Development of HOTS-Based Learning Devices Through Realistic Mathematics Learning Geometry Topics to Improve Mathematical Creative Thinking Ability and Independent Learning of Students

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Abstract. This research departs from the learning model that tends to be teacher-centered, where the teacher has never developed a learning device. This study aims to: produce HOTS-Based Learning Devices Through Realistic Mathematics Learning Geometry Topics to Improve Mathematical Creative Thinking Ability and Student Learning Independence that are valid, practical, and effective. This research includes development research conducted in Class IV SDN 155701 Pahieme 2, West Sorkam District for elementary school students and teachers carried out in 2021/2022. The subjects in this study were fourth grade elementary school students, each consisting of 32 students in each class. The object of this research is the product of HOTS-Based Learning Devices Through Realistic Mathematics Learning. The data collection instruments used consisted of: (1) creative thinking ability test; (2) the observation sheet for the teacher's ability to manage learning, and (3) the student activity observation sheet. The results show that: the calculation of the t value for the learning factor is 5.499, it can be concluded that tcount = 5,499> with t table = 2,042, with a significance level of 0.000. This value is much smaller than the 0.05 significance level, so it can be concluded that H0 which states the creative thinking ability of students taught with HOTS-based learning tools through realistic mathematics learning is lower than the creative thinking abilities of students taught with conventional learning tools is rejected. In other words, it can be stated that the creative thinking ability of students who are taught with HOTS-based learning tools through realistic mathematics learning is higher than the creative thinking abilities of students who are taught using conventional learning tools. In other words, it can be stated that students' creative thinking skills taught using HOTS-based learning tools through realistic mathematics learning are very effective.

Keywords: Learning Tools for Realistic Mathematics Learning, HOTS-Based, and Creative Thinking Ability.

1. Introduction

The curriculum is the most important part of an education. All learning processes must be based on the curriculum. The curriculum is used as a reference for carrying out learning activities in achieving common goals. This is necessary to keep up with the times and science. According to data on the average PISA score in the world, it shows that Indonesia is still below the average in three categories: literacy, mathematics, and science. Indonesia has been

ICoSTA 2022, November 01-02, Medan, Indonesia

DOI 10.4108/eai.1-11-2022.2326183

participating in PISA since its inception, and during the 18 years of assessment until the end of 2018, no student proficiency score has exceeded the world average score that is the benchmark in 18 years. Factors or problems regarding the quality of education are the cause of the low quality of education in Indonesia. Trikoyanto (2018) said that there are three problems in Indonesian education: Teacher quality, teacher competence in Indonesia, according to him, is still very low. Education 4.0 or the current era, the main resource is not only from teachers, but must be accompanied by other sources. Then to produce quality teachers and educators, it is necessary to improve the quality of educational institutions that will recruit teachers in the future.

In the implementation of education, the teacher is the most important tool. Teachers are a key factor in the success or failure of schools (Olaleye & Oluremi, 2013). One of the interesting aspects in looking at teacher profiles is linearity, because linearity in teacher education is the most important input in teaching practice (Nadeem; et.al., 2011). The facts show that there are still many non-linear teacher training programs, including mathematics teachers. Based on observations made by several students at SDN 155701 Pahieme 2, West Sorkam District, Central Tapanuli Regency, North Sumatra Province, on December 12, 2021, many students are still weak in creative thinking. Students do not understand the questions on the problem and do not understand how to solve the problem. On the answer sheet, students simply rewrite the questions and then multiply the numbers in the questions directly. In addition, it is known that learning mathematics in class IV also tends to be teacher centered learning. Then, during the learning process, some students did not pay attention to the teacher's explanation. Students also do not read textbooks and do not do assignments if they are not asked or ordered by the teacher.

The results of the analysis that cause student's creative thinking are still low, namely: the teacher-centered learning process; the use of learning models that are not appropriate, and the learning process that begins with low learning motivation and learning is still traditional, the problems presented in the learning support books used have not been able to measure students' mathematical creative thinking skills, so teaching and learning feels boring so it affects on the creative thinking ability of students is low. Based on this, as a solution, it is necessary to design a learning process through the development of a more effective learning model and create multi-way communication, namely HOTS-based learning tools.

