

Correlation of Operational Verbs with Formulating Hots Indicators in the Plan Implementation of Student Learning

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Abstract

Globalization in the field of education needs to be considered so that the results of national education can compete with developed countries. The management and implementation of education is directed by the Government and the House of Representatives by Law Number 20 of 2003 of 2003 concerning the National Education System and Government Regulation Number 19 of 2005 concerning National Education Standards. PP Number 25 of 2000 Article 2 paragraph (2) states that the Central Government has the authority to develop curriculum and assessment of learning outcomes nationally. These laws and government regulations are the background of this research. The purpose of this study was to determine the correlation of understanding the concept of Cognitive and Psychomotor Operational Verbs with the Formulation of HOTS- based Competency Achievement Indicators in the Learning Implementation Plan (RPP) Indonesian Language Education Students Faculty of Teacher Training and Education, University of Muhammadiyah North Sumatra Sixth Semester Academic Year 2020-2021. The research method used is Descriptive Explorative Development Research (DEDR). The number of research samples is 41 sixth semester students of the Indonesian Language Education Study Program. The results of the Explorative Descriptive or Pretest study obtained an average understanding of cognitive and psychomotor operational verb concepts = 41.83 and the average value of the formulation of indicators of competency achievement = 58.53. The results of the Descriptive Development or Posttest study obtained that the average value of understanding the concept of cognitive/psychomotor operational verbs was 52.07 and the average value of the formulation of indicators of competency achievement in lesson plans was 75.61. The correlation coefficient value in exploratory descriptive research was 0.45 (category). Weak) and the value of the correlation coefficient in descriptive development research is 0.46 (weak category). Thus, the results of this study can be concluded that if the understanding of the concept of cognitive/psychomotor operational verbs based on Higher Order Thinking Skills is weak, then the formulation of indicators of achievement of competence based on Higher Order Thinking Skills in the Learning Implementation Plan is also weak. Therefore, intensive training is needed from lecturers and students themselves.

Keywords

Correlation; cognitive; psychomotor; explorative; development



I. Introduction

Globalization in the field of education needs to be considered so that the results of national education can compete with developed countries. This effort began to be realized with the introduction of the concept of decentralized education management and

implementation. The decentralization of education management is directed by Law Number 20 of 2003 concerning the National Education System and Government Regulation Number 19 of 2005 concerning National Education Standards. This legal basis mandates that the educational curriculum be prepared with reference to Content Standards and Graduate Competency Standards. In the development of the world of education, especially after the rolling reforms, new phenomena have arisen in educational institutions, which are schools that use the term Integrated Islamic Schools (Titik, 2010: 42). The school is essentially aimed at helping parents teach good habits and add good character, also given education for life in society that is difficult given at home. Thus, education in schools is actually part of education in the family, which is also a continuation of education in the family (Daulay in Ayuningsih, W. et al. 2020).

Education is a very important human need because education has a duty to prepare Human Resources (HR) for the development of the nation and state (Pradana et al, 2020). According to Astuti et al (2019) Education is an obligation of every human being that must be pursued to hold responsibilities and try to produce progress in knowledge and experience for the lives of every individual. Education is one of the efforts to improve the ability of human intelligence, thus he is able to improve the quality of his life (Saleh and Mujahiddin, 2020). Education is expected to be able to answer all the challenges of the times and be able to foster national generations, so that people become reliable and of high quality, with strong characteristics, clear identities and able to deal with current and future problems (Azhar, 2018). Education and skills are the main keys in gaining social status in community life (Lubis et al, 2019).

Based on teaching experience, both as lecturers at the Faculty of Teacher Training and Education and as facilitators in Teacher Professional Education (PPG) in Positions, there are still many teachers and student teacher candidates who do not understand the concept of operational verbs based on Higher Order Thinking Skills (HOTS) from Anderson's taxonomy in the cognitive (knowledge) and psychomotor (skills) domains. That is, which are Higher Order Thinking Skills among operational verbs: understanding (C2), application (C3), analysis (C4), assessment (C5), synthesis (C6) and imitation (P1), manipulation (P2), precision (P1) P3), articulation (P4), naturalization (P5), they do not understand.

Meanwhile, teachers or prospective teachers are required to compile/ formulate indicators of competency achievement in the Higher Order Thinking Skills-based Learning Implementation Plan as the demands of the 2013 Revised 2018 Curriculum. Thus, there is a gap between reality and what is expected or should be. This gap is the focus of the problem in this study.

In addition, the flexible principle implies that the implementation of the program for students and graduates has room for movement and freedom of action. Teachers and or prospective teachers as implementers do not absolutely have to present the program according to written documents, but can accommodate new ideas or improve previous ideas. Students can also choose learning experiences according to their respective characteristics and abilities.

