

# The Effectiveness of Higher-Order Thinking Skill (HOTS) based Nationalism Character Education in Indonesian Language Learning

Andayani<sup>1</sup>, Ari Suryawati Secio Chaesar<sup>2</sup>, Arif Setyawan<sup>3</sup>

{[andayani@staff.uns.ac.id](mailto:andayani@staff.uns.ac.id)<sup>1</sup>, [secioaricha@staff.uns.ac.id](mailto:secioaricha@staff.uns.ac.id)<sup>2</sup>, [setyawan161087@gmail.com](mailto:setyawan161087@gmail.com)<sup>3</sup>}

Sebelas Maret University  
Ir. Sutami Sreet No. 36 Kentingan, Jebres, Semarang, Indonesia<sup>1,2,3</sup>

**Abstract.** This research was aimed to test the effectiveness of Higher Order of Thinking Skill (HOTS) based nationalism character education in Indonesian language learning. The research design used a quasi-experimental consisting of control and experimental groups. The experimental group received treatment in the form of a HOTS-oriented model and the control group received treatment with another model. Both groups received pretest and posttest. Test instrument was used as data collection techniques while normality and homogeneity tests followed by a sample t-test was used as data analysis techniques. Cluster random sampling technique used to determine the sampling. The total number of samples for the control group was 120 students, and the sample for the experimental group was 120 students. From the test results it is stated that  $H_0$  is rejected because  $P_{value} = 2.091 < t_{count}$ . It could be stated that the average pretest and posttest score of students who apply HOTS based nationalism character education in Indonesian language learning was better than those using other models at a significance level of  $> 0.05$ . This means that there is a significant effect of Higher Order of Thinking Skills (HOTS) based nationalism character education toward student learning outcomes in Indonesian language learning for Junior High School students.

**Keywords:** Effectiveness, Higher-Order Thinking Skill, National Character Education

## 1 Introduction

Implementation of character-based education in Indonesia is the nation's attempt in forming future intelligent human beings and noble national leaders. Learning process in schools is expected not only to transfer knowledge but also to instill noble characters to the students.

The formation of the nationalism character is one of the national education goals. Education aiming at creating intelligent people with strong character means that character intelligence is the true ultimate goal of education. The important thing in the formation of the nationalism character in education can be realized through understanding the attitude of "virtuous plus" by involving aspects of knowledge (cognitive), feelings (affective), and actions (psychomotor).

The urgency of nationalism character education can be realized if everyone can understand and embody character education as "virtuous plus" involving cognitive, affective, and psychomotor aspects. Based on these three components, it is hoped that an understanding, actions, awareness, and willingness of students to carry out and realize values in their lives will emerge [11].

Preliminary research was conducted to determine the needs and conditions of teachers and students related to the integration of nationalism character education based on higher order of thinking skills (HOTS) in Indonesian language learning for junior high school students. The selection of schools for observation and interviews was carried out by considering variations in the use of models that have been used by the teachers in Indonesian language learning or differences in basic competencies and learning steps contained in Indonesian learning in these schools.

Based on the observation and interviews conducted at 6 (six) junior high schools in the former Surakarta residency area, it was found that teachers did not have an understanding of the effective use of HOTS in Indonesian language learning. Under these conditions, teachers have a tendency to consider the selection of variations in the use of lecture, presentation, and discussion models, but the questions in the evaluation are still limited to cognitive and understanding questions only.

The term of character education was introduced in the 1900s. Thomas Lickona is considered as the originator through a book entitled *The Return of Character Education and Education for Character: How Our School can teach Respect and Responsibility* [22]. Terminologically, [12] states that the meaning of character is "A reliable inner disposition to respond to situations in a morally good way". Character refers to a series of cognitive, attitudes, motivations, behaviors, and skills. Character values have three interrelated parts, namely moral knowledge, moral attitude, and moral behavior. Based on these three components it can be synthesized that good character is supported by knowledge of goodness, desire to do good, and action of good deeds. These three things are needed to live a moral life towards moral maturity.

In his study, [13] emphasized that there are nine pillars of character originating from universal noble values, they are: (1) the character of love to God and all of His creation; (2) independence and responsibility; (3) honesty, trustworthiness and diplomatic; (4) respectful and politeness, (5) generosity, helpful and mutual cooperation; (6) confident and hardworking, (7) leadership and justice, (8) kind and humble; and (9) tolerance, peaceful, and unity.

Education is a conscious effort by humans to acquire knowledge that can be used as a basis for behaving [7]. Based on this understanding, it means that education is a process of forming and producing attitudes and behaviors that lead to the formation of character and personality needed in achieving a complete human being. Character education is a crucial part of education because school is a time when students recognize and develop their abilities and attitudes. [15] state that character education is defined as a process of developing students' understanding, commitment, and tendencies to behave in accordance with ethical and moral values.

