CHAPTER II
REVIEW OF RELATED LITERATURE

This chapter contains the review of related literature, such as learning approach in K-13, discovery learning model, and teaching reading comprehension.

2. 1.Learning Approach in K-13.

The implementation of Kurikulum 2013 in scientific approach-based learning is a well-structured learning process for students to work actively in constructing a concept, statement, or principal through the processes of observing (to find or identify the problems), formulating the problems, proposing or formulating the problems, collecting the data with many kinds of techniques, analyzing the data, generalizing, and interpreting it. The purpose of this kind of approach is to give students the understanding to recognize and understand the material using a scientific approach and to teach them that they can gain information from everywhere and every day, not only from the teacher. In this approach, students are expected to be able to find information by observing several information sources and not relying on information from the teacher (Hosnan, 2014).

The application of a scientific approach in the learning process may involve some process skills, such as observing, classifying, measuring, predicting or making hypotheses, explaining, and generalizing. Teacher's assistance is still needed in order to carry out these processes, but teacher's assistance will be decreased because of the increase in students' maturity or the increase in students' grade level. Then, the scientific approach has relationships with three well-known theories about learning: the theory from Bruner, the theory from Peaget, and the theory from Vygotsky (Musfiqon & Fahyuni, 2016).

Bruner explains that someone learns wisely when they are actively involved rather than passive recipients of information, and also not enough for students to just receive information, they also need to be involved in interpreting it for deep understanding because learning involves the information provided to create thought outcomes. The main things that related with this theory are people can learn and develop their minds if only they use their own minds; by doing cognitive processes in the discovery process, students will get an intellectual sensation and satisfaction that provide an intrinsic reward; having a chance to make discoveries can give them an opportunity to learn about the techniques for making discoveries; making discoveries can help strengthen their memory retention.

Peaget also explains that learning is actually related to the formation and development of schemas. Schema is the mental structure by which a person intellectually adapts and coordinates the surrounding environment. Schemas never stop changing. A child's schema will develop into an adult's schema. The process that causes changes in schema is called adaptation. The process of forming this adaptation can be done in two ways, namely assimilation, a cognitive process of integrating stimuli (which can be perceptions, concepts, laws, principals, or new experiences) into the scheme that you already have in mind and accommodation, can be the formation of a new schema that matches the characteristics of the existing stimulus, with a balancer or equilibrator between assimilation and accommodation.

The last, as the addition, Vygotsky states that learning occurs when students work or learn to handle tasks that have not been studied but are still in the range of their abilities or in the zone of proximal development, which is known as the zone that is placed between the child's current level of development, which is defined as problem-solving abilities under the guidance of adults or more capable peers.

Kurikulum 2013 transforms students into learning subjects that require them to actively search for, process, construct, and apply knowledge. Then, the learning must be related to the opportunities that are given to students for constructing their knowledge. Students need to be encouraged to work to solve problems, find things for themselves, and strive to realize their ideas. This description relates to the characteristics of learning with a scientific approach, such as student-centered learning; involving scientific process skills and the development of concepts, laws, or principles; involves potential cognitive processes in stimulating intellectual development, especially students' higher-order thinking skills; and being able to develop character (Musfiqon &Fahyuni, 2016).

The rules about learning stage in scientific approach regulated in Permendikbud No. 81A (2013) about curriculum implementation emphasize process skills, which consist of five main learning experiences, such as observing, questioning, collecting information, associating, and communicating. Every stage in the learning process has a description of the activity and the learning outcomes that must be fulfilled. They explained in the following tables.

LEARNING STAGES	ACTIVITY DESCRIPTION	LEARNING OUTCOMES
Observing	Observing using the senses with or without the help of tools (reading, listening, watching, and so on)	Pay attention when observing an object, reading an article, listening to an explanation, taking notes about the things that will be observed, having patience, and using time (on task) to observe.
Questioning	Create and ask questions in the Ask Questions section, discuss the information that is still not understood, provide additional information, or provide clarification.	Type, quality, and number of questions asked by students (factual, conceptual, procedural, and hypothetical questions).

