

## **COGNITIVE LEARNING AND TEACHING STYLES**

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### **ABSTRACT**

*Cognitive learning has been influential in teaching over the years. This article will ultimately discuss how five common teaching styles support cognitive learning. This article will first define the five common teaching styles: authority method, demonstrator method, facilitator style, delegator style and the hybrid method. The article will then go on to define Cognitive learning and activities that are associated with this type of learning. Finally, this article will discuss how the five teaching styles support cognitive learning.*

**Keywords:** *cognitive learning, authority method, demonstrator method, facilitator style, delegator style, hybrid method*

### **INTRODUCTION**

Educators are to assure that their students not only learn the content, but are able to apply the concepts presented. Educators should work to make an environment that is open and inquiry based. Students should also exhibit critical thinking and problem-solving skills while in a class. This article will discuss five common teaching styles and how they relate to cognitive learning. The five common teaching styles that will be discussed are the authority method, the demonstrator method, the facilitator style, the delegator style and the hybrid method.

### **TEACHING STYLES**

First, the authority method, also known as the lecture method, is the “old-school” method of teaching. With this method student listen to the instructor speak

on a topic while taking notes and memorizing to the best of their ability what is said.

This particular style is more popular in universities and some high schools due to a larger student population (Bohren, 2019). The downside to this style is that it does not allow for student participation.

The second style, the demonstrator method, also known as the coaching style, is similar to the lecture style in that the instructor maintains authority in the classroom. With this method instead of only using lecture to give information they also utilize multimedia presentations, class activities and demonstrations. For subjects like music, art and physical education this style is perfect because the demonstration is usually necessary to acquire a full understanding of the subject (Bohren, 2019). The downside to this teaching style is there is very little interaction.

The third style, the facilitator style, also known as the activity or action method of teaching tries to encourage self-learning. This self-learning is encouraged by the teacher asking students questions instead of giving them the answer through lecture.

The goal is for students to develop a deeper understanding of the topic by using self-discovery and develop problem solving skills (Bohren, 2019). The downside of this method is that it is harder to use in larger classroom because of its inability for the teacher to interact on an individual level.

The fourth style, the delegator style, also known as the group method, is used when group work is required. For subjects like science classes and certain language learning classes this style provides good peer feedback. The teacher acts as a delegator becoming an observer to promote peer collaboration and encourage student-to-student learning (Bohren, 2019). The downside of this style is that this method removes the teacher from the position of authority.

The fifth style, the hybrid method, also known as blended learning, is an integrated teaching style. This style incorporates, personal preferences individual personalities and specific interests into their teaching. For subjects such as English, science, and religion it's easy to incorporate extra-curricular knowledge into a developed, deeper knowledge of a particular topic. The downside of this style is the learning process since the teacher tries to be all things to all students.

An article published in 2017 speaks of a study that was done to reveal the perceptions of student teachers on the teaching styles of music teachers during their teaching practice (Beyhan, 2018). This study focused on three of the teaching styles noted in this paper: the authority style, the facilitator method and the delegator method. This study was performed using a descriptive study on 218 students in their final year of their music teacher education. The student teachers'

perceptions on the preferred teaching styles of music teachers are, in descending order, Authority (3.55), Delegator (3.30), and Facilitator (2.99) (Beyhan, 2018).

### **COGNITIVE LEARNING DEFINED**

Cognitive learning is centered on the mental processes in which the learner takes in, interprets, stores and retrieves information (The Peak Performance Center, 2020). Cognitive learning strategies are strategies that improve a learner's ability to process information more deeply, transfer and apply information to new situations, and result in enhanced and better-retained learning (Winn, et. al., 2019). One of the theorists responsible for the cognitive learning theory is Jean Piaget. Processes involved in the cognitive learning include observation, categorization, perception, thinking, reasoning, memory and forming generalizations.

Just as in any other approach, the cognitive approach, has its strengths and weaknesses.

