Cognitive Information Processing Approach To History Learning

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Abstract:

The human thought process is a process carried out by an influencing condition. Utilization of capacity in the cognitive domain of humans has basically started to run since humans utilize motor and sensory capacities. In learning history for students using the cognitive domain becomes very difficult, because in this domain there needs to be processing of information that is absorbed in each lesson. Processing can be in the form of various learning models that can stimulate memory to process information. Because basically the view of cognitive information management pays attention to how sensory input is transformed, reduced, described, stored, retrieved, and used. Thus any learning strategy in history learning if using a cognitive information processing approach will very likely be more effective and efficient.

Keywords; cognitive information processing, history learning

INTRODUCTION

When talking about history, what comes to mind is how complicated and difficult it is to study it. Sometimes History is also considered only the business of a small group of people, such as historians or people who are interested in history. History is also considered only a past event, which only needs to be remembered when needed. These thoughts will actually poison the minds of every generation in studying history, as a result, history is less interesting to study and study.

There are many wrong understandings of history about the importance of history, it is inseparable from how to study history itself. Learning about history is only considered the responsibility of the history teacher. Many people are not aware that historical education is the responsibility of all parties. Likewise, many history teachers themselves are not aware of their role in building history lessons. As a result, many students in obtaining history teaching are inadequate.

If all of that happens, then the community or the younger generation will understand history, only limited to important events that happened in the past. If so, then history itself will lose the spirit contained in the events that occur. Because essentially every event that happened in the past or present all contains a spirit, where that spirit will give meaning to every human being who studies the event itself.
To provide an understanding of the importance of society in studying and understanding history, it must be done as early as possible. As a first step, learning history can be carried out in schools. Many educators and experts argue that history should be taught in schools. Van der Mulen stated that the inclusion of history in the school curriculum is intended to build the personality and mental attitude of students. Likewise, studying history will raise awareness of a very fundamental dimension of time in human existence, because essentially existence is a continuity, namely a movement and transition that occurs continuously from the past to the future (Ismain; 2003:1).

Educational values in life. However, no matter how complicated it is in building human awareness about the importance of history, it is also necessary to build a solid foundation in history learning, so that history will no longer lose its meaning.

The impression is not interesting and boring in every history lesson, due to the lack of every teacher using strategies and methods in teaching history. Teaching history can not only be taught by dictating the text, because history has unique characteristics. Therefore teaching history requires a special skill. Freeman (Widja. IG 1989) suggests that teaching history is a complicated process and requires high professional skills to teach it.

One of the strategies and methods of learning history that will be offered is to use a cognitive information processing approach through the lecture method. This view pays attention to how sensory input is then transformed, reduced, described, stored, and to be retrieved and used. Broadly speaking, teaching history requires the above.

**THEORETICAL PERSPECTIVE**

Departing from the problems related to history learning, several theories are tried to be offered as a solution to the problem of learning history itself. One of them is the learning theory proposed by Gagne.

Learning is an activity for students/citizens to learn with the guidance of a teacher or by their own efforts to carry out a process to fill their minds with various knowledge. To find out whether there has been a learning process, attention must refer to the cognitive processes that occur within a person. This needs to be done because in essence learning is a process of providing cognitive information that occurs in a person and focusing attention on the learning process, in this case is the management of cognitive information.

There are various variations regarding the perspective of human learning cognitive information processing. The difference lies in the aspect of the thought process which emphasizes the depiction of how the learning event occurred. Important parts in the learning process is how a person is able to solve problems, make decisions, think, and be able to receive information **verbal responses** (Gagne, 1985).

The view of cognitive information management pays attention to how sensory input (Gagne, 1985; 75-77) is transformed, reduced, described, stored, retrieved, and used. Meanwhile, the use of cognitive information is defined as a way of providing assistance to solve problems and make decisions. To understand information processing, one must know how learning is affected by the organization of information, the ability to follow sources of information, the function of memory and the mind in storing, organizing and searching for information.

Cognitive theory has several variations, as well as the perspective of managing cognitive information in cognitive theory. How the information is processed and how the
cognitive information is applied in learning, especially in the perspective of learning history.

The application of a theory is sometimes not easy to implement in the field. Sometimes a concept in a theory needs to be measured according to field conditions, so that it can be applied. So there are concepts that sometimes have to be measured and stretched for choice theory to be applied.

Humans are complex, and humans are seekers of information and new things, especially about new forms of skills (Rogers, 1992). For this reason, from the perspective of learning in schools, a stimulus is needed for the use of cognitive processes. Attention and memory mechanisms in each student are sufficient to feel and understand, but the problem is how to organize, store and retrieve information if needed to solve a problem or problem in a task, how it is done will reflect a level of stability in the learning process. determine and choose how to process information. A solid pattern when it is done for students in the perspective of history learning is a cognitive learning style, but once again this learning style still needs to be studied more deeply in the study of teaching and learning history in schools. Because this style is likely to also affect student learning styles, and what needs to be researched is whether this cognitive learning style is also one of the factors that will affect student behavior? Many factors influence learning styles and learning behavior for students, especially in the history learning system.