Actual and contextual means that the comprehensive scope basic tensions, indicators, subject matter, learning experiences, learning resources and assessment systems developed taking into account the latest developments in science, technology and art in real life and events that are happening and taking place in society (Sitepu, 2019: 13)

People who are obliged to develop a lesson plan, both in the form of a syllabus and lesson plan (RPP) are teachers and/or prospective teachers. Based on experience while giving lectures (the Indonesian Language Syllabus Development course), it can be seen

that students lack understanding of the concept of Cognitive Operational Verbs and Psychomotor based on Higher Order Thinking Skills in formulating Competency Achievement Indicators (GPA) in the Learning Implementation Plan. To prove this truth, it is necessary to investigate.

Based on the background of the problem above, the problem formulation of this research is how the correlation of understanding of Cognitive is and Psychometric Operational Verbs with the formulation of Indicators based on Higher Order Thinking Skills in the Learning Implementation Plan of Indonesian Language Education students in semester 6 of the academic year 2020-2021

Therefore, the general purpose of this study is to determine the ability of students to understand the concept of cognitive and psychomotor operational verbs based on Higher Order Thinking Skills and the ability to formulate indicators of competency achievement based on Higher Order Thinking Skills in the Learning Implementation Plan. In particular, this research was conducted to obtain the correctness of the correlation and or the effect of understanding the concept of cognitive and psychomotor operational verbs based on Higher Order Thinking Skills with/on the formulation of indicators of competency achievement based on Higher Order Thinking Skills in the Educational Student Learning Implementation Plan.

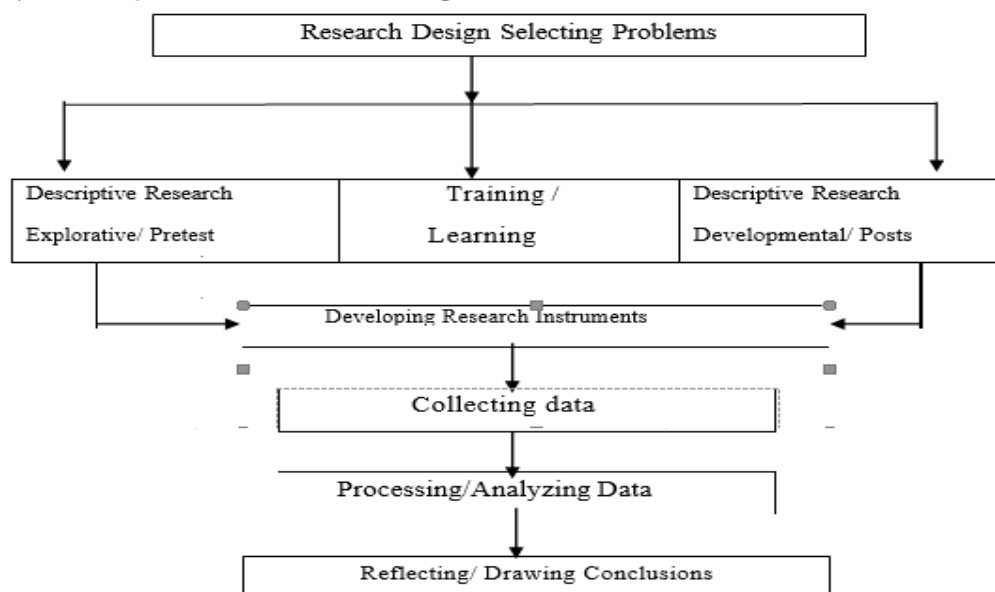
Indonesian Language Semester Six academic year 2020-2021 Faculty of Teacher Training and Education, University of Muhammadiyah North Sumatra. The benefits of the results of this research are specifically for Sixth Semester Indonesian Language Education students (research sample) who will carry out the third School Training Education (Internship) in Seventh Semester in order to formulate indicators of competency achievement based on Higher Order Thinking Skills in Learning Implementation Plans. Especially for lecturers of Syllabus Development (2 credits), Work Shop Learning Implementation Plans (2 credits), Work Shop Learning Materials (2 credits), Learning Media Work Shops (2 credits) and Assessment Work Shops (2 credits) to combine them in one the course is the Implementation of the Syllabus to the Learning Implementation Plan and or Learning Devices (3 credits) with a lecturer as required by the current KKNi Revision.

II. Research Method

This research is a descriptive exploration development research (DEDR). Exploratory Descriptive Research aims to describe the state or status of a phenomenon. In this case the researcher wants to know things related to the state of something. While Descriptive Developmental research aims to find a method, model or system that can be used; whether learning methods, learning models or learning systems or new subject areas that have not been implemented so far. So, Descriptive Developmental research, testing the data is compared with a predetermined criterion or standard (Noor, 2011:109)

This research was conducted at the Indonesian Language Education study program, Faculty of Teacher Training and Education, University of Muhammadiyah North Sumatra, Jl. Captain Muchtar Basri Number 3 Medan. While the implementation of this research was carried out in the 2020-2021 academic year, namely April to September 2021.

