CHAPTER IV

RESEARCH FINDING AND DISCUSSION

This chapter describes all the finding of the data collected of the data collected and its analysis. Data of this research is presented in the findings while analysis of the research data is elaborated in discussions.

4.1 Findings

In this part, research data, which is collected from 3 different types of source, is displayed as it is. Those data was categorized into certain themes and then coded to support finding and discussion of the research.

4.1.1 Observation

The observation of this research was conducted in four meetings. The table below is presented the details of observation.

Table 4.1 Observation List

No.	Observation	Date	Time
1.	1st observation	October 8th 2018	11.15 am
2.	2nd observation	October 11th 2018	09.45 am
3.	3rd observation	October 15th 2018	11.15 am
4.	4th observation	October 18th 2018	09.45 am

The researcher made field notes and video recording to be used for analyzing the data. The researcher is going to analyze the whole class to analyze the implementation of discovery learning model that appear in the class. The activity that used during the class will be analyzed by the researcher by following those two points; principles of discovery learning and steps of discovery learning.

The researcher made observation transcripts during the class and it intended to analyze the implemented discovery learning model at SMAN 1 Pakem.

4.1.1.1 Principles of Discovery Learning

This research involved 5 principles of discovery learning in accordance with the theory by Pappas (2014) which are Problem Solving (PS), Learner Management (LM), Integrating Connecting (IC), Information Analysis (IA), and Failure & Feedback (FF).

Table 4.21 Observation Tool; The Principles of Discovery Learning in the 1st Observation.

No.	Observation	The Principles of Discovery Learning				
		PS	LM	IC	IA	FF
001	(t) Okay, now please you read the dialogue between Kira and Edmund on page				√	
002	(t) Thinks ya, the question is what does the Kira think? Not says. Please write not says but thinks.					√
003	(t) Okay, and then now please you do in pairs. Please you make a monologue like that in activity 9 with the following topics.		√			

The researcher analyzed the principles of discovery learning based on the observation. There are three points appear in the first observation that suitable with Pappas (2014) principles which are learner management, information analysis, and failure & feedback. For learner management, during the first observation the teacher ask the students to read the dialogue from the book and ask the students to work in pairs to make a monologue according to the book material. For information analysis, the teacher ask the students to read the dialogue of Kira and Edmund from the textbook, and analyze what they have

learn from the dialogue. For failure & feedback, the teacher always give the students reward such word "Yes" or "Good", and also correction the student's answer.

Table 4.22 Observation Tool; The Principles of Discovery Learning in the 2nd Observation.

No.	Observation	The Principles of Discovery Learning				
		PS	LM	IC	IA	FF
001	(t) If you have money, so where do you save your money? In the back of the box or in the Bank? In the bank right, so there are some researches why you must save your money. Okay, now please you read the following article on page 59. "Start Saving Up Now". Please 59, the title "Start Saving Up Now"	√	√	√		
002	(t) Okay, do you agree with the answer? Retirement. Yes, retirement. Okay, very good. Next number five. What does the main idea of the fifth paragraph? Okay C asks your friend, ask your friend to answer the next number.					√

On the second observation, there are four points appear which are problem solving, learner management, integrating connecting and failure & feedback. For problem solving, before the teacher tells to students about the material, first the teacher provides drilling to students about the material to be taught that day. For learner management, the teacher always ask the students to read they textbook, and analyse the point about the text that they have learn by self or with they partner. For integrating connecting, In providing the drilling the teacher combine prior knowledge with new, and encourage them to connect to the real world. For failure & feedback, the teacher always give the students reward such word "very good", and also correct the student's answer.

Table 4.23 Observation Tool; The Principles of Discovery Learning in the 3rd Observation.

No.	Observation	The Principles of Discovery Learning				
		PS	LM	IC	IA	FF
001	(t) Why you should eat a healthy breakfast.	√				
002	(t) You can see that people who eat breakfast will be more energized, if you don't take the breakfast. So you will not be fresh until midday.					√
003	(t) Okay, and then we go to the next text. The title "Why Students Should Stop Cheating". Okay now please you do in pairs to find the important point of the text.		√			

