

# Hybrid Learning Methods Implementation of Post-Covid-19: Innovation to Increase Students' Capacity to Write Indonesian-English Scientific Papers at Model Schools in Indonesia

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**ABSTRACT:** *The learning situation in junior high schools in Indonesia after the Covid-19 pandemic requires adjustments to make it easier for students to absorb lessons effectively, efficiently, and on target. One learning method that is appropriate to use is a hybrid learning process using an audiovisual-based jigsaw method. The aim of the community service activities carried out by the Lecturer Team of the Cultural Sciences Faculty of Hasanudddin University in 2024 is to implement hybrid learning methods after the Covid-19 Pandemic in Indonesia to increase the capacity of junior high school students to write scientific papers in Indonesian and English in Maros Regency. The method used is Jigsaw by implementing a hybrid learning strategy that synergizes offline and online learning media. The achievement of the objectives of this activity is measured from the comparison results obtained by students between the pre-test and post-test in the assessment aspects of format, writing system, data presentation, and data analysis. Based on the comparison of the results between the pre-test and post-test, it shows a significant increase in all aspects of the assessment from an average score of 71.83 or the good category increasing to 81.66 or the very good category. It shows that hybrid learning has been successfully implemented in the post-Covid-19 pandemic era due to the flexibility of methods, data documentation, communicative interaction, collaborative work, and so on in the application of hybrid learning.*

**KEYWORDS** –*hybrid learning, Post Covid-19, students' capacity, scientific paper*

## I. INTRODUCTION

Education in Indonesia has experienced significant changes since the Covid-19 pandemic hit. Learning that was previously carried out face-to-face or offline at school has now shifted to distance or online learning. It requires innovation in learning methods to ensure increased students' capacity to write scientific papers in Indonesian and English. One innovation that can be carried out is implementing hybrid learning methods after the Covid-19 pandemic at Model Schools in Maros Regency, Indonesia. The hybrid learning method combines face-to-face learning with distance learning simultaneously. In this case, students can study from home online, but they still interact with teachers and classmates through offline learning platforms. Abbas, et al [1] stated that the learning situation of students in schools in Indonesia after Covid-19 is experiencing dynamics which requires creative learning methods such as hybridization of online and offline learning processes.

Increasing students' capacity in writing Indonesian-English scientific papers can be done by utilizing information and communication technology. Teachers can provide materials and assignments via online learning platforms, while students can access learning materials and submit assignments via these platforms as well. Apart from that, teachers can also provide direct feedback to students through the platform. By implementing the hybrid learning method after the Covid-19 pandemic, it is hoped that students at the Model School in Maros Regency can increase their capacity in writing scientific papers in Indonesian and English. This makes a positive contribution to the development of education in Indonesia and prepares students to face global challenges in the future. Education in Indonesia has experienced significant changes since the Covid-19 pandemic hit. Learning that was previously carried out face-to-face at school has now shifted to distance learning. It requires innovation in learning methods to ensure increased student capacity in writing scientific papers in Indonesian and English.

According to research by Bae, Lee, and Lee [2], the use of online learning platforms in hybrid learning methods can increase students' motivation in learning and improve their ability to write scientific papers. In this study, students who used online learning platforms showed significant improvements in their ability to write scientific papers compared to students who did not use these platforms. Research by Pradhan and Baral [3] shows that the use of information and communication technology in distance learning can improve students' writing skills. By implementing the hybrid learning method after the Covid-19 pandemic, it is hoped that students at the Model Schools in Maros Regency can increase their capacity in writing Indonesian-English scientific papers. It will make a positive contribution to the development of education in Indonesia and prepare students to face global challenges in the future.

The students of Model Junior Schools in Maros Regency face challenges in compiling scientific papers in both Indonesian and English. Even though they have been given training, the training has not been able to optimally help students develop ideas in their scientific work. According to Rahman [4], students still have difficulty constructing cohesive and coherent sentences and have not yet mastered problem based learning methods and scientific paper writing techniques. Apart from that, students are also not skilled in searching and collecting data as well as processing and analyzing data well. The information obtained is still lacking and research reports have not been presented systematically. According to Sari [5], this results in the scientific work produced not reaching high quality and not being ready for publication. In overcoming this problem, implementing hybrid learning methods after the Covid-19 pandemic can be an effective solution. Kuswanto [6] said that the hybrid learning method combines face-to-face learning with online learning so that students can have access to various learning resources and can interact with teachers and classmates virtually. With this method, students can obtain more comprehensive material and training in compiling scientific papers. According to Wahyuni [7], students can also learn independently and develop writing and data analysis skills with the help of technology. Thus, the hybrid learning method can increase students' capacity in writing scientific papers in Indonesian and English using the audio-visual based jigsaw method. Audio visual assistance will seem more communicative because the output can be seen visually and also heard audiotively, making it easier for students to process and analyze data and give systematic meaning to the information obtained.