The research questions in this research, are : How is the level of validity of the HOTS-based learning device based on Realistic Mathematics Learning (PMR) which was developed in class IV SDN 155701 Pahieme 2, West Sorkam District, Central Tapanuli Regency, North Sumatra Province, the material of rectangular geometry?; How is the level of practicality of HOTS-based learning tools based on mathematics learning developed in grade IV SDN 155701 Pahieme 2, West Sorkam District, Central Tapanuli Regency, North Sumatra Province, the material of rectangular geometry?; and How is the effectiveness of HOTS-based learning tools through realistic mathematics learning that has been developed able to improve mathematical creative thinking skills and student learning activities in class IV SDN 155701 Pahieme 2, West Sorkam District with rectangular geometry material?

The research objectives are : to determine the level of validity of HOTS-based learning tools through realistic mathematics learning that has been developed in class IV SDN 155701 Pahieme 2, West Sorkam District, material on rectangular geometry; to determine the level of practicality of HOTS-based learning tools based on mathematics learning developed in grade IV SDN 155701 Pahieme 2, West Sorkam District, rectangular geometry material; and to determine the level of effectiveness of HOTS-based learning tools through realistic mathematics

learning that has been developed to improve mathematical creative thinking skills and student learning activities in class IV SDN 155701 Pahieme 2, West Sorkam District.

2. Research Methods

This research is development research. The purpose of this development is to develop the necessary learning tools. In this study, a HOTS-based learning device through PMR was developed using the Thiagaran's 4-D development model as a reference for researchers. The results of the development are based on product development, where the development process is described as accurately as possible and the final product is evaluated prior to deployment. The final product is evaluated based on the determined product quality aspects. The research was conducted at SD Negeri 155701 Pahieme 2 having its address at Pahieme 2, West Sorkam District, Central Tapanuli Regency, North Sumatra Province. The research was conducted in the even semester of the 2021/2022 academic year.

The subjects of this research are fourth grade students of SDN 155701 Pahieme 2, using realistic mathematics learning tools. The fourth grade students of SD Negeri 155701 Pahieme 2 consist of four classes of 32 students in each class, so that in total there are 128 students. As the object of this research, namely the product of HOTS-based Learning Devices through PMR the geometry material improves mathematical creative thinking skills and student learning independence. In the study, three trials were conducted: small trials, medium trials, and operational trials or large classes.

In the research, a product was developed in the form of a HOTS-based learning device through realistic mathematics learning. The learning device development model used in this research is the 4-D development model proposed by Thiagaran. Then for the data collection instrument in this development in the form of an assessment instrument to assess the model that has been developed. The data obtained is data about the state of HOTS-based learning that has been developed. This data was collected through expert validation, questionnaires distributed to teachers and students. The data analysis technique used is valid, practical, and effective achievement analysis; Analysis of student active activity data; and Data analysis of creative thinking and student activities. Then for the indicators of success in research, namely: the criteria for learning success oriented to HOTS that are valid and effective; and to determine the achievement of learning objectives in terms of creative thinking skills and student activities.

3. Research Results

The development of HOTS-based learning tools through PMR class IV at SDN 155701 Pahieme 2, West Sorkam District, uses the Thiagaran 4-D development model. However, this research has been simplified. The development model only implements it until the development stage. After doing the research, it was found that HOTS-based learning tools through realistic mathematics learning were valid, practical, and effective.

The development of HOTS with realistic mathematics learning has several supporting learning tools such as 1) the effectiveness of learning plans, 2) teacher books, 3) student books, 4) creative thinking test tools. The development of HOTS-based learning tools with realistic mathematics learning has been carried out, namely: (a) expert validation, and (b) small class experiment (experiment I), moderate experiment (experiment II), and operational class (experiment III). The results were compared based on classes taught through realistic mathematics learning using HOTS-based learning tools and classes taught using conventional learning.