On the third observation, there are three points appear which are problem solving, learner management, and integrating connecting. For problem solving before the teacher tells to students about the material, first the teacher provides drilling to students about the material to be taught that day. For learner management, the teacher always ask the students to read they textbook, and analyse the point about the text that they have learn by self or with they partner. For integrating connecting, in providing the drilling, the teacher combine prior knowledge with new, and encourage them to connect to the real world.
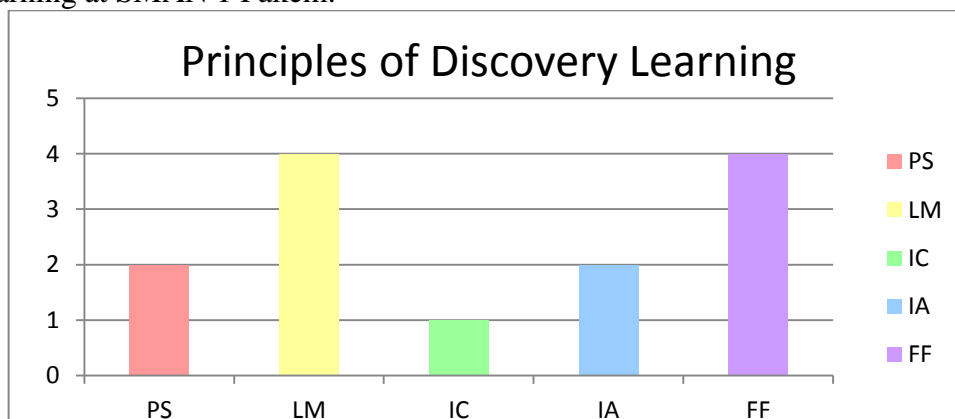
Table 4.24 Observation Tool; The Principles of Discovery Learning in the 4th Observation.

No.	Observation	The Principles of Discovery Learning				
		PS	LM	IC	IA	FF
001	(t) Look for one of the analytical exposition text right, and then please you summaries about this analytical exposition text, and then what is the social function of the text, what is the organization of the text, and then what are the language features of the text. And then, please you make five questions to ask and answer the other group.		√			

002	(t) This about Simple present tense, do you still remember simple present tense? Still remember right? Okay, now please you read this text on page 62. Then, please you underline all the verbs in present form. On page sixty two.	√
003	(t) Yup, just verb 1 right. For Plural subject S + V 1, Singular subject S + V1 + s/es right. That's for Affirmative right. Okay, what for Negative form? If they, we, are, you is plural subject so it is use?	√

On the fourth observation, there are three points appear which are learner management, information analysis, and failure & feedback. For learner management the teacher always ask the students to read they textbook, and analyse the point about the text that they have learn by self or with they partner. For information analysis, the teacher let the students to analyze the acquired information from the textbook. For failure & feedback, the teacher always give the students feedback and also correct the student's answer.

Figure 4.1 Chart of Observation Analysis of The Implementation of Discovery Learning at SMAN 1 Pakem.

The chart above is focused on the implemented of discovery learning model at SMAN 1 Pakem. Pappas (2014) said that the discovery learning model integrates the following 5 principles; problem solving, learner management,

integrating connecting, information analysis, and failure & feedback. The researcher found all the principles of discovery learning occurred in during observations. The figure above shows how many times it occurred in each observation. Learner management and failure & feedback was mostly occurred during the teaching and learning process.

4.1.1.2 Steps of Discovery Learning

This research involved 6 steps of discovery learning in accordance with the theory by Badan Pengembangan Sumber Daya Manusia Pendidikan dan Kebudayaan dan Penjamin Mutu Pendidikan (2013) which are Stimulation (S), Problem Statement (PS), Data Collection (DC), Data Processing (DP), Verification (V) and Generalization (G).

Table 4.31 Observation Tool; The Steps of Discovery Learning in the 1st Observation.

No.	Observation	The Steps of Discovery Learning					
		S	PS	DC	DP	V	G
001	(t) So, there are 5 arguments. What about 2 argument before beside first, second and thirdly?		√				
002	(t) It is the conclusion ya, the conclusion is in the last paragraph. Okay now please you answer this question based on the dialogue, Melisa please answer point a, please you write on the whiteboard.			√			
003	(t) Yes. Okay, how do you know that formalin is in meatballs? The topic is the formalin in meatballs.				√		
004	(t) So the topic today is Analytical Exposition Text. That is analysis argument. Okay I think that's all for today.						√

The researcher analyzed the principles of discovery learning based on the observation. There are four points appear in the first observation that suitable with Badan Pengembangan Sumber Daya Manusia Pendidikan dan Kebudayaan dan Penjamin Mutu Pendidikan (2013) steps which are problem statement, data collection, data processing, and generalization. For problem statement, the teacher always ask the students solve the problem from the dialogue that have learn. For data collection, the teacher ask the students to work in pairs to make a monologue according to the book material. For data processing, the teacher ask the students to solve the problem from the dialogue. For generalization, the teacher give the students feedback and generate the conclusion in the end of the class.

Table 4.32 Observation Tool; The Steps of Discovery Learning in the 2nd Observation.