## **II. RESEARCH METHOD**

The jigsaw method in learning can help students develop the ability to write scientific papers. The jigsaw method involves dividing students into small groups, each group having a specific task. Arends [8] explains that each group member is responsible for studying certain material and then sharing knowledge with other group members. In the context of writing scientific papers, Rahayu [9] describes that the jigsaw method can be used to distribute different writing tasks to each group member so that they can complement and help each other in producing quality scientific work. Thus, the jigsaw method can be an effective strategy in improving students' ability to write scientific papers. With adequate support, effective implementation of hybrid learning methods can increase students' capacity in writing scientific papers. Apart from that, according to Wahyuni [7], it is also important for schools to provide adequate resources and facilities, such as internet access and technological devices needed to implement hybrid learning methods.

The teams of lecturers at the Faculty of Cultural Sciences, Hasanuddin University, who carry out community service, apply and combine the jigsaw method with audiovisual (J-AV) in training in creating scientific works for Model Middle School students in Maros Regency, Indonesia. According to Anderson [10], audio visual media is a series of electronic images accompanied by audio sound elements and also has image elements conveyed via video tape. The aim of applying the J-AV method is that learning can be implemented well because audiovisual media is relatively more efficient and can help students obtain process information and express ideas well, then analyze and evaluate them. Then, students are helped to reflect on their thoughts and thinking processes in a more interesting way by presenting original, systematic reports. In this case, every student activity in the field can be well documented, especially those related to searching and collecting data so that all data can be described completely. Likewise, the dissemination of information will be easy to understand.

The implementation of this service began by selecting and determining 15 students to take part in this training. Then provide material or reading materials/books to them regarding the correct techniques for writing scientific papers using the lecture method. Next, there will be an in-depth discussion and group questions-answers regarding the material provided, guided by four facilitators. This discussion activity lasted one day. Each student as a discussion participant is required to make a discussion report in their respective group. On the second day, the audio-visual based jigsaw method was implemented using the role play method.

In implementing the jigsaw type, the teacher pays attention to the students' schemata or background experiences and helps students activate the schemata so that the learning material becomes more meaningful. In addition, students work together with fellow students in a cooperative atmosphere that provides many opportunities to process information and improve communication skills. Arends [8] explains that Jigsaw type cooperative learning is a cooperative learning technique that consists of several members in one group who are responsible for mastering parts of the learning material and are able to teach the material to other members in their group. In the Jigsaw type cooperative learning model, there are home groups and expert groups. Home group, namely the parent group of students consisting of students with diverse abilities, origins and knowledge backgrounds. The original group is a combination of several experts. Expert group, namely a group of students consisting of members from different home groups who are assigned to study and explore a particular topic and complete tasks related to the topic, which is then explained to the members of the home group. This group division was implemented in the hybrid learning method after the Covid-19 pandemic in an effort to increase students' capacity to write scientific papers in Indonesian and English at Model Schools in Maros Regency.

The jigsaw method is a cooperative learning strategy, where students learn in small groups with varying levels of cognitive abilities. In its application, teachers pay attention to students' background experiences and help them activate schemata so that the learning material becomes more meaningful. In addition, students work together with fellow students in a mutual cooperation atmosphere which provides many opportunities to process information and improve communication skills. Jigsaw type cooperative learning involves home groups and expert groups. The home group consists of students with diverse abilities, origins, and background knowledge, while the expert group consists of members of different home groups and is tasked with studying and exploring certain topics and teaching them to members of the home group. Abbas, et al [11] stated that collaboration in preparing scientific papers has proven to be effective in sharing the knowledge and skills of each student in their group so that the capacity for their ideas is built and distributed evenly.