Considered character as part of the psycho-social related to the surrounding environmental context [18]. In line with this view, [21] stated that character development in Indonesia includes various aspects of life that are based on national issues, such as philosophical, ideological, and legal foundations. Efforts to develop character education are carried out in two broad scopes; the macro context and the micro context. The macro context includes all dimensions of human life, in this case especially the Indonesian nation. The integration of character education in learning belongs to the micro context.

Thinking skills are a fundamental part of the educational process. [10] State that thinking skills consist of four levels: recall thinking, basic thinking, critical thinking, and creative thinking. In general, the Higher Order of Thinking Skills (HOTS) is an elaboration of thinking skills that require critical, creative, and analytical thinking about information and data to deal with situations and solve certain problems [2].

HOTS in learning according to [6] is a way of thinking that does not only verbalistic memorizing, but also focuses on the process of interpreting with the aim of understanding meaning through integral thinking of analysis, synthesis, and association to draw conclusions in order to achieve creative and productive ideas. In line with the idea, the view of [16] showed that learning with HOTS requires students to represent information and ideas by means of meaning and implication, such as when students combine facts and ideas to synthesize, generalize, explain, hypothesize, with the intention of drawing conclusion and interpretation.

Based on this view, it can be synthesized that HOTS is a critical and complex thinking process involving the ability to memorize, connect, synthesize, and transform knowledge and experience, which then be evaluated to produce new knowledge based on the knowledge that has been criticized for the purpose of solving problems and making decisions in everyday life.

The term HOTS (Higher Order Thinking Skills) is contrasted with LOTS (Lower Order Thinking Skills). [14] and [6] classify thinking processes based on categories. HOTS consists of analysis, synthesis, and evaluation; while LOTS consists of knowledge, comprehension, and application. In this case, critical thinking is categorized as HOTS while the LOTS category includes recall and basic.

The concept of HOTS is explained in the discussion of the cognitive domain, which is a domain that involves knowledge and intellectual skills. The level of cognitive processes from the simplest to the most complex is called the level of cognitive skills which is proposed by [3]. The categories of learning outcomes are arranged into six levels consisting of knowledge, understanding, application, analysis, synthesis, and evaluation. [1] reviewed these levels into remembering, understanding, applying, analyzing, evaluating, and creating.

Attempts to integrate nationalism character education in Indonesian language learning technically adapt the HOTS learning model. The results of a research on the application of HOTS through learning themes have been disclosed by [4]. The model for integrating nationalism character education in Indonesian language learning for Junior High Schools students with HOTS uses themes to link several lesson units.

## **2 Research Methods**

This study used a quasi-experimental design. [5] States that experimental design is a traditional approach to carrying out quantitative research. In this study, a before-after research design was applied, in which the control and experimental groups were both given a pretest before treatment. While the experimental group was given treatment in the form of Indonesian language learning using a predetermined HOTS-oriented model, the control group continued to use the model commonly used in the school concerned. At the end of the treatment, both the experimental and control groups were given a posttest.

The population of this study were students from grade VIII of Junior High School in the former Surakarta residency area. The sampling technique used in this study is cluster random sampling.

This technique was chosen considering that in this experimental test the effectiveness of Indonesian language learning with nationalism-oriented character education was compared to other models. There were six schools taken as sample clusters which were selected randomly, they are (1) *SMP Negeri 4 Sukoharjo*, (2) *SMP 4 Karanganyar*, (3) *SMP Negeri 1 Plupuh Sragen*, (4) *SMP Negeri 1 Karangdowo, Klaten*, (5) *SMP Negeri 1 Sawit, Boyolali*, and (6) *SMP 1 Selogiri, Wonogiri*. From each school, one grade VIII class was randomly assigned as the sample. The total number of the control group samples was 120 students, while the experimental group was 120 students. The analysis technique used was a different test technique for the average of two samples. Prior to this analysis, the normality and homogeneity requirements were tested.

### 3 Result and Discussion

The results of the study obtained data from students' nationalism character in Indonesian language learning. The data has been tested for normality using the Kolmogorov-Smirnov test technique. Based on  $\alpha$  (significant level) = 0.05,  $D_{\text{count}} < D_{\text{table}} = 0.338$ , so it could be stated that the data comes from a normally distributed population at a significant level of  $\alpha = 0.05$ . Based on the normality test, it is known that all data on any groups of students participating in Indonesian language learning with the integration of HOTS-oriented and nationalism character education are all normally distributed, both on pretest and posttest.

The homogeneity test for all data was carried out by applying the homogeneity test using SPSS program. Based on testing result, it was obtained the values of Lavine's-test homogeneity for the pretest and posttest scores. The calculation results of Lavene's-test were higher than  $P_{\text{value}}$  at a significance level of  $\alpha = 0.05$ . Thus, it could be stated that the pretest and posttest results of control and experimental groups had homogeneous variants.

