_____

Improving Indonesian Elementary School Students' Writing Skill on Narrative Text using "GOGREEN" Learning Model

Lukman Nugraha[1]

Madrasah Ibtidaiyah Teacher Education Study Program, Sekolah Tinggi Agama Islam Miftahul Huda Subang, Indonesia

Udin Syaefudin Sa'ud[2]

Basic Education Study Program, Universitas Pendidikan Indonesia, Bandung, Indonesia

Tatat Hartati[3]

Basic Education Study Program , Universitas Pendidikan Indonesia, Bandung, Indonesia

Vismaia S. Damaianti[4]

Basic Education Study Program, Universitas Pendidikan Indonesia, Bandung, Indonesia

Ryan Dwi Puspita[5]

Primary School Teacher Education Study Program, Institut Keguruan dan Ilmu Pendidikan Siliwangi, Cimahi, Indonesia

Abstract

Background: We found several problems that showed students wrote essays in an irregular manner. They experienced difficulties to distinguish between the topic sentence and the main idea. Their writing skill may fall into poor criteria. In addition to preliminary study, we conducted a writing competition in the schools. In terms of their participation, there was only 36% of the 150 students in the four schools participated. This shows their low participation and motivation to demonstrate their writing skill.

_____

[1] Corresponding Author.lukmannugraha82aklap@gmail.com

[2] Corresponding Author.lukmannugraha82aklap@gmail.com

[3] Corresponding Author.lukmannugraha82aklap@gmail.com

[4] Corresponding Author.lukmannugraha82aklap@gmail.com

[5] Corresponding Author.lukmannugraha82aklap@gmail.com

_____

Objectives: This study is aimed to determine the increase in Elementary school students' ability on writing narrative text using the GOGREEN model based on environmental literacy.

Methods: It applied a quasi-experimental with Nonequivalent Control Group Design. Data was collected using tests, namely pre-test and post-test. The analytical technique used is the normality test, homogeneity test and t test assisted by SPSS 25. The result of the research showed that there was a significant increase on students' ability to write narrative text using GOGREEN model.

Results: This was indicated by the sig value. 0.000 obtained for each sample group. Students were able to apply the structure of the narrative text, namely in terms of orientation, complications, resolution, and coda arranged systematically as well as on the character of the narrative content.

Conclusions: In terms of the learning process, students' improvement varies. Some factors play a role in their improvements like the character of each school, the design of the assignments from the teacher ,and the supporting facilities. In conclusion, GOGREEN Learning model is effective to improve students' narrative text writing skill.

Keywords: Elementary School, Environmental Literacy, GOGREEN Model, Narrative Writing Text

1.   Introduction

21st century has brought some demands and challenges. Education is in a position to develop human resources in terms of national, religious and cultural values for their character building (Metalin et al., 2021). Educational policy should be tailored to create school environment which is suitable and comfortable for children emotional, social intelligence development (Leasa et al., 2017). All stakeholders play their role to deliver education at its best. Teachers should improve their competencies to teach and assess their teaching and learning activities (Ridwan Jusuf et al., 2019). The government has managed financial assistance to help schools improve their educational service (Kusnandar et al., 2020). Schools have various programs like literacy movement to boost students' literacy (Sajawandi et al., 2020). On the part of students, they need to be taught to develop their critical thinking skill to prepare for their future education and life.

In this century, children need to learn several skills because they are necessary for their survival in terms of career. Children need to learn to receive, understand and produce information to express their opinion and exchange ideas on several issues (Flores-Ferrés et al., 2022). They should be able to write to fulfill their need ranging from writing their name to the most sophisticated type in expressing their idea in communication (Kirby et al., 2021). In line with this global demand and industrial revolution era 4.0, language education should be designed and geared toward writing skill to develop students' ability to convey ideas (Nirmala et al., 2017); (Nuriyanti et al., 2019). Writing is an

important skill to take a part and contribute in today society since it equips children with the ability to learn, think and communicate with others (Dunsmuir et al., 2015). Skillful writers are sought by the industry in the 21st century because they have attitude and knowledge which are necessary for their bright future and career (Martinez, 2022).

Writing is one of language skills to learn and considered the most challenging and neglected skill taught in school. Government in many countries have managed their serious effort to deal with writing skill and they try their best to improve the quality of writing instruction (Flores-Ferrés et al., 2022). In US, students' proficiency level in writing has not been achieved, they are taught discourse knowledge to learn writing (Wen & Coker, 2020). Writing is considered as the most neglected language skill compared to reading , speaking and listening (Yamaç & Ulusoy, 2016).

To teach writing skill, teachers should pay special attention to their students' need in learning writing to acquire the most important academic skill. It brings impact on the students' future life (Ventura et al., 2020). It is obvious that the skill contributes to students' literacy. Students write texts to demonstrate their ability to express their thoughts and ideas. The texts that they produce allow the readers to read and gain information (Hansen et al., 2009). The process of writing entails a creative meaning-making process. It allows writers to create meaning through their active and ongoing involvement with the text production process (D'Souza, 2021).

There are several stages to deal with in writing a piece of text. Those stages include drafting, writing, editing and publishing (Seban & Tavsanli, 2015). When it comes to writing instruction, teachers should take into consideration several things in the classroom. To meet students' need, teachers should carefully deliver knowledge on writing process, text production procedures, substantive process of writing, story element and writing motivation. Those knowledges serve as essential cornerstone for students' writing development (Malpique et al., 2022). To learn writing, students need more opportunities to develop their skill, fun learning to cater supporting environment and motivation from teachers (Alfianika et al., 2019).

Writing involves two aspects: process and product. When it comes to its process, students' need to have ample opportunities in several processes such as drafting, sharing, editing and publishing their text (Seban & Tavsanli, 2015). In addition, they should be aware of genre knowledge. Genre knowledge assists students to understand and produce a particular text type when they learn to write a particular text type. Discourse knowledge entails several types of knowledge. It includes metacognitive and genre knowledge (Wen & Coker, 2020). Genre knowledge is essential since it explicitly teaches students to develop their abilities to create microfeatures of the targeted text type (Wen & Coker, 2020).