Based on observations, the results of the analysis of student characteristics on the fourth grade quadrangle teaching materials showed that the students' learning motivation was low, and their learning motivation was inadequate. In addition, students lack confidence when completing tasks related to creative thinking skills because they do not understand the material related to flat geometry. During learning, students receive the teacher's explanation of the subject matter without understanding the material. Therefore, it is necessary to develop HOTS-based learning tools that can motivate students to study realistic mathematics, especially rectangular geometry. Teaching materials are HOTS-based learning tools through realistic mathematics learning so that students remain motivated to learn. The purpose of implementing HOTS-based learning tools through realistic mathematics learning is to change the conditions of passive learning into active and creative learning.

3.1. Experts Validation Results

Learning Device Plan (RPP). The average score of each aspect of the assessment of the Assessment and Response for Expert validators gives a value greater than or equal to 3,756 (≥ 3.0) in the "valid" category, and the overall average score on the assessment and response for the Expert is at above three categories with "valid" criteria. So it can be concluded that the Expert Assessment and Response to the Lesson Plan (RPP) can be used with minor revisions.
Student's Book. The average score of each aspect of the assessment of the Assessment and Responses for Experts on student books The validator design gives a value greater than or equal to 3,944 (≥ 3.0) in the "valid" category, and the average overall score on the assessment and response for experts on student books are in the above three categories with "valid" criteria. So it can be concluded that the Assessment and Responses for Experts on student books can be used with minor revisions

Teacher's Book. The average score of each assessment aspect from the Assessment and Responses for Experts to the validator teacher's book gives a value greater than or equal to 4.031 (≥ 3.0) in the "valid" category, and the average overall score on the Assessment and Responses for Experts on teacher books are in the above three categories with "valid" criteria. So it can be concluded that the Expert Assessment and Response to the teacher's book can be used with minor revisions.

Learning Management. The average score of each aspect of the assessment of the Assessment and Response for the learning management validator gives a value greater than or equal to 4,000 (≥ 3.0) in the "valid" category, and the average overall score on the Assessment and Response for learning management are in the above four categories with "valid" criteria. So it can be concluded that Assessment and Response for learning management can be used with minor revisions.

Student's Activities Sheet. The average score of each aspect of the assessment from the Assessment and Responses for the validator student activity sheet gives a value greater than or equal to 3,756 (≥ 3.0) with the "valid" category, and the average overall score on the Assessment and Response for student activity sheets are in the above four categories with "valid" criteria. So it can be concluded that the Assessment and Responses for student activity sheets can be used with minor revisions.

3.2. Practicality Test Results

Practicality by the teacher. The results of the practicality of HOTS-based learning tools through realistic mathematics learning by teachers overall are 85.42% in the category of very practical overall. Thus, the results of the practicality questionnaire by teachers generally show

that HOTS-based learning tools through realistic mathematics learning are categorized as very practical.

Practicality by Students. Assessment of the practicality of HOTS-based learning tools through realistic mathematics learning for students which was developed in general was 84.00 in the very practical category. The assessment of the suitability aspect with time is generally categorized as practical. Therefore, HOTS-based learning tools through realistic mathematics learning that have been developed can be used to support the practicality of learning for students.

3.3. Effectiveness Tests Results

In the first trial, that the level of student activity for the observation category was in accordance with the criteria determined in the study where 1 (one) category of 6 (six) observations of student active activity did not meet the specified tolerance limit. Level of student activity for the observation category In accordance with the criteria determined in the study where 1 (one) category out of 6 (six) observations of student active activity has not met the specified tolerance limit. Based on the data, it is known that classical completeness reaches 78.125%, so that classical creative thinking skills have not been completed.

In the second trial, that the criteria for stating the teacher is able to manage realistic mathematics learning based on creativity is the level of achievement of the teacher's ability to manage learning at least quite well at the limit of learning success, namely the application of learning is achieved when the SR is 80%, obtained 88.478% so that it is said that the learning is complete. Based on data on the level of student learning activity, of the 6 categories of observation of active student activity, all categories of observations have met the specified tolerance limit. Based on the data, it is known that classical completeness has reached 84.375%, so that classical creative thinking skills have been completed.

3.4. Inferential Statistics Test

Furthermore, to ascertain whether the learning device has a significant effect, inferential statistical testing is carried out by testing normality, homogeneity, and difference test with independent t-test.