This research process uses Noor's research design model (2011:109) as can be seen in the implementation flow as follows.



The data collection technique used in this study was a test. The test is structured in two forms, namely the form of multiple choice with five options (a, b, c, d, e) with a total of 20 items to measure understanding of cognitive and psychomotor operational verb concepts based on Higher Order Thinking Skills and two essay tests (formulate indicators of achievement of cognitive competence / knowledge and formulate indicators of achievement of psychomotor competence / skills) with predetermined basic competencies (3.1 and 4.1 for Indonesian Language subjects Class VIII Junior High School).

Pretest was conducted for the description of the exploration. Prior to the post-test, education/training was conducted on cognitive and psychomotor operational verbs based on Higher Order Thinking Skills. Post-test was carried out for developmental descriptions and obtaining data about understanding operational verbs based on Higher Order Thinking Skills and the skills to apply them into indicators of competency achievement Plan

2.1 Implementation of Learning

Data analysis of all research findings is appropriate land and research objectives. Data to be analyzed with a mass focus is quantitative datanamely the results of the pretest and posttest understanding of operational verb concepts based on Higher Order Thinking Skills and their application to the Learning Implementation Plan. Data analysis calculates the value of the correlation coefficient and also the level of significance.

The indicators used as a measure of success are the success of a teacher / lecturer or trainer in conducting learning / training and the success of students / students in participating in learning / learning as well as the success of students participating in learning / training by showing results reaching an average value of 80 or the coefficient value correlation 0.80.

III. Result and Discussion

After conducting exploratory descriptive research or pretest, understanding the concept of student cognitive and psychomotor operational verbs Indonesian Language Education Faculty of Teacher Training and Education University

Muhammadiyah North Sumatra Semester Six obtained scores and scores from a maximum score of twenty with a value of 100 for understanding the concept of verbs

cognitive operational and psychomotor operational verbs based on Higher Order Thinking Skills and a score of 4 with a score of 100 for operational verbs Cognitive and psychomotor based Higher Order Thinking Skills informulate indicators of competency achievement in the Implementation Plan

Learning for one meeting or two hours of lessons as follows.

Table 1. Value Of Understanding The Concept Of Operational Verbs Cognitive / Psycomotoric Based On Hots (X) And Formulation Of Hots Based Indicators (Y)

No.	NPM	STUDENT NAME	VALUE (X)	VALUE (Y)
1.	1802040002	Husna Maizar	50	75
41.	1802040050	Fauzannah Rambe	40	75
	Amount		1715	2400

After carrying out descriptive development or posttest research, understanding the concept of cognitive and psychomotor-based operational verbs HOTS Indonesian Language Education Students Faculty of Teacher Training and Education Education of the Muhammadiyah University of North Sumatra in the Sixth Semester was obtained score and score from a maximum score of 20 with a score of 100 for opera verbs cognitive and psychomotor based on Higher Order Thinking Skills and a score of 4 with a score of 100 for cognitive and psychomotor operational verbs in formulate indicators of competency achievement based on Higher Order Thinking

Skills in the Lesson Plan for one meeting or two hours of lessons as follows.

Table 2. Value Of Understanding The Concept Of Operational Verbs Cognitive / Psycomotoric Based On Hots (X) And Formulation Of Hots Based Indicators (Y)

No.	NPM	STUDENT NAME	VALUE (X)	VALUE (Y)
1.	1802040002	Husna Maizar	50	75
41.	1802040050	Fauzannah Rambe	40	75
	Amount		1715	2400

The total value of the forty-one sample (N=41) for understanding the concept of cognitive and psychomotor-based operational verbs Higher Order Thinking Skills is 1715 ($\sum X = 1715$), then the average value of $X = 41.83$ ($\text{Mean} X = 41.83$) and $X^2 = 941225$ ($\sum X^2 = 941225$). And the sum of the values all of forty one (N=41) formulation of indicators of achievement of comm Higher Order .based cognitive and psychomotor operational verbs Thinking Skills in the Learning Implementation Plan is 2400 ($Y = 2400$), then the mean value of $Y = 58.54$ ($\text{Mean} Y = 58.54$) and $Y^2 = 5760000$ ($\sum Y^2 = 5760000$). The total value of the variable X multiplied by the number of values of the variable Y = 4116000 ($XY = 4116000$). The number of standard deviations of the variable X = 12.31 ($SDX = 12.31$) and the number of standard deviations of the variable Y = 19.36 ($SDY = 19.36$) and the standard error = 3.63 ($SE = 3.63$).

