

The Content Mastery Service Using K-W-L Teaching Model to Improve Students' Ability to Understand Texts in Junior High Schools

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Abstract This study aims to examine the effectiveness of K-W-L Teaching Model applied in content mastery services to improve the students' ability to understand texts in junior high schools (SMP). It was an experimental research with a one-group pretest-posttest design. The subjects were Year-7 students of SMP Islam Al-Azhar Pontianak, SMP Negeri 2 Mempawah, and SMP Negeri 3 Singkawang. The ability to understand a text is indicated by (a) capturing the main idea of the text, (b) describing the essence of the text orally, (c) describing the contents of the text in a written form, and (d) formulating questions based on the text that has been read. The results showed that K-W-L Teaching Model was effective to improve the students' ability to understand texts, especially in capturing the main ideas of the text and describing the essence of the text orally; but it was not effective in describing the essence of the text in written forms and formulating questions based on the text that had been read.

Keywords: K-W-L teaching model, ability to understand texts, Junior high schools

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1. Introduction

The technological development, the escalation of global competition, and various forms that change very fast have resulted in dramatic changes in the information sector either in the developed countries or in the developing ones. Information is delivered in such a way, both through electronic media and in printed materials. Various reading materials are presented in printed forms like books, daily popular scientific magazines, and national or international scientific journals. The reading materials develop so rapidly that ones require an ability to understand the reading texts to take the important information delivered.

Unfortunately, lots of researchers reported that students from many developing countries were still poor in reading and understanding texts [1]. Gutrie has conducted a study to elementary and junior high school students in Asia-Pacific and Southeast Asian countries including Indonesia reported that it was not more than 47.50% of students who had a low ability to read and understand texts [2]. In fact, the ability to read and understand texts for the students in junior high schools was very basic and important for their future development, namely to hunt, absorb, and function information for the development of science and technology when they achieve higher education in the future [3].

Therefore, the learning activities in an education system must cover the improvement of the students' ability to understand texts since junior high schools. It is relevant with the Free Learning Program (Program Merdeka Belajar) launched by the Minister of Education and Culture in 2020, stating that education achievement should be measured not only from the cognitive aspects such as NEM and the scores reported in Student Record of Achievement, but also from the development aspect of Literacy, Numeration, and Character [4,5,6]. Literation as the ability that a student must develop covers the ability to reason, the ability to think, and the ability to solve problems as well as to demonstrate language [5]. The ability to think, to reason, and to solve problems will develop well within the students when they are taught to develop enthusiasm, reading skills, and ability to understand texts well so that they can absorb, proceed and analyze the information covered in the concerned texts [7].

There are difficult questions to answer, such as "What is an effective learning strategy to enable junior high school students to improve their ability to understand texts? and What are the learning process steps that should be taken to get junior high school students used to developing the ability to understand texts early?" The reasons why these questions are difficult to answer because, during the learning process in junior high schools, the teachers usually start the class by delivering the essence of the text to the students to read and by explaining the reasons why

the students should read the texts. Although there are directions for the teachers to find out the students' previous knowledge related to a topic, the teachers often do not do it systematically. Durkin conducted research by observing a class and reported that the part that is mostly neglected in reading lessons is the way through which the teachers explore the students' previous knowledge regarding the topic to learn. [8] In fact, the previous research findings show the importance of this previous knowledge in an interactive learning process. In this context, Ogle claims that reading materials taught to the students in school often ignore the importance of the knowledge that the students bring from home with regard to reading materials. [1]

Referring to the above problems, the present study applied "K (Know) -W (Want) -L (Learn) Teaching Model" and investigated the effectiveness of this model to enable the students to understand texts in junior high schools. This model was carried out within the framework of guidance and counseling activities, especially in a content mastery service. It is one of the seven services available in guidance and counseling [9]. In its implementation, the content mastery services were carried out in collaboration with the counselors with the subject teachers. Since the content to improve was the ability to understand texts, the counselor collaborated with the teachers of the Indonesian language subject.

The basic concept of this learning model offers simple procedures that can help the teachers be more responsive to the students' interests and knowledge when reading and understanding expository reading materials. This model may also stimulate the students to think more actively and to get more involved in reading and understanding the relevant information.

Therefore, this study was conducted to examine more deeply the students' ability to understand texts and the effectiveness of K-W-L Teaching Model to improve the students' ability to understand texts. This study was intended to provide conceptual-theoretical contributions to the discipline of guidance and counseling, especially in the study of content mastery services by utilizing contemporary learning models so as to improve the teaching behaviors, namely the ability to develop the students' literacy in understanding texts in junior high schools as a manifestation of the "Merdeka Belajar program."

