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## USING A GENRE-BASED APPROACH TO IMPROVING ISLAMIC UNIVERSITY STUDENTS' WRITING ABILITY & HOTS

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### ABSTRACT

*This study aims to determine the effect of genre-based and conventional approaches on students' writing skills and HOTS. This study uses a quantitative design with a quasi-experimental method conducted at IAIN Palopo, South Sulawesi, Indonesia. Sixty-two students from two classes were selected as research participants by dividing them into two groups, namely the experimental and control groups. Data were collected using two instruments: the writing assessment rubric and HOTS. The data that has been collected is then analyzed quantitatively by running the MANOVA test on SPSS 24.00. The results showed that the genre-based approach in the experimental group outperformed the control group, which used the conventional method to improve students' writing skills and HOTS.*

**Keywords:** genre-based approach, HOTS, popular scientific, writing ability.

### INTRODUCTION

In language learning, mainly Indonesian, writing is a fundamental skill that students must master. Today, the ability to write has become one of the most sought-after skills in the world of work and academic activities. Writing is a productive skill in language that can lead students to successful careers in the future. This fact has been

proven by several studies which claim that writing skills play an essential role in encouraging students to think creatively and critically, be able to solve problems, and improve higher order thinking skills (HOTS) (Darmayanto et al., 2021; Helaluddin et al., 2021; Sianturi et al., 2020a; Singh et al., 2018).

One of the skills that students in the 21st-century skill must master is High Order Thinking Skills (HOTS). Many experts argue that every student must master these skills in addition to general skills such as writing, speaking, and mastery of knowledge by students in addition to knowledge and academic achievement (Aditya, 2020; Tajudin & Chinnappan, 2016). HOTS is becoming the main focus of education in various countries and integrating into the applicable curriculum (Ulfah, 2022). All levels of education are required to position HOTS as one of the educational goals so that students can analyze, evaluate, and create (Vidergor, 2018).

By having HOTS, each individual can help organize and construct the knowledge and information they receive. Various studies have shown that HOTS is considered an essential aspect of increasing the ability, speed, and effectiveness of learning (Alrawili et al., 2020; Baransi & Burbara, 2019). HOTS owned by a person can also produce quality human beings according to the needs of the world job market (Heong et al., 2012; Misrom et al., 2020; Ramadhan et al., 2019). In addition, Wang & Seepho (2017) claim that HOTS can assist students in linking existing concepts and facts. On the other hand, Sulaiman et al. (2017) claim that teachers need to focus on HOTS in all their learning so that each student is able to think more deeply.

There are many challenges that teachers face in teaching HOTS to students. One of the problems in Indonesia is that the curriculum is still in effect and only contains a collection of facts that students must memorize. In other words, the curriculum does not direct students to give meaning to what they learn (Sopiani et al., 2019; Tsaparlis, 2020). This condition is exacerbated by the fact that there are still many teachers who only focus on memorizing facts and ignore the meaning of the context being studied (Weay et al., 2016). For this reason, it is necessary to integrate HOTS teaching into university courses to achieve these goals.

In Indonesian language courses, HOTS can be integrated through teaching writing materials, especially writing popular scientific articles. Students are directed to generate critical and analytical ideas in writing activities, especially academic writing. Singh et al. (2018) state that students can use creative thinking skills to generate ideas critically and precisely in their writing activities. Writing popular scientific articles is an exciting activity for students because this type of writing is the choice of many people in conveying information and perspectives. Popular scientific articles present research findings using simple language (Parkinson & Adendorf, 2004).

In making it easier for lecturers to teach HOTS and writing skills, the genre-based approach is one of the most recommended learning approaches. This approach emerged after the two previous approaches were judged to have not been optimal in helping students achieve their goals. The genre-based approach focuses on language and text's social and cultural dimensions. That is, this approach is likened to a social product of society and the institutional context in which the text appears (Amogne, 2013; Beck &

Jeffery, 2009; Dirgeyasa, 2016). Using this approach, students can accurately and carefully determine the main features of writing, such as vocabulary, function, discourse, and writing style. In fact, with a genre-based approach, students can also consider and guess who the potential readers of the writings they write are (Arteagalara, 2018).