_____

Researchers have examined the issue on students' writing skill. The issues concern the comparison of narrative and expository writing skills (Best et al., 2008), discussion technique to begin writing narrative texts process (Purba, 2018), and writing narrative text using digital format (Azmi Zakaria & Abdul Aziz, 2019; Ulu, 2019). Particularly for children, writing is more difficult for them since it deals with several aspects to acquire and it is a complex learning process (Wen & Coker, 2020). It is a challenging academic task for them to accomplish. They learn writing task and are expected to be able to produce a text to succeed academically (Afonso et al., 2022). There are several types of text that students learn to write and one of them is narrative text.

When it comes to students' problems on narrative text writing skill (NTWS), some issues emerge. A study reported issues regarding the lack of opportunities on the part of students to express their ideas, development and writing of a text, a mismatch between the content of the essay and the form of the image in writing narrative text (Siddik, 2018). Other issues address some problems in writing assessment which have been identified as a potentially powerful stage to improve writing practice (Hattie & Timperley, 2007; Wisniewski et al., 2020;   D'Souza, 2021).

Other issues in NTWS address several aspects. On the part of students, there is a difficulty to pour their thoughts into written form using sentences. They may struggle to organize completely and clearly their ideas into sentences enabling their thoughts to get across to the reader successfully (Zulela, et al., 2017). In the context of elementary school, there are some issues to take into consideration in teaching NTWS. Inadequate opportunity for students to receive and practice writing instructions (Wen & Walters, 2022), and some aspects including the lack of vocabulary mastery may hamper their NTWS (Ismilasari, 2013).

In Indonesian elementary school context, similar issues for NTWS emerge. The authors conducted a preliminary study in several schools affiliated with Kemendikbud (Ministry of Education and Culture) known as SD (Sekolah Dasar) and Kemenag (Ministry of Religious Affair) known as MI (Madrasah Ibtidaiyyah) in Subang Regency-West Java. We found several problems. Students wrote essays in an irregular manner. They experienced difficulties to distinguish between the topic sentence and the main idea. Their writing skill may fall into poor criteria. In addition to preliminary study, we conducted a writing competition in the schools. In terms of their participation, there was only 36% of the 150 students in the four schools participated. This shows their low participation and motivation to demonstrate their writing skill.

Efforts to resolve students' problem in NTWS should be taken into consideration. Sociocultural theory places the social aspect at the center of students learning process. In the learning process, students may begin their learning process in a dependent situation then they gradually move into a state of

autonomous as they learn to internalize in their interaction with others and try their experience to regulate their own functioning. From a social and cultural perspective, literacy requires student not only to practice skill and receive knowledge but also to take a part in several process including interaction, participation, and relation. Those process enable students to sense themselves and learn to identify, situate and mediate others (Seban & Tavsanli, 2015). Writing should be seen as a process that is designed in a situation that promotes interaction among learners and trigger dialogical activity (Leontjev & Pollari, 2022).

Writing skill can be tailored to develop students' literacies and raise their awareness on environment. Several studies support environmental content as a basis for language learning in elementary schools. The contents are related to best practices for human in dealing and utilizing their environment (Gardner & Kuzich, 2018). O'Brien & Murray (2007) also found that students' contact with nature had a positive impact on their general language development. Environmental sustainable development requires teachers to understand and practice their opportunities to bring ESD into educational practice (Boeve-de Pauw et al., 2022). On the part of schools, they are in positions to ask their teachers to promote conservation of energy for children and youth (Gericke & Tobjornsson, 2022). ESD should be combined with school improvement to implement ESD and achieve its educational objectives (Gericke & Tobjornsson, 2022). Learning environmental issue develop students' ability to integrate several things including space and environment in a holistic manner (Ardoin & Heimlich, 2021).

A learning model may have several activities that support students to achieve learning objectives. Several experts report successful activities that support students' learning activities. Learning model should promote grouping (Srour et al., 2021), organizing (Chunling Sun, 2009), Growing (Popovi, 2020; Temizkan, 2011), Reading, Exploring, Elaborating and Narrating (Popovi, 2020). Those activities can be seen to promote social interaction for children to learn knowledge.

To solve Indonesian elementary school students' problem in NTWS, the authors develop a learning model which is a combination of several activities that must be carried out in learning NTWS. The learning model is called GOGREEN to address several activities involved. GOGREEN is an acronym consisting of G (grouping), O (organizing), G (growing), R (reading), E (exploring), E (elaborating), N (narrating).

2.   Objectives

This study designed GGLM as an innovative learning model that is designed to improve students' NTWS in elementary school. There is scant literature investigating a particular learning model that serves to address NTWS problems and at the same time raise students' awareness on their

environment. The present study investigates the effectiveness of GOGREEN learning model (GGLM) based on environmental literacy to improve students' NTWS in elementary school.

3. Methods

The present study used a quasi-experimental with Nonequivalent Control Group Design (Creswell, 2017). This research was conducted in two SDN (Sekolah Dasar Negeri/ state elementary schools) and two MI (Madrasah Ibtidaiyyah/ Islamic elementary schools) in the Subang district, West Java province, Indonesia. In terms of access to information, the first two SDN schools belong to ease access of information type and the last two MI schools fall into moderate access of information type. There were 115 students from 5th grade serving as the sample. The sampling technique used was purposive sampling. The determination of the sample in this study was due to several considerations, namely: (1) geographical conditions, namely elementary schools located in the Subang Regency area, (2) differences in the acceptance of access to information, (3) the unavailability of special learning models to improve narrative writing skills. Data were collected using tests, namely pre-test and post-test. The technique to analyze the data include normality test, homogeneity test and t test assisted by SPSS 25.