In the broad context of education, this research was designed to contribute to scientific-conceptual, related to the "science of prevention" which is still very few discussed in depth. This research could enrich the discipline of the science of prevention, especially for students.

2. Literature Review

2.1. Basic Concepts of K-W-L Teaching Model

It is a general symptom that students do not have the ability to read or to understand textbooks well. K (Know)-W (Want) -L (Learn) Teaching Model presents a simple procedure that can help teachers be more responsive to

their students' interests and knowledge when reading and understanding expository reading materials. This learning model can also stimulate the students to think more actively and feel more involved in reading and understanding the information contained in the relevant texts.

K-W-L Teaching Model puts the previous knowledge or the previous capability as something very important that will affect the students' ability in interpreting what they read and what they learn from reading texts [10]. To read well, the students must have the access to the previous knowledge relevant to the topic of reading or prepare the knowledge relevant to the reading material to enable them to understand the information stated in the text [3,7].

Previous research findings have shown the importance of the previous knowledge or the preliminary provisions for an interactive learning process to occur. In this context, Ogle claims that reading materials used to teach reading to students in school are often not related to the important role of knowledge that the students have from home with regard to reading materials [1]. Teachers usually start teaching by conveying the essence of the text to read and explaining the reasons why the students need to read the text. Although the teachers get instructed on the ways how to find out the students' previous knowledge relevant to a reading topic, they often ignore them. Based on the data collected through class observation, Durkin reported that the part that a teacher mostly ignored in teaching the reading lessons was not exploring the students' background knowledge regarding the topic that the students studied [8].

To help a teacher get the students' previous knowledge to bring into a reading situation and to treat it as a model for the students, it is important for the students to have the appropriate sources of knowledge before reading, either in a reading group or in a reading situation to understand the content of a reading text. In using K- W-L model, has developed a simple procedure that can be used to select non-fiction reading texts for each grade level and for each content level. [1] Ogle also found out that the simple learning demands for a teacher can foster the teacher's readiness to try out the techniques that they have developed and then they use the techniques in their daily teaching activities. [1] Duffy also reported that through this procedure the students responded to the K-W-L technique very enthusiastically and the informal evaluation could be applied through this procedure which resulted in strengthening this procedure. [11]

2.2. Procedures of K-W-L Teaching Model

The procedure of K-W-L Teaching Model is called the "Three-Step Procedures". It contains three stages of basic cognitive processes covering (1) assessing "What I Know (K)", (2) determining "What I Want to Learn (W)", and (3) recalling "What I did Learn (L)" as the result of reading activity. To facilitate the group learning process and to concretize these learning stages among the students, Ogle (2016) developed a worksheet that each student could use during the thinking process in reading [1]. The worksheets are shown in Table 1.

Table 1. K-W-L Strategy Worksheet

1.	K (What we Know)	W (What we Want to find out)	L (What we Learned and still need to Learn)
2.	Categories of information that we expect to use		
	A.		E.
	B.		F.
	C.		G.
	D.		H.

The first two steps of the process are for the teacher and students to be actively involved in an oral discussion that is followed by the students' personal responses that are translated into worksheets. In the third step, the students can fill in the "What I Learned" section regarding what they have read or done immediately after completing reading an article or text. In this step, the discussion can also be carried out on the individual responses of the students.

If the reading text is long, the teacher can do a reflection on it part by part with the students, review what the students have learned, and ask questions to the students to give the direction to the next reading process.

2.2.1. Step K (What I "Know")

It is the first step or the opening step. According to Ogle, this step covers two stages that the teacher can assess the students' previous knowledge or provisions. [1] The first step is brainstorming what students already know regarding the reading topic or the text that the students are going to read. During the process at this step, the teacher's role is to write down on the board or on the notebook what opinions or thoughts the students voluntarily put forward regarding the topic or text that they are reading. The important activity that the teacher must do here is to find and to select the key concepts from the brainstorming activities that are specifically considered able to convey the students' knowledge relevant to the reading topic or the text that they will read.

For example, one day a teacher teaches students to read and to comprehend a text about "sea turtles". Teaching this topic, the teacher is advised to use words that are related directly to "sea turtles" as stimuli, and do not use general questions such as "What do you know about animals that live in the sea?", or "Have you ever gone to the sea?", or "Have you ever seen the sea?".

Likewise, the pleasant experiences that the students have got on the beach should not be exposed because it will not be effective to generate the right schema in the students' minds.