Table 1: Data Normality Test Results for Creative Thinking Skills Learning Devices

One-Sample Kolmogorov-Smirnov Test			
		PMR	KONVENS
N		32	32
Normal Parameters[a,b]	Mean	52,53	43,91
	Std. Deviation	6,961	5,503
Most Extreme Differences	Absolute	0,128	0,086
	Positive	0,086	0,077
	Negative	-0,128	-0,086
Test Statistic		0,128	0,086
Asymp. Sig. (2-tailed)		.196[c]	.200[c,d]
a. Test distribution is Normal.			
b. Calculated from data.			

c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

The table shows the computational results of the normality test of students' creative thinking abilities who are taught with a learning approach. All groups were found to have 0.196 and 0.200 respectively on the Kolmogorov-Smirnov normality test. All of these groups have a value greater than 0.05, so H0 is accepted. This shows that the distribution of the data is normal.

Then, when testing the homogeneity of the data, the groups were tested using the t-test. The data is stated to be varied to test whether the variance of the data varies when the significance level is large (>). It was carried out with the help of SPSS 25 to determine the uniformity of students' creative thinking abilities taught in HOTS-based learning tools for realistic mathematics learning and traditional learning tools. The test summary is shown in the table below:

Table 2 : Summary of Test Results for Homogeneity of Variance between Learning Tool Sample Group

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
SCORE	Based on Mean	2,982	1	62	0,089
	Based on Median	2,998	1	62	0,088
	Based on Median and with adjusted df	2,998	1	60,508	0,088
	Based on trimmed mean	2,979	1	62	0,089

Based on the table above, it can be seen that the statistical significance of the sig test is 0.089. This value is greater than the significant level $\alpha = 0.05$, so that H_0 which states that there is no difference in variance between pairs of groups is acceptable. So it can be concluded that the pairs of data groups have homogeneous variance.

Based on the results of data calculations, students who are taught through realistic mathematics learning using HOTS-based learning tools get an average score of 52.53, compared to students who are taught using conventional learning tools. Score = Received 43.91. In addition, to test the differences in creative thinking abilities of students who are taught realistic mathematics using HOTS-based learning tools and students who are taught using traditional learning tools, the following table is used.

Table 3 : *Independent Samples Test*

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper

SCORE	Equal variances assumed	2,982	0,089	5,499	62	0,000	8,625	1,569	5,489	11,761
	Equal variances not assumed			5,499	58,865	0,000	8,625	1,569	5,486	11,764

The result of calculating the t value for the learning factor is 5.499, it can be concluded that *t count* = 5.499> with t_{table}= 2.042, with a significance level of 0.000. This value is much smaller than the significance level of 0.05, so it can be concluded that H0 which states the creative thinking ability of students taught with HOTS-based learning tools through realistic mathematics learning is lower than the creative thinking abilities of students taught with conventional learning tools is rejected.

The description and interpretation carried out on the creative thinking skills of successful students, the teacher's ability to manage learning, and student activities on the components of the learning tools developed. Based on the discussion of the five aspects above, it can be concluded that the HOTS-based learning tools through realistic mathematics learning on quadrilateral geometry material for fourth grade students at SDN 155701 Pahieme 2, West Sorkam District, were designed to be very valid. In this way, HOTS-based learning tools through realistic mathematics learning have been able to be tested on students to see the practicality and effectiveness of HOTS-based learning tools through realistic mathematics learning that has been designed.

Based on the results of the practical analysis of HOTS-based learning tools through realistic mathematics learning by teachers and students, it can be concluded that HOTS-based learning tools through realistic mathematics learning developed can be used in the learning process. This is based on the results of practicality analysis by teachers and students who are categorized as very practical. Thus, HOTS-based learning tools through realistic mathematics learning are easy to use.

After learning using learning tools, the results obtained 1) First trial of 32 students there were 25 students (78.125%) who scored more than or equal to 70%, 2) Second trial was obtained that of 32 students there were 27 students (84.375%) who scored more than or equal to 70%, 3). This result has exceeded the tolerance limit that has been set classically, namely at least 80% is in the moderate criteria.