Calculate the value of the correlation coefficient with the formula:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

By using this formula, the coefficient value of the core is obtained $r_{xy} = 0.29$. The value of this correlation coefficient is classified as very much less based on the following correlation coefficient criteria:

rx _y value	Correlation
0.00 - 0.29	Very weak
0.30 - 0.49	Weak
0.50 - 0.69	Enough
0.70 - 0.79	Strong
0.80 - 1.00	Very strong

If we want to see the effect of variable X on variable Y, then we use the formula:

$$t_{count} = \frac{M_1 - M_2}{\sqrt{\frac{S^2_{DX^2}}{N-1} + \frac{S^2_{DY^2}}{N-1}}}$$

Using this formula, we get $t_{count} = 1.27$, and $t_{table} = 0.31$ with a significance level of 5%, $N = 40$.

Thus, the correlation between understanding the concept of operational verbs cognitive and psychomotor with the formulation of indicators of achievement of competence basis of Higher Order Thinking Skills in Learning Implementation Plan student is very weak (0.29). That is, if it is very weak in understanding the concept of operational verbs, then weak in the formulation of indicators of competence achievement in the Learning Lesson Plan.

In terms of influence, there is a significant influence between understanding cognitive and psychomotor operational verbs based on Higher Order Thinking Skills with the formulation of competency-based achievement indicators Higher Order Thinking Skills in Learning Implementation Plans because $t_{count} > t_{table}$ ($1.27 > 0.31$).

The results of the research through the post-test obtained the following data:

The total value of forty one samples ($N = 41$) for understanding the concept of cognitive and psychomotor-based operational verbs

Higher Order Thinking Skills is 2135 ($\sum X = 2135$), then the mean value = 52.07 (Mean $X = 52.07$) and the value of $\sum X^2 = 4558225$ ($\sum X^2 = 4558225$). And the number total value of forty one sample ($N = 41$) for formulation of indicators of achievement of operational verb competence based on Higher Order Thinking Skills in the Implementation

Plan Learning is 3100 ($\sum Y = 3100$), then the mean value of $Y = 75.61$ (Mean $Y = 3100 / 40$) and $Y^2 = 9610000$ ($\sum Y^2 = 9610000$). Total value variable X multiplied by the number of values of variable Y = 6618500 ($\sum XY = 6618500$). The number of standard deviations X = 18.26 (SDX = 18.26) and standard deviation Y = 22.00 (SDY = 22.00) and standard error = 9.58 (SE = 9.58).

Calculate the value of the correlation coefficient with the formula:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

By using this formula, the correlation coefficient value is obtained by 0.46. The value of this correlation coefficient belongs to weak based on coefficient criteria correlation above.

If we want to see the effect of variable X on variable Y, then we use the formula:

$$t_{\text{count}} = \frac{M_1 - M_2}{S \sqrt{\frac{SDX^2}{N-1} + \frac{SDY^2}{N-1}}}$$

By using this formula, we get $t_{\text{count}} = 1.81$ and $t_{\text{table}} = 0.31$ deonly 5% significance level, $N = 40$. Thus, the correlation of understanding the concept of operational verbs Cognitive and Psychomotor with the formulation of competency achievement indicators based on Higher Order Thinking Skills in Lesson Plans Indonesian Language Education Student, Faculty of Teacher Training and Education Muhammadiyah University of North Sumatra is weak (0.46) on result post-test or after the learning/training has been carried out. That is, if weak understanding the concept of cognitive and psychomotor-based operational verbs Higher Order Thinking Skills, so weak in indicator formulation achievement of competency-based Higher Order Thinking Skills in Planning Implementation of Learning.

In terms of influence, there is a significant influence on understanding the concept of operational verbs on the formulation of compeve achievement indicators Tension-based Higher Order Thinking Skills in Buyer Implementation Plans Teaching of Indonesian Language Education Students, Faculty of Teacher Training and ScienceSixth semester of education at Muhammadiyah University of North Sumatra, because $t_{\text{count}} > t_{\text{count}} (1.81 > 0.31)$.

IV. Conclusion

The conclusions that can be drawn are the results of exploratory descriptive research or Pretest obtained the mean (Mean) understanding of the concept of operational verbs cognitive and psychomotor = 41.83 and the mean value (Mean) of the formulation

indicator of competency achievement = 58.53. Descriptive research results development or Posttest obtained the average value (Mean) understanding of the concept of words cognitive/psychomotor operational work of 52.07 and the mean (Mean) the formulation of indicators of competency achievement in the RPP is 75.61. Value the correlation coefficient in exploratory descriptive research is 0.29 (category very weak) and the value of the correlation coefficient in descriptive research development of 0.46 (weak category). Thus, the research results it can be concluded that if the understanding of the concept of operational verb HOTS-based cognitive / psychomotor (very) weak, then the formulation of indicators achievement of HOTS-based competence in the RPP (Implementation Plan learning) is also weak.

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