Such brainstorming is a very important preliminary activity before reading texts. It is to activate any knowledge or thought structures that the students already have that will greatly assist them in interpreting the information in the text to read.

With regard to the above text on "sea turtles", and if the students only have very little previous knowledge about sea turtles, the teacher can ask questions that are somewhat general in nature but still have something to do with sea turtles, for example, "What do you know about turtles?" With this rather general question, it is very likely that most students may have. Therefore, starting from this rather general question, and based on the opinions or

thoughts raised by the students, the teacher can ask questions about various types of turtles and finally enter more specifically into the main topic, namely the sea turtles.

The stimulation in questions or asking the students about various uncertainties is an important part or key of a brainstorming activity. It is very useful to bring the students' previous knowledge to the text that they will read. Through this way, the students are freely given an opportunity to bring up something that has been felt vaguely, to deliver what they know, and to activate the memory in their minds. It will greatly help them find what they do not know yet.

To further deepen the students' thinking during the brainstorming activity, the teacher raises further questions to explore the students' answers. For example, the teacher raises questions, "Where did you learn about sea turtles?", "How can you prove it?", and the like that can dig the students' thought deeper. Another way to do this is by asking challenging questions that can take the students to a higher level of thinking. Such questions may create a psychological atmosphere among the students to feel freer and more courageous in submitting the information that may conflict with the information delivered by other students which can then be confirmed together through the text that they read.

The second step involves the students. Through the text, they read to think about the more general categories of information that they find when reading the texts. In the process, the teacher could say, for example, "Before you read this article about sea turtles, think of for a moment, what type of information would be most suitable to include? Look at the following list of information that you are already familiar with and know, then take some of it to form a general category of information?"

When the teachers and the students first started using K-W-L learning method, they usually found some confusing questions because they were not accustomed to using the structured way of thinking based on a content order of a topic. To help them think in this way, the teacher starts to give an example or two pieces of information that they have obtained from the text to read.

For example, the teacher said, "I see three different pieces of information about how the turtle sees things. The description of how the turtle sees is one category of information that I hope will be included in this reading text." (Here the students then recorded the description of a category, for example, with the category information

"How Does a Sea Turtle See Something?"). Next, the teacher asked the students a question, "Can you find the other categories of information that I presented earlier? Try to describe them again".

Given several examples of information categories orally, the participants think about other categories that can be added to and then written in the list of categories that has been entitled earlier. If they still fail to do so, the teacher can diagnose the readiness of students to enter this level of thinking by providing another reading text with almost the same but easier text to explore their background knowledge. Then, the teacher applies the steps as previously done, continues the steps by repeating the main text that the students previously had difficulty with. This method, based on the research conducted by Ogle, is

proven to be effective in helping students learn the following texts. [1]

For example, if the students cannot describe a category regarding the text about sea turtles, the teacher invites the students to study the text about another type of animal that they are more familiar with. It may help the students find the key categories of animals that they are familiar with and may help them make an analogy into the main text about the sea turtle. The key categories are, for example, its habitat, the way the animal takes care of its young, its enemies, its means of protection, its eating habits, and the characteristics that distinguish it from other animals. From the knowledge of these information categories, the students may use them to find out the specific categories when studying texts about other animals.

2.2.2. Step W (What do I “Want” to Learn?)

After the students recall the previous knowledge relevant to the topic of the text and the category of information that they should formulate, the teacher asks the students a number of questions. According to Ogle's research, what happened was that not all the students agreed with a number of information contained in the text, some conflicting information, and some categories of information that were not consistent with the information stated in the text. [1]

Such facts should not be worrying because all pre-reading activities will be useful to develop the students' reasoning in subsequent reading. It means that they can develop reading skills to find the answers to the questions that will increase and develop their knowledge of a particular topic [12,13,14].

The role of the teacher in this step is very central. The teacher (1) must be able to clarify the things that the teacher and students do not approve the information contained in the text, (2) show the gaps contained in the information, and (3) help the students able to ask the questions that can focus their attention and energy on reading [3].

Most of the activities in “Step W” are carried out in group activities. But before the students begin reading the text, each student should write on their worksheets the specific questions that they find most interesting in the text or discussion. Through this way, the students can develop their personal commitment that will guide them in reading the text.

If each student has focused on the topic of the reading text, the students can immediately begin the reading activities. However, if the text to read is long or it does not follow a basic article pattern in general so that it can confuse the students, it will be very useful for the teacher to discuss it first to see the correspondence between the students' expectation and the construction of the text to read. Furthermore, difficult and unclear passages can be recorded and explained to students.