4. Conclusion

Based on the results of the analysis and discussion of the research, several conclusions are put forward: The HOTS learning tool, which was developed through PMR, achieved an average score validity level for each assessment indicator from the assessment and student activity sheet responses, and was rated very valid; HOTS-based learning tools through PMR by teachers scored 81.25% in the overall very practical category. In addition, an assessment of the practicality of HOTS-based learning tools with real-world mathematics learning was developed for all students. In other words, 84.00 is considered very practical; and The effectiveness of Realistic Mathematics Learning HOTS-Based Learning Devices with the teacher's ability to control learning has reached the limit of learning success. In other words, teachers are very able to implement syntax on HOTS-based learning tools through realistic mathematics learning, 84.375%. It can be concluded that the teacher's skill level is in the "Very Good" category. The results of the analysis based on the t-test with a learning coefficient of 5.499 indicate that t-table

= 2.042. Students' creative thinking skills through PMR using HOTS learning tools are higher than students' creative thinking skills using traditional learning tools.

Based on the conclusions of the research, the development of HOTS-based learning tools through PMR which is applied during learning offers several things that need attention, namely : for students, learning should be an opportunity to explore their knowledge. Because learning shapes students' thinking on issues such as fluency, flexibility, originality, and elaboration, developing ideas from other ideas to make them clearer and more detailed; for teachers who have the desire to apply learning tools using HOTS tools through realistic mathematics learning in other subjects in the appropriate class should pay attention to the learning elements and characteristics of the subjects they develop and develop their own learning tools that can be designed; for school leaders can make HOTS-based learning tools as one of the school tools through PMR by preparing learning teachers through intensive training; and for researchers, research on the development of HOTS-based learning tools through PMR is a limited research conducted during learning. It is hoped that further researchers will be able to develop more varied learning tools.

Reference :

[1] **Journal article**:

Ahmed, Nadeem S, & Zongjun W, 2011," *Determinants of capital struktur an empirical study of firm in manufacturing industry of Pakistan*", Manajerial Finance, Vol.37, No.2, 117-133

Arthur, l and Davis S. 2013. *Defining High Order Thingking Theory Into Practice Collage of Education*. Ohio : The Ohio State University.

Alhaddad, S.F. 2002. "*Pembelajaran Matematika Realistik Pokok Bahasan Pecahan di SD Muhammadiyah 4 Surabaya*" Tesis Magister Pendidikan. Surabaya: PPs Universitas Negeri Surabaya.

Ariani, M. D, dkk. 2014. Pengaruh implementasi open-ended problem dalam pembelajaran matematika terhadap kemampuan pemecahan masalah dengan pengendalian kemampuan penalaran abstrak. e-Journal Program Pascasarjana Universitas Pendidikan Ganesha, Vol. 4(2).

Blakey, E & Spence, S. 2010. Developing Metacognition. Accessed from http://www.tc.pbs.org/teacherline/courses/rdla340/docs/ericmetacog.pdf On November 23, 2019.

Budiman, A dan Jailani. 2014. Pengembangan Instrumen Asesmen Higher OrderThinking Skill (HOTS) pada Mata Pelajaran Matematika SMP Kelas VIII Semester 1. Jurnal Riset Pendidikan Matematika. (1).(2).

Dastgeer. Ghulam. 2015. "Improving English Writing Skill: A Case of Problem Based Learning". American Journal of Educational Research. Vol. 3. No. 10.

Emi, R. dkk. 2013. Penyusunan Instrumen Tes Kemampuan Berpikir Tingkat Tinggi Fisika pada Siswa SMP. Jurnal Pendidikan Fisika Vol. 1 No. 2 hal 17 ISSN: 2338-0691.

Halim, A. 2020. Pengaruh Pendekatan Matematika Realistik Terhadap Kemampuan Berfikir Kreatif Dan Pemecahan Masalah Matematika Siswa Kelas Vii. *Paradikma: Jurnal Pendidikan Matematika*, *13*(1), 106–114. https://doi.org/10.24114/paradikma.v12i2.23723.

Heong, Y.M. dkk. 2011. The Level of Morzano Higher Order Thingking Skills Among Technical Education Students.International. Journal of Social and Humanity. 1, (2).

Sudiarta, I Gusti P. 2007. *Pengembangan dan Implementasi Pembelajaran Matematika Berorientasi Pemecahan Masalah Kontekstual Open-Ended untuk Siswa Sekolah Dasar*. Jurnal Pendidikan dan Pengajaran UNDIKSA *Vol 1(068).* ISSN 0215-8250.

