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# THE IMPLEMENTATION OF HIGHER-ORDER THINKING SKILL (HOTS) IN LEARNING READING FOR EFL LEARNERS

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**ABSTRACT**

This research aims at finding out the students' reading comprehension ability after implementing HOTS in learning process and the differences between those who are taught by implementing HOTS and those who are not, especially in making inference.This quasi-experimental research using two groups, experimental and control group through pre-test and post-test results. The samples are 23 students from class VIIIC and 22 students from class VIIIB of SMP Negeri 1 Cina which are taken by using Purposive Sampling Technique. The data obtained are analyzed using SPSS Application version 25.The finding shows that the mean score of pre-test in experimental class is 48.04 and the post-test score is 71.09. While in control class, pre-test score is 48.42 and in post-test is 50.91. After implementing HOTS in the classroom, reading comprehension ability increases to 32.42% and 4.9% in control class. This finding indicates that HOTS brings good effect in learning reading comprehension process because students can get used to questions related to making inference and their ability to answer reading comprehension questions improves. Students be able to predict questions and provide logical reasons related to texts and learning materials. Then it can be concluded that there are differences between those who are taught by HOTS and those who are not, in terms of learning outcomes and also the way they think.



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## INTRODUCTION

In this modern globalization environment, communication needs to grow rapidly as human resources, technology and cultural practices around the world accelerate. Today's global business and trade corporations acknowledge the necessity for a common language

in order to interact more successfully. Engineering and technology, science, commerce and industry, medicine, science education, research, banking, advertising, tourism, the Internet, business, movies, pharmaceuticals, and transportation are just a few of the industries that use English. Undoubtedly, learning English is essential in today's world. Learning English is very important in the age of globalization. As Rao (2019) stated that the majority of native speakers, and even non-native speakers, use English as the universal language of the world. In these situations, communication reduces misunderstandings in understanding English.

Teaching critical thinking and thinking critically are strongly emphasized in all areas of life today. Critical thinking is one of the most important academic skills in the learning process. Keep in mind that the Indonesian education system has just revised the latest curriculum and emphasized teachers to incorporate 4C: ccommunication, collaboration, critical thinking, and creativity. It is clear that the government recognizes the importance of these four aspects, including communication and critical thinking. The Indonesian government also emphasized the integration of more advanced thinking skills and literacy aspects to offset the demand for 4C. Therefore, critical thinking is not just for college students. Currently, we are emphasizing and encouraging, elementary and junior high school, and high school students. (Ariani, 2020)

According to Kaya (2015), Reading is integrated in people's everyday lives since it provides them with information and entertainment. Reading in a foreign language undoubtedly has to do with thinking in that language. For students to improve their reading skills in English, they need to think in English while reading. When people think in other languages and translate into English, they usually have a hard time understanding sentences. As a result, reading comprehension is an important aspect of communicating with the world. However, the mindset of EFL students is the most important factor in learning English. They focus too much on good conversation while paying less attention to their reading comprehension skills. Some students find it difficult to read because they live in an area where English is widely used as the target language in the society in which they live. (Marlina, 2013)

According to Olson and Diller (1982), reading comprehension is a term used to describe the talents necessary to grasp and apply information contained in written sources. Reading comprehension is taught as a collection of general knowledge acquisition skills that

enable people to absorb and show information received via the use of printed language. If students have excellent reading comprehension skills, they will be able to deal with comprehension challenges.

When the researcher did an internship at Makassar, many students read well but did not understand what they were reading. Teachers also struggled to apply the right teaching methods. This happened again when the researcher did an internship in Thailand, which is also an EFL country. Some students refused to read long paragraphs because their teachers felt embarrassed when they asked questions based on the paragraphs. The students felt this way because they did not know which method to use when teaching reading comprehension. Sometimes the teacher tried to come up with a good teaching method, but it did not fit the circumstances of his class and the students.

Along the lines of problem that students and teachers face in SMP Negeri 1 Cina, school knows how the government has emphasized the use of HOTS in the classroom, however in most of teachers' points of view, implementing HOTS is not an easy thing to do. Students must be accustomed to thinking critically by working on questions related to problem solving which students were not used to it, in the end teachers choose to use LOTS (Lower-Order Thinking Skill) based questions that students enjoy by ignoring the effectiveness of the way itself.

Reading comprehension is one of the most crucial abilities in teaching and learning. Students will be unable to comprehend the lesson if they are unable to read and comprehend the material. Students should be taught to read critically and reading methods should be highlighted. To have a meaningful reading experience, students must engage in higher-order cognitive processes. (Freahat & Smadi, 2014)

To minimize these issues, the author believes that he needs to find alternatives to create appropriate and interesting lessons. Not only should the teacher create a good atmosphere in the classroom, but the teacher should change the way students think, aallows students to adapt quickly, regardless of method. The implementation of Higher Thinking Skills (HOTS) is more than just "thinking". It's about thinking higher in the wider area. HOTS do not aim to sharpen the student's memory, but to help the student understand the concept. The existence of Bloom's digital classification was the beginning of this thought pattern. Bloom has categorized the taxonomy from LOTS (Lower Thinking Skills) to HOTS (Higher

Thinking Skills), they are remembering, understanding, applying, analyzing, evaluating, and creating.