2.2.3. Step L (What I “Learn”)

After reading an article is complete, the teacher directs the students to write what they got from the reading. The teacher should check whether the students have formulated the questions to find out the extent to which the articles that they read related to their interests. If not, the teacher suggests that the students do the next

reading to satisfy their curiosity. Through this way, the teacher can understand clearly the priorities that the students want to learn.

The students who have read the text must be given an opportunity to answer the questions that he himself has formulated. By formulating the specific questions about the texts that they have read, the students can also assess the variations contained in the different articles that they have read. In addition, this method is very good for the students to develop a more critical awareness of the limited interaction between the writer and the reader. Nelson defines this method as “This is what reading is really about” [15].

3. Method

The research subjects studied in SMP Islam Al- Azhar Pontianak, SMP Negeri 2 Mempawah, and SMP Negeri 3 Singkawang. They were attending the study in Year-7 (SMP = junior high school).

The variables of the present study were (1) KWL Teaching Model as the independent variable, and (2) the ability to understand the text as the dependent variable, of which the aspects were (a) capturing the main idea of the text, (b) describing the content of the text orally, (c) describing the content of the text in writing, and (d) formulating the questions based on the text that has been read.

The present research was an experimental study with a one-group pretest-posttest design. The treatment procedures covered (1) Preparation, including (a) preparing K-W-L Strategy Worksheet, (b) forming student groups, and (c) administering the pretest; (2) implementation, including, First, K (What I Know?), the steps of which were (a) brainstorming what the students already knew about the text to read, and (b) engaging the students through the text that they read up to thinking in more general categories of information encountered during the reading of the text. Second, W (What do I “Want” to Learn?), was implemented with the following steps, (a) Before the students started reading the text, each student wrote specific questions that they found most interesting on a worksheet, and answered them in a text or discussion; (b) When the students have focused on the reading topic of the text, the students could immediately begin the reading activity. However, if the text to read was so long that the students might get confused, it would be very useful for the teacher to discuss it first to see the correspondence between the students' expectations and the text to read. Furthermore, the difficult and unclear passages could be recorded and explained to the students; (c) Clarify the things that the teacher and the students did not agree on the information in the text; (d) Identify the gaps of information in the text; (e) Help the students raise the questions that could focus their attention and energy on reading, and (f) Ask the students a number of questions about the content of the text that students have read. Third, L (What I “Learn”), was implemented with the following steps, (a) After reading a text, the teacher instructed the students to write what they have learned from the reading; (b) The students were asked to write questions about the text that they have read; (c) The teacher checked whether the students have

written questions to determine the extent to which the text that they read related to their interests; (d) If any students who did not write the questions based on the text they read, the teacher advised that the students continue the next reading to fulfill the student's curiosity. Through this way, the teacher could understand clearly the priorities that the students wanted to learn.

The data were collected using tests on previous knowledge about the reading topics taught in Year-7 (SMP) using "Prior Knowledge Test" that Ogle developed and adapted it to the text for Year-7 students. [1] Ogle developed the Prior Knowledge Test to measure the level of the students' previous knowledge about the topic in the text that was delivered to the students to read and to understand the information. [1] This instrument was interpreted, adapted, and then used to measure the previous knowledge of Year-7 students regarding the topics in the text presented to them. The Prior Knowledge Test was applied as a pretest before and as a posttest after the treatment using K-W-L Teaching Model. At the same, it was used to measure the effectiveness of K-W-L Teaching Model to improve the students' ability to understand texts.

Factor analysis, especially confirmatory factor analysis was applied to analyze the profile of the SMP students' ability to understand texts. [16] The analysis procedure was carried out through (a) compiling a correlation matrix, (b) testing assumptions, (c) conducting a commonality analysis with principal component analysis, (d) developing a factor matrix without rotation, (e) factor rotation using the procedure varimax, and (f) compiling the structure of the rotated factor charge matrix [16].

To compute the effectiveness of K-W-L Teaching Model to improve SMP students' ability to understand texts, the t-test analysis for paired samples was applied [17]. Furthermore, to find out the differences between the participating schools, analysis of variance was also applied. [17].

4. Result and Discussion

4.1. Students' Initial Ability in Understanding Texts

The measurement of the level of students' ability in understanding the text was applied to Year-7 students in four subjects. They were the Indonesian language, Social Sciences, Mathematics, and Natural Sciences. In reference to the learning topics that the Year-7 students studied and took the test in this study can be seen in Table 2.

