COGNITIVE PROCESSES IN WRITING OF TENTH GRADE STUDENTS AT A SENIOR HIGH SCHOOL

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ABSTRACT

The aim of this study was to describe the cognitive processes in writing of tenth grade students. The research was conducted in descriptive qualitative design. There were 15 students involved in this research. The data in this study were the students' writing descriptive paragraph which showed their cognitive processes in planning, translation and reviewing their writing. The data source was taken from the results of the task of writing a descriptive text for tenth grade students at SMAS Amir Hamzah Medan. The finding in the study was that the students tended to compose an outline as a plan and visualize ideas based on their memory and writing abilities. Further, in the process of rewriting they did rewriting by revising the mistakes in their previous writing.

Keywords: Cognitive Processes, Writing, Descriptive Text, Memory

INTRODUCTION

The cognitive process is the act of knowing, more precisely, the intellectual process by which knowledge is acquired from perceptions or concepts. The cognitive process deals with how the human mind processes information. Bein (2018) states that cognitive processes is any mental process that people use to retrieve, retain, connect, and transform information. All the things that people can do in their brains are referred to as mental processes. Memory, perception, and thinking are all included (for example, the thinking process in writing includes planning, translation, and revision).

This study focuses on writing skills. According to Nunan (2003), writing is the mental process of forming ideas, choosing how to communicate thoughts, and organizing them into statements and paragraphs that readers can understand. It indicates a cognitive processes that attempts to process facts or ideas through the writing process.

According to Hayes and Flower (1981), a writer must go through three stages of cognitive process: planning, translation, and review. Planning includes idea generation, goal setting and conceptual organization. The writer modifies and transforms his/her ideas from plans into sentences during translation. This entails putting ideas into words (sentence building) and composing a coherent or logical text. In addition, the writers conduct a thorough review of the ideas and purpose, as well as the language used in the writing, during the review stage. These three stages activated students' cognitive processes in producing a piece of writing.

This study focuses on descriptive text. Furthermore, in competency 3.4, grade X students are able to distinguish the role of social functions, text structures, and linguistic features of oral and written descriptive texts giving and requesting information related to tourist attractions and famous historical buildings, short and simple, and based on context of use. Then in competency 4.4, students can compose short and simple, oral and written descriptive texts about tourist attractions and famous historical buildings, by paying attention to the role of social functions, text structures, and linguistic features used correctly and appropriate to the context.

Based on the observation conducted at SMAS Amir Hamzah Medan, it was found that grade X students did not achieve the objectives towards the social function, text structure, and linguistic features in writing descriptive texts. This is because when tenth grade students write descriptive texts, they face some difficulties in their cognitive processes.

Thus, from the phenomenon written by grade X students in descriptive texts, the researchers conducted a study entitled "The Cognitive Processes of Writing of the Grade X Students at SMAS Amir Hamzah Medan". Hayes and Flower (1981) describe a cognitive processes model in the writing process. The three steps of the cognitive processes: planning, translating, and reviewing, can be used to identify their mental processes in writing. The sub- processes are explained below:

1. Planning

Hayes and Flower (1981) characterize the planning process as the retrieval of knowledge from the task environment and long-term memory. This process is sub-divided into three processes: idea generation, organization, and goal setting. This stage can be defined as the process of retrieving information from the task topic and the writer's memory to process information while writing the text. Information can gathered by generating deas with brainstorming activities, namely: making a list of ideas, free writing, and mind mapping. The process of generating ideas is done by writers, they must set goals and organize ideas to guide the production of texts that will meet those goals in writing a text (Weigle,2002).

2. Translating

The second cognitive process activity in writing is translation. According to Hayes and Flower (1981), the process of translation involves the development of ideas about the theme of the text, and writers come up with these ideas in planning activities to change or transform the corresponding written English sentences under the guidance of a writing plan. In translating, the writers try to put their ideas into visible language and then into written words to build a coherent text. In the process of translation, writers transform ideas into sentences under the writing plan that has been done and based on long-term memory in forming sentences from the collected ideas (Gregg, 2017).