The use of this hybrid method also provides a solution in dealing with distance learning which is still ongoing due to the Covid-19 pandemic. By utilizing audio-visual technology, students can remain involved in the learning process actively and interactively. The jigsaw method also allows students to learn independently and teach each other so that they can develop a better understanding of the topic being studied. Thus, the implementation of this hybrid learning method not only provides innovation in increasing students' capacity to write scientific papers, but is also a solution in facing learning challenges in the post pandemic era. The steps for implementing the jigsaw type in this training can be explained below.

1. The facilitator divides a class into several groups. Each group consists of 5 people with different abilities. This group is called the home group. The number of members in the home group adjusts to the number of parts of the subject matter that students will study in accordance with the learning

objectives to be achieved. In this type of jigsaw, each student is given the task of studying one part of the learning material. All students with the same learning material study together in a group called an expert group (counterpart group/CG). In expert groups, students discuss the same part of the learning material, and develop a plan on how to convey it to their friends if they return to their original group, known as the jigsaw group.

2. After the participants discuss in expert groups and home groups, each group then makes a presentation or draws a draw for one of the groups to present the results of the group discussions that have been carried out so that students can equate their perceptions of the learning material that has been discussed.
3. The facilitator gives awards to the group through award scores based on the increase in individual learning outcomes from the basic score to the next quiz score.
4. Material can naturally be divided into several parts of learning material.

### III. RESULT AND DISCUSSION

Implementation of community service activities was carried out among model school students at Junior High Schools in Maros Regency, Indonesia. The results of this activity were obtained from a comparison between the pre and post-test.

#### 3.1 Implementation of Community Service Workshops

Community service carried out by the lecturer team of the Cultural Sciences Faculty of Hasanuddin University took place in Maros Regency, Indonesia on Thursday, June 13 2024. This team consisted of a number of lecturers, namely Asriani Abbas, Abbas, Kaharuddin, Haryeni, Indarwati, and Susi Susanna. The team conducted a workshop with the presentation material being the Implementation of Post-Covid-19 Hybrid Learning Methods: Innovations to Increase Student Capacity in Writing English-Indonesian Scientific Papers at Model Schools in Maros Regency. Participants in the workshop on implementing the jigsaw method for writing audiovisual-based scientific papers were 15 students.



Figure1. Hasanuddin University Lecturer Team with Junior High School students in Maros Regency, Indonesia who are the target of Community Service activities

Table 1. Students Participating in Community Service

Number	Name of Students	Status	Sex
1.	Nur Asisah	Student	Female
2.	Siti Musdalifa	Student	Female
3.	Isna Maulia Febriana	Student	Female



4.	Muh. Haikal Alamsyah	Student	Male
5.	M. Reihan	Student	Male
6.	Muh. Ainul Yaqin	Student	Male
7.	Musakir	Student	Male
8.	Ahmad Hidayat	Student	Male
9.	Arham	Student	Male
10.	Ismaulhusna	Student	Female
11.	Reski Amelia	Student	Female
12.	Rihan Aqila Rahmadani	Student	Male
13.	Airin Yulianti	Student	Female
14.	Sitti Zakia	Student	Female
15.	Mayasari	Student	Female

Participants in community service activities were divided into 3 groups and 3 scientific work titles, namely each group consisting of 5 students as listed in table 2.

Table 2. Student Working Groups and Scientific Work Titles

	Number	Name of Students	Scientific Work Titles
<b>Group 1.</b>	1.	Nur Asisah	Become a generation that the family and nation can be proud of <i>(Menjadi generasi yang dibanggakan oleh keluarga dan bangsa)</i>
	2.	Siti Musdalifa	
	3.	Isna Maulia Febriana	
	4.	Muh. Haikal Alamsyah	
	5.	M. Reihan	
<b>Group 2.</b>	1.	Muh. Ainul Yaqin	Work hard for future success <i>(Bekerjakeras demi keberhasilan masa depan)</i>
	2.	Musakir	
	3.	Ahmad Hidayat	
	4.	Arham	
	5.	Ismaulhusna	
<b>Group 3.</b>	1.	Reski Amelia	Building wisdom through literature and art <i>(Membangun kearifan melalui sastra dan seni)</i>
	2.	Rihan Aqila Rahmadani	
	3.	Airin Yulianti	
	4.	Sitti Zakia	
	5.	Mayasari	



**Figure2.** The Community Service Team, Faculty of Cultural Sciences, Hasanuddin University presented workshop materials and hybrid learning simulations for writing Indonesian and English papers in front of junior high school students

### 3.2 Achievement of Activity Results

The Pre-Test and Post-Test were carried out to measure the success of this community service activity. The assessment was carried out based on the Widodo and Pratomo [12] format which includes four parts, namely format, writing system, data presentation and data analysis. The assessment parameters are 86-100 (Excellent), 80-85 (Very Good), 70-79 (Good), 60-69 (Fairly), 50-59 (Poor), and 00-59 (Very Poor). The pre-test results can be seen as listed in table 3.