In practice, the students were assigned to read, to learn, and to understand the text contents of these subjects, each of which was given 25 minutes on different days, meaning that one subject was administered in one day, then continued for the other subjects on other days. To ensure that there was not any interference with the teaching and learning process in school, the research was carried out based on the existing lesson schedules at the concerned schools. The students who have finished reading the text in time were permitted to read it again to have a better understanding of the content of the text.

After the students finished reading, learning, and understanding the text, the students were given questions to test their ability in understanding and having the contents of the text they read.

Table 2. The Learning Topics Being Tested to Measure the Students' Ability in Understanding Texts

No.	Subjects	Learning Topics
1.	Indonesia Language	1. Writing diaries using expressive language. 2. Writing personal letters covering competence, content, and language. 3. Defining the interesting points of tales. 4. Showing the relevance of the tale contents with the present situation.
2.	Social Sciences	1. Concepts of spaces and inter-space interaction 2. Location and vast of Indonesia 3. Indonesian potentials of natural and maritime resources 4. Indonesia population dynamics
3.	Mathematics	1. Comparing integers 2. Addition and subtraction operation of integral numbers 3. multiplication and division Operation of integral numbers Comparing fractions
4.	Natural sciences	1. Natural science investigation 2. The characteristics of the objects in the surrounding environment 3. The way to classify living things 4. Classification of living things

4.2. The Ability to Understand Texts in General

To determine the students' ability level in understanding the text on the four subjects, the following category was applied Table 3.

Table 3. Category Benchmarks Students' Ability in Understanding Texts

No.	Score Range	Category
1.	<6,5	Low
2.	6,5-7,5	Moderate
3.	>7,5	High

The benchmarks as shown in Table 3 measure the students' ability in understanding the text on the four subjects as a whole as can be seen in Table 4.

Table 4. The Result of Measuring the Level of the Students' Ability in Understanding Texts

No.	Subjects	Average Score	Highest Score	Lowest Score
1.	Indonesian Language	7,05	8,00	5,00
2.	Social Sciences	7,08	8,00	4,80
3.	Mathematics	5,95	7,50	4,00
4.	Natural Sciences	5,92	7,65	4,00
	Average	6,50	7,79	4,45

As can be seen in Table 4 above, the investigated students from the three junior high schools still performed their ability classified "moderate", ranging from "low" to "moderate" in understanding texts on Indonesian language, Social Sciences, Mathematics, and Natural Sciences. In detail, the students' ability to understand

the subjects of social sciences (Indonesian language and Social Sciences) is categorized as "moderate", and to understand the natural sciences (Mathematics and Natural Sciences) is classified as "low".

The ability to understand the texts on Indonesian Language and Social Sciences is still relatively encouraging. The score ranges from 8.00 (the highest score) to 5.00 (the lowest scores in the Indonesian language) and 4.80 (the lowest score in Social Sciences). Attention is still required to pay to Mathematics and Natural Sciences subjects. The highest score is 7.50 (Mathematics) and 7.65 (Natural Sciences), and the lowest score in the two subjects is 4.0.

4.3. Students' Ability to Understand Texts in Each School

The ability to understand texts of the students from the participating schools is shown in Table 5.

Table 5. The Ability to Understand Texts of the Students from the Participating Schools

No.	Name of School	Indonesian Language	Social Sciences	Mathematics	Natural Sciences
1.	SMP Islam Al-Azhar	8,00	8,00	7,50	7,65
2.	SMP N 2 Mempawah	7,46	7,45	6,00	6,00
3.	SMP N 3 Singkawang	7,50	7,45	6,50	6,00

As can be seen in Table 5 above, the highest average score of ability to understand texts on Indonesian language, Social Sciences, Mathematics, and Natural Sciences is performed by the students of SMP Islam Al- Azhar. Their ability is categorized "high".

The average score of the students from the other schools is categorized "moderate" on Indonesian Language and Social Sciences subjects, and "low" on Mathematics and Natural Sciences. The average score of SMP Negeri 3 Singkawang is quite encouraging in the Indonesian language. It is 7.45, ranging from "moderate" to almost "high".

4.4. The Effectiveness of K-W-L Teaching Model to Improve Students' Ability to Understand Texts in SMP Islam Al-Azhar

The effectiveness of K-W-L Teaching Model in improving the students' ability to understand texts was computed by comparing the pretest and posttest scores performed by the students of SMP Islam Al-Azhar. The significance level of the difference between the pretest and posttest was calculated using a t-test analysis for paired samples. The results are shown in Table 6.