No.	Observation	The Steps of Discovery Learning					
		S	PS	DC	DP	V	G
001	(t) If you have money, so where do you save your money? In the back of the box or in the Bank? In the bank right, so there are some reasons why you must save your money.	√					
002	(t) Okay, while you are reading please you answer this question. Please you write the main ideas of each paragraph in the text.		√				
003	(t) Okay now please you write the main idea of each paragraph. Okay now please you write on the whiteboard.			√	√		
004	(t) Yah, please you write on the whiteboard					√	
005	(t) Okay, that's all about the text in the title "Start saving up now". So what have you learn? What have you learn this time? P what have you learn? The main idea of this paragraph right. And then, the else? So what text do you learn? What kind of text do you learn? What Exposition, analytical or what?						√

On the second observation, all the steps of discovery learning appear during teaching process. For stimulation, the teacher attracts the student's responses by providing stimulus such as imagine a situation. For problem statement, from the situation the teacher asking question to the students for problem solving. For data collection, to identify the problem, the teacher ask the students to answer the question from the textbook and write it in the whiteboard. For data processing, the teacher ask the students to answer the question from the textbook. For verification, the teacher ask the students to answer the question from the textbook and write it in the whiteboard. For generalization, the teacher give the students feedback and generate the conclusion in the end of the class.

Table 4.33 Observation Tool; The Steps of Discovery Learning in the 3rd Observation.

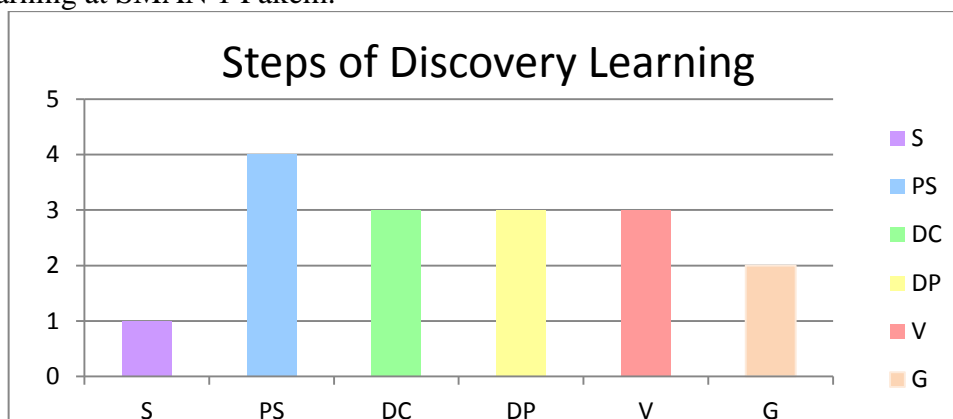| No.	Observation	The Steps of Discovery Learning					
		S	PS	DC	DP	V	G
001	(t) If it is true give the evidence and if it is false give the evidence too. Why you should eat a healthy breakfast.		√				
002	(t) Okay now please you answer number one. Please you answer what evidence.			√			
003	(t) Yes yah. It is like a lesson of the text in the first paragraph in the first line yah. The most essential meal that must not be skipped is breakfast. So breakfast is important right. And then answer point b. Okay now R ask your friend to answer point b.					√	
004	(t) If you don't take your breakfast in the morning, you will look fresh until midday? Please come to forward, answer this question					√	

On the third observation, there are four points appear which are problem statement, data collection, data processing, and verification. For problem statement, the teacher asking question to the students for problem solving. For data collection, to identify the problem, the teacher ask the students to answer the question from the textbook and write it in the whiteboard. For data processing, the teacher ask the students to answer the question from the textbook. For verification, the teacher ask the students to answer the question from the textbook and write it in the whiteboard.

Table 4.34 Observation Tool; The Steps of Discovery Learning in the 4th Observation.

No.	Observation	The Steps of Discovery Learning					
		S	PS	DC	DP	V	G
001	(t) Now please you read, please to write on the whiteboard in the first sentence so what is the simple present form.					√	
002	(t) You are looking for verbs and underline all the verbs in present form.		√				

On the fourth observation, there are two points appear which are problem statement and verification. For problem statement, the teacher asking question to the students for problem solving. For verification, the teacher ask the students to answer the question from the textbook and write it in the whiteboard.

Figure 4.2 Chart of Observation Analysis of The Implementation of Discovery Learning at SMAN 1 Pakem.

The chart above is focused on the implemented of discovery learning model at SMAN 1 Pakem. Badan Pengembangan Sumber Daya Manusia Pendidikan dan Kebudayaan dan Penjamin Mutu Pendidikan (2013) said that the discovery learning model integrates the following 6 steps; stimulation, problem statement, data collection, data processing, verification, and generalization. The researcher found all the steps of discovery learning occurred in during observations. The figure above shows how many times it occurred in each observation. The problem statement was mostly occurred during the teaching and learning process.