3. Reviewing

Reviewing is the last activity in the cognitive process of writing. According to Hayes and Flower (1981), the reviewing process involves two activities in writing, namely reading and editing. The reading activity can defined as the stage where the writer reads his own writing and finds errors or wrong sentences. The goal is to find and correct errors in writing conventions and inaccuracies in meaning, and analyze the material with a focus on the purpose of writing. Meanwhile, editing activities include finding and correcting weaknesses in the text in terms of language rules and accuracy of meaning, and assessing the writing against the writer's purpose. After that, the writer will monitor the planning process, translation, and evaluate the writing process while editing the material. The purpose of the review process is to improve the quality of the written text (Gregg, 2017).

METHODOLOGY

This study used a qualitative descriptive research design. According to Cresswell (2012), qualitative research investigates a problem and provides a detailed understanding of a central phenomenon, namely the phenomenon of cognitive processes in writing of tenth grade students. The subjects were tenth grade students at SMAS Amir Hamzah Medan and consists of 15 students. The technique of data collection in this study used students' writing descriptive text and interviews. The data in this study are sentences that students write on descriptive text. Each the students did planning, translating and reviewing in writing descriptive text. Then, the data analysis technique used theory data analysis by Miles, Hubermann and Saldana (2014) namely data condensation, data display and drawing conclusion.

FINDINGS AND DISCUSSION

The results of students' writing in writing descriptive texts are based on the cognitive processes they carry out in writing descriptive texts. The students in writing descriptions through cognitive process activities, namely: planning, translating and reviewing (Hayes and Flower, 1981). The cognitive process of tenth grade students can be seen in the data analysis on Table 1 below.

Table 1. Cognitive Process of Tenth Grade Students

Cognitive Processes in Writing Descriptive Text			
Type of Text	**Planning**	**Translating**	**Reviewing**
Descriptive text	In this process, students develop or carry out brainstorming activities such as writing lists of ideas, doing free writing, writing mind maps and making ideas frameworks. Gather idea, organization and note their ideas	In this process, the subjects develop their previous writing plan by writing directly in English by using their long-term memory abilities to coherently compose topic sentences and supporting sentences.	In this stage, students are lacking in reviewing. The subjects do rewriting in their writing by reading or correcting their writing if there is a wrong word.

Then, following the analysis of the data on sentences written by students in writing descriptive texts based on the cognitive processes they have done as follows.

a. Planning

In the planning carried out by students, there are writing activities in generating ideas such as making a list, free writing, mind mapping and making an outline. It can be seen in the following data.

Data 1 (Text Medan Zoo)

1. Topic Sentence   : Medan zoo is the best tourist attraction for visitors to
                           see animals in Medan.

   Supporting Sentence: - Located in Simalingkar B

                            - The location is quite strategic

2. Topic Sentence   : The Medan Zoo has a very large area which is around 10
                           hectares

   Supporting Sentence: - The Medan Zoo has stunning scenery

                            - There are animal such as, mammals, bird and crocodile.

                            - There are has ornament, such as animal statue

                            - The Medan Zoo has natural atmosphere is beautiful
                              and lool.

Based on data 1, it is a planning process carried out by students in writing descriptive text. The subject chooses the Medan Zoo topic and outlines ideas based on the topic sentences and supporting sentences. In this case, the subject uses long-term memory to perform prior knowledge in gathering ideas and forming an idea framework.

Then, there is data on subjects who carry out or compose ideas and essay outlines as follows:

Data 2 (Planning Subject MHM)

List: - Tours place in Pematang Siantar

   -    It is a appropiate, approdable and educational place

   -     Siantar Zoo is a concervation place

   -    Each animal had given home for them

   -    Have a another facilities

Based on these data, it can be seen that subject determine the title about Siantar Zoo. The student makes a list based on the subject idea to produce ideas that are in suitable with the ideas in compose idea list. Then, the subject do an outline to organize the results of their ideas by compiling the following outline:

Data 3 (Outlining Subject MHM)

Title: Siantar Zoo

1. Siantar zoo is one of the tourist park in North Sumatra as plac for entertainment and educational
2. Siantar zoo is a place has hundreds of types of animal
3. Siantar zoo has famous foaltres
4. Siantar zoo as a convartion place
5. The uniqueness of this zoo that types animals is given own name
6. There are mammls, reptiles and birds
7. There are family playground

Based on these data, the subject composes an essay to organize his ideas into main sentences and with supporting sentences in the essay framework. However, the subject only composes the topic sentence without the supporting sentence. Then, there is a word errors written by the subject such as the word "mammls" which should be "mammals", "convation" which should be the word "conservation".

b. Translating

In this process of the cognitive process, the subjects visualize ideas that have been planned in planning process. In this process, the subjects developed a framework of ideas based on the structure of descriptive texts.