3.1 Research Procedure

The procedure in this study refers to a learning model called GOGREEN. GOGREEN is an acronym consisting of G (grouping), O (organizing), G (growing), R (reading), E (exploring), E (elaborating), N (narrating). The model is expected to increase the NTWS of students in primary schools. The steps are as follows:

TABLE 1. Steps of GGLM based on environmental literacy to improve students' NTWS

Phase and activities		Students	Teachers' Roles
Pre-writing	**Grouping** (1) Students actively involved in learning process (2) Students learn in a	(1) Students prepare themselves to participate in learning process (2) Students	(1) Teachers prepare their students to be ready for learning process (2) Teachers provide students to gather information

_____

	group, discuss, and correct each other and build their behaviors based on their consciousness	gather information begore they start writing report (3) Students learn in group (4)Students know their learning objectives	before they start writing report Teachers plot students in their groups (4) Teachers determine learning objectives
	Organizing Students build their skill based on their understanding and schemata they already achieve	Students gather information and group them to produce ideas	Teachers assign students to gather information related to the topic
	Growing Students develop a text in accordance with the context (real life), condition and topic offered by the teachers and educational tool to trigger and develop	Students observe directly the objects in the nature and social through their imagination and recall their memory and develop a	Teachers assign students to observe directly nature, social through their imagination and recall their memory and develop their new knowledge

_____

	their creativity	new unit	
	Reading Students learn to be responsible in monitoring and developing their tasks in writing narrative text	Students read sufficient literature, art work and combine those sources based on the topic discussed	Teachers assign students to read relevant literature, observe and listen art work, and combine the sources that are relevant to the topic discussed
During writing process	**Exploring** Students learn to be responsible to monitor and develop their task, in this context their narrative text	(1)Students analyze material collected and select detailed information which is needed and shown clearly by the point of view of writer and the limitation of the topic (2)Students write their analysis in terms of	(1)Teachers assign students to analyze material collected and select only relevant details which are significant which is shown clearly by the point of view of writer and the limitation of the topic (2)Teachers assign students to write analysis results in terms of keywords in their worksheets using tree diagram

_____

		keywords in their worksheets using tree diagram provided for them	
	Elaborating Students learn anywhere, in various context and setting	(1)Students develop important dimension in their competence and literacy. Their literacy refers to their ability to find, distinguish and use information from various source, to process them and to use them (2)Students write analysis result in form of narrative	(1)Teachers assign students to develop important dimension of their literacy competence that is how to find, distinguish and use the information from various sources (2)Teachers assign students to write analysis result in terms of narrative text in their worksheets using tree diagram provided

		text in their worksheet using tree diagram	
Post-writing	**Narrating** Students perform their writing skill using various forms: process, product, and test	Students express their arguments using oral and written form that is convincing and in accordance with the context	Teachers assign students to express their arguments using both oral and written form in a convincing manner and in accordance with the context.

Table 1 presents the steps of GGLM. In general, there are three stages namely prewriting, during writing and post writing activities. While the activities in prewriting include grouping, organizing, growing, and reading, the activities in during writing include exploring and elaborating. Narrating activity marked the third stage.

3.2 Research Instruments

To measure the effectiveness of GGLM, the present study applied pre-test and post-test. There are several assignments to assess students' NTWS based on environmental literacy. In a detailed description, environmental literacy to assess and explore their knowledge in each item is as follows:

1. After reading the text entitled "the Importance of Water for Life", according to your understanding, does the text belong to fiction or non-fiction texts? Explain your reasons!
2. To be more familiar with the environment surrounding your home, take into your consideration the water use in your family. Try to analyze the activities that require water in your home. You can write them down in order of time, for example from the time you wake up!
3. After searching the information from various sources regarding the importance of preserving water in the environment, you can write down various information that is suitable to answer the questions below
   A.   What information related to the importance of water preservation do you get?

B. Where did you get this information?

4. After reading the text entitled "Clean Water", you should be able to understand the text. Make a mind map according to your understanding!

5. After observing pictures related to natural disaster, make a mind map according to the conditions that occur in your environment!

6. After making a mind map in the previous tasks, you understand the importance of clean water in your environment. Write a narrative text to demonstrate your understanding. Your narrative text should:

A. Tell a story containing information related to the Importance of Clean Water

B. Apply the characters which are relevant for the story, the background of the story, the storyline which is coherent, conflicts and problem solving.

C. Follow the rules of Indonesian spelling system.

To assess students' NTWS product, the present study has set the rubric. The rubric was constructed to be compatible with the regulation set by Kemendikbud (Ministry of education and culture) (Kemendikbud, 2013: 79-81). It was modified from the work of several researchers (Abidin, Mulyati, and Yunansah, 2017; Dalman, 2014; Semi, 2003). The rubric of assessment used in this study is detailed below

TABLE 2. Rubric for students' NTWS assessment

No	Factors to asses		Description	Mark
	Indicator	Sub Indicator		
1	Structure of narrative text	a. Orientation b. Complication c. Resolution d. Coda	Narrative text made covers orientation, complication, resolution and coda which are systematically organized.	5
			The narrative text that is made contains orientation, complications, resolution, and the code is arranged less systematically.	4
			narrative text made features	3

				orientation complication and coda but it doesn't include resolution	
				narrative text made features orientation, complication and resolution but it doesn't include coda	2
				narrative text made features only orientation and complication but it doesn't feature resolution and coda	1
2	Characteristics of narrative content	a. b. c. d. e.	Experience component Character Clear background Conflict Storyline	The narrative text made uses writers' experience, background, character, conflict and detailed storyline.	5
				The narrative text made uses writer's experience and contains character, background, and conflict but it applies less clear storyline	4
				The narrative text made uses writer's experience and contains character, background, conflict but it doesn't feature detailed storyline.	3
				The narrative text made uses writer's experience and applies character, background, conflict but it doesn't apply a detailed explanation of storyline.	2