Strengthening cognitive information in history learning will increase students' motivation to learn. A person who is truly learning is not really passive. Freire argues that stimuli that come from outside (input of other experiences) which are then reflected in the form of activities may have a very important role (Alan Roger, 1992), but what is more important and produces a lot of influence in learning attitudes is a stimulus from within or from within, experience that comes from within, a controlled stimulus from within (internal). Students in an effort to solve problems and in making decisions are always based on various alternative views. When faced with a problem, a solution will be found immediately. In general, students are more active in learning, because it is adjusted to the level of their needs (needs orientation).

The assumption of active learning is proposed by cognitive learning theory as an explanation of initiative, goal direction, and tenacity of action. Another assumption is that the cognitive process itself is responsible for stimulating action. Students who perceive that they themselves are the cause of their behavior and who make their own decisions and feel responsible will have higher academic achievement. Students who have an inward orientation, think differently than those who are outwardly oriented, the first to believe in their actions is themselves, they also believe that they themselves control what will happen, they are better able to formulate hypotheses and plans (planners). Thoughts about personal effort, about what controls behavior, likely to influence what will happen are important motivational beliefs. The influence of cognitive theory considers reinforcement in students as less important, but does not ignore it altogether. Sometimes external reinforcement may reduce a person's interest in learning. For Jerome Bruner, Piaget, Guy Manaster and Jeanette Gallager, there are doubts about the motivation that a teacher exerts on his students which unblocks the natural ability to try to solve problems and make decisions. Students will be more interested in learning if a teacher is able to create a pleasant environment for students, provide a sense of satisfaction and on a voluntary basis (Knowles, 1978), and create a challenging environment to seek and find answers to questions and problems that exist within themselves.
The cognitive functions that can be performed are age-related, and each person creates his or her own knowledge (Pieget, 1999). Learning is re-creating knowledge and not acquiring or discovering knowledge. Learning is a reaction to experience in a meaningful way. Training in formal operational processes is important for adults who have developed the physiological maturity to become formal operational thinkers, but have not had sufficient interaction experience to develop the necessary thought processes. Only by using formal thinking is creative thinking and constructive thinking possible.

Teachers are responsible for assisting students or students in developing formal thought processes. In Piaget's theory, more emphasis on the teaching process, where students must be able to take advantage of the teacher's ability in terms of finding alternative answers and avoiding hasty and absolute solutions.

Students also need to explore various aspects of a problem and get used to creating various alternatives and solution answers. Students must also be exposed to various learning styles that will train students to accept each learning or teaching style in the learning process. In Piaget's view on cognitive theory, it is more emphasized that motivating students should be done by maturation of students in organizing and processing information actively.

One of the simplest methods and is often used by teachers is the lecture method, lectures are also often referred to as pulpit lectures. Sometimes in some learning models, lectures are the main method of delivering material. Lectures have been widely known in the learning model since the Middle Ages known as tabula rasa. The mind of each student is considered as an open and blank sheet that every recipient will readily accept a teacher's explanation.

As a method, the lecture is carried out by a teacher, using verbal symbols, the class is relatively passive and does not stimulate the learning experience (students), a teacher must have vocals and skills in rhetoric. In a lecture requires something fun in illustrating a theory. Colored descriptions and persuasive language will easily grow and will stimulate verbal information in students.

In the lecture method, the lecturer must at least do:

1. speak clearly and clearly enough to be heard, electronic devices or loudspeakers are required if the class has more than 25 participants. So in this case the speaker needs skills in using a microphone
2. lectures arranged in one theme or "thess"
3. lectures are developed from within, it is better to be open in using "discussion" as a form of development and relevance of thesis development
4. discussion is developed with various variations, analyzing, concretizing an event and if possible there is a psychological assessment.

Often the lecturers in carrying out their duties do not use visual media, this is in addition to the new dimension found in motor sensor stimulation in each student. However, a clear reason has not been found why the learning community cannot interrupt during the lecture, but students can ask questions after the explanation is complete and classify the understanding obtained and the lecturer will expect students' questions so that the lecture activities take place productively.
Cognitive Information Processing Applications with Lecture Methods in History Learning

There are several things in the application of cognitive information processing with the lecture method in the history learning process that might be done in organizing and actively processing information on students who are doing the learning process;

1. **Critical Thinking Practice**

   In the process of practicing critical thinking, students should be faced with opportunities to practice critical thinking in developing their formal operations. In this case, it needs to be done regularly. The approach can be done with an inductive activity approach and the opposite approach.

   In this inductive approach, students are expected to be able to form concepts, interpret data and think about various applications of the principles that have been discussed—in other words, students must be faced with the use of concepts, principles and procedures to solve problems (Bloom, 1956). In giving lectures, teachers should also be able to motivate students. Teachers should play a role and participate in helping students to find concepts by providing cases that must be answered by stimulating students to ask questions or else students are invited to discuss.