One strength of the cognitive approach is that it has always employed highly controlled and rigorous methods of study in order to enable researchers to infer cognitive processes at work (McLeod, 2015). Another strength is that it is probably the most dominant approach in psychology today and has been applied to a wide range of practical and theoretical contexts (McLeod, 2015). Finally, another strength to this approach is that it combines easily with other approaches (McLeod, 2015). A weakness of the cognitive approach is that cognitive psychology has a narrow focus on mental processes (McLeod, 2015). Another weakness is that cognitive approach in psychology has often relied on comparisons with how computers work as a possible way the mind might work (McLeod, 2015).

### **COGNITIVE LEARNING ACTIVITIES**

Cognitive learning activities are geared towards pushing students to work through different problems and stimuli (Compos, 2020). This is done with the goal of encouraging students to critically think and problem solve.

Educators want to craft activities that make students apply their logic and creativity. Activities that promote cognitive learning are remembering, understanding, applying, evaluating and creating.

The principle of remembering is done by asking students to recall previously learned information to complete a task. One activity that promotes remembering is asking students to create a timeline of important events from memory. Another activity would include making a game out of reciting poetry or important writings. A third activity that promotes remembering would be to asking students to write a

paragraph detailing what they remember from the last class. These activities might be a great review for the beginning of class to see if students are comprehending previous lessons (Compos, 2020).

Understanding activities engage students to see how they interpret information. One activity that helps promote understanding is asking students to defend a point of view. Another activity that helps promote understanding is asking students to create a list of examples of the topic being reviewed in class. A third activity that helps promote understanding would include asking students to classify types of processes or events. This helps students analyze information from different angles and to recognize, interpret and classify a topic (Compos, 2020).

Problem-solving has to do with applying specific skills and knowledge to produce proper results (Compos, 2020). One activity that would promote application is asking students to create an effective learning game. A second activity that helps promote application would include asking students to solve problems or answer questions listed on the board. A third activity that will help promote application is to ask students to demonstrate procedures to the class. This principle will push students to rely on what they've learned and figure out ways to succeed through fun activities (Compos, 2020).

The principle of evaluating focuses on analyzing information and making judgements based on it (Campos, 2020). An activity that will help promote this principle is asking students to construct a graph to illustrate certain information. Another activity would be to ask students to develop a questionnaire to group or gather information at hand. A third activity that will help promote this principle would be to ask the students to create a pros and cons list. These activities help students weigh information based on criteria previously learned (Compos, 2020).

Creating is the last principles that will be discussed. Cognitive learning is centered on adapting to new stimuli and constructing methods to solve problems (Compos, 2020). One activity that promotes this principle is asking students to write an original poem. A second activity would consist of asking students to perform or write a scenario demonstrating themes or illustrating specific ideas. A third activity that will help promote this principle would be to ask students to write a manual or guidebook demonstrating important information. These cognitive activities rely on students to produce original ideas to address prompts, organize thoughts and devise a means of their own invention that will help them answer problems (Compos, 2020).

#### Authority/Lecture Method

The cognitive learning theory proposes that learning involves actively constructing knowledge (Durwin, 2018). How does this work in respects to the authoritative teaching style? A study published in 2015 compared the effect of

lecture-based education and CD based education on cognitive learning. This study was performed by giving pretests and posttests to 24 lecture students and 12 CD students. The results of this study revealed that the mean total scores, knowledge score, understanding score, and composition score were higher after a lecture class than after a CD class. The percentage of changes of total score and knowledge score of cognitive learning were significantly changed in the lecture group (Mohammadbeigi, Mohammadsalehi, Arsang Jang, Ansari, & Ghaderi, 2015).

Cognitive learning has different levels of learning as exhibited in Bloom's Taxonomy. Bloom's taxonomy provides a progressive sequence of educational objectives used for lesson planning, needs assessment, and measurement of learning outcomes (Ramirez, 2017). Bloom's lower levels of thinking include remembering (knowledge), understanding (comprehension) and applying (application). Bloom's higher level of thinking include analyzing (analysis), evaluating (evaluation) and creating (synthesis). Lecture can activate lower-order cognitive learning such as memorization and basic understanding (Waldeck & Weimer, 2017). Lecture is an important communicative activity that platforms the instructor's expertise. Coaching is also an affective teaching method.

