

Metacognitive Strategies: A Viable Tool for Self –Directed Learning

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Abstract *Metacognition is an effort of figuring out how to do a particular task or self of tasks are done correctly the use of metacognitive strategies have been associated with successful learning, bought students usually make use of certain strategies that are associated with success in their learning endeavour. They engage in self assessment of the level of mastery attained for any lecture attended. In the light of the above, this people is focused in highlighting some of the metacognitive strategies that well develop in students deeper understanding concepts, take their thinking to a higher level and steer them into adulthood. Self-directed learning and steps teachers can use to guide learners will be examine. The paper will be concluded with recommendations.*

Introduction

Metacognition is an appreciation of what one already knows, together with a correct apprehension of the learning task and what knowledge and skills it requires, combined with the ability to make correct inferences about how to apply one's strategic knowledge to a particular situation and to do so efficiently and reliably (Laylor 1999), Xiaoding (2001) defines metacognition as the ability to understand and monitor one's own thoughts and the assumptions and implications of one's activities, to fry (2008) metacognition is the activities of monitoring and controlling one's cognition. In other hand it is the process of monitoring and controlling learner one's cognition .

In other hand it is the process of monitoring and controlling learner knowledge, comprehension application, analysis, synthesis and evaluation of the learning or other activities. Though these processes people reflect on their own cognitive and memory process (monitoring), and how they put their metaknowledge to use in regulating their information processes and behaviour (control).

Metacognition is regarded as concept concerned with what people think about their thinking and memory process. Teachers, work to guide students to become more strategic thinkers by helping them understand the way they are processing information. Questioning visualizing and synthesizing information are all ways readers can examine their thinking process, if a student has gone through a passage.

Self-directed Learning

Self-directed learning is an approach to both teaching and learning that actively engages students in the learning process to acquire higher order thinking skills. It also helps them to reason, problem solve, and think critically about the content (Burke, 2006, Cost and Kallicks, 2003, Keirn, 1998). Self-directed learning requires a teacher to perform the following sequences of activities.

- (a) Provide information about when and how to use mental strategies for learning
- (b) Explicitly illustrate how to use strategies to think through solutions the real world problems
- (c) Encourage Learners to become actively involve in the subject mater by going beyond the

- information given to restructure it based on their own ways of thinking and prior understandings.
- (d) Gradually shift the responsibility for learning to your students through practice exercises question and answer dialogue, and or discussions that engage them in increasingly complex through patterns. The systematic varying of task demands within a unit comprises an activity structure. Activity structures are most effective for self-directed learning when they vary the demands or problems being placed on the learner in ways that gradually require him/her to assume responsibility for learning the content at a higher level of understanding.

Steps in Teaching self-directed Inquiring in Individual Learners

- (1) Provide a learning task, and observe how the student approaches it (e.g reading a short story selection in a history text that will be basis for a writing assignment)
- (2) Ask the student to explain how he or she approaches the task of learning the textual information I preparation or the writing assignment (this help the student to analyze his own cognitive approach).
- (3) Describe and model for the learner a more effective procedure for organizing what he or she reads, for example, explain and demonstrate how to use the study questions at the end of the selection to help focus reading, highlight the main ideas in each paragraph, and write outline notes of key points on a separate sheet as a guide for later review.
- (4) Provide the student with another similar task
- (5) Provide another opportunity for the student to practice the skills using self-direct, this time the teacher will reduce his role as monitor
- (6) Check the result of the learner's comprehension and cognitive organization, giving reminders and corrective feedback.

In order words, to help students understand how to become self-direct learners for most 1st understand both the ednal and motivational psychology blind self-directed learning even though a student can become a s-directed learner understanding its psychological characteristics and the development of these traits, it is more likely to occur when for help foster them on the classroom.

Trans administrators, along parents and students, must have an understanding of the fifty characteristic of becoming a self-directed learner, student motivation, goal orientation self efficacy and locus of control, self-regulation and metacognition. These concepts proude a framework for helping students to truls gain an understudying of themselves as learners and how they can improve their self aware as a learners.

Also student motivational level is determine by the source of motivation which differs. A student who is intrinsically motivated undertakes an activity "for its own sake, for enjoyment it provides, the learning it permits, or the feedings of accomplishment it evokes, but an extrinsically motivated student performs in order to obtain some rewards or avoiding same punishment externally to the activity itself, such as grades, sticks, or for approval, and discovers that he did not understand it re-read it using self-questioning and prediction to ensure comprehension.

Metacognitive Strategies for Learning

Metacognitive strategies are those strategies which allow students to plan, control and evaluate their learning rather than those that merely maximize interaction and input. Thus metacognition and metacognitive strategies create in the learners the ability to evaluate their learning metacognition is concerned with efforts to asses learning and understanding, strategically speaking therefore if the learner has a learning goal of understanding a text, he could use the cognitive strategy of self-questioning while reading, as means of

obtaining knowledge. In order to ascertain whether the goal has been achieved, the learner can also use the self-questioning strategy, this time, as a metacognitive strategy and as a way of monitoring what he has read. No wonder Livingston (1997) acknowledge that metacognitive strategy may not be different from cognitive strategy, the difference can be on how the information is used.

The practice of metacognition involves metacognitive skills, which are expressed through metacognitive strategies Brown (1987) perceives metacognitive skills as the voluntary control learners have over their cognitive processes. He identified four types of metacognitive skills.

1. Prediction to assess task difficulty
2. Planning – Things that should be done for task execution
3. Monitoring – Things to know to attain objective
4. Evaluation – Requirements to grasp full meaning of problem.