			The narrative text made uses writer's experience and applies character, background, conflict but it doesn't apply a detailed storyline.	1
3	Language features	a. Passive sentence b. time conjunction c. causal conjunction	Narrative text made uses passive sentences, action verbs, time conjunction, and causal conjunction	5
			The narrative text made uses passive sentences, action verbs, time conjunction and causal conjunction but they are not detaileded	4
			The narrative text made uses passive sentence, action verbs, time conjunction but it doesn't apply causal conjunction	3
			The narrative text made uses action verbs, time conjunction but it doesn't apply passive sentence and casual conjunction	2
			The narrative text made uses action verbs but it doesn't apply passive sentence, time conjunction and causal conjunction	1
4	Writing mechanics	a. Spelling	The narrative text made is compatible with the grammar and spelling rules	5

_____

in a good and correct manner	
The narrative text made is compatible with the grammar and spelling rules but it is less complete and accurate	4
The narrative text made has some spelling errors but it doesn't confuse the meaning	3
The narrative text made has some spelling errors that may cause confusion to the meaning	2
The narrative text made has many spelling errors that cause the loss of meaning and confusing for the readers	1

Table 2 above presents the rubric used to assess students' NTWS. In general, there are four aspects to assess: structure of narrative text, characteristics of narrative content, language features and writing mechanic. The highest score for each aspect is five.

3.2.1 Validity and reliability of test questions

To ensure the validity and reliability of research instrument, this study applied the test. The result of validity and reliability test can be seen in table 3.

TABLE 3. Validation test result for NTWS assessment

Item	t_{count}	t_{table}		Explanation
1	0,653	0,444	Valid	Used
2	0,725	0,444	Valid	Used
3	0,536	0,444	Valid	Used
4	0,798	0,444	Valid	Used

Based on the data in table 3, it can be seen that there are four items of the NTWS instrument which are declared valid. Furthermore, Cronbach Alpha Reliability Coefficient technique was used for reliability test. This study obtained an alpha of 0.769 for NTWS which is greater than 0.05. Thus, the research instrument is declared reliable.

4. Results

The present study investigates the effectiveness of GGLM to improve students' NTWS based on environmental literacy in elementary schools. In this section, the results of the present study are described. In pretest stage, normality and homogeneity of variance tests were carried out for the two sample groups. This study applied Kolmogorov-Smirnov test for normality test. The test was done by comparing the probability (sig.) with the alpha value (α). The test criteria are if (Sig.)>alpha (α), then the test results are said to be normally distributed.When it comes to homogeneity test criteria, this study compared the significant number (Sig.) with the alpha value (α). If the significant number (Sig) is greater than (0.05), then the data is homogeneous, but if the significant number is less than (0.05), then the data is not homogeneous. After testing the normality and homogeneity of the data, the next step is to determine a different test using Paired Sample t test analysis

The results of the normality test of the data from the pre-test of the NTWS shows a normal distribution for group one. While the experimental class got a value of 0, 106, the control class got a value of 0, 328. Group two was also declared to be normally distributed, for the experimental class with a value of 0.257 and the control class with a value of 0.200. The results of the homogeneity test provided a value of 0.447 for group one and 0.727 for group two. Those result indicate that the NTWS of grade 5 students at the time of the pretest was declared homogeneous. The results of the t test are given in the table below.

TABLE 4. The result of the difference test for the mean of NTWS

Data	t *count*	*df*	t *tabel*	*Sig*.	Decision
Group 1	-0, 766	57	2,002	0,447	There is no difference
Group 2	0,351	54	2,004	0,727	There is no difference

The data above shows the average difference test from the pretest results of the NTWS for group one and group two. It shows that there is no difference for students' NTWS before learning using the GGLM based on environmental literacy.

The results of the normality test of the posttest data on students' NTWS were normally distributed for group one. The experimental class got a value of 0.230 and the control class got a value of 0.812. Group two was also declared to be normally distributed. The experimental class achieved a value of 0.471 and the control class achieved 0.405. The results of the homogeneity test showed a value of 0.000 for group one and 0.000 for group two. Those results indicates that the students' NTWS at the time of the posttest was declared not homogeneous or there were differences. The results of the t test are detailed in the table below.

TABLE 5. The results of difference test for the mean of posttest for NTWS

| Data	t *count*	*df*	t *table*	*Sig.*	Decision
Group 1	17.202	57	2,002	0,000	There is a difference
Group 2	14.271	54	2,004	0,000	There is a difference

The data above shows the average difference in the posttest data on the ability to write narratives for group 1 and group 2. There are differences in the ability to write narratives after learning using the GO GREEN learning model based on environmental literacy. The improvement of the narrative writing skills of grade 5 students based on the results of the N-Gain calculation is described in the table below.

TABLE 6. Percentage of increase for students' NTWS

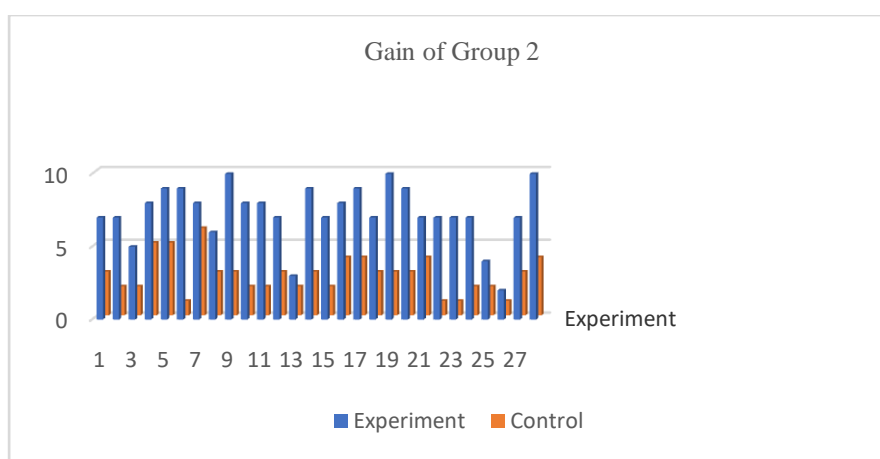| Group	Experiment	Control
1	65,24%	18,42%
2	63,46%	12,65%