Previously, several studies had applied a genre-based approach to learning to write. Haryanti & Sari (2019) claim that this approach positively and significantly affects high school student's ability to write narrative texts. Two other studies also claim that this approach positively impacts students' academic writing skills (Irwansyah, 2016; Listriyawati, 2021). Several other studies also found evidence that the genre-based approach improved several aspects, such as metacognitive awareness, understanding of "interpersonal meaning", and positive attitudes of students (Almacioglu & Okan, 2018; Lap & Truc, 2014; Nagao, 2019).

Although many studies have raised the theme of learning to write with a genre-based approach, no research explicitly uses this approach for learning to write popular scientific articles. In addition, there are still limited studies that analyze two aspects of the same research: students' writing skills and HOTS. Therefore, the authors are interested in examining the use of a genre-based approach to improving students' academic writing skills and HOTS.

## **RESEARCH METHOD**

### **A. Research Design & Participants**

This study uses a quantitative design with a quasi-experimental approach regarding the research objectives. This research design is non-experimental, applying a treatment to the research subject (Gopalan et al., 2020; Ng et al., 2020). The treatment referred to in this study uses a genre-based approach in learning that is carried out between the pretest and post-test.

In addition, this study involved students of the Tarbiyah and Teacher Training Faculty of IAIN Palopo, Sout Sulawesi, Indonesia, as research subjects. The participants are second-semester students who are taking Indonesian Language Courses. There are four classes with a total population of 112 students, and then two classes are randomly selected to determine the control and experimental classes. The number of students in the two groups was 62 students.

### **B. Data Collection**

#### **1) Writing Rubric**

The first instrument used in this study was a writing assessment rubric. The types of writing referred to in this Rubric are popular scientific articles. The results of the article writing test were assessed by researchers and Indonesian language lecturers using a rubric consisting of four main aspects, namely: (a) ideas and content, (b) writing style, (c) format and grammar, (d) integration, and (e) publications (Rakedzon & Baram-Tsabari, 2017).

To avoid assessment bias, the researcher conducted an inter-rater reliability test which aims to reduce the subjectivity of the lecturer's assessment. In this test, the researchers involved four experienced Indonesian language instructors in providing an assessment of popular scientific articles written by participants (Alwaleedi, 2018; Marson & Lilis, 2021; Panou, 2013). The researcher randomly selected ten student writings from both the pretest and post-test sessions. The researcher used the Pearson product-moment correlation in the SPSS 25 application to obtain the reliability score. The measurement results showed consistency between the four raters of 0.84.

## 2) HOTS Rubric

The second instrument used in this study is the HOTS rubric. Researchers used the HOTS rubric to measure students' HOTS through their writing. The HOTS rubric consists of three main aspects, which include: (a) student performance in analyzing, (b) student's ability to evaluate, assess evidence, and argument in its meaning, and (c) measure students' ability to create something new (Salem, 2018; Sianturi et al., 2020).

## C. Data Analysis

After the data was collected, the researcher carried out the next stage, namely quantitative data analysis with the help of the SPSS application. In this phase, the researcher calculated the mean, standard deviation, t-test, and one-way Multivariate Analysis of Variate (MANOVA). In addition, the researcher conducted a paired sample t-test to determine whether there is a significant increase in student HOTS after being given treatment using a genre-based approach. Furthermore, the researcher also conducted a one-way MANOVA test to control the effect of covariates on the post-test of both experimental and control groups.

## RESULTS

The data collected from the writing test were then assessed using a writing assessment rubric. The HOTS was analyzed quantitatively using the SPSS application with a two-paired samples t-test. This test examines the genre-based approach's effect on learning to write popular scientific articles. In this test, the researcher wants to know the mean, standard deviation, and standard error of the mean in both classes. Table 1 shows the analysis of the two paired samples t-tests, which shows an average difference between writing popular scientific articles on the pretest and post-test of the experimental and control groups. The table shows that the average post-test value of the two groups is greater than the average pretest. In other words, genre-based and conventional approaches improve students' writing skills and HOTS. However, the experimental group's average value outperformed the control group's.