Collecting the Informations / Experimenting.	Explore, try, discuss, demonstrate, imitate shapes and movements, conduct experiments, read sources other than textbooks, collect data from resource people through questionnaires and interviews, and modify, add, or develop.	The amount and quality of sources that have been studied and used; the completeness of information; the validity of information collected; and the instruments and tools used to collect data
Associating	Processing the information that has been collected,analyzing data in the form of categories or classification, associating or connecting related phenomena or information in order to find a pattern, and concluding.	1. Develop interpretations, arguments, and conclusions about the relationship between information from two facts or concepts; interpret arguments and conclusions about the relationship of more than two facts or concepts; synthesis and argumentation; and conclusions about the relationship of various types of facts, concepts, theories, and opinions. 2. Develop interpretations, new structures, arguments, and conclusions that show the relationship between facts, concepts, and theories from two or more sources that are not contradictory. 3. Develop interpretations, new structures, arguments, and conclusions from different concepts, theories, and opinions from various types of sources.
Communicating.	1. Present reports using charts, diagrams, or graphs.	Present the results of the study (from observation to reasoning) in the form of

	2. Compiling a written report. 3. Present a report covering the process, results, and conclusions verbally.	writing, graphics, electronic media, multimedia, and others.

Table 1. Learning Proccess in K-13 with the Description.

Based on the table above, there are three types of learning model that have similar learning stages as scientific approach. They are discovery learning model, problem-based learning model, and project-based learning model. Although they are similar, the stages of each learning model is different from each other.

LEARNING MODELS	STAGES
Discovery Learning Model	Creating situation.
	Discuss the tasks and identify the problems.
	Observation.
	Data collecting.
	Data processing and analyzing.
	Verification.
	Generalization.
Project-based Learning Model	Determinating the basic questions.
	Arrange the project plan.
	Set the schedule.
	Monitoring.
	Testing the results/outcomes.
	Evaluating the experiences.
Problem-based Learning Model	Problem orientation.
	Grouping in learning.
	Guiding in individual and group investigations.
	Developing and presenting the outcomes.
	Analyzing and evaluating problem solving process.

Table 2. Learning Models that appropriate with the learning approach in K13.

2. 2.Discovery Learning Model.

Discovery learning is included as one of the learning models in the scientific approach. Discovery learning is a kind of learning process that involves all students' abilities to search and investigate something systematically, critically, logically, and analytically until they can formulate their own findings. Discovery learning emphasizes seeking and finding processes that are conducted by the students, and the teacher has a role as a facilitator and a guide for students in the learning process. (Musfiqon & Nurdyansyah, 2015).

Discovery learning model is divided into two types: guided discovery learning and free discovery learning (Sapriati, 2009). Although these learning models are included in the discovery learning model, they still have several differences. Here are some differences that make them different from each other.

The first one is free discovery learning model. This is a kind of learning model that puts students at the center of determining their own learning goals and experiences and the teacher at the center of providing problems and learning situations for students (Akani, 2017). This learning model also requires the students to find out or solve the problem using their own efforts without a teacher's guide (Sapriati, 2009).

The second one is guided discovery learning model. This is included as a problem-solving model that is created for students' self-development and sustainable to identify the goals and actualization plans with a little guidance or assistance from the teacher (Akani, 2017). This learning model requires the students to find out or solve the problem using their own efforts with a teacher's guide (Sapriati, 2009).

These both discovery learning model have their own effects, advantages, and also the disadvantages. Guided discovery learning model has

effect on students ability by training their ability to think and analyze in their own way to find a general principle using materials or data that are provided by the teacher. It is because the teacher has role as the facilitator along the learning process, and this learning model claimed as the suitable learning model for junior high school students (Onikarini et al., 2019).

