

# The Correlation Between Students' Higher Order Thinking Skills and Their English Achievement at Seventh Grade

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## The Correlation Between Students' Higher Order Thinking Skills and Their English Achievement at Seventh Grade

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**Abstract.** The background of this research was that there were several problems regarding students' English achievement and their higher order thinking skills. Theory said that higher order thinking skills can be a tool that can help improve student learning achievement. Researchers found there was a difference between theory and facts in the field. Teachers have implemented HOTS in the learning process, but English scores are still low. Therefore, researchers want to know the relationship between students' HOTS and their English achievement. The design of this research is correlational research. Researchers used test instrument to collect students' HOTS scores, and documentation was used to collect students' English scores in their second semester report cards. The population of this research was all seventh grade students, which consist two classes. The sample of this research was class VII A, totaling 24 students. The sampling for this research was cluster sampling. Researchers used Bivariate Pearson Correlation to determine the correlation between the two variables. The results of this research showed that the correlation coefficient between the two variables is 0.471. Then the magnitude of the correlation is sufficient, around 0.40-0.60. Thus, there is a positive correlation between students' higher order thinking skills (HOTS) and their English achievement in the seventh grade of SMPN 3 Koto Besar.

**Keywords:** Correlation, HOTS, English Achievement.

### INTRODUCTION

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There are three abilities must be achieved in the teaching learning process, cognitive, affective, and psychomotor (Bloom, 1956). First, the cognitive refers to intellectual abilities such as knowledge, understanding, comprehension and problem-solving. It involves mental processes that help an individual learn, remember, and apply information. Second, affective refers to emotional and attitudinal factors such as beliefs, values, interest, and feelings. It includes an individual emotional response to different situations and their motivation to learn. Last, psychomotor refers to physical or motor skills and abilities such as coordination, dexterity, and agility. It involves the development of muscle memory and the ability to perform physical tasks with precision and accuracy. All of these abilities can be seen in the learning achievement of students.

Learning achievement is how much a student understands and learns from what the teacher teaches them. It's important because it helps make learning better. We can tell if a student is doing well in learning by looking at their grades and how they do on tests (Rahmawati et al, 2021). In the K-13 curriculum, we learn things that are important for our lives today and in the future. One important thing we learn is how to think in a smart and creative way to solve problems. This helps us live peacefully and happily with others.

According to Resnick (1987), high-order thinking skills are when we use our brains to think in a more complicated way. This includes understanding information, making decisions, organizing our thoughts, and seeing how things are connected. It involves using our brains in the best way possible. High-order thinking skills (HOTS) refer to a set of cognitive process that involve critical thinking, analysis, synthesis, evaluation, and creativity. HOTS require learners to use their higher-level thinking abilities to solve problems, make decisions, and generate new ideas. HOTS can be a tool that helps students improve their learning achievement. Nugroho (2018) explained that there are three advantages of HOTS, namely improving learning achievement, increasing motivation, and increasing positive attitudes.

Brookhart (2010) put HOTS into three groups: transfer process, critical thinking, and problem-solving. Transfer process means using what you've learned in real life. It's the most important goal in education because it helps you use what you know in your everyday life. Second, HOTS as critical thinking is the ability to assess a problem or issue wisely and provide logical criticism in analyzing and assessing the problem or issue. Third, problem-solving is the ability to recognize and solve problems, both problems that arise in the academic field and life.

Some people did research to see if thinking skills and how well someone learns English are connected. They asked people questions and looked at documents to get information. The research showed that there is a strong connection between thinking skills and how well someone learns English. Thinking skills means that students are in charge of their own learning and are active in their English lessons (Solihah, 2021).

Hikmah and Wibowo (2020) did a study about how thinking skills and English skills are connected. They gave tests to collect information. They gave a test before and after using a special way of learning English that helps with thinking skills. The results showed that using this special way of learning English helped the students improve their English skills.

This research will be usefull for English teachers to give information how important students high order thinking skill for their English achievement. Teachers expect to find the best strategy to improve students' high order thinking skill. Then, the researcher hope teachers and school can provide facilities to students through the use of teaching media, teaching strategies, teaching material, and etc.

SMPN 3 Koto Besar is one of junior high school in Dharmasraya, West Sumatera. At junior high school level students begin to learn English subject. The researcher found several problems regarding students' high order thinking skills and students' English achievement. First, students' score in English was low. Second, the teacher already applied HOTS-based learning, but the process was not maximum. Third, incompatibility between the lesson plan

and the implementation in the class. The research question is “Is there any significant correlation between students’ high order thinking skill and their English achievement?” and the Hypothesis is “There is a correlation between students’ high-order thinking skills (HOTS) and their English achievement.”

## RESEARCH METHOD

The research took place in SMPN 3 Koto Besar and used a quantitative approach with a correlational design. Correlational research involves collecting data to determine the extent and nature of the relationship between two or more measurable variables (Gay, 2011). Correlation research findings can inform decision-making. In this particular study, the researcher employed correlational research to investigate the relationship between students’ high-order thinking skills (HOTS) and their English achievement. The study focused on two variables: students’ HOTS (X) and students’ English achievement (Y). The research population comprised seventh-grade students from two classes, with a sample size of 24 students from the VII A class.