Table 6. The Effectiveness of K-W-L Teaching Model to Improve Students' Ability to Understand Texts in SMP Islam Al-Azhar

No.	Subjects	Pretest	Posttest
1.	Indonesia Language	8,00	8,65
2.	Social Sciences	8,00	8,50
3.	Mathematics	7,50	8,25
4.	Natural Sciences	7,65	8,50

Table 6 shows that students' ability to understand texts improved significantly from before to after the treatment using K-W-L Teaching Model. This improvement is shown in all tested subjects. The significant increase is performed on Mathematics from 7.5 (moderate) in the pretest to 8.25 (high) in the posttest. A similar increase is also shown in science subjects (7.65 in the pretest and 8.50 in the posttest). In SMP Islam Al- Azhar, the K-W-L Teaching Model is effective in improving the students' ability to understand texts.

To test the effectiveness significance of K-W-L learning strategy, the t-test for paired samples was applied. The result of the t-test analysis was the value of $t = -27.47$ and $p = 0.0001$. Thus, the statistical hypothesis is rejected and the working hypothesis is accepted. It means that the K-W-L Teaching Model is very effective to improve the students' ability to understand texts.

4.5. The Effectiveness of K-W-L Teaching Model to Improve Students' Ability to Understand Texts in SMP Negeri 2 Mempawah

The effectiveness of K-W-L Teaching Model to improve the students' ability to understand texts was computed by comparing the pretest and posttest results obtained by SMP Negeri 2 Mempawah students. The significance level of the difference between the pretest and posttest was tested using a t-test analysis for paired samples. The results can be seen in Table 7.

Table 7. The Effectiveness of K-W-L Teaching Model to Improve Students' Ability to Understand Texts in SMP Negeri 2 Mempawah

No.	Subjects	Pretest	Posttest
1.	Indonesian Language	7,50	8,20
2.	Social Sciences	7,50	8,00
3.	Mathematics	7,00	7,45
4.	Natural Sciences	7,00	7,40

Table 7 shows that using K-W-L Teaching Model improved the students' ability to understand texts from the pretest score to the posttest score significantly. The pretest score was 7.50, categorized "moderate" both on Indonesian Language and social sciences, and reached 8.20 and 8.00, categorized "high" respectively in the posttest. On the other hand, there was not any significant improvement in understanding the texts on Mathematics and Sciences subjects. The pretest score was classified as "moderate". After the students of SMP Negeri 2 Mempawah were taught using the KWL Teaching Model, their average score in the posttest was also still considered "moderate", 7,00 on mathematics, and 7.40 on natural sciences). And after they were given a treatment using K-W-L Teaching Model category, their average score was 7,45 in understanding the texts on Mathematics, and their average score in the posttest was 7,45 (Mathematics) and 7,40 (natural sciences). It means that using K-W-L Teaching Model was effective in improving the students' ability to understand texts on Indonesian language and Natural Sciences subjects, but less effective in Mathematics and Science subjects.

To test the effectiveness significance of K-W-L Teaching Model, the t-test for paired samples was applied. The result of the t-test analysis was the value of $t = -21.11$ and $p = 0.0001$. Thus, the statistical hypothesis is rejected and the working hypothesis is accepted, meaning that K-W-L Teaching Model is effective to improve the students' ability to understand texts on Indonesian and social science subjects, but less effective on Mathematics and Natural Science subjects.

4.6. The Effectiveness of K-W-L Teaching Model to Improve the Students' Ability to Understand Texts in SMP Negeri 3 Singkawang

The effectiveness of K-W-L Teaching Model to improve the students' ability to understand texts was computed by comparing the average score of the pretest and posttest performed by the students of SMP Negeri 3 Singkawang. To determine the significance level of the difference between the pretest and posttest, the t-test analysis for paired samples was applied. The results are shown in Table 8.

Table 8. The Effectiveness of K-W-L Teaching Model to Improve Students' Ability to Understand Texts in SMP Negeri 3 Singkawang

No.	Subjects	Pretest	Posttest
1.	Indonesian Language	7,00	8,25
2.	Social Sciences	7,50	8,27
3.	Mathematics	6,00	7,95
4.	Natural Sciences	6,00	7,80

Table 8 shows that the students' ability to understand texts improved significantly from before (pretest) to after (posttest) getting the treatment using K-W-L Teaching Model. The improvement could be seen on all tested subjects, that is, Indonesian language, social sciences, mathematics, and natural sciences. A very significant improvement occurred on the Indonesian language subject; the score before having the treatment using the KWL Teaching Model (pretest score) was categorized "moderate" (7.00), and the score after receiving the treatment (posttest score) was classified "high" (8.25). A similar improvement also occurred on the social science subject, that is, 7.50 in the pretest, and 8.27 in the posttest. This finding shows that K-W-L Teaching Model is effective to improve the students' ability to understand texts in SMP Negeri 3 Singkawang. The effectiveness significance of using K-W-L learning strategy was tested using a t-test for paired samples. The result of the t-test analysis was the value of $t = -19.23$ and $p = 0.0001$. Thus, the statistical hypothesis is rejected and the working hypothesis is accepted, meaning that K-W-L Teaching Model is very effective to improve the students' ability to understand texts.