4.1.2   Interview

In this case study research the interview was a semi-structured in-depth interview with open-ended questions, which is also known as shorter study interview. The interview involved the teacher who taught the English subject. This participant were selected using purposive sampling technique. Teacher who teach with the discovery learning model as participant to enable researcher to collect rich data on those who apply this learning model in English classes.

In the interview, the researcher investigate participant's point of view on implementation of discovery learning model in the class. From the participant's perspective in general, it shows that although it is challenging to do teaching activities using discovery learning models, teacher and students can enjoy the learning process. That's because teacher get more benefits from activities than challenges. The sample of interview transcript can be seen in table 4.2 while the complete transcription is attached in appendix.

Table 4.4 Interview Transcript

Subject	Line	Transcription	Theme	Code
I		Assalammu'alaikum warahmatullahi wabarakatuh. Good morning Mrs. #00:00:05#		
P	1	**Wa'alaikumsalam warahmatullahi wabarakatuh #00:00:08#**		
I		Yes, beforehand, we know that in SMAN 1 PAKEM using the 2013 curriculum right? #00:00:19#		
P	2	**Yes, right #00:00:20#**		
I		Yes #00:00:20#		
P	3	**Since the beginning of the 2013 curriculum as a high school pilot, SMAN 1 PAKEM used it #00:00:29#**		
I		Oh yeah, in Indonesia also used the 2013 curriculum right? #00:00:33#		
P	4	**Yes #00:00:33#**		
I		E... According to the 2013 curriculum based on government regulations, there are 3 learning models, such as Problem based learning, Project based learning and		

		Discovery learning. Did you apply these 3 learning models? #00:00:54#		
P	5	**Yes, applies too, it depends on the KD that matches with the learning model, which model is adjusted to the KD** **#00:01:07#**	Principles of Discovery Learning	I/1/PDL/5
I		Oh yeah, it means that based on your RPP you usually use the Discovery learning model right? #00:01:17#		
P	6	**Yes, a lot. The discovery learning model looks the most #00:01:21#**	Principles of Discovery Learning	I/1/PDL/6
I		Oh, the most used? That's why, Mrs. #00:01:25#		
P	7	**Yes because, from here the students will find they own concept after learning, like that. #00:01:38#**	Principles of Discovery Learning	I/1/PDL/7
I		Yes, so they can learn on their own, right? #00:01:41#		

4.1.3 Document Analysis

Documents that were analyzed in this research are teacher's lesson plan and textbook. The teacher's lesson plan according to curriculum 2013 that contain the material and learning activity that implemented by discovery learning model. Textbook that used by the student is English Pathway Book distributed by the government. Student assessment based on the material that is being taught.

The documents analysis indicates that discovery learning model used in English subject class gave the teacher several advantages and challenges in teaching with this learning model. The teacher should combine the principles and steps of the implementation of discovery learning model in the class. The teacher should make the students engage the use of English speaking in the classroom.

4.1.4 Coding

Coding is the process of inputting evidence into categorization based on theme and giving certain code on the evidence. In this research, the researcher created coding system for evidence from all data sources.

Table 4.3 displays the coding system for all data from observation, interview, and document analysis.

Table 4.5 Coding System

Data Source	Coding Sample	Meaning
Observation	O/1/PDL/7	'O' (for Observation) means the data is gathered from observation. '1' means it is from observation on meeting 1. 'PDL' is the theme, which is abbreviation from Principles of Discovery Learning. '7' means it is from observation transcript line 7.
Interview	I/1/SDL/12	'I' (for Interview) means the data is gathered from interview. '1' for participant 1. 'SDL' is the theme, which is abbreviation from Steps of Discovery Learning. '12' means it is from interview transcript line 12.
Document Analysis	DLP/1/SDL/1	'DLP' (for Document Lesson Plan) means the data is gathered from Teachers' Lesson Plan. '1' for document number 1. 'SDL' is the theme, which is abbreviation from Steps of Discovery Learning. '1' means it is from document on meeting 1.

4.1.5 Thematizing

In thematizing phase, the researcher classified research data into several categorizations. The categorizations were revealed and confirmed the prefigured theme, which were broken down into more specific subthemes to be practical. Thematizing is presented in Table 4.4.

Table 4.6 Thematizing Matrix

No.	Code	Theme	Subtheme
1	PDL	Principles of Discovery Learning	Problem Solving
			Learner Management
			Integrating Connecting
			Information Analysis
			Failure & Feedback
2	SDL	Steps of Discovery Learning	Stimulation
			Problem Statement
			Data Collection
			Data Processing
			Verification
			Generalization

4.2   Discussions

This part presents researcher' interpretations and analysis on the research data. These interpretation and analysis are elaborated in pre-figured theme sequence.