**Table 1**  
Descriptive statistics

	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
Writing Ex-Pre	10.32	1.082	.194
Writing Ex-Post	16.29	1.488	.267

Writing Co-Pre	9.90	1.012	.182
Writing Co-Post	11.97	1.494	.268

**Table 2**  
Paired samples t-test

Paired Differences								
95% confidence interval of the difference								
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Experiment	-5.935	1.711	.307	-6.563	-5.308	-19.310	30	.000
Control	-2.065	1.181	.212	-2.498	-1.631	-9.730	30	.000

Table 2 is the result of the analysis using paired samples t-test to determine the difference between the pretest and post-test of the two groups. This test is conducted to determine whether the difference in scores found in table 1 above is significant. Table 2 shows that there is a difference between the scores of writing popular scientific articles by students on the pretest and post-test of the two groups. This means that the difference in scores is categorized as significant, so it can be concluded that the use of the genre-based approach has an impact on increasing students' writing skills and HOTS significantly.

**Table 3**  
Descriptive statistics

Groups	Mean	Std. Ddeviation	Std. Error Mean
Experiment (post)	16.29	1.488	.267
Control (post)	11.97	1.494	.268

**Table 4**  
Independent samples t-test

t-test for equality of means									
Levene's test for equality of variances					95% confidence interval of the difference				
	f	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. error difference	Lower	Upper
Writing (post)	.378	.541	11.415	60	.000	4.323	.379	3.565	5.080

Furthermore, Table 3 and Table 4 show the differences between the post-test sessions of the two groups. The analysis results show that the experimental group's value is greater than the control group. Thus, it can be concluded that there is a significant difference between the two groups (in the post-test session). In other words, student learning outcomes using the genre-based approach are higher than those using conventional methods.

The next aspect to be achieved in this research is higher order thinking skills, commonly known as Higher Order Thinking Skills (HOTS). The HOTS aspect is still included in the first research question, and the researcher is still doing a quantitative test of the data collected through the pretest and post-test. This test investigates and explores the effect of a genre-based approach on increasing students' HOTS. The HOTS is assessed or measured based on the writings made by students using a particular HOTS assessment rubric for writing performance. For this purpose, the researcher ran a paired sample t-test on the HOTS test result data that had been collected using the written test and the assessment rubric.

**Table 5**  
Descriptive statistics

	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
Evaluation-Pre-Experiment	1.68	.653	.117
Evaluation-Post-Experiment	3.19	.833	.150
Evaluation-Pre-Control	2.06	.727	.131
Evaluation-Post-Control	2.45	.624	.112
Analysis-Pre-Eksperiment	1.74	.729	.131
Analysis-Post-Eksperiment	3.03	.875	.157
Analysis-Pre-Control	1.74	.631	.113
Analysis-Post-Control	2.58	.672	.121
Creation-Pre-Experiment	1.74	.682	.122
Creation-Post-Experiment	3.03	.752	.135
Creation-Pre-Control	1.97	.752	.135
Creation-Post-Control	2.52	.724	.130

Table 5 is the result of the paired sample t-test. From the table, information is obtained that the analysis of the average score, standard deviation, and standard error of the mean has been carried out on each HOTS aspect. In this analysis, the researcher measures the student's HOTS level based on the score of each HOTS aspect which includes aspects of evaluation, analysis, and creativity.

Furthermore, the researcher also ran the paired samples t-test of the two groups, presented in table 6. The table presents the analysis of the difference in the average HOTS scores of students in the two groups (pretest and post-test sessions). The table shows that the average HOTS score of students in the post-test session is greater than the pretest for both groups (experimental & control). In other words, the data in the table shows a difference between the HOTS of students from the two groups. That is, there is a significant difference between the pretest and post-test in measuring HOTS aspects. In general, it can be concluded that the genre-based approach and conventional methods can significantly increase students' HOTS.

**Table 6**  
Paired samples t-test

	Paired differences					t	df	Sig. (2-tailed)
	Mean	Std. deviation	Std. Error mean	95% confidence interval of the difference				
				Lower	Upper			
Eva (Exp)	-1.516	.85	.153	-1.828	-1.204	-9.916	30	.000
Ana (Exp)	-1.290	.824	.148	-1.593	-.988	-.988	30	.000
Cre (Exp)	-1.290	.824	.148	-1.593	-.988	-.988	30	.000
Eva (Con)	-.387	.761	.137	-.666	-.108	-.108	30	.008
Ana (Con)	-.839	.898	.161	-1.168	-.509	-.509	30	.000
Cre (Con)	-.548	.888	.160	-.874	-.223	-.223	30	.002