4.7. The Effectiveness of K-W-L Teaching Model to Improve Students' Ability to Understand Texts in Each Aspect

The aspects of the ability to understand texts in this study covered (a) capturing the main idea of the text, (b) describing the contents of the text orally, (c) describing the contents of the text in writing, and (d) formulating

questions based on the text that the students have read. The effectiveness of K-W-L Teaching Model to improve the students' ability to understand texts in each aspect was determined by comparing the average score of the pretest and the posttest obtained by students in each aspect. To determine the significance level of the difference between the pretest and posttest, the t-test analysis for paired samples was applied. Table 9 shows the results of the analysis.

Table 9 shows that if examined from each aspect, the students' ability to understand the texts was considered encouraging especially from the aspects of "Capturing the main idea" and "Describing the essence of the text orally". It was shown on all tested subjects, namely, Indonesian language, Social Sciences, Mathematics, and Natural Sciences.

Even though the pretest score in understanding the mathematics-related texts was "moderate" in "Capturing the main idea of the text" (6.83) and "Describing the contents of the text orally" (6.75), after being treated using K-W-L Teaching Model the score in the posttest became "high", where "Capturing the main idea of the text" was 7.88 and "Describing the essence of the text orally" was 7.53.

A similar improvement also occurred on the science subject, where "Capturing the main idea of the text" was 6.88 in the pretest, and "Describing the contents of the text orally" was 7.90. However, after having the treatment using K-W-L Teaching Model, the students increased their ability up to "high" in "Capturing the main idea of the text" (7.88) and "Describing the essence of the text orally" (7.55).

The score of "Describing the contents of the text in writing" and of "Formulating questions based on the text that the students have read" was discouraging. The score of these two aspects, both at the pretest and posttest, ranged from "low" to "moderate". The score in "Describing the contents of the text in writing" on Indonesian language subject was 6.50 in the pretest and 7.00 in the posttest; on social sciences subjects 6.65 in the pretest and 7.10 in the posttest; on Mathematics subject 6.00 in the pretest and 6.75 in the posttest, and on natural sciences subjects 6.10 in the pretest and 6.85 in the posttest. The score of "Formulating questions based on the text that has been read" on Indonesian language subjects was 6.60 in the pretest and 6.90 in the posttest; on social studies subjects 6.75 in the pretest and 7.00 in the posttest; on Mathematics subject 6.30 in the pretest and 6.80 in the posttest; as well as on natural science subjects 6.45 in the pretest and 6.90 in the posttest. The above-mentioned scores can be concluded that K-W-L Teaching Model is not effective to improve the students' abilities in "Describing the contents of the text in writing" and "Formulating questions based on the text that has been read."

The ineffectiveness in "Describing the contents of a text in writing" may be argued because the students were not familiar with the learning process at school delivered in the form of describing the main ideas of reading in the written form. The students were given more questions orally and then they got an explanation about the main ideas orally, too. The ineffectiveness in "Formulating questions based on the text that has been read" is also due to the students' unfamiliarity to formulate questions. Another argument relates to the principle of formulating and arranging questions. It is the task of the teacher, not the task of the students.

Table 9. The Effectiveness of K-W-L Teaching Model to Improve Students' Ability to Understand Texts in Each Aspect

No.	Aspects of Understanding Texts	Indonesian Language		Social Sciences		Mathematics		Natural Sciences	
		Pre test	Post Test	Pre test	Post test	Pre test	Post test	Pre test	Post test
1.	Capturing the main idea of the texts	7,50	8,37	7,67	8,26	6,83	7,88	6,88	7,90
2.	Describing the contents of the texts orally	7,10	8,10	7,15	8,15	6,75	7,53	6,74	7,55
3.	Describing the contents of the texts in a written form	6,50	7,00	6,65	7,10	6,00	6,75	6,10	6,85
4.	Formulating the questions based upon the texts that the students read	6,60	6,90	6,75	7,00	6,30	6,80	6,45	6,90

4.8. The Differences in the Effectiveness of K- W-L Teaching Model to Improve Students' Ability to Understand Texts between SMP Islam Al-Azhar, SMP Negeri 2 Mempawah, and SMP Negeri 3 Singkawang

Before computing the difference test using analysis of variance, the variance homogeneity test was calculated first. The results are listed in Table 10.

