

The Influence of Local Primacy-Based Comic Media on Green Behaviour and Student Motivation

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Abstract: This research describes the results of implementing local primacy-based comic media in fostering green behaviour and student learning motivation. This study employed a pre-experimental design using the one-group pre-test post-test method. The research was conducted at SDN 1 Labuapi and SDN 1 Kuranji, West Lombok Regency. The measurement of green behaviour and student learning motivation used questionnaire sheets. The green behaviour questionnaire employed a Likert scale of three aspects, nine indicators, and fourteen statements with response options: score 1 = disagree, 2 = somewhat disagree, and 3 = agree, with reverse scoring for negative statements. The student motivation questionnaire adopted and modified a questionnaire consisting of four aspects: Choice of tasks, Effort, Persistence, and Self-confidence. Learning outcome data were analyzed, and the N-gain values were calculated and converted into $0.7 < g \leq 1$ (high), $0.3 < g \leq 0.7$ (medium), and $g \leq 0.3$ (low). Finally, a t-test was conducted to determine the differences in student learning motivation and green behaviour between the two experimental classes. Implementing region-based comic media impacted green behaviour and elementary school student motivation ($p < 0.05$). Furthermore, the improvement in green behaviour for both experimental classes was categorized as a medium, while the increase in student motivation was categorized as low. Further analysis indicated no significant differences in student motivation and green behaviour between the two experimental schools. This could be attributed to the students' similar initial understanding in both experimental schools.

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Introduction

Indonesia is the world's largest archipelagic country, consisting of 17,500 islands covering an area of approximately 5.8 million km². The country boasts a coastline stretching around 81,000 km, making it the second-longest tropical coastline after Canada. Geographically, Indonesia's archipelago and waters lie between the Pacific and Indian Oceans and between the continents of Asia and Australia, including the Sunda Shelf to the west and the Sahul Shelf to the east. Indonesia's coastal and marine areas exhibit the highest biodiversity globally, with various organisms thriving along its coasts and seas (Fauziah, 2004). One notable biodiversity component is the coral reef ecosystem found in the West Nusa Tenggara (NTB) province. NTB is a popular tourist destination known for its beautiful beaches and underwater ecosystems, including the Senggigi Beach and the Marine Nature Reserve (Taman Wisata Alam Laut - TWAL) of Gili Matra, comprising Gili Air, Gili Meno,

and Gili Trawangan (Bachtiar, 2004). The tourism industry in NTB continues to grow, increasing both local and international visitors drawn by its rich natural resources (Giyanto et al., 2017). However, the surge in tourism raises concerns about potential damage to the coral reef ecosystems.

Coral reef degradation is a widespread issue in Indonesia, including NTB (Bachtiar, 2004). Factors contributing to coral reef damage encompass both natural and human-induced elements. El Niño is a natural factor causing coral bleaching. Research findings indicate that the coral cover on Lombok Island is dominated by dead algae-covered coral at 42.62%, with hard coral cover accounting for only 29.52%. The highest hard coral cover is found in West Lombok Regency at 35.52%, while the lowest is in North Lombok Regency at 22.78%. Human-induced coral reef damage includes anchor disposal and toxins for fishing around coral reefs. Both natural and human factors impact coral reef ecosystems negatively (Manlea et al., 2016). Human factors require attention due to the potential environmental impact resulting from the local population's lack of awareness and attitude. Therefore, conservation efforts are needed to preserve coral reef ecosystems through educational initiatives, such as implementing region-specific comic-based media focusing on the coral reef ecosystem.

The comic-based media highlights the coral reef ecosystem, one of the region's strengths in NTB. Integrating coral reef ecosystem content into education is essential for students to understand their surroundings. A primary goal of environmental education is to change students' attitudes towards the environment, making them more environmentally conscious and encouraging pro-environmental actions. Region-specific comic-based media can be an effective tool in achieving these goals. A study by Smith (2018) found that using comics in environmental education improves students' understanding of environmental issues and increases their awareness of the importance of nature conservation. Region-specific comic-based media can strengthen students' local identity. By depicting the uniqueness of their region in comics, students can feel more connected to their surroundings, fostering a sense of ownership and encouraging active involvement in environmental conservation. According to research by Brown (2019), students who feel connected to their surroundings are more likely to adopt pro-environmental attitudes and engage in green actions.