4.2.1   Principles of Discovery Learning

For discovery learning to be effective, the teacher has applying the principles of discovery learning such as problem solving, learner management, integrating connecting, information analysis, and failure & feedback. Data from the interview indicates that the teacher has applying principles of discovery learning.

From the interview (I/1/PDL/37), it can be conclude that most of classroom activities was done by implement discovery learning model. According to the principles of discovery learning that include **Problem Solving**, the teacher should guide and motivate learners to seek for solutions by combining existing and newly acquired information and simplifying knowledge. This way, learners are the driving force behind learning, take an active role and establish broader applications for skills through activities that encourage risks, problem-solving and probing.

> **"So for speaking, I usually tell the students to underline the expression of the topic is. So, if he understands the phrase, for example invitation. That means he can underline expression, for example refusing oh he underlined the refuse, the expression refusing. For example, accepting means he also underlines." #00:11:33# (**I/1/PDL/37)

From the interview (I/1/PDL/5, I/1/PDL/6, I/1/PDL/7, I/1/PDL/34, I/1/PDL/35), it can be concluded that most of classroom activities was done by

implement discovery learning model. According to the principles of discovery learning that include **Learner Management**, the teacher should allow students to work alone or with others, and learn at their own pace. Students will find that they study by applying this learning model. By the implement this learning model, the students will find they own learning.

> **"Yes, applies too, it depends on the KD that matches with the learning model, which model is adjusted to the KD." #00:01:07#** (I/1/PDL/5)
> **"Yes, a lot. The discovery learning model looks the most." #00:01:21#** (I/1/PDL/6)
> **"Yes because, from here the students will find they own concept after learning, like that." #00:01:38#** (I/1/PDL/7)
> **"Usually discovery learning is in group, right." #00:10:07#** (I/1/PDL/34)
> **"So, for example the impact with speaking, it depends, if the monologue it means he is alone. If dialogue it means 2 people in pairs, right. If for example role play it means more than 2 people ." #00:10:27#** (I/1/PDL/35)

From the interview (I/1/PDL/39, I/1/PDL/40), it can be conclude that most of classroom activities was done by implement discovery learning model. According to the principles of discovery learning that include **Integrating Connecting**, the teacher should teach students how to combine prior knowledge with new ones, and encourage them to connect to the real world. Familiar scenarios form the basis of new information, encouraging students to expand what they know and create something new.

> **"Emm... The way is give them situation, then the students were told to make a concept first. After making the concept, actually it was not spontaneous speaking. So I gave the concept first and from the concepts that have told, it memorizing. Not exactly like that's okay, what matters later in the practice there is still such an expression." #00:12:28#** (I/1/PDL/39)
> **"So, first give the situation, second the students write the concept for example in pairs. So, then after writing is memorized, after**

memorizing they come in front of the class to practice without read the text, like that.” #00:12:45# (I/1/PDL/40)

From the interview (I/1/PDL/46, I/1/PDL/47, I/1/PDL/48), it can be conclude that most of classroom activities was done by implement discovery learning model. According to the principles of discovery learning that include **Information Analysis**, discovery learning is process oriented and not content oriented, and is based on the assumption that learning is not just a collection of facts. Students actually learn to analyze and interpret information obtained, rather than memorizing the correct answers.

> **“Yes, yes it’s best to analyze not only memorize but must understand that”** #00:14:56# (I/1/PDL/46)
> **“So, if they just memorize it, what I memorized earlier? It means he just memorized it but he didn’t understand.”** #00:15:04# (I/1/PDL/46)
> **“Ah yes, so compared to what he understands what he is saying is not only memorizing, what will he do more, better understand what he is saying? So don't just memorize it.”** #00:15:22# (I/1/PDL/46)

From the interview (I/1/PDL/49, I/1/PDL/50, I/1/PDL/51, I/1/PDL/52, I/1/PDL/53), it can be conclude that most of classroom activities was done by implement discovery learning model. According to the principles of discovery learning that include **Failure & Feedback**, learning does not only occur when we find the right answer. It also happens through failure. Discovery learning does not focus on finding the right end result, but we find things in the process. And it is the instructor's responsibility to provide feedback, because without it incomplete learning.