**Table 7**  
Test of Between-subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Post (exp)	43.613 <sup>a</sup>	1	43.613	16.408	.000	.215
	Post (control)	5.226 <sup>b</sup>	1	5.226	3.191	.079	.050
Intercept	Post (exp)	4394.903	1	4394.903	1.653E3	.000	.965
	Post (control)	1864.516	1	1864.516	1.139E3	.000	.950
HOTS	Post (exp)	43.613	1	43.613	16.408	.000	.215
	Post (control)	5.226	1	5.226	3.191	.079	.050
Error	Post (exp)	159.484	60	2.658			
	Post (control)	98.258	60	1.638			
Total	Post (exp)	4598.000	62				
	Post (control)	1968.000	62				
Corrected Total	Post (exp)	203.097	61				
	Post (control)	103.484	61				

a. R Squared = ,215 (Adjusted R Squared = ,202)

b. R Squared = ,050 (Adjusted R Squared = ,035)

Finally, the researcher also carried out a one-way MANOVA test which aims to determine the difference in the post-test scores of students on the three aspects of HOTS in the two groups by eliminating the pretest effect. Table 7 shows that there is a significant difference between students' post-test scores on the three aspects of HOTS, especially in the experimental group.

## DISCUSSION

This study aims to determine the effect of the genre-based approach on students' writing skills and HOTS. This finding states that the approach affects the improvement and development of students' writing skills and HOTS. The genre-based approach is

one approach to learning to write that can be used to influence students' writing skills and HOTS in writing popular scientific articles.

Several previous studies are in line with the findings of this study. Learning to write, especially academic writing, was able to help students improve their HOTS (Ganapathy & Kaur, 2014; Ismail & Helaluddin, 2022). In other words, this study implies that HOTS, implemented in writing learning, can improve students' higher-order thinking skills. Sianturi et al. (2020) also found similar facts claiming that there had been an increase in reading and writing skills using the HOTS question strategy. Likewise, other findings show that the HOTS-based module positively impacts learning outcomes, especially in academic writing learning (Singh et al., 2018).

The genre-based approach is a writing learning approach aimed at learning the first and second languages. One of the advantages of this approach is the joint writing phase which is considered to raise students' higher thinking skills. The interaction in the collective writing activity has the potential to form a learning community. This may be due to the process of creating space that can encourage student HOTS through a collaborative process (Ma, 2009; Razak & Lee, 2012). Furthermore, the genre-based approach also provides the same portion of genre aspects as other aspects of writing (Helaluddin et al., 2021). The genre aspect is vital because it will determine success in writing popular scientific articles.

One of the essential points that should be highlighted in this research is novelty. The novelty in this research can be seen from the aspect of writing popular scientific articles at the Indonesian Constitutional Court. There have been many studies that have focused on the use of a genre-based approach in writing. They are mainly directed at learning English. Another novelty is also seen in the aspect of HOTS analysis, which is not only carried out in general but is more specific to the three main aspects of HOTS: evaluating, analyzing, and creating. The majority of studies only measure HOTS or overall writing skills.

Through this research, the researcher recommends for further studies use a mix-method design so that the research findings are comprehensive. As we have seen, using only one research method is considered not optimal in photographing the situations experienced by students. With different designs, mix-methods can provide two different perspectives in the same research. In addition, the researcher suggests that further research should reach out to other aspects of skills that are no less important in the world of education in the 21st century. Besides reaching the three other aspects of language (speaking, reading, and listening), subsequent research can also lead to abilities other than HOTS, such as critical thinking, creative thinking, self-efficacy, and others.

This study has several limitations that can be used as a basis for improvement in further studies. One of the limitations is that the number of research participants involved is still tiny. This condition occurs considering the situation that has not recovered due to the influence of Covid-19. In the future, similar research can be carried out by involving more participants to achieve a good level of generalization.



## CONCLUSION

The results of this study indicate that the genre-based approach has a significant positive impact on student's writing skills and HOTS through learning to write popular scientific articles. This fact is shown by the significant difference between the pretest and posttest scores in writing and HOTS skills. In other words, the genre-based approach has a better impact than the conventional approach in the control class. The results of this study are expected to contribute to the development of students' academic writing skills and HOTS in learning to write in Indonesian. This means that teachers can use this approach as an alternative in teaching writing skills, especially in improving students' writing skills and HOTS.

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