Based on the data in table 6, it can be seen that the increase in the experimental class in group one is greater than that in group two. In detailed description, the gain or increase experienced by group one is described in the graph below

_____
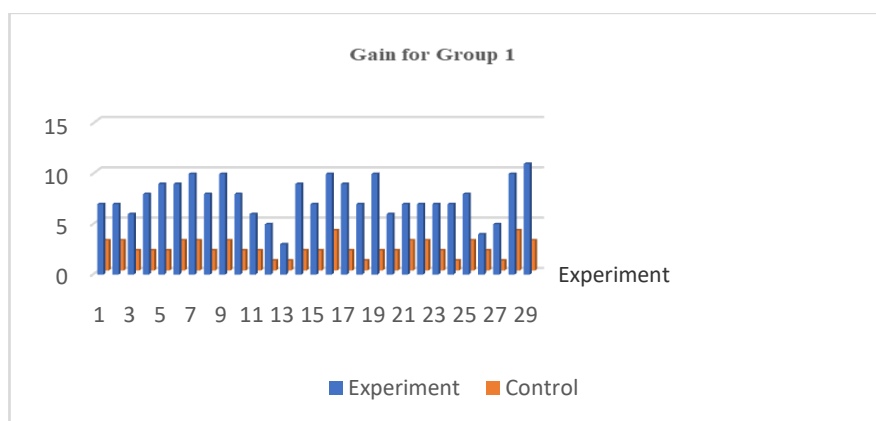
FIGURE 1. Increase (Gain) of NTWS for group one

On the other hand, the increase (gain) of NTWS for group two is described in the graph below.

FIGURE 2. Increase (gain) of NTWS for group two

Based on the data in graphs one and two, it can be seen that there is an increase in students' NTWS for the experimental class. Experimental group's increase is higher than the control group's increase in NTWS. However, the increase in students' NTWS in the experimental class in group one was higher than the increase in students' NTWS in the experimental class in group two.

5.   Discussion

In the previous section, the effectiveness of GGLM to improve students' NTWS has been described. The results of the present study will be discussed in this section. The data have shown that GGLM has proven effective to improve students' NTWS. It can be seen from the gain that the experimental class achievement is higher than control class. In other words, the 5th grade students' NTWS in the experimental class had increased after they learned using the GGLM based on environmental literacy.

This is proven by the results of the t-test which provides a significance value of 0.000 in group one and group two.

GGLM was designed and developed to solve problems related to students' writing skill. Students in this study had poor knowledge related to writing process, organization of ideas, genre knowledge. Those problems can hamper students' writing skill development similar issues concerning students' problem in writing skill (Afonso et al., 2022). Teaching writing in elementary school requires teachers to consider several aspects related to the process of writing and text type. Children need to be taught to invest and create their spaces to build their identity as writer and personal theory of literacy (Seban & Tavsanli, 2015)

Some effort to improve writing instruction can be applied (Yamaç & Ulusoy, 2016; Wen & Walters, 2022. In this study, GGLM provided explicit instruction for writing. There is a causal relation between oral language instruction and writing quality (Kirby et al., 2021). Several steps in GGLM have provided opportunities for students to have writing practice. The teachers' instructional practice can be predicted from the way teachers prepare to teach writing and their efficacy in teaching (Malpique et al., 2022). GGLM can be considered innovative way to improve students' writing skill. Innovations help teachers to improve teaching materials, design the project and provide feedback in learning writing (Harris & Greer, 2021). The improvement of students' ability in writing narratives is determined by the learning model used because the model or strategy used is closely related to learning outcomes (Almusharraf&Bailey, 2021).

The present study discusses narrative text. Students took a part in this study produce narrative text to express and communicate their ideas concerning the environmental issue. In this study, students from experimental class were able to identify narrative text purpose, structure and language features (Moore, 2019). In addition, they had knowledge required to succeed in writing namely vocabulary and lexical proficiency. Those knowledges greatly contribute to students' achievement in writing (Maamuujav, 2021). Teachers are required to provide guided practice to boost students' ability to apply linguistic knowledge in composing, revising and editing process.

In this study, students learned environmental issues to express their ideas in NTWS. Their literacy has been brought to the next level that is environmental literacy. In this learning, students are given real-world problems so that they can explain phenomena or solve problems scientifically by applying their knowledge (Sholahuddin, et al., 2021). Literacy has been defined conventionally as students' ability to perform reading and writing (Seban & Tavsanli, 2015). They were given chances to observe their environment and outdoor experience to enrich their ideas in preparing to perform NTWS. Outdoor education provides experiential learning and it opens the opportunity to bring together all aspects

including building community, personal growth, and environmental stewardship (Asfeldt et al., 2022). They may join the global movement to preserve the earth (Warlenius, 2022). In this study, students' NTWS increase is inseparable from the content presented which is related to environmental literacy. The activities that students accomplish are closely related to this surrounding environment. Vocabulary is important in the context of child writing since it can serve as a key predictor for their learning potential and academic success (Durrant & Durrant, 2022). It makes students more motivated to write narrative texts according to correct procedures. This is in line with the findings Kwauk & Casey (2018) regarding "A New Green Learning Agenda" to promote the concept and effort to preserve the environment and how to protect it. This is supported by other experts' findings regarding environmental content as a basis for learning in elementary schools (Gardner & Kuzich, 2018). Briefly, students' contact with nature had a positive impact on their academic matter particularly for their language skill development (O'Brien & Murray (2007).

GGLM adopts social constructivist theory. In this study, there are several activities to bring the theory into practice. The first step is grouping. Students were grouped to provide opportunities to interact in the group (Chafouleas et al., 2010). The second step is organizing. In this study, students conducted discussion to help them organize their knowledge. Each student served as participant in the discussion. Each students sought to understand and contributed to group discussions. Discussion activity helped students to strengthen their knowledge by connecting and organizing what they know (Srour et al., 2021). The third steps is growing. In this study, students learned to develop their writing ideas according to the context in their real life, conditions and themes provided by the teacher in various contexts and teaching aids. Those circumstance enabled students to explore and develop their creativity. To achieve this step, the teachers asked students together to observe directly natural and social objects, use their imagination, generate their memories and create their new ideas for writing. The fourth step is reading. In this step, students had chance to perform actual reading process. Reading process allowed them to develop their thinking and reasoning ability. This process actually involves several students intellectual aspects such as remembering, understanding, discriminating, comparing, finding, analyzing, organizing, and ultimately applying what they learn from the text they read (Kucer, 2021).