As said by Alsowat (2016), another purpose of implementing HOTS is to make the language relevant to you by allowing students to think in their own way. This is a more effective way for student to understand the meanings of words and use them in different situations. Since Indonesians learn English as a foreign language, this study focuses on how HOTS is used in the learning process. HOTS has been applied and proven to be helpful in any subject, including mathematics, science, and social studies. (Brookhart, 2010)

Since Bloom introduced his taxonomy, HOTS can be used to implement in the learning process to improve student performance. EFL students are different because English is commonly used in everyday ESL conversations. English is easy for ESL students to understand. EFL students, on the other hand, usually start learning English in elementary school. As a result, children need to put more effort into the classroom learning process.

Finally, this research chose to implement higher thinking skills (HOTS) in the learning process of EFL learners and experience the consequences of whether HOTS affects students' English, especially reading comprehension.

## RESEARCH METHOD

The research method that used in this study was quasi-experimental method. This method aims to test the effect of a variable on other variables or to test how the causal relationship between one variable and another variable. The variety of quasi-experimental design can be divided into two main categories, they are post-test only design and pre-test-post-test design. The population of this research was the entire students at 8th grade of SMP Negeri 1 Cina which consist of 83 people and the samples are class C and B.

The steps of research in experiment class included:

1) Pre-Test

   Pre-test in both classes was containing 20 reading comprehension questions, which was multiple-choice. This test helped researcher determine students' reading comprehension skill before teaching them using HOTS. This meeting was also a good opportunity to observe student behaviour and class conditions.

2) Treatment (X) in experiment class (using HOTS):

   a. Students examine the definition of text from the examples that given.

b. Students discover the social function and text structure their selves.
c. Students determine detailed from the text details of the text, implied and expressed
d. Students make one simple text related to lesson.
e. Students be given Higher-Order Thinking Skills based question, most of them is making inference questions.
f. Students make a solution from problems that they face in the classroom
g. Students make conclusions from the whole meeting.

3) Treatment (X) in experiment class (Conventional):
   a. Teacher explains the definition of text from the examples that given.
   b. Students read the material in book while the teacher explains the material.
   c. Students discover the social function and text structure their selves.
   d. Students make one simple text related to lesson.
   e. Teacher gives students questions from the book (fill the blank questions).
   f. Students make conclusions from the whole meeting.
4) Post-Test

   A post-test was needed as the researcher wanted to finding out the students' achievement in learning reading comprehension after doing a treatment in experiment class. This test also was given to control class to see the final result of this research.

In this study, the instruments that the researcher used were documentation /students' worksheet and reading comprehension test.

1) Documentation and students' worksheet

   The documentation and students' worksheet were used to show students' activities during the treatment. The worksheet during the treatment in experimental class is HOTS question while in control class is conventional way.

2) Reading comprehension test

   The reading comprehension test in this case was the pre-test and post-test which be compared at the end of the research. The test itself had 20 multiple choices consisted of HOTS and LOTS questions.

The results from the reading comprehension exam will be analysed using inferential statistics such as the t-test.

Scoring the students' answer of pre-test and post-test:

Table 1. Scoring Criteria

| No | Criteria | Score | |
|---|---|---|---|
| 1 | Correct | 1 | The students' answer is true |
| 2 | Incorrect | 0 | The students' answer is false |

Score: (total correct answer)/ (total number items) ×100

(Adapted from Puskur in Salmi, 2012)

Classifying the score of the students' reading comprehension test using the following scale:

Table 2 Scoring Classification

| | |
|---|---|
| Score 91-100 | Very Good |
| Score 76-90 | Good |
| Score 61-75 | Fairly |
| Score51-60 | Poor |
| Score less than 50 | Very Poor |