> **“Yes, we give an, reward”** #00:15:38# (I/1/PDL/49)
> **“Yes, if they good, we give them a compliment, right”** #00:15:44# (I/1/PDL/50)

> **"Yes, so it make them feel happy"** #00:15:48# (I/1/PDL/51)
> **"If they are wrong, e it should actually be like this..."** #00:15:56# (I/1/PDL/52)
> **"Explanation, e you should study hard, maybe your study is not optimal"** #00:16:02# (I/1/PDL/53)

This finding is in line with research finding conducted by Pappas, (2014) that has integrates five principles of discovery learning, and also confirmed by data from document analysis on Teacher's lesson plan.

4.2.2 Steps of Discovery Learning

For discovery learning to be effective, the teacher also has applying the steps of discovery learning such as stimulation, problem statement, data collection, data processing, verification, and generalization. Data from the interview indicates that the teacher has applying steps of discovery learning.

From the interview (I/1/SDL/57, I/1/SDL/58), it can be conclude that most of classroom activities was done by implement discovery learning model. According to the steps of discovery learning that include **Stimulation**, the teacher can present an image in providing a stimulus to attract students' responses.

> **"Oh yes, for example I told them to explain about something, maybe with the picture it's great"** #00:17:07# (I/1/SDL/57)
> **"So, they explain about something, or make paragraph according to the picture, like that"** #00:17:15# (I/1/SDL/58)

From the interview (I/1/SDL/69), it can be conclude that most of classroom activities was done by implement discovery learning model. According to the steps of discovery learning that include **Problem Statement**, the teacher should presents a problem to students, for example by giving a question about the material being studied.

"Oh, give questions like warming up. Yes, I give the question to students that concern to the problems that will be discussed. So, and then asking questions like warming up" #00:18:56# (I/1/SDL/69)

From the interview (I/1/SDL/71), it can be conclude that most of classroom activities was done by implement discovery learning model. According to the steps of discovery learning that include **Data Collection**, the teacher should present to students the process of collecting the data to identify problems.

"Yes, we give warming up, and then we give several dialogues. Then from the dialogue the students identify the problem. So, for example in the dialogue, for example invitation there are invite expressions, there is an expression of refuse, there is an expression of accepting, right. So the child is told to identify ever the invitation phrase, which the expression of refuse, which expression of accepted." #00:19:44# (I/1/SDL/71)

From the interview (I/1/SDL/72), it can be conclude that most of classroom activities was done by implement discovery learning model. According to the steps of discovery learning that include **Data Processing**, the teacher should present to students the process of processing the data to solve problems.

"Oh, from the invitation that means in the next the students are told to ask what he doesn't understand yet. For example, if he could identify there might be some difficult words, there were expressions that he did not know, just hoping students asked. So how did he ask about things he had not known about the dialogue." #00:20:31# (I/1/SDL/71)

From the interview (I/1/SDL/73, I/1/SDL/74), it can be conclude that most of classroom activities was done by implement discovery learning model. According to the steps of discovery learning that include **Verification**,the teacher should encourage the students do the proof or present their finding to find a truth about the problem being solved.

"So always, the student is encouraged to ask questions to present the findings that he found from the problem" #00:21:00# (I/1/SDL/73)
"Yes, basically what you don't know just asking. How do you usually ask, why is it difficult? If for example, asking is difficult, then I will ask the students later." #00:21:16# (I/1/SDL/74)

From the interview (I/1/SDL/76), it can be concluded that most of classroom activities was done by implementing discovery learning model. According to the steps of discovery learning that include **Generalization**, the teacher should encourage the students to draw a conclusion and give them feedback also generates conclusion in the end of the class.

"Yes, that's a must reflection. So it is better to know although the student already understands what we are giving, if he already knows the lesson received that day. But, there must be a reflection" #00:21:42# (I/1/SDL/76)

This finding is in line with research finding conducted by Badan Pengembangan Sumber Daya Manusia Pendidikan Dan Kebudayaan Dan Penjamin Mutu Pendidikan (2013) has integrated several steps of discovery learning that must be applied, and also confirmed by data from document analysis on Teacher's lesson plan.

So, from the Teacher's lesson plan, finally we can see that discovery learning appears in the description of the learning method. Based on the 2013 curriculum this learning method has 3 sub-components, namely approach, learning model, and learning method. The approach is scientific, the learning model here appears to be discovery learning and problem based learning, and the method is with question and answer, interviews, discussion and role play.