The fifth step in GGLM is exploring. In this step, students were exposed to several activities to learn new things. This activity might be related to previous topics or something completely new for students (Lee & Kim, 2019). Teacher asked students to analyze the collected material or information so that they choose only the necessary and significant detailed information. The sixth step is elaborating. The teachers and students developed important dimensions of literacy competence. Students performed

their ability to distinguish and use information taken from various types of sources (Popović, 2020). In this case, learning can be done in various places, contexts, and settings. The last step in GGLM is narrating. In this study, teachers asked students to express their verbal and written arguments in a convincing manner and in accordance with the context. Students followed the instruction to write a narrative text applying structure of narrative, language features, mechanic and spelling.

To investigate the effectiveness of GGLM, assessment for students NTWS was conducted in this study. It should be conducted in a proper and robust manner to assist teaching both conceptually and practically (Dunsmuir et al., 2015). There are two types of assessment namely holistic and analytic. The former refers a global judgment by the rater while the latter provides specific information for each criteria (Fitjar et al., 2022). In this study, the rubric was used to assess several aspects namely structure of narrative text, information, language features and mechanic. Those aspects represented analytic assessment.

In this study, students' NTWS improvement is supported by the teachers' performance who always pay special attention to several things like choosing the right form of expression as a component of writing (Popović, 2020), using personal experience (Gains&Graham, 2011), and motivating student (Grenner et al., 2021). The motivation provided by the teacher empowers students (de Smedt et al., 2016) and assist them and strongly support their process and success in writing (Graham et al., 2013). Teachers have various job when they deal with their students like keeping them discipline, transferring knowledge and communicating with students and working with problematic students (Plavsic & Dikovic, 2022). Their support may help students to solve their anxiety in learning process (Vidic et al., 2022) and their effort to provide sufficient tools and formulaic approaches are crucial to writing instruction (Moore, 2019). Teachers need to be supported to address students' need for sufficient practice. Their belief influences curriculum implementation and the way they deliver their material on their students' learning process (Flores-Ferrés et al., 2022)

In this study, the geographical location of the school should be taken into consideration. While group one belongs to SDN which are located in an area of easy access to information, group two belongs to MI (Islamic elementary school) which are located in an area with intermediate access to information. In other words, type of information access can support students' learning activities. This factor is one the reasons for the difference in students' NTWS improvement between group one and group two. The school that provides teachers and students better access information, either the internet or other information, both online and offline contributes benefits for students' learning activities.

This study has contributed to the body of knowledge by providing scholarly information on GGLM to improve students NTWS. However, it has some limitations in terms of sample used. Therefore, further study should use robust sample to generate robust findings.

6. Conclusions

This study investigates the implementation of GGLM to improve students' NTWS based on environmental literacy. The results showed that there was a significant increase in students' NTWS using GGLM based on environmental literacy for experimental class. This was indicated by the sig value. 0.000 obtained for each sample group. Students were able to apply the structure of narrative text, namely in terms of orientation, complications, resolution, and coda arranged systematically as well as on the character of the narrative content. When it comes to learning process, students' improvement varies. Some factors play a role for students' NTWS improvement like the character of each school, the design of the assignments from the teacher and the supporting facilities. It is expected that students are able to apply their understanding in real life. GGLM can be adapted to various environments, both environments with easy access to information and environments with medium access to information. GGLM is easy for teachers to use in teaching NTWS for students in elementary school particularly fifth grade.

Acknowledgements

Refrences

[1]. Afonso, O., Carbajo, M., Martínez-García, C., & Suárez-Coalla, P. (2022). Characteristics of the written compositions of Spanish children with dyslexia and their relationship with spelling difficulties. *Reading and Writing*. https://doi.org/10.1007/s11145-022-10283-5

[2]. Alfianika, N., Sunendar, D., Sastromiharjo, A., & Damaianti, V. S. (2019). Needs Analysis : Students ' University Learning in Writing Scientific Papers. *Journal for the Education of Gifted Young*, 7, 915–929.

[3]. Almusharraf, N., & Bailey, D. R. (2021). A Regression Analysis Approach to Measuring the Influence of Student Characteristics on Language Learning Strategies. *International Journal of Instruction*, 14(4), 463-482.

[4]. Ardoin, N. M., & Heimlich, J. E. (2021). Environmental learning in everyday life: foundations of meaning and a context for change. *Environmental Education Research*, 27(12), 1681–1699. https://doi.org/10.1080/13504622.2021.1992354

[5]. Asfeldt, M., Purc-Stephenson, R., & Zimmerman, T. (2022). Outdoor education in Canadian public schools: Connecting children and youth to people, place, and environment. *Environmental Education Research*, 0(0), 1–17. https://doi.org/10.1080/13504622.2022.2061919

[6]. Azmi Zakaria, M., & Abdul Aziz, A. (2019). The Impact of Digital Storytelling on ESL Narrative Writing Skill. *Arab World English Journal*, 5, 319–332. https://doi.org/10.24093/awej/call5.22

[7]. Best, R. M., Floyd, R. G., & McNamara, D. S. (2008). Differential competencies contributing to children's comprehension of narrative and expository texts. *Reading Psychology*, 29(2), 137–164. https://doi.org/10.1080/02702710801963951

[8]. Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

[9]. Boeve-de Pauw, J., Olsson, D., Berglund, T., & Gericke, N. (2022). Teachers' ESD self-efficacy and practices: a longitudinal study on the impact of teacher professional development. *Environmental Education Research*, 28(6), 867–885. https://doi.org/10.1080/13504622.2022.2042206