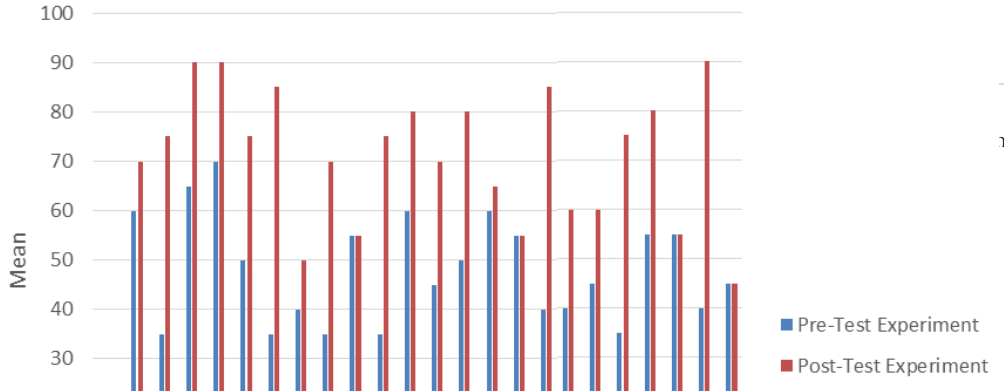
(Depdikbud, 2017)

## RESULT AND DISCUSSION

Students' reading comprehension ability after implementing HOTS in learning process.

To see the mean score of pre test and post test of esperiment class, this research used SPSS 25. The data that used are pre-test and post-test score of experimental class. The graphic shows the output from SPSS.

Graphic 1. Experimental class' mean score



Based on graphic above, most students tend to experience an increase in post test score. The mean score of the students increased from 48.04 to 71.09, which means that the students' reading comprehension ability increased to 32.42%.

These results can be strengthened by the classification of student scores. In the pre-test, there were no students who were classified as good or very good. Most of them are in the very poor classification. However, in the post-test, there were 29.6% which increased to good category.

The existence of an influence of HOTS in reading comprehension was also proven by the output data from the paired sample t test. In SPSS 25, sig (2-tailed) which is less or lower than 0.05 means that students' learning outcomes in reading comprehension have changed. It also means that there is difference before and after HOTS is implemented. The output of paired sample t-test in SPSS 25 that can be seen in the appendix D clearly showed that the value of sig (2-tailed) is 0.000. It means that students' reading comprehension improved after the implementation of HOTS.

As explained above, there was an improvement in student learning outcomes after HOTS was implemented in reading comprehension learning. This happens because by implementing HOTS, students tend to always try to predict the types of questions that will appear and it is easier to solve problems in questions. An increase in the student mean score of 32.42% is also a student's achievement after HOTS is implemented in the classroom.

Students' analysis skills also improved. They are easier to understand what question means, know how to answer making inference questions, even in identifying main idea, students learn how to break down a text into its constituent components and determine what the elements have in common and what message they support or point to.

They tend to try to think in their way to find the solution in facing questions. This is similar to Brookhart's (2010) usage of "text" to allow students to critically analyze the essential points, thesis, or argument. Students should be able to come up with or choose appropriate basis for evaluating this main point, thesis, or argument. If students have reached that stage, it signifies they have already used their HOTS. This is in line with the aim of classifying the level of thinking in the education field by Bloom (1956). Indeed, HOTS can make it easier for students to deal with various kinds of problems and also an improvement in educational process.

As also found by Ariani (2020) that there is a relationship between HOTS and reading comprehension. And Nourdad (2018) found that the implementation of HOTS in reading comprehension class indeed can improve student learning outcomes. Thus it can be concluded that the students' reading comprehension ability improved after HOTS was implemented in learning process.

Actually, not too much improvement occurred, none of the students managed to reach the very good classification. It happened because HOTS is used in entirely meetings and indicators. This contradicts the findings which explain that LOTS (Lower-Order Thinking Skills) and HOTS should be balanced in learning reading comprehension, found Lingfeng (2021). Students tended to hard to understand the lesson as a whole, they need more time. This is also because students have just met HOTS, so they are not used to it.
The differences between those who are taught by implementing HOTS and those who are not

Before looking at what are the differences between the two classes, this reserach first used an independent sample t-test in SPSS 25 to determine whether there was a difference between the two classes or not. After conducting independent sample t-test, the output obtained value sig (2-tailed) ) <0.05, which is 0.000. This proves that there is a difference between the experimental class (HOTS) and the control class (conventional).

To see what the differences between srtudents' reading comprehension of experimental class and control class are, this research shows descriptive statistics from pre test and post test of both of classes. The data below are calculated using SPSS 25.

Table 3. Descriptive Statistic from SPSS 25

| | N | Minimum | Maximum | Mean |
|---|---|---|---|---|
| Pre-Test Experimental | 23 | 35 | 70 | 48,04 |
| Post-Test Experimental | 23 | 45 | 90 | 71,09 |
| Pre-Test Control | 22 | 30 | 70 | 48,41 |
| Post-Test Control | 22 | 10 | 90 | 50,91 |

According to table 3, the difference between the two classes can be seen in the change in the students' mean scores from pre-test to post-test. The mean score of students in the experimental class increased even more, from 48.04 to 71.09. The control class also experienced an increase even though it was less than other class, which was 48.41 to 50.91.