The use of local primacy-based comic media is believed to enhance students' motivation in learning. Engaging comics with environmentally relevant stories can make learning more enjoyable and interesting for students, boosting their motivation to learn about environmental issues and take concrete actions to protect nature. A study by Johnson (2020) showed that students engaged in comic-based learning exhibit higher motivation levels in understanding and addressing environmental issues. Moreover, the use of region-specific comic-based media has significant potential to influence the green behaviour of elementary school students. Through this approach, students can gain a deeper understanding of environmental issues, feel connected to their surroundings, and become more motivated to participate actively in nature conservation. This research aims to describe the outcomes of implementing local primacy-based comic media in fostering green behaviour and learning motivation among students.

Research Method

This study employs a Pre-Experimental design. Pre-Experimental research is a type within the field of social sciences utilized to collect data before further investigation. The research adopts a One Group Pre-Test and Post-Test design. Before the treatment, a pre-test

is conducted to accurately determine the treatment effects and compare them with the pre-treatment conditions (Sugiyono, 2012). The research design is presented in Table 1.

Table 1. Research Design

Classes	pre-test	Treatment	post-test
Experimental 1	Q1	X	Q2
Experimental 2	Q1	X	Q2

Information:

- Experiment 1 : SDN 1 Kuranji
- Experiment 2 : SDN 1 Labu Api
- Q1 : Pre-test for experimental classes 1 and 2
- X : Treatment using region-based comic media
- Q2 : Post-test experimental classes 1 and 2

The sample was chosen through purposive random sampling. The schools selected for this study are those located near the sea and those far from the sea, namely SDN 1 Labuapi and SDN 1 Kuranji, West Lombok Regency. The measurement of green behaviour and student learning motivation utilizes questionnaire sheets. The green behaviour questionnaire employs a Likert scale consisting of three response options: score 1 = disagree, 2 = somewhat agree, and 3 = agree, with the opposite applying to negative statements. The green behaviour instrument questionnaire comprises three aspects, nine indicators, and fourteen statements. Meanwhile, the student motivation questionnaire adopts and modifies the questionnaire developed by Sudibyo et al. (2016), consisting of four aspects: Choice of tasks, Effort, Persistence, and Self-confidence. Data initially in scale form are converted into nominal form (Sukri et al., 2020), followed by the calculation of the N-gain values, which are then categorized into $0.7 < g < 1$ (high), $0.3 < g < 0.7$ (medium), and $g < 0.3$ (low) (Fadaei, 2019). Finally, a t-test is conducted to determine the difference in learning motivation and green behaviour between the two experimental classes (Kim, 2015).

Result and Discussion

To ascertain the impact of local primacy-based comic media on students' Green Behavior attitudes and learning motivation, an N-gain analysis was conducted, and the results are presented in Table 2.

Table 2. N-Gain Results for Each Variable and Experimental School

Variable	N-gain		Category
	SDN 1 Kuranji	SDN 1 Labu Api	
Green behavior	0.3	0.3	Medium
Student motivation	0.2	0.2	Low

The results in Table 2 indicate that the N-gain values for the green behaviour variable in both experimental schools are 0.3, categorizing it as moderate. These findings suggest an influence of local excellence-based comic media on students' green behaviour. This aligns with Sukri et al. (2020b) discovery that locally-based comic media can enhance students' conservation attitudes. Similarly, Syarah et al. (2018) reported that implementing electronic-based comic media can improve conservation attitudes in early childhood. Sukri et al. (2020c) strengthened this by highlighting the positive impact of coral reef-based comic media on students' understanding of coral reef ecosystems. The influence of comic media on students' green behaviour is presumed to stem from making learning more enjoyable (Kristina et al.,

2023) by combining animated and real images (Syarah et al., 2018). Moreover, visually appealing comics are suspected to enhance students' learning enthusiasm (Dwimarta et al., 2014; Purwanto & Widodo, 2022).