In order to find out the significant difference between the two groups, one way ANOVA was carried out to determine the  $F_{\text{count}}$  value. Based on the results of this calculation it was known that the homogeneity values obtained through the calculated F values are all smaller than the critical value on the table [19] at a significance level of 0.05. The prices obtained from Lavene's tests are all smaller than the critical price table [19]. Thus, the data obtained could be said to be homogeneous, meaning that the two groups, both the control and experimental groups, have the same variation.

Advanced testing used the pooled variant t-test formula [19]. The summary results of this calculation can be seen from each group studied the findings are presented in Table 1 as follows.

Control Group	Experimental Group	$T_{\text{count}}$ Value	Critical Value	Note
SMPN 4 Sukoharjo	SMPN 4 Sukoharjo	9.021	2.091	$T_{\text{count}} >$ critical value = significant
SMPN 4 Karanganyar	SMPN 4 Karanganyar	6.826		
SMPN 1 Plupuh Sragen	SMPN 1 Plupuh Sragen	9.320		
SMPN 1 Karangdowo Klaten	SMPN 1 Karangdowo Klaten	8.796		
SMPN 1 Sawit Boyolali	SMPN 1 Sawit Boyolali	12.590		

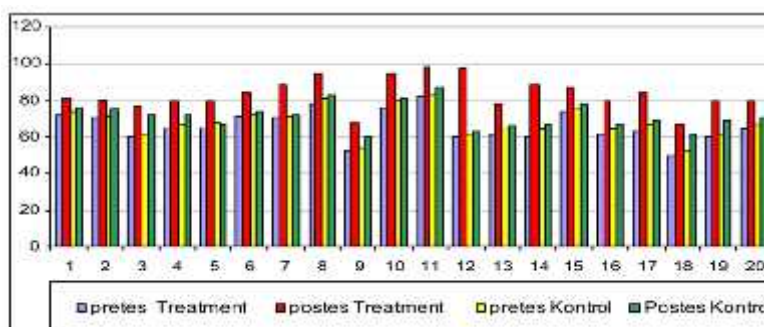
SMPN1 Selogiri Wonogiri	SMPN1 Selogiri Wonogiri	9.656		
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**Table 1.** Summary of Significance Test Results for Students' Nationalism Character Differences based on Pretest and Posttest Scores for the Experimental Group and the Control Group

Based on the results of the  $t_{count}$  value, it can be concluded that the experimental group which applied the HOTS treatment have a higher score than the group that used the comparison model. It could be concluded that the results of data analysis showed that  $H_0$  is rejected, meaning that the experimental group was better than the control group. Thus, it could be stated that the application of HOTS based character education in Indonesian language learning was significant for increasing nationalism in junior high schools.

The comparison results were stated based on the difference test using a statistical test. The  $F_{count}$  values of one-way ANOVA test and the follow-up test with  $t_{count}$  in all junior high schools showed that  $H_0$  was rejected since  $P_{value} = 2.091 < t_{count}$ . This implied that the average pretest and posttest scores of students who apply HOTS based nationalism character education in Indonesian language learning was better than those using other models at a significance level of  $> 0.05$ .

Meanwhile, when each group of both experimental and control group from six junior high schools in the former Surakarta residency area were compared using various models, there were clear differences. The differences can be visualized in Figure 1 below.



**Figure 1.** Comparison of Pretest-Posttest Values of the Nationalism Character in Indonesian Language Learning between the Experiment Group (HOTS) and the Control Group in Junior High Schools

The effectiveness of HOTS based nationalism character education in Indonesian language learning was found in all junior high schools used as research site. This was due to all collaborator teachers effectively implement the model and provide positive responses. This is in line with research conducted by [17] that in improving student achievement, it can be done by presenting a model which provides enjoyment and meaningfulness for students and teachers. HOTS-oriented learning accommodates problem solving abilities, critical and creative thinking skills, argumentative abilities, and decision making.

The level of student understanding is considered tiered from the lowest level; knowledge or remembering (C1) to the highest level; evaluating or creating (C6 [18]. If it is seen from the description of the cognitive process dimensions, C1 (Remember), C2 (Understand), and C3

(Apply) are categorized as low thinking levels, while C4 (Analyze), C5 (Evaluate), and C6 (Create) are categorized as high thinking level or Higher Order Thinking Skill (HOTS).

The basis of Bloom's Taxonomy states that the category of 'knowledge' is a measure that must be achieved. This means that 'knowledge' is the achievement of cognition itself. The initial knowledge dimension is formed into three parts: factual, conceptual, and procedural. However, the term 'knowledge' was rearranged by adding metacognitive with the aim of recognizing the differences in cognitive psychology that have evolved since the original framework was designed [19]. The sub-categories of 'knowledge' which include factual, conceptual, procedural and metacognitive help users to classify learning objectives or construct assessments simpler.

## 4 Conclusion

Based on the results and discussion of the application of HOTS based nationalism character education in Indonesian language learning for junior high school students, the model is considered very effective in the learning process. The application of this model can be applied and tested on other subjects.

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