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RESEARCH

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The Effectiveness of Learning Media in Waste Management

Lidia Br Tarigan^{1a*}, Yuanita C.L.Rogaleli^{1b}, Olga Mariana Dukabain^{1c}

¹ Sanitation Study Program, Poltekkes Kemenkes Kupang, Kupang, East Nusa Tenggara, Indonesia

^a Email address: lidia.tarigan@gmail.com

^b Email address: yuanita.rogaleli@gmail.com

^c Email address: olgadukabain2018@gmail.com

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Abstract

The involvement of the community affects the effectiveness of waste management. By offering suitable media under local conditions, community participation can be increased. This research aims to determine how well educational materials can raise awareness of waste management issues and encourage community involvement. The research method used quasi-experimental. The efficacy of learning media, research variables, respondent knowledge, and waste management follow-up. Representatives from 46 different community groups made up the study subjects. Surveys, pre-and post-tests, and questionnaires were employed to collect data. A paired t-test was utilized to evaluate the data after it had been processed descriptively. The knowledge of the respondents increased by 24%. The results show a significant difference in knowledge between before and after using learning media, according to the results of the paired t-test ($p = 0.000$). The learning media effectiveness test results showed no difference between book media and leaflet media in increasing respondents' knowledge ($p=0.130$). Follow-up plans, forming a waste bank (33.3), and sharing the information obtained with other parties (73.8%). The conclusion is there is a significant difference in knowledge before and after using learning media ($p = 0.000$). There was no difference between book media and leaflet media in increasing respondents' knowledge ($p=0.130$). The public can utilize books and leaflets to increase their knowledge about waste management.

Keywords: Knowledge, Effectiveness of Learning Media.

*Corresponding Author:

Lidia Br Tarigan

Sanitation Study Program, Poltekkes Kemenkes Kupang, Kupang, East Nusa Tenggara, Indonesia

Email: lidia.tarigan@gmail.com



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1. INTRODUCTION

There are still issues with waste management in many places (Ardiansah and Oktapani 2023). Understanding that waste is