attributes of information in a network with its characteristics. Traditionally, to retrieve the memory, the brain must somehow differentiate the information from all other stored information. It must find a difference that separates it from other networks.

7.3. Test Anxiety

Anxiety is a normal reaction – apprehension, tension, or uneasiness – to any perceived threat or anticipation of danger. If we believe something important to us is being threatened, and we overestimate the threat, underestimate our ability to cope with it, or underestimate the resources we have available to cope with it, then we'll feel anxious. Exam anxiety often involves apprehensions of performing at levels below those at which we'd like to perform, or even apprehensions of failure. This type of anxiety may be a product of our underestimating our abilities to perform or of the resources we have available to help us to perform to our desired levels on exams. Conversely, exam anxiety may be a natural reaction to insufficient exam preparation.

Test anxiety is a form of stress. Many of us have stress, or good stress, when we take an exam. It gets some adrenaline pumping and actually assists in our recovery of memories. Some students, however, can become overwhelmed by test anxiety. According to stress physiologist Robert Sapolsky (2012), stress is best handled when five factors are present:

7.3.1. Predictability: Do students know what kind of assessment they are facing? Are they familiar with the content? Have there been enough rehearsals and reviews?

7.3.2. Choice: Are there any options for the student? This may be as simple as offering three essay questions but only requiring that two be answered.

7.3.3. A Feeling of Control: This is present when a student understands the goal of the assessment and has rehearsed and reviewed properly.

7.3.4. Social Interaction: If the environment is such that the students feel that they are “in this together,” they will feel less threatened by a test. Perhaps students can even take group assessments when appropriate.

7.3.5. Physical Activity: Of course, we don't want students jumping around during a test, but it might be wise to offer some movement activities before testing and the students should be involved in the assessment process

7.4. Levels of Complexity

Sousa(2015) delineates between levels of difficulty and levels of complexity. Specifically, complexity refers to the type of thought processes used to manage information and issues. Difficulty is the amount of effort needed within a level of complexity. According to Anderson et al.,(2001) as the new Bloom's taxonomy, complexity may be identified as the levels of thinking involved. The more complex a task is, the higher the level of thinking required. The more difficult a task is, the more effort is utilised at a particular level of thinking

Conclusion

Research based facts proves that students' attention and motivational skills are enhanced by many factors such as novelty which seems more appealing to them. Most importantly, the human brain is greatly programmed to respond to novelty. Effective teachers know how to offer students the opportunity to make connections and reflect on their own learning progress. Interestingly, teachers give them some time to do so and the students are provided with wait time, focus time, and reflection time. Basically, reflection allows students to search their memories for prior knowledge and connect it with the new information. Students are urgently asked to recycle the information in their own words to be better stored and organized in their memory. Research suggests that if the students generate the own explanation of the concept and information they get by their own, so the information go into long-term storage. Throughout the learning process, the students need clarifications, orientations and clearing up any misunderstandings. The teacher intervenes to provide feedback, so the students know whether they understand the facts, concepts, or procedures. When the students recycle concepts, facts, and procedures into their own words accurately, now they can directly transfer it to long-term memory.

The rehearsal process is fruitful to guarantee retrieval of facts and information from the brain, so it can be more easily accessed. The phase of assessment and review is a critical issue in students learning. Whereas rehearsal puts information in long-term memory, review presents the opportunity to retrieve that information and manipulate it in working memory. Teachers should systematically integrate the review to instruction and assessment. For a collaborative and active classroom atmosphere, the students are given the opportunity to use higher-level thinking skills to analyze, evaluate, and creatively create alternative ways to use the knowledge. When the students store, recode and transfer the information accurately using cues and clues in the time first learned,

the retrieval occurs successively. The ability to access long-term memories, bring them into the working memory process, and solve problems present later when making an attempt to recall.

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