Table 4.71 Excerpt of Document Analysis

E. Learning Method
   1) Approach   : Saintifik
   2) Learning Model   : Discovery learning, Problem Based Learning (PBL)
   3) Learning Method   : Question & Answer, Interview, Discussion and Role Play

F. Learning Media
   1. Media
   ❖ Worksheet
   ❖ Assessment sheet

   2. Tools/Materials
   ❖ Ruler, marker, whiteboard
   ❖ Laptop & in focus

G. Learning Resources
   ❖ Supporting Book 2013 Curriculum English Subjects Class XI, Ministry of Education and Culture, Revised 2016
   ❖ English dictionary
   ❖ Students' and teachers' experiences

Discovery learning is applied at the first meeting, which is 2 x 45 minutes long. As a discovery learning model, the steps are seen as the syntax of the learning model in a core activity that is 70 minutes long. In the preliminary activity there is no syntax of discovery learning models, because in the 2013 curriculum in SMAN 1 Pakem, in the preliminary activity, the teacher carries out 10 minute steps for orientation, apperception, motivation and reference.

Table 4.72 Excerpt of Document Analysis

H. Learning Steps
1. First Meeting (2 x 45 Minute)
Preliminary Activities (10 Minute)
Teacher :   **Orientation**   ❖ Conduct opening with opening greetings and praying to begin learning   ❖ Check the attendance of students as a discipline   ❖ Prepare physical and psychological learners in initiating learning activities.   **Apperception**   ❖ Linking material / themes / learning activities that will be carried out with the experience of students with previous material / themes / activities   ❖ Recall the prerequisite material by asking   ❖ Asking questions that are related to the lesson that will be done   **Motivation**   ❖ Provides an overview of the benefits of learning lessons to be learned in everyday life   ❖ If the theme / project material is doing well and really is well mastered, students are expected to be able to explain the material: ➤ *Definition of Analytical Exposition Text and the context for its use*   ❖ Deliver the learning objectives at the meeting that takes place   ❖ Asking questions   **Giving Reference**   ❖ Inform the subject matter that will be discussed at the meeting at that time.   ❖ Notify about core competencies, basic competencies, indicators and KKM at the meeting that takes place   ❖ Distribution of study groups   ❖ Explain the mechanism for implementing learning experiences according to the learning steps.

So the discovery learning syntax appears in a core activity that is 70 minutes long. The syntax of discovery learning learning models refers to the (Badan Pengembangan Sumber Daya Manusia Pendidikan dan Kebudayaan dan Penjamin Mutu Pendidikan, 2013). The syntax of this learning model is the steps to stimulate or provide stimulation, in this case the learning activities begin with literacy activities. Students are given the motivation to focus on the topic of material Understanding analytical exposition text and the text of its use by looking, observing, reading, listening, and listening.

Table 4.73 Excerpt of Document Analysis

	Core Activities (70 Minute)
Learning Model Syntax	**Learning Activities**
Stimulation	**LITERATION ACTIVITIES** Students are given motivation or stimulation to focus attention on topic material *Definition of Analytical Exposition Text and the context of its use* in a way : ❖ **Seeing** (with or without tools) Display relevant images / photos / videos. ❖ **Observing** ➢ Material worksheet *Definition of Analytical Exposition Text and the context of its use.* ➢ Giving material examples *Definition of Analytical Exposition Text and the context of its use* to be developed by students, from interactive media, etc. ❖ **Reading** (done at home before the learning activities take place). Read material from textbooks or other supporting books, from the internet / material related to *Definition of Analytical Exposition Text and the context of its use*. ❖ **Listening** Giving material *Definition of Analytical Exposition Text and the context of its use* by the teacher. ❖ **Listen** An introduction to the outline / global activities on subject matter about the material: ➢ *Definition of Analytical Exposition Text and the context of its use* to train sincerity, accuracy, seek information.

Then the next syntax of discovery learning is a problem statement or problem identification question, here the process is critical thinking or critical thinking, the teacher provides an opportunity to identify as many questions as possible relating to the images presented.

Table 4.74 Excerpt of Document Analysis

Problem statement	**CRITICAL THINKING**
	Teachers provide opportunities for students to identify as many questions as possible related to the images presented and will be answered through learning activities, for example: ❖ **Asking questions** about material : ➢ *Definition of Analytical Exposition Text and the context of its use* which is not understood from what is observed or questions to get additional information about what is observed (starting from factual questions to hypothetical questions) to develop creativity, curiosity, the ability to form questions to form critical thoughts that need to live smart and lifelong learning.

Then the third syntax of discovery learning is data collection, students here collect relevant information, by observing objects or events by observing the material understanding of analytical exposition text and usage context, then reading other sources such as text books.