These skills are expressed through metacognitive strategies which Brown perceives as “the sequenced processes that a learner uses to control cognitive activities and to ensure that a cognitive goal is met. Veeman (2007) described metacognitive skills as the possession of procedural knowledge and the ability to perform appropriate metacognitive activities when necessary and in the right manner. He identified the following metacognitive skills.

- Analysis of task assignment
- Activation of prior knowledge
- Planning activities before hand
- Monitoring understanding and progress
- Evaluating outcomes and reflecting upon one’s learning activities

Borich (2007) observed that metacognitive skills can be taught, students who have been taught the skills of metacognitive strategies learn better and also develop higher forms of thinking. It is important to note that once learnt, metacognition becomes a habit that can be applied to a wide variety of new situations. Instructions in cognitive strategies are designed to enable learners become more strategic, self-reliant, flexible and productive in their learning efforts unfortunately, McEachie (1988) in Pierce (2008) observed that most teachers do not explicitly teach study strategies, thus learners learn through rote memorization.

Example of Metacognitive Strategies

1. According to Boyles, 2004, Duffy, Rochler and Herman (1988) Dunlosky and Metcalf (2008), Metacognitive strategies are most easily conveyed to learners through the process of mental modeling. The mental modeling helps the learners internalize problem solutions to different content at a later time mental modeling is particularly important when asking students to engage in complex tasks that require higher-order thinking skills, mental modeling involves three important steps: They are

- Showing students’ the reasoning involved
- Making students’ conscious of the reasoning involved
- Focusing students’ on applying the reason.

These steps usually are carried out through verbal statements that walk learners through the process of attaining a correct solution Borich and Tombari (2004) opined that learners can get to completion of a problem when a teacher provides actual live demonstration of mental procedures. Thus, the teacher has to carry out skilled demonstration in the following ways.

- Focus learners attention
 - Talk in a conversational language while demonstrating
 - Make the steps simple and obvious
 - Help student internalize, recall and generalize problem solution to different content at a later time.
- i. **Notemaking and Paraphrasing**
Students are encouraged and allowed to put down meaningful information during learning, Notemaking makes students to record information from a variety of sources (e.g teacher demonstration, lecture note, tape, practical work and class discussion).
 - ii. **Use of Analogies / Metaphors**
These can be very powerful ways of encouraging student to take a wider and more reflective view of a topic
 - iii. **Making Summaries**
Making of summaries have been known to aid deeper understanding in the process as well encourage cognitive skills, it is a useful way of sorting out the important aspect of a topic. The act of summarizing involves the pupil in making decisions about the topic covered and prioritizing information, sorting it, paraphrasing it and processing it into another form.
 - iv. **Understanding and Memorizing New Concept**
Learning about concepts especially in areas of classification and nomenclature involves the memorization of information, understanding by exercising intellectual, motive and metacognitive skills, memory of ideas is linked to understanding in that recall is much easier, if the facts and figures are fit into an understandable framework.
 - v. **Sketches:** Sketching is one very good way of learning how to learn effectively. It is a simple executed drawings or rough drafts which present essential feature without details, sketeches, drawing and diagrams are the "spark plugs of visual training. If learners develop the skills to produce their own sketches, this will not doubt help them to articulate in their own way, the meaning of concepts and to clarify concepts.
Outlining: Outling is the use of key words, phrases and sentences to sequentically organize a topic and at the same time maintain continuity through the application of chronological inductive, deductive and spatial sequence. Other strategies involve in the practice of metacognition are using sensory and emotional images, creating and using schemata, interring, synthesis etc.

The Role of Metacognitive Strategies in self-directed Learning

Metacognitive strategies help students to understand how current information fits into a larger and low best to utilize that information to reach a desired end. It helps people figure out how things are done, understand the differences between similar and similarities between apparently different things and how they can deal with them.

Mental models and strategies help students to use the current reasoning process to arrive at a solution make them conscious of the steps to arrive independently at answer in similar circumstance. An important aspect of self directed learning is the teacher's use of example and illustration to demonstrate to learners, her various cognitive strategies for learning such as metacognition and mental moderling can be applied.

Menacognitive stratiefies ignite the learners thinking which can lead to more profound learning and improved performance.

Metacognition and metacognitive strategies create in the learners the ability to evaluate their learning. In teaching, the knowledge of metacognitive strategies can help student learn to think about what happens during their instruction classed by drawing inferences from the lesson, and as concept learning skills is enhanced.

From the explanations offered so far, metacognition and metacognitive strategies help students in planning how to learn, a given task, how to monitor their learning by assessing themselves for enhanced learning performance.

Conclusion

One of the main struggles that students face in trying to develop an understanding of metacognition and ways to develop strategies that positively impact themselves is an overall lack of awareness to their own learning process. Teachers over years have failed to teach learners how they can effectively learn or espouse them to some of metecognitive strategies that will enhance performance. This paper has explained the concept of self –directed learning, metacognition and also pointed out some of the metacognitive strategies and how they can aid self directed learning.

Recommendations

There is the need for teachers to expose students to metacognition and strategies, since they are valuable skills that help students become more self, directed learners.

There is a need for training on metacognitive strategies for students.

Method of training metacognitive strategies should be included in teacher education programmes or course content.

It is obvious that students especially new comers into school system may not be aware of metacognitive strategies or how they can effective study on their own it is therefore very important that this metacognitive process should be included during students orientation for further clarification by individual teachers during classroom interaction.

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