Table 3. Pre-Test Results of Student Working Groups in Preparing Scientific Work

	Titles of Scientific Papers	Assessment Aspects	Achievement Score
<b>Group 1.</b>	Become a generation that the family and nation can be proud of (Menjadi generasi yang dibanggakan oleh keluarga dan bangsa)	Format	72
		Writing	72
		Data Presentation	72
		Data Analysis	72
		<b>Average Score</b>	<b>72.00</b>
<b>Group 2.</b>	Work hard for future success (Bekerja keras demi keberhasilan masa depan)	Format	73
		Writing	72
		Data Presentation	70
		Data Analysis	71
		<b>Average Score</b>	<b>72.00</b>
<b>Group 3.</b>	Building wisdom through literature and art (Membangun kearifan melalui sastra dan seni)	Format	72
		Writing	72
		Data Presentation	71
		Data Analysis	71
		<b>Average Score</b>	<b>71.50</b>
<b>Total Average Score</b>			<b>71.83</b>



**Figure 3. Students carried out an audiovisual-based hybrid learning simulation to test the effectiveness of this method in writing scientific papers in Indonesian and English**

The capacity of Junior High School students in writing written works has increased significantly based on the results of post-test evaluations. This achievement increased from *the good category* to *very good* as stated in table 4.

**Table 4. Post Test Results of Student Working Groups in Compiling Scientific Work**

	Titles of Scientific Papers	Assessment Aspects	Achievement Score
<b>Group 1.</b>	Become a generation that the family and nation can be proud of ( <i>Menjadi generasi yang dibanggakan oleh keluarga dan bangsa</i> )	Format	83
		Writing	83
		Data Presentation	81
		Data Analysis	81
		<b>Average Score</b>	<b>82,00</b>
<b>Group 2.</b>	Work hard for future success ( <i>Bekerja keras demi keberhasilan masa depan</i> )	Format	83
		Writing	82
		Data Presentation	82
		Data Analysis	81
		<b>Average Score</b>	<b>82,00</b>
<b>Group 3.</b>	Building wisdom through literature and art ( <i>Membangun kearifan melalui sastra dan seni</i> )	Format	82
		Writing	81
		Data Presentation	81
		Data Analysis	80
		<b>Average Score</b>	<b>81,00</b>
<b>Total Average Score</b>			<b>81,66</b>

The team of lecturers at the Faculty of Cultural Sciences, Hasanuddin University found the results of this community service activity based on a comparison between the pre-test and post-test. The pre-test results obtained by junior high school students who participated in the workshop from all aspects of assessment were an average of 71.83 or good level. After they were given instructions for implementing scientific papers in Indonesian and English using the jigsaw method, then continued with the application of hybrid learning, a significant increase in results was obtained. The average score for the aspects of assessing format, writing layout, data presentation and data analysis in students' written work is 81.66. This score is in the very good category. Their success in achieving results from the good category rose to very good due to several factors, including collaborative work enabling them to find constructive ideas, audiovisual documentation preventing them from losing data and information, hybridization enabling them to still interact communicatively in compiling and completing scientific papers, and others.

**IV. CONCLUSION**

Hybrid learning is one method of maintaining and developing the academic achievements of junior high school students after Covid-19. The application of hybridized learning to students in compiling and completing scientific papers shows its effectiveness in increasing results. The capacity of students to compose scientific papers in Indonesian and English shows an increase in quality in aspects of format, writing, data presentation, and data analysis. Based on the comparison of the results between the pre-test and post-test, it shows a significant increase in all aspects of the assessment from an average score of 71.83 or *the good category* increasing to 81.66 or *the very good category*. The increase in the capacity and quality of scientific writing of junior high school students in Maros Regency, Indonesia shows that the implementation of hybrid learning has been successful in the post-Covid-19 era. This success is due to the flexibility of methods, data documentation, communicative interaction, collaborative work, and so on in the application of hybrid learning.

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