The researcher selected the sample by using cluster sampling. The researcher used test and documentation for collected the data. Test was used for collect students’ score in HOTS test. HOTS test consist 25 questions of multiple choice question that included reading and listening. The reseacher didn’t put speaking and writing test for HOTS test, because there were no speaking and writing test at the seventh grade of this school. Because of that, the reseacher didn’t put speaking and writing test for HOTS test. Then, documentation was used to collect students English scores in their report card second semester. The researcher used Bivariate Pearson Correlation to test the correlation between students’ high order thinking skills and their English achievement. The test was did by using SPSS.

## RESULT AND DISCUSSION

This study used the HOTS test and students’ English scores on their report cards as data. The researcher used statistical analysis, specifically Bivariate Pearson Correlation, to determine the relationship between students’ higher order thinking skills and their English achievement.

**Table 1. Test of Correlation**

	<sup>8</sup>	HOTS	English Achievement
HOTS	Pearson correlation	1	.471**
	Sig. (2-tailed)		.020
	N	24	24
English Achievement	Pearson correlation	.471**	1
	Sig. (2-tailed)	.020	
	N	24	24

The correlation test conducted on the table indicated a correlation coefficient of 0.471, suggesting a positive association between students' high order thinking abilities and their English achievement. According to the interpretation of the Bivariate Pearson Correlation Coefficient, which ranges from 0.40 to 0.60, there exists a significant and satisfactory correlation between students' high order thinking skills and their English performance.

Based on the table above, here the following results of this research:

- <sup>23</sup> The correlation coefficient which shows the relationship between variable X (HOTS) and variable Y (English Achievement) was 0,471. Thus, there was a significant correlation between students' high order thinking skills and their English achievement.
- The correlation coefficient shows that the correlation between high order thinking skills and English achievement was 0,471. It means, there was a significant correlation between the both variables. It shows a positive symbol or positive relationship (+0,471).
- To know the magnitude correlation between students' high order thinking skills (HOTS) and their learning achievement, the researcher used interpretation table below.

**Table 2. Magnitude of Correlation**

Coefficient	Magnitude of Correlation
0,80-1,00	Very High
0,60-0,80	High
0,40-0,60	Sufficient
0,20-0,40	Low
0,00-0,20	Very Low

*Arikunto (1999,72&75)*

The result shows the correlation coefficient between high order thinking skills and English achievement was 0,471. For answer the question number third, the researcher used the interpretation table above. The interpretation of 0,471 was Sufficient.

According to the result of Bivariate Pearson Correlation test, Sig. (2-tailed) was 0,020. It showed  $0,020 < 0,05$ , it means there was a correlation between variable X and variable Y.

Thus,  $H_a$  was accepted and  $H_0$  was rejected. It can be concluded that there was a correlation between variable X (high order thinking skills) and variable Y (English achievement).

Nugroho (2018) elaborated on the numerous benefits that come with the implementation of Higher Order Thinking Skills (HOTS), with one significant advantage being the notable enhancement it brings to learning achievement. Ernisa Sholihah (2021) conducted a research study that provides support for the statement mentioned above. The findings of this study revealed a strong and positive linear correlation between Higher Order Thinking Skills (HOTS) and English achievement. This means that individuals who possess strong HOTS abilities are more likely to excel in the English language. The findings emphasize the significance of HOTS in arrange to improve English achievement. Based on the prove, it can be gathered that there exists a solid and outstanding affiliation between the execution in Higher Arrange Considering Aptitudes (HOTS) and the level of achievement within the English dialect. In other words, it can be deduced that if students obtain low scores in HOTS, it is highly likely that their English achievement will also be subpar. On the contrary, if students excel in HOTS and achieve high scores, it can be reasonably assumed that their English proficiency will also be commendable.

## CONCLUSION

The main objective of this research is to determine if there is a connection between the level of high order thinking skills (HOTS) possessed by students and their academic performance in English at the seventh grade level in SMPN 3 Koto Besar. The researcher aims to establish a correlation between the scores achieved by students in HOTS and their scores in English. Considering the research question at hand, it can be inferred that the researcher seeks to draw conclusions from the findings of this study, it can be concluded:

The hypothesis of this research was accepted, indicating that there was a significant relationship between students' high order thinking skills (HOTS) and their English achievement. The outcome of the Sig. (2-tailed) test confirmed the existence of this correlation. The Sig. (2-tailed) value obtained was 0.020, which is lower than the threshold of 0.05, further supporting the significance of the relationship between students' HOTS and English achievement.

The results of this research had a positive direction, with sufficient corellation between students' high order thinking skills and their English achievement. It can be proven by the result of the coefficient correlation, it was +0,471. It shows that there was a positive correlation between variable X (HOTS) and variable Y (English achievement). In summary, if students'

score in HOTS are low, then their English achievement are also low. Meanwhile, if students' score in HOTS are high, then their English achievement are also high.

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