Supardi, U. S. 2015. *"Peran Berpikir Kreatif dalam Proses Pembelajaran Matematika"*. Jurnal Formatif. Vol 2 No 3. 248-262. Universitas Indraprasta PGRI.

[2] **Book**:

Abdul, Hamid. 2007 "*Teori Belajar dana Pembelajaran*" Jakarta: Rineka Cipta.

Abdurrahman, Mulyono. 2012. *Pendidikan Bagi Anak Berkesulitan Belajar:Teori, Diagnosis, dan Remediasinya*. Jakarta: PT. Rineka Cipta.

Adi, W. G. 2003. *Genius Learning Strategy*. Jakarta : Gramedia Pustaka Umum

Adun, R. 2014. *Keterampilan Berfikir: Pedoman Praktis Para Peneliti Keterampilan Berfikir*. Yogyakarta: Penerbit Ombak (Anggota IKAPI).

Ag, Moch. Masykur dan Fathani, Abdul Halim. 2008. *Mathematical Intelegence*. Yogyakarta: AR-Ruzz Media.

Agus, S. dkk, 2001. *Psikologi Kepribadian*, Jakarta: PT. Bumi Aksara.

Agus, S. 2011. *Model-Model Pembelajaran*. Jakarta: Gramedia Pustaka Jaya.

Ahmadi, Abu. 2003. Psikologi Belajar. Jakarta: Rineka Cipta.

Akdon, dan Riduwan, 2013. *Rumus dan Data Dalam Analisis Statistika*. Bandung:Alfabeta.

Amri, S. 2013. *Pengembangan & Model Pembelajaran Dalam Kurikulum 2013*. Jakarta: PT. Prestasi Pustakakarya.

Anwar Hadi., 2005. *Prinsip pengelolaan Pengambilan Sample lingkungan*. Gramedia Pustaka Utama. Jakarta.

Astutik, P. P. 2018. *HOTS Berbasis PPK Dalam Pembelajaran Tematik.* Malang: Pustaka Media Guru.

Bence, R., 2005. *Buku Pedoman Pengembangan Model Pembelajaran*. Jakarta: Universitas Indonesia (UIP).

Brookhart. S.M. 2010. *How To Assess Higher-Order Thinking Skill In Your Classroom.* United State of America : ASCD Member Book.

Depdiknas. 2002. *Pendekatan Kontekstual (Contextual Teaching and Learning).* Jakarta.

…… 2003. *Undang-undang RI No.20 tahun 2003. tentang sistem pendidikan nasional.*

……... 2005. *Peraturan Pemerintah Republik Indonesia Nomor 19 tahun 2005 tentang Standar Nasional pendidikan*, Jakarta: Departemen Pendidikan Nasional.

…… 2007. *Pedoman Pengembangan Bidang Seni di Taman Kanak-kanak. Jakarta.*

Helmawati. 2019, *Pembelajaran dan Penilaian Berbasis HOTS Higher Order Thingking Skill.* Bandung: PT Temaja Rosadakarya.

Heruman. 2007. *Model Pembelajaran Matematika di SD*. Bandung: Remaja Rosdakarya

Huda, M. 2013. *Metode Penelitian Deskriftif Kualitatif*. Jakarta: GP Press Group.

King, F.J, Goodson, L., & Rohani, F. 2006. *Higher Order Thinking Skills: Definition, Teaching Strategies, and Assesment*. London: A publication of the Edu-cational Services Program.

Purwanto, Ngalim. 2004. *Prinsip-Prinsip dan Teknik Evaluasi Pengajaran*. Bandung : Rosdakarya.

Streefland, L. 1991. *Realistic Mathematics Education in Primary School*. Utrecht: Freudenthal Institute.

Sudjatmiko. 2003. *Kurikulum Berbasis Kompetensi*. Jakarta : Depdiknas.

Sukmadinata. 2004. *Kurikulum dan Pembelajaran Kompetensi*. Bandung : Kesuma Karya.

Zaini, H. dkk. 2009. *Strategi Pembelajaran Aktif*. Yogyakarta: Pustaka Insan Mandiri.