Data 2. (Text Medan Zoo)

Identifiation: Medan Zoo is the best tourist attraction for visitors to see animals. Medan zoo is one of the wild life tours located in the North Sumatra region. Precisely in Medan Tuntungan District, Simalingkar B. The location is quite strategic so that tourist can easily reach it.

Description: The Medan zoo has a very large area, which is around 30 hectares, so it's not suprising that the animal collection there is quite a lot. There are animals with about 200 more such as crocodiles. Not only the collection of animals, the stunning scenery is also the main attraction. Along the way field with shady trees, the natural atmosphere is beautiful and cool, especially in the morning. The tourists sum to be ecploing the forest. Coupled with the presence of flowing riner, thos adding to the fresh scenery there. Apart from that, there are also beautiful ornaments that complement the beauty of the zoo there. Like some animal statures and much more.

Based on these 2 data, it could be seen that students develop ideas or ideas into a descriptive text structure. However, in the results of the translation process on the data, it could be seen that the topic sentence does not match the supporting sentences in the text. There are several wrong words such as: "Thos", 'Tours", and the word "Riner". In translation process, it can inferred that students have difficulty in forming simple sentences and compound sentences as well as topic sentences that are not supported by information from student supporting sentences so that they are less coherent.

c. Reviewing

Reviewing is the last activity in the cognitive process of writing. According to Hayes and Flower (1981) the reviewing stage involves two activities in writing, namely reading and editing. Reading activity is defined as the stage where the writer reads his own writing and finds mistakes or wrong sentences.

Data 3 (Text Maimoon Palace)

Identification: Maimun Palace is the palace of the Deli Serdang Sultanatewhich is one of the icons of the city of Medan, North Sumatra. This palace is located on Jalan Brigadier General Katamso. This palace is open to the public to see the inside of the Maimun Palace.

Description : Maimun Palace has been active since 1891 until now. Then the architectural style of this palace is Malay, Maghab and Dutch. Palace ~~since~~ size of 2.27m2. the entrance fee is around 5,000-10,000 rupiah. Those in the palace carry photos of the throne offerings and important reliefs. Maimun Palace has characteristics that are well-known among the people of Medan and is also a historical palace in Indonesia.

Based on these data, it can be seen that the subject rewrote the text that the subject had previously written during the translation process. In this process the subject has a long-term memory process to see these results and according to the purpose of writing. And then, the subject pay attention to the topic sentence and supporting sentences that are interconnected with the idea by the subject and the subject ensures that the ideas were interrelated and description their text supported by their thoughts and their long-term memory to check their text. In addition, the subjects have alacked of writing ability to ensure their text and avoid any erors in their writing.

Based on the data analysis, it was found that the cognitive processes were carried out by tenth grade students in various ways. In the planning stage, the students wrote a brainstorming activity and composed an essay outline. The process of composing an outline is based on their memory in composing descriptive texts. Students determine the topic and plan their writing. Then, the students develop and visualize their ideas based on the structure of the descriptive text, namely: identification and description. Students' ability to compose texts is based on their writing skills and long-term memory in composing sentences. And, in the review process, students do rewriting to correct the word that they think is the errors word.

In addition, data analysis showed that the cognitive processes in tenth grade students occurs in writing descriptive text is the ability of students in writing, the ability of students in remembering information, the ability to compose sentences based on their thinking and the ability to analyze the results of their writing during the writing process. Furthermore, there are differences in findings with previous research that explained the cognitive process of students with different abilities in composed descriptive text.

CONCLUSION

Based on the results of the study, it is suggested that the tenth grade students at SMAS Amir Hamzah Medan were advised to be careful and pay more attention to their writing. They should have an understanding of writing a correct text and they should have a good understanding of planning, translating, and reviewing before and after writing the text. As a cognitive process, the quality of writing can be improved by having more ideas or information in the writer's memory storage related to the text being written and by improving skills or proficiency in grammar.

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