### **DEMONSTRATOR/COACHING STYLE**

Coaching itself focuses on improving the teaching of cognitive performance. The coaching method encourages dialogue, collaboration, innovation, efficacy, reflection, satisfaction and empowerment (Maskey, 2009). In fact, research supports the benefit of coaching to cognitive learning in that coaching actually benefits both the student and the teacher. Coaching can be done using a variety of approaches; one being cognitive apprenticeships. Cognitive apprenticeships involve opportunities to develop cognitive skills within the content of authentic activities (Durwin, 2018). With cognitive apprenticeships the student participates in activities that are at their cognitive level. An example of a cognitive apprenticeship would be an elementary school student learning about math and money by working in the school store (Durwin, 2018). Though coaching correlates well with cognitive learning; how does the facilitator method affect cognitive learning?

### **FACILITATOR/ACTIVE METHOD**

The facilitator method is accomplished by self-learning and discussion. Cognitive learning is supported by this type of teaching style in that active learning promotes students thinking, reasoning, and forming generalizations. A study published in April of this year analyzed the self-efficacy and emotional intelligence

in mediating the effect of implementing active learning methods on student learning outcomes (Kustyarini, 2020). This study was done using 160 language students in Indonesia. The results showed that the active learning method had a significant influence on the learning outcomes of students (Kustyarini, 2020).

#### Delegator/ Group Method

The delegator style of teaching creates a student-based teaching environment giving the students duties and responsibilities (Beyhan, 2018).

The cognitive learning process is supported by the delegator teaching style in that this style encourages thinking and reasoning. However, it has been noted that this style struggles to develop student potential. It appears that this teaching style does not promote cognitive learning as well as the three prior teaching styles. So, how does the hybrid teaching style encourage cognitive learning?

#### Hybrid/Blended Learning

The hybrid teaching model is an approach that was initially being used in undergraduate courses. In a study published in 2014 it was noted that at that time the effectiveness of the hybrid approach to teaching was mixed and still accumulating. This paper discussed the effectiveness of a hybrid teaching approach for a Managerial Economics class (Metzgar, 2014). Results of this study suggest that student performance is lower in classes that utilized the hybrid teaching as compared to classes that utilized traditional teaching methods. A more recent article published this year states that the hybrid teaching style allows teachers to spend less time on lessons for the entire class and devote more time to interact with their students who have special educational needs. In fact, a blended learning environment is more effective than the traditional model for inclusive education (Zhang, Rebrina, Sabirova & Afanaseva, 2020). Hybrid teaching promotes cognitive learning in that it promotes observation and memory.

### **DISCUSSION**

The demonstrator/coaching method appears to be the best match in promoting cognitive learning. Instructors can attempt to use SIM men/women and hands-on materials to re-iterate their lectures. This type of instructor acts as a role model by demonstrating skills and processes and then as a coach/guide in helping students develop and apply these skills and knowledge (Jain, 2008).

It is apparent through the discussion above that multiple modes of instruction are necessary in order to teach the diversity of the student population. Among the other modalities listed in this paper the use of engaged lecture, open discussion, handouts, power points, think-pair-share cooperative activities,

demonstrations, role play and simulations all help promote cognitive learning and assure that no one student is left behind or feels lost.

Assessment tools that allow instructors to give timely feedback and help students make realistic goals as well as self-reflect on their learning needs is essential for the successful application of cognitive learning. These types of assessments can be done by utilizing both summative and formative assessments throughout the semester. These assessments will help curriculum development throughout the semester to assure students receive the best cognitively driven learning experience possible.

## CONCLUSION

In conclusion, it is evident that there are several different teaching modalities identified and all help students learn in a very different way. Identifying the modality that is going to work best for the classroom as a whole is the challenge. However, in terms of Cognitive Learning it appears that the demonstrator/coaching method engages a more cognitive approach to teaching. Cognitive learning has been proven to promote lifelong learning and all instructors should strive to provide this to all of their students. An educator needs to be open, current and multi modal in order to assure their students always get the best teaching experience possible. Instructors should continue to encourage knowledge and foster a safe learning environment that assures critical thinking and problem solving in the classroom with the use of instruction that promotes cognitive learning.

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