Table 4.75 Excerpt of Document Analysis

Data collection	**LITERATION ACTIVITIES**
	Students gather relevant information to answer questions that have been identified through activities: ❖ **Observing objects / events** Look closely at the material *Definition of Analytical Exposition Text and the context of its use* which is being studied in the form of pictures / videos / slide presentations presented and trying to interpret it. ❖ **Read other sources than textbooks** Search and read various references from various sources to increase knowledge and understanding of the material *Definition of Analytical Exposition Text and the context of its use* that is being studied. ❖ **Activities** Arrange a list of questions on things that cannot be understood from the activities of observing and reading that will be submitted to the teacher relating to the material *Definition of Analytical Exposition Text and the context of its use* that is being studied. ❖ **Interview / question and answer with interviewees** Ask questions relating to the material *Definition of Analytical Exposition Text and the context of its use* which has been arranged in the questionnaire to the teacher.

Then the next syntax is data processing, in this data processing there are 2 student activities, collaboration and critical thinking. They discussed again the definition of analytical exposition text and the context of its use, then processed

the information from the previous "Understanding analytical exposition text"
material to answer the questions on the student worksheet. Then the students work
on several questions about the material understanding of analytical exposition text
and the context of its use.

Table 4.76 Excerpt of Document Analysis

Data processing	**COLLABORATION and CRITICAL THINKING** Students in their groups discuss processing observational data by: ❖ **Discuss** about data from material : ➢ *Analytical exposition text structure* ❖ **Processing information** from material *Analytical exposition text structure* which has been collected from the results of previous activities / meetings as well as the results of observing activities and ongoing information gathering activities with the help of questions on the worksheet. ❖ Students work on several questions about the material *Analytical exposition text structure*.

Then syntax verification or proof, there is a stage called critical thinking,
namely students discuss the results of observations, meaning from the textbook
material and sources on the internet and verify the results of their observations.

Table 4.77 Excerpt of Document Analysis

Verification	**CRITICAL THINKING** Students discuss the results of their observations and verify the results of their observations with data or theory in the source book through activities: ❖ Increase the breadth and depth to the processing of information that is looking for solutions from various sources that have different opinions to the contrary to develop honest, thorough, disciplined, obedient rules, hard work, the ability to apply procedures and the ability to think inductively and deductively in proving about material: ➢ *Definition of Analytical Exposition Text and the context of its use* **among others with:** Students and teachers together discuss the answers to the questions that have been done by students.

Then Generalization, is the final step of discovery learning. Here there are
communication and creativity skills, in communication here is stated in the
teacher's lesson plan that students discuss and conclude from group presentations.

Table 4.78 Excerpt of Document Analysis

Generalization	**COMMUNICATION**
	Students discuss to conclude:
	Deliver the results of the discussion about the material *Definition of Analytical Exposition Text and the context of its use* in the form of conclusions based on the results of an oral, written, or other media analysis to develop an honest, thorough, tolerant attitude, the ability to think systematically, express opinions politely.
	❖ Presenting the results of group discussions classically about the material:
	➢ *Definition of Analytical Exposition Text and the context of its use*
	❖ Express opinions on the presentations made about the material *Definition of Analytical Exposition Text and the context of its use* and responded by the group that presented.
	❖ Ask questions about material *Definition of Analytical Exposition Text and the context of its use* done and other students are given the opportunity to answer it.
	CREATIVITY
	Conclude about the important points that appear in the new learning activities in the form of:
	Reports of written observations about material:
	➢ *Definition of Analytical Exposition Text and the context of its use*
	❖ Answering questions about material *Definition of Analytical Exposition Text and the context of its use* contained in the student handbook or worksheets provided.
	❖ Ask questions about things that have not been understood, or the teacher throws a few questions to students regarding the material *Definition of Analytical Exposition Text and the context of its use* which will be studied
	❖ Complete the competency test for the material material *Definition of Analytical Exposition Text and the context of its use* contained in the student handbook or on worksheets that have been provided individually to check students' mastery of the subject matter.

The syntax of discovery learning appears at the core activity for 70 minutes. Although it does not appear in the syntax, the principles of discovery learning exist in closing activities.

Table 4.79 Excerpt of Document Analysis

Closing Activity (10 Minute)
Students:
❖ Create a resume with teacher guidance about important points that appear in learning activities about the material *Definition of Analytical Exposition Text and the context of its use* just done
❖ Schedule homework for subject matter *Definition of Analytical Exposition Text and the context of its use* just done
❖ Schedule material or project / product / portfolio / performance tasks that must be studied at the next meeting outside school hours or at home.
Teacher:
❖ Examine the work of students who have finished checking directly for the subject matter

Definition of Analytical Exposition Text and the context of its use

- ❖ Students who have finished working on project / product / portfolio / performance tasks are correctly given initials and are ranked sequentially, for assessment of project / product / portfolio / performance assignments in subject matter *Definition of Analytical Exposition Text and the context of its use*
- ❖ Give appreciation for subject matter *Definition of Analytical Exposition Text and the context of its use* to groups that have good performance and cooperation.