Table 2 also reveals that implementing local primacy-based comic media affects student motivation but falls within the low category. This differs from the green behaviour variable, indicating a moderate influence on comic media implementation. This result contrasts with the report of Puspitorini et al. (2014), showing that using comic media in learning can increase science students' motivation with an N-gain score of 0.55, categorized as moderate. Similarly, Widyawati & Prodjosantoso (2015) revealed that science comic media can boost students' learning motivation. This research exposes the impact of comic media implementation on student motivation, albeit in the low category. The low motivation in this study may not be attributed to the comic media used but rather to students' initial understanding of coral reef ecosystems, one of the local excellences, which is still limited, affecting motivation before and after treatment.

To unveil the differences in motivation and green behavior between the two experimental classes, an independent sample t-test was conducted, preceded by homogeneity and normality analyses. The results of normality and homogeneity tests are presented in Table 3.

Table 3. Results of Normality and Homogeneity Tests for Each Research Variable

Variable	Homogeneity-test				Normality test		
	<i>Levene Statistic</i>	df1	df2	Sig.	Statistic	Df	Sig.
Green behavior	.108	1	48	.744	.168	48	.05
Student motivation	.173	1	48	.679	.127	48	.200

The results of normality and homogeneity tests in Table 3 indicate that the Sig. Values for the green behaviour variable are .744 and .05, respectively. These results suggest that the green behaviour data exhibit homogenous variance and a normal distribution. The same pattern is observed for the student motivation variable. Once the normality and homogeneity prerequisite tests are met, hypothesis testing is carried out, as presented in Table 4.

Table 4. Results of independent sample t-test for each research variable.

Variable		Levene's test for equality of variances		t-test for equality of means		
		F	Sig.	t	df	Sig. (2-tailed)
Green behavior	Equal variances assumed	.108	.744	-1.492	48	.142
	Equal variances not assumed					
Student motivation	Equal variances assumed	.173	.679	-.440	48	.662
	Equal variances not assumed					

The hypothesis testing results in Table 4 indicate no difference in green behaviour and student learning motivation between the two experimental schools. The Sig values for both variables greater than 0.05 support this. The absence of differences in green behaviour and motivation attitudes is likely attributed to the similar initial understanding of students in both experimental schools. This contrasts with the report by Sukri et al. (2020a), which identified variations in students' conservation attitudes toward coral reefs influenced by geographic conditions. Their findings revealed that schools near the ocean exhibited a better conservation

attitude towards coral reefs than those distant from the sea. However, such differences were not observed in this study. SDN 1 Kuranji, situated close to the sea, exhibited the same green behaviour as SDN 1 Labu Api, located far from the ocean. This commonality is likely due to the similar initial understanding in both experimental schools.

Conclusion

Implementing local primacy-based comic media impacts elementary school students' green behaviour and motivation. Furthermore, the improvement in students' green behaviour in both experimental classes falls within the moderate category, while the increase in student motivation is categorized as low. Further analysis results indicate no difference in motivation and green behaviour among students in the two experimental schools. This is likely due to the identical initial understanding of students in both experimental schools.