   In conducting lectures, teachers should encourage students to form concepts that can be done by confronting students with various problems, important statements, and a subject matter. Various ideas can be listed (brainstorming) discussed in groups followed by questions that can be raised by the teacher or by the students themselves. This last thing can be done with a panel discussion involving all students.

   Encouraging students to interpret data can be done by encouraging them to think critically. By the way students are confronted with ideas and data, students can conduct group discussions to interpret the existing data. Thus students will be able to describe, interpret, conclude what they have discussed.

   Encouraging students to practice the application of principles can be done by involving students in making, formulating hypotheses, explaining symptoms, using various information or thinking of ways to straighten students' opinions about the implications of various concepts.

   In the second approach, which is the opposite approach, a teacher designs content to challenge students' ideas by using things that are contrary to the student's experience. Students are asked to conduct research on what their ideas or findings are, both from within themselves and from other people (cases).

2. **Problem Solving Practice**

   Teachers who do a lecture in front of the class should be able to do various maneuvers or variations that can cause students to ask questions, or teachers can create problems that will stimulate students to ask questions. Problems can be a challenge and a strong motivating factor for students to learn. Students can be encouraged to solve problems and to make decisions. Usually students' interest in learning will be quite large in this activity. Teachers should be able to look for cases that can be reviewed and relevant to existing conditions.

3. **Reinforcement**

   In this reinforcement, reinforcement is not only needed from within, but also from the outside. In cognitive theory, reinforcement emphasizes internal reinforcement to motivate students. This reinforcement can be in the form of saying intentions in the heart, determination and so on.
In making instructional designs students should be included so that student needs can be met. Besides, in this strengthening the learning process will affect the way of thinking of learning citizens (Marzano, 1988) and will provide the ability to make classifications and sequences determined by the knowledge and topics we have.

In this reinforcement, it is hoped that they will not highlight problems in scoring so that it will reduce their motivation to look for materials/problem solving and will feel afraid.

Factors that make it easier for students to obtain information.

There are two things that make it easier for students to obtain information, namely:

a. **Attention**

In cognitive theory, if a person pays less attention or is less able to focus his mind, his learning ability will decrease. Attention to relevant information is the first step in permanent behavior change. Teachers often assume that much of what is presented will attract students' attention. In fact it is not so. In history lessons the emphasis on content is no more important than the emphasis on problems/events that occurred in history. The ability to focus on relevant information does not always happen by itself. Therefore, in the learning process, the provision of information should be adjusted to the characteristics of students and students' abilities.

How so that students can focus attention, there are several things that need to be considered:

1. Take breaks or breaks for two minutes every half hour. This break is important, so that students are able to pay attention to what is presented in a lesson delivered by the teacher.
2. Give students the opportunity to ask questions,
3. Ask students to comment, repeat what is presented or make a short summary
4. Paying attention to student notes periodically to find discrepancies between what is delivered and what is received and recorded
5. Create movements or changes made by the teacher, a monotonous teaching system will quickly become boring for students.
6. Create a new atmosphere, for example by playing a vcd about history.
7. Repetition of the information provided will make it easier for students to recall what was previously conveyed.
8. Connect learning materials with student interests
9. Use study guides, so students will be guided from the start.

b. **Memory**

Memory is the main element in the information processing process. The information will be stored and then retrieved for use. Cognitive theory assumes that we have three interconnected memory systems, namely sensory recording, short-term memory and long-term memory.

Sensing recording will work when confronted with information. This will be a visual or auditory imprint of the information to be learned. The recording will soon be lost and is an early stage of short-term memory.

Short-term memory will retrieve information from the sensory recorder, and convert it into an acoustic code based on meaning. Acoustic code stores a finite amount of information and for a limited time, which is about 8 units of information for about 30 seconds.
Long-term memory is in charge of storing and retrieving information. Information is transferred back in short-term information, short-term information is converted into a memory code based on meaning (meaning).

Memory can also be described by the level of processing (processing). The ability to remember is an active process. We analyze information at many levels. If necessary, construction is carried out for the use of information.

For application in memory in the classroom several things can be done;
1. Repeating information will help students' short-term memory.
2. Using imagery, both in the form of codes and expressions.
3. Make students decipher information, deepen and make information more meaningful

CONCLUSION

Learning theory suggests a number of ways of application in the learning process. A learning theory will never be able to explain and explain all aspects of the learning process. Therefore, a teacher or teacher is expected to be able to train his skills and imagination to explain a theory in order to be able to practice and apply the theory in the learning process. The validity of practice or the application of theory to real situations does not depend on the presence or absence of theory to support it.

Furthermore, there is no learning theory that can explain all learning environments in a fairly complex learning. Therefore, an eclectic approach is needed to deal with this complex learning problem. The information processing perspective is one approach to cognitive learning. This theory is less concerned with the role of external reinforcement (experience) to motivate students in learning. Everyone's cognitive learning style is different; each person shows strong differences in terms of receiving, coding, storing, and processing information, therefore teachers must present a variety of content delivery procedures (teaching).

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