Guided discovery learning model has several benefits, especially for students' cognitive, linguistic, and social. For students' cognitive, this learning model claims can help students to encourage their anlytic skills; exploit their cognitive skills; improve their critical thinking skills; help them to be more aware and articulate their mental process; increase the students' active participation in the learning process; and help them to understand and remember about what they have worked out for themselves. In linguistic aspect, this learning model resembles the students' natural language learning or language acquisition and provides extra language (if it done in groups). Last, guided discovery learning model also has roles in social aspect, such as improves students' participation and fosters collaboration; empowers them thus enhancing autonomy and self-reliance; and motivates the students to enjoy the hands-on approach (Saumell, 2011).

Beside the benefits, every learning approach always have the disadvantages, includes the guided discovery learning model. For some material or subject, it is needing much time for implementing this learning model. And also, for some topic material, it is not suitable to teach using this learning model, except the teacher is teaching and improving some principals of some related topics. Even this learning model claimed can be suitable for students from elementary school level, in fact, some students cannot adapt this learning model, and some of them are fine taught using conventional learning model, such as lecture method (Markaban, 2006).

Meanwhile, free discovery learning model claimed can help the students to develop their creativity and urge to move freely and the students

get freedom in their roles as much as possible (Onikarini et al., 2019). This learning model also gives some benefits, such as students get more chances to develop their creative thinking skills, students get more chances to be more independent and creative with their concepts, and it is possible for students to solve open-ended problems and have the alternative of solving problems in more than one way because it depends on how they construct their own answers (Sanjaya, 2008).

Unfortunaterly, free discovery learning model is not suitable for junior high school students. This learning model does not need too much guidance from the teacher, and teacher only gives help or guidance if the students cannot solve their problem. Because of the less guidance from the teacher, students can be undirected, and it gives bad impact for the learning process (Onikarini et al., 2019).

2. 3.Teaching Reading Comprehension.

In learning reading skills, students will come across a branch of reading called reading comprehension. Reading comprehension is the ability to read for meaning, understanding, and entertainment. It involves higher-order thinking skills and is much more complex than merely decoding specific words. Teaching children how to derive meaning as well as analyze and synthesize what they have read is an essential part of the reading process (Nunan, 2005). According to Grabe and Stoller (2013), reading comprehension is the ability to draw meaning from the printed page and interpret this information appropriately. The aspects that will be involved in reading are vocabulary mastery, the relationships between words and concepts, managing ideas, identifying the writers' purposes, evaluating the context, and achieving decisions (Chou, 2011).

According to Oakhill et al. (2015), reading comprehension is included as a complex task that requires the orchestration of many different cognitive

skills and abilities. It necessarily depends on at least adequate word reading, and if the readers cannot identify or decode the words in a text, they will not understand the whole text. Therefore, if someone has good reading comprehension skills, it can help him or her in education or employment, as well as in understanding a text. In building reading comprehension, there is one process called "The Mental Model of the Text." This is a process when the readers represent the meaning of the text and, beyond the representation, the text beyond the literal version. Then, some representations are derived from other short inputs, such as representations of spoken information, music, art, and visuo-spatial representations. In building the mental model of the text, the readers need to do many things, but it depends on what kind of text they have read. The most important things to prepare for reading are the component processes of language comprehension and word reading, with several processes in each component.

Language Comprehension consist of several processes, such activating word meaning, understanding the sentences, making inferences, comprehension monitoring, and understanding the text structures. In activating word meaning, the readers not only recognize the words, but also activate the meanings in order to link the words and the concepts of the text. In the next stage, understanting the sentences, the meaning that contains in the sentences will help the readers in establish the coherence between the sentences. The readers also make an inference, they must collect and connect the relevant information or ideas that relate to the prior knowledge, but it depends on the relevant knowledge that must be activated when needed and used during the comprehension process. The readers must have a skill that will help them to identify the inferences are needed or not, and it called comprehenion monitoring. The last, the readers are required to have a skill in imaginating about how the text gets structured, then that knowledge can help them to develop their comprehension process, it called understanding the structure of the text.