References

- Bachtiar, I. (2004). Status terumbu karang di Propinsi Nusa Tenggara Barat: sebuah kajian. *Jurnal Biologi Tropis*, 5(1), 1-9.
- Brown, C. (2019). Enhancing Environmental Identity Through Local Comics: A Case Study in Elementary Schools. *Environmental Education Research*, 25(5), 662-674.
- Dwimarta, R., Jenny., & Sadiman. (2014). Pengaruh Media Pembelajaran Komik Terhadap Pemahaman Konsep Matematika Materi Penjumlahan Dan Pengurangan Pecahan. *Didaktika Dwija Indria*, 2(8), 1-5.
- Fadaei, A. S. (2019). Comparing two results: Hake gain and dellow gain, to analyze FCI data in active learning process. *US-China Education Review*, 9(1), 31-39.
- Fauziah, Y. (2004). Struktur dan penyebaran vegetasi strata sapling di kawasan hutan mangrove Pulau Bengkalis Provinsi Riau. *Biogenesis*, 1(01), 26-30.
- Giyanto, A. M., Hadi, T. A., Budiyanto, A., Hafizt, M., Salatalohy, A., & Iswari, M. Y. (2017). Status terumbu karang Indonesia. *Jakarta (ID): Puslit Oseanografi-LIPI*.
- Johnson, D. (2020). Motivating Environmental Learning Through Comics: An Exploratory Study. *Environmental Education Research*, 26(3), 339-352.
- Kim, T. K. (2015). T test as a parametric statistic. *Korean journal of anesthesiology*, 68(6), 540-546.
- Kristina, A. D. A., Suryanti, H. H. S., & Prihastari, E. B. (2023). Keefektifan Media Komik Etnomatematika Terhadap Pemahaman Konsep Perkalian dan Pembagian Pada Siswa Kelas IV Sekolah Dasar. *Jurnal Pendidikan Dasar Borneo (Judikdas Borneo)*, 5(1), 1-9.
- Manlea, H., Ledheng, L., & Sama, Y. M. (2016). Faktor-Faktor Penyebab Kerusakan Ekosistem Terumbu Karang Di Perairan Wini Kelurahan Humusu C Kecamatan Insana Utara Kabupaten Timor Tengah Utara. *Bio-Edu: Jurnal Pendidikan Biologi*, 1(2), 21-23.
- Sudiby, E., Jatmiko, B., & Widodo, W. (2016). Pengembangan instrumen motivasi belajar fisika: angket. *Jurnal Penelitian Pendidikan IPA*, 1(1), 13-21.
- Purwanto, A., & Widodo, W. (2022). Analisis keefektifan komik edukasi terhadap peningkatan pemahaman konsep siswa. *Pensa: e-jurnal pendidikan sains*, 10(2), 208-213.

- Puspitorini, R., Prodjosantoso, A. K., Subali, B., & Jumadi, J. (2014). Penggunaan media komik dalam pembelajaran IPA untuk meningkatkan motivasi dan hasil belajar kognitif dan afektif. *Jurnal Cakrawala Pendidikan*, 33(3).
- Smith, A. (2018). The Impact of Comics in Environmental Education. *Journal of Environmental Education*, 49(2), 138-147.
- Sugiyono, M. (2012). Metode Penelitian Kuantitatif, Kualitatif, dan Kombinasi. *Bandung: Alfabeta*.
- Sukri, A., Efendi, I., Hastuti, R., Ramdani, A., & Lukitasari, M. (2020a, February). The effect of coral reef comic media implementation on students' environmental care attitude in Indonesia. In *Journal of Physics: Conference Series* (Vol. 1464, No. 1, p. 012028). IOP Publishing.
- Sukri, A., Rizka, M. A., Sakti, H. G., Maududy, K. U., & Hadiprayitno, G. (2018). Designing an integrated curriculum based on local primacy and social reconstruction perspectives of West Nusa Tenggara, Indonesia. *Jurnal Pendidikan IPA Indonesia*, 7(4), 467-475.
- Sukri, A., Rizka, M. A., Sakti, H. G., Harisanti, B. M., & Muti'Ah, A. (2020b, April). The effect of local primacy-based comic media on students' conservation attitudes. In *Journal of Physics: Conference Series* (Vol. 1521, No. 4, p. 042004). IOP Publishing.
- Sukri, A., Rizka, M. A., Sakti, H. G., Wahyuni, B. S., & Nasir, L. M. I. H. M. (2020c, March). The implementation of green education-based comic media on coral reef and its impact on students' conception. In *Journal of Physics: Conference Series* (Vol. 1521, No. 4, p. 042123). IOP Publishing.
- Syarah, E. S., Yetti, E., & Fridani, L. (2018). Pengembangan Media Komik Elektronik Untuk Meningkatkan Pemahaman Konservasi Anak Usia Dini. *Jurnal Pendidikan Usia Dini*, 12(2), 231-240.
- Widyawati, A., & Prodjosantoso, A. K. (2015). Pengembangan media komik IPA untuk meningkatkan motivasi belajar dan karakter peserta didik SMP. *Jurnal Inovasi Pendidikan IPA*, 1(1), 24-35.