Table 10. Variance Homogeneity Test of Students' Ability to Understand Texts in SMP Islam Al-Azhar, SMP Negeri 2 Mempawah, and SMP Negeri 3 Singkawang

	Level of Statistics	df1	df2	Sig.
Indonesia Language	0,812	6	234	0,562
Social Sciences	1,074	6	234	0,379
Mathematics	1,835	6	234	0,093
Natural Sciences	1,255	6	234	0,279
Total	1,205	6	234	0,305

As can be seen in Table 10, either as a whole or as an individual subject, there is not any subject that shows a significant difference at $p < 0.05$. It means that the variance of each subject and the whole is homogeneous. Thus, the statistical assumptions for the mean difference test using analysis of variance are fulfilled and can be performed.

The mean difference of the students' ability to understand the texts at SMP Islam Al-Azhar, SMP Negeri

2 Mempawah, and SMP Negeri 3 Singkawang was tested using analysis of variance to find out the difference between schools. The results are shown in Table 11.

Table 11. The Differences in the Effectiveness of K-W- L Teaching Model to Improve Students' Ability to Understand Texts among SMP Islam Al-Azhar, SMP Negeri 2 Mempawah, and SMP Negeri 3 Singkawang

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	427,004	6	71,167	1,287	0,264
Within Groups	12936,664	234	55,285		
Total	13363,668	240			

The results of the variance analysis as can be seen in Table 11 show that in terms of school differences, there is not any significant difference in the effectiveness of K-W-L Teaching Model to improve the students' ability to understand texts. It means that K-W-L Teaching Model is equally effective to develop the students' ability to understand texts from the three participating schools. Unfortunately, if viewed from the improvement in each aspect of the ability to understand the texts, KWL Teaching Model is not effective to increase the abilities of the students from all participating schools in "Describing the contents of the text in writing" and "Formulating questions based on the texts which the students have read."

For more detail, the variance analysis was also carried out in each test subject. The results of the variance analysis are listed in Table 12.

Table 12. The Differences in the Effectiveness of K-W-L Teaching Model to Improve the Ability to Understand Texts of the Students from SMP Islam Al-Azhar, SMP Negeri 2 Mempawah, and SMP Negeri 3 Singkawang Seen from Each Tested Subject

		Sum of Squares	Df	Mean Square	F	Sig.
Indonesian Language	Between Groups	49,710	6	8,285	1,789	0,102
	Within Groups	1083,460	234	4,630		
	Total	1133,170	240			
Social Sciences	Between Groups	71,080	6	11,847	2,385	0,030
	Within Groups	1162,322	234	4,967		
	Total	1233,402	240			
Mathematics	Between Groups	25,369	6	4,228	0,592	0,737
	Within Groups	1671,734	234	7,144		
	Total	1697,104	240			
Natural Sciences	Between Groups	51,344	6	8,557	1,726	0,116
	Within Groups	1160,265	234	4,958		
	Total	1211,610	240			

Table 12 shows that when viewed deeply from the tested subjects, the ability to understand texts of the students from several schools does not show any significant difference, either. Of the four subjects tested, there was only one subject, that is, social sciences, that showed a significant difference. There is not any significant difference in the other three subjects (Indonesian language, Mathematics, and Sciences). It means that viewed from the differences in the subjects tested, K-W-L Teaching Model is still effective to develop the students' ability to understand texts. Only on Mathematics, it shows less effective. This lack of effectiveness in Mathematics is due to the characteristics of the Mathematics textbooks, which contain more calculations and solutions, and very minimal text narrative.

5. Conclusion

Referring to the results and discussion above, it can be concluded that (1) the overall K-W-L Teaching Model is effective to improve the students' ability to understand texts in junior high schools; (2) there is not any significant difference in the effectiveness of K-W-L Teaching Model to improve the students' ability to understand texts in different junior high schools. It means that K-W-L Teaching Model is equally effective to improve the students' ability to understand texts in all participating junior high schools; if the aspects are seen in more detail, the students' ability to understand texts in three participating schools did not show any significant difference, either. Based on the four aspects, there are two aspects that show a significant difference. They are "describing the contents of the text in writing" and "formulating questions based on the text that the students have read". There are two other aspects, namely the aspect of capturing the main idea of the text and describing the contents of the text orally that do not show a significant difference. Both are categorized as "high".

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