Beside the language comprehension, the readers also required to pass the component called word reading. This component consist of letter-sound knowledge, accurate word decoding, and automaticity in decoding. Letter-sound knowledge is A basic knowledge of the letters and the corresponding sounds, which is used as a critically important emergent literacy skill that uniquely predicts children's later reading success (Piasta et al., 2018). Accurate word decoding refers to the ability to attend to the letter translations and patterns of spelling in deciphering the words (Wolf, 2018). Automaticity in decoding is related to reading comprehension. When the readers are thinking about reading unconsciously, they can use their free mind to understand the text (Wolf, 2018).

Besides the component processes, memory also plays an important role in reading comprehension. The types of memory that work on the development of reading comprehension are long-term memory and working memory. Long-term memory has a function for storing the meanings of individual words and information about text genres, and when this type of information is retrieved quickly and accurately, it can support reading comprehension. Then, working memory refers to the memory system that works together to process and store information while completing tasks. The ability to maintain an accurate memory of verbal information, such as the meaning of the sentence that has just been read, and to integrate this with the next sentence that is currently being read, relies on working memory. This type of activity is important for many of the aspects of reading that have been outlined above, such as resolving pronouns and integrating clauses linked by connectives. The ability to recall recently read information in order to compare its meaning to the next section of the text is clearly important for determining when an inference must be made and monitoring comprehension (Oakhill et al., 2015).

2. 4.Previous Related Studies.

The first study from Firmansyah et al. (2021) entitled "The Use of Guided Discovery Learning Method to Improve Participation in Answering Reading Comprehension Questions". This is a classroom action research, which used qualitative and quantitative approaches in conducting the research. The data collected using oral test, observation (survey), and documentations from the eleven graders of SMA Boedi Oetomo Pontianak. The research took about three cycle, but each cycle is not explained how much time they took. The result is guided discovery learning model is proven to help in increasing students' participation, especially in oral participation actively.

The second study is from Carceles and Maria (2018) entitled "Benefits of Guided Discovery Grammar Instruction in the EFL Classroom". The research methodology and the subjects that used in this study are not specified yet. The aim of their study is to analyze the adequacy of an intermediate position, for example is an explicit-inductive approach that known as GDA and its positive effects in EFL grammar learning. The results are they found that learners' requirements and context have role as key variables that influenced GDA and the affective varibles that correlate with GDA. The conclusion is GDA suitable for teaching grammar for EFL learners, but those two main things should be concerned by the teacher.

The third study is from Novita Sari and Kusumarasdyati (2014) entitled "The Implementation of Guided Discovery Learning to Teach Tenth Graders Reading of Narrative Text". This is a descriptive qualitative research, and data collected by using observation and interview. The subjects of this study are the tenth graders of SMA N 2 Kediri. The results are guided discovery learning model can encourage the tenth graders to be more active during the learning process, and from the students' point of view, this learning model increased their enthusiasm for the learnin process, and also encourage them to be more independent.

The fourth study is from Esmailzadeh et al. (2019) entitled “The Effect of Guided-discovery, Self-discovery, and Situational-presentation Techniques on Learning Conditional Sentences in English”. This is a quasi-experimental research with pretest-posttest design. The subjects are the female students of Izadi high school (a high school in Qom, Iran) studying in eleventh grade (they were about 17 years old). The results is all the experiment groups that got different treatments are not outperformed each other, or it can be generalize that the results from all experiments showed that they have similar effects on the students’ grammar skills.

From those previous studies, the writer also focused on investigating the effect of using guided discovery learning for the students’ ability, and intensive reading skills became the language ability that experimented in this study. The similarity between the writer’s study with the previous study is having the similar aim, for analyzing or investigating the effect of guided discovery learning model for students’ language abilities, and also the research methodology, which is used a quasi-experimental research with pretest and posttest design. The differences of those studies put on the tests and learning intruments; using different research’s location; and the samples are also different.