It can be seen in the findings, that there is a difference between those who are taught by implementing HOTS and those who are not. Both of them experienced an increase in learning outcomes and mean scores, but the increase that occurred in the experimental class was larger and faster.Mean score of experimental class improved to 32.42% while mean score in control class improved to 4.9%. Beside mean score, the classification of students' scores also increased more in the experimental class.

The are differences between both of classes as because the questions given are different. Lower order thinking demands only routine or mechanical application of previously acquired information such as listing information previously memorized and inserting numbers into previously learned formulas. In contrast, higher order thinking, according to Newman (1990), challenges the student to interpret, analyze, or manipulate information. Higher order thinking is relative, Newman came up with one big point, since people have different types of situations that they find difficult. However, if students are habituated to answering HOTS questions, they will become accustomed to them and their learning will improve.

The results of this research also supports by findings of Thamrin (2019) which explains how his experimental class that have studied reading comprehension with HOTS are better able to predict questions and provide logical reasons related to texts and learning materials. Students are also better in relating their previous experiences, prior knowledge, and currant lessons to build their own understanding. These achievements is exactly what the government hopes for the implementation of HOTS in schools just like Ariani (2020) mentioned in her research.

## CONCLUSION

Based on finding and discussion, it can be concluded two things: First, the implementation of Higher-Order Thinking Skills has an effect on student learning outcomes in this case reading comprehension. Students can get used to questions related to making inference and their ability to answer reading comprehension questions improves. It means HOTS improves EFL learners' ability in reading comprehension. Second, there are differences between those who are taught by implementing HOTS and those who are not. These differences are in terms of mean score and also the way they think. Students who are taught by implementing HOTS are more developed compared to students who are taught with conventional way.

The finding shows that the mean score of pre-test in experimental class is 48.04 and the post-test score is 71.09. While in control class, pre-test score is 48.42 and in post-test is 50.91. After implementing HOTS in the classroom, reading comprehension ability increases to 32.42% and 4.9% in control class. This finding indicates that HOTS brings good effect in learning reading comprehension process because students can get used to questions related to making inference and their ability to answer reading comprehension questions improves. Students are able to predict questions and provide logical reasons related to texts and learning materials. Then it can be concluded that there are differences between those who are taught by HOTS and those who are not, in terms of learning outcomes and also the way they think.

## REFERENCE

Alsowat, Hamad. (2016). An EFL Flipped Classroom Teaching Model: Effects on English Language Higher-order Thinking Skills, Student Engagement and Satisfaction. Faculty of Education, Taif University. 7(9):108.

Ariani, E. (2020). Do HOTS Correlate with Reading Comprehension. Language-Edu, 9(1).

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). Handbook I: cognitive domain. New York: David McKay.

Brookhart, S. M. (2010). How to assess higher-order thinking skills in your classroom. ASCD.

Depdikbud. (2017). Assessment Guide for Upper Secondary Education Unit. Directorate General of Primary and Secondary Education Ministry of Education and Culture.

Freahat, N. M., & Smadi, O. M. (2014). Lower-order and Higher-order Reading Questions in Secondary and University Level EFL Textbooks in Jordan. Theory & Practice in Language Studies, 4(9).

Indriyana, B. S., & Kuswandono, P. (2019). Developing Students' Higher Order Thinking Skills (HOTS) in Reading: English Teachers' Strategies in Selected Junior High Schools. Journal of English Teaching, 5(3), 204-216.

Kaya, E. (2015). The role of reading skills on reading comprehension ability of Turkish EFL students. Üniversitepark Bülten, 4(1-2), 37.

Lingfeng, L., & Nair, S. M. (2021). Chinese Undergraduates' Performance in HOTS and LOTS EFL Reading Comprehension for Different Reading Materials According to Gender. Contemporary Research in Education and English Language Teaching, 3(2), 31-40.

Marlina, L. (2012). Learning English as foreign language in Indonesia through English children's literature. International Journal of Literacies, 19(4), 41-51.

Newman, F.M. (1990). Higher order thinking in teaching social studies: A rationale for the assessment of classroom thoughtfulness. Journal of Curriculum Studies, 22, 41-56.

Nourdad N., Masoudi S., Rahimali P. (2018). The Effect of Higher Order Thinking Skill Instruction on EFL Reading Ability. International Journal of Applied Linguistics & English Literature, Volume: 7(3), pp. 231-237. doi: 10.7575/aiac.ijalel.v.7n.3p.231

Olson, J.P and M.H. Diller. (1982). Learning to Teach Reading in Elementary School. London: Macmillan Publishing Company

RAO, P. S. (2019). The Role of English as a Global Language. Research Journal of English (RJOE), 4(1).

Salmi. 2012. Using Top-Down Processing Strategy in Improving Student's Listening Comprehension. Thesis. English Department Faculty of Teacher Training and Education University of Muhammadiyah Makassar.