[10]. de Smedt, F., van Keer, H., & Merchie, E. (2016). Student, teacher and class-level correlates of Flemish late elementary school children's writing performance. *Reading and Writing*, 29(5), 833–868. https://doi.org/10.1007/s11145-015-9590-z

[11]. D'Souza, R. (2021). What characterises creativity in narrative writing, and how do we assess it? Research findings from a systematic literature search. *Thinking Skills and Creativity*, 42. https://doi.org/10.1016/j.tsc.2021.100949

[12]. Dunsmuir, S., Kyriacou, M., Batuwitage, S., Hinson, E., Ingram, V., & O'Sullivan, S. (2015). An evaluation of the Writing Assessment Measure (WAM) for children's narrative writing. *Assessing Writing*, 23, 1–18. https://doi.org/10.1016/j.asw.2014.08.001

[13]. Durrant, P., & Durrant, A. (2022). Appropriateness as an aspect of lexical richness: What do quantitative measures tell us about children's writing? *Assessing Writing*, 51, 100596. https://doi.org/10.1016/j.asw.2021.100596

[14]. Fitjar, C. L., Rønneberg, V., & Torrance, M. (2022). Assessing handwriting: A method for detailed analysis of letter-formation accuracy and fluency. *In Reading and Writing* (Issue 0123456789). Springer Netherlands. https://doi.org/10.1007/s11145-022-10308-z

[15]. Flores-Ferrés, M., Van Weijen, D., & Rijlaarsdam, G. (2022). Understanding writing curriculum innovation in Grades 7-12 in Chile: Linking teachers' beliefs and practices. *Journal of Writing Research*, 13(3), 367–414. https://doi.org/10.17239/JOWR-2022.13.03.02

[16]. Gardner, P., & Kuzich, S. (2018). Green writing: the influence of natural spaces on primary students' poetic writing in the UK and Australia. *Cambridge Journal of Education*, 48(4), 427–443. https://doi.org/10.1080/0305764X.2017.1337720

[17]. Gericke, N., & Tobjornsson, T. (2022). Identifying Capital for School Improvement: Recommendations for a Whole School Approach to ESD Implementation. *Environmental Education Research*, 28(6), 803–825.

[18]. Grenner, E., Johansson, V., van de Weijer, J., & Sahlén, B. (2021). Effects of intervention on self-efficacy and text quality in elementary school students' narrative writing. *Logopedics Phoniatrics Vocology*, 46(1), 1–10. https://doi.org/10.1080/14015439.2019.1709539

[19]. Hansen, L. E., Collins, P., & Warschauer, M. (2009). Reading Management Programs: A Review of the Research. *Journal of Literacy and Technology*, 55(3).

[20]. Harris, H. S., & Greer, M. (2021). Using Multimedia for Instructor Presence in Purposeful Pedagogy-Driven Online Technical Writing Courses. *Journal of Technical Writing and Communication*, 51(1), 31–52. https://doi.org/10.1177/0047281620977162

[21]. Hattie, J., & Timperley, H. (2007). The power of feedback. *In Review of Educational Research*, 77 (1), 81–112). https://doi.org/10.3102/003465430298487

[22]. Ismilasari, Y. (2013). Penggunaan media diorama untuk peningkatan keterampilan menulis Karangan narasi pada siswa sekolah dasar. *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, 1(2), 1-10.

[23]. Jusuf, R, Sopandi, W., Wulan, A. R., & Saud, U. S. (2020). A mobile application assessing knowledge analysis and creative thinking skills of science teachers A mobile application assessing knowledge analysis and creative thinking skills of science teachers. *IOP Conf. Series: Journal of Physics: Conf. Series 1469*, 6–13. https://doi.org/10.1088/1742-6596/1469/1/012065

[24]. Jusuf, Ridwan, Sopandi, W., Wulan, A. R., & Syaefudin, U. (2019). Strengthening Teacher Competency through ICARE Approach to Improve Literacy Assessment of Science Creative Thinking. *International Journal of Learning, Teaching and Educational Research*, 18(7), 70–83.

[25]. Kirby, M. S., Spencer, T. D., & Chen, Y. J. I. (2021). Oral Narrative Instruction Improves Kindergarten Writing. *Reading and Writing Quarterly*, 37(6), 574–591. https://doi.org/10.1080/10573569.2021.1879696

[26]. Kusnandar, Komariah, A., Soemarto, & Sa'ud, U. S. (2020). Competence-based Education and Training Model for Management Team of School Operational Assistance. *Universal Journal of Educational Research*, 8(4), 1315–1321. https://doi.org/10.13189/ujer.2020.080422

[27]. Kwauk, C., & Casey, O. (2021). *A New Green Learning Agenda: Approaches to Quality Education for Climate Action*. Center for Universal Education at The Brookings Institution.

_____

[28]. Leasa, M., Corebima, A. D., Ibrohim, & Suwono, H. (2017). Emotional intelligence among auditory, reading, and kinesthetic learning styles of elementary school students in Ambon-Indonesia. *International Electronic Journal of Elementary Education*, 10(1), 83–91. https://doi.org/10.26822/iejee.2017131889

[29]. Leontjev, D., & Pollari, P. (2022). Guiding and assessing development of L2 writing process: the role of peer collaboration. *Innovation in Language Learning and Teaching*, 1–13. https://doi.org/10.1080/17501229.2022.2058514

[30]. Maamuujav, U. (2021). Examining lexical features and academic vocabulary use in adolescent L2 students' text-based analytical essays. *Assessing Writing*, 49, 100540. https://doi.org/10.1016/j.asw.2021.100540

[31]. Malpique, A. D. A., Valcan, D., Pino, D., & Ledger, S. (2022). Teaching Writing in Primary Education (Grades 1-6) in Australia : a National Survey. *Reading and Writing*, 1-27. https://doi.org/10.1007/s11145-022-10294-2

[32]. Martinez, C. (2022). Developing 21 century teaching skills : A case study of teaching and learning through project- based curriculum. *Cogent Education*, 9(1), 2024936. https://doi.org/10.1080/2331186X.2021.2024936

[33]. Metalin, A., Puspita, I., Saud, U. S., Damayanti, V. S., William, N., & Setiawan, A. (2021). The Implementation of Local Wisdom-Based Audio- Visual Media to Improve Cultu ral Literacy in Elementary Schools X O_2 O_2. Proceedings of the 1st International Conference of Education, Social and Humanities (INCESH 2021), 581, 29–33.

[34]. Moore, J. (2019). Choice and constraint: Using SFL genre theory to teach primary-grade students to write arguments about literature. Journal of Writing Research, 10(3), 429–464. https://doi.org/10.17239/jowr-2019.10.03.02

[35]. Nirmala, S. D., Rahman, R., & Musthafa, B. (2018). Comparing Students' Critical Thinking Elementary School in Different Area with Utilizing FIVES Strategy. Advanced Science Letters, 24(11), 8357-8360.

[36]. Nuriyanti, R., Rahman, R., Syaodih, E., Iswara, P. D., & Muharam, A. (2019). The Effect of Experiential Learning Models Toward Writing Skills of Narration Primary School Student. International Journal of Science and Applied Science: Conference Series, 3(1), 109. https://doi.org/10.20961/ijsascs.v3i1.34899

[37]. O'Brien, L., & Murray, R. (2007). Forest School and its impacts on young children: Case studies in Britain. Urban Forestry & Urban Greening, 6(4), 249–265. https://doi.org/https://doi.org/10.1016/j.ufug.2007.03.006

_____

[38]. Oddsdóttir, R., Ragnarsdóttir, H., & Skúlason, S. (2021). The effect of transcription skills, text generation, and self-regulation on Icelandic children's text writing. Reading and Writing, 34(2), 391–416. https://doi.org/10.1007/s11145-020-10074-w

[39]. Plavšić, M., & Diković, M. (2022). What is Most Difficult in a Teacher's Job from the Perspective of Teachers, Students and Parents?. Journal of Elementary Education, 15(1), 31-50.

[40]. Popović, D. (2020). Understanding and Applying Writing Strategies in Third Cycle of Primary School. International Journal of Instruction, 14(1), 963–982. https://doi.org/10.29333/IJI.2021.14157A

[41]. Purba, R. (2018). Improving the Achievement on Writing Narrative Text through Discussion Starter Story Technique. Advances in Language and Literary Studies, 9(1), 27. https://doi.org/10.7575/aiac.alls.v.9n.1p.27

[42]. Sajawandi, L., Sa'ud, U., & Musthafa, B. (2020). Student candidates ' literacy analysis using an ICT- based tool Student candidates ' literacy analysis using an ICT-based tool. IOP Conf. Series: Journal of Physics: Conf. Series 1469. https://doi.org/10.1088/1742-6596/1469/1/012088

[43]. Seban, D., & Tavsanli, Ö. F. (2015). Children's sense of being a writer: Identity construction in second grade writers workshop. International Electronic Journal of Elementary Education, 7(2), 217–234.

[44]. Siddik, M. (2018). Kajian Teori dan Praktik Pendidikan Tahun 27. 1.

[45]. Sholahuddin, A., Susilowati, E., Prahani, B. K., & Erman, E. (2021). Using a Cognitive Style-Based Learning Strategy to Improve Students' Environmental Knowledge and Scientific Literacy. International Journal of Instruction, 14(4), 791-808.

[46]. Srour, K., Aqel, M., & Abu Shawish, J. I. (2021). Enhancing EFL secondary school students' writing skills through a suggested model based on constructivism. Education in the Knowledge Society. https://doi.org/10.14201/eks.23937

[47]. Temizkan, M. (2011). The Effect of Creative Writing Activities on the Story Writing Skill. Educational Sciences: Theory and Practice, 11(2), 933-939.

[48]. Ulu, H. (2019). Investigation of Fourth Grade Primary School Students' Creative Writing and Story Elements in Narrative Text Writing Skills. International Journal of Progressive Education, 15(5), 273–287. https://doi.org/10.29329/ijpe.2019.212.18

[49]. Ventura, A. C., Scheuer, N., & Pozo, J. I. (2020). Elementary school children's conceptions of teaching and learning to write as intentional activities. Learning and Instruction, 65. https://doi.org/10.1016/j.learninstruc.2019.101249

_____

[50]. Vidic, T., Klasnic, I., & Duranovic, M. (2022). The role of teachers ' support and enthusiasm in predicting mathematics anxiety and confidence among students. Journal of Elementary Education, 15(1), 51–69.

[51]. Warlenius, R. H. (2022). Learning for life : ESD , ecopedagogy and the new spirit of capitalism. The Journal of Environmental Education, 53(3), 141–153. https://doi.org/10.1080/00958964.2022.2070102

[52]. Wen, X., & Walters, S. M. (2022). The Impact of Technology on Students' Writing Performances in Elementary Classrooms: A Meta-Analysis. Computers and Education Open, 3, 100082. https://doi.org/10.1016/j.caeo.2022.100082

[53]. Wen, H., & Coker, D. L. (2020). The Role of Discourse Knowledge in Writing among First-graders. Journal of Writing Research, 12(2), 453–484. https://doi.org/10.17239/jowr-2020.12.02.05

[54]. .Wisniewski, B., Zierer, K., & Hattie, J. (2020). The Power of Feedback Revisited: A Meta-Analysis of Educational Feedback Research. In Frontiers in Psychology (Vol. 10). Frontiers Media S.A. https://doi.org/10.3389/fpsyg.2019.03087

[55]. Yamaç, A., & Ulusoy, M. (2016). The effect of digital storytelling in improving the third graders' writing skills. International Electronic Journal of Elementary Education, 9(1), 59–86.

[56]. Zulaeha, I. (2013). Pengembangan model pembelajaran keterampilan berbahasa indonesia berkonteks multikultural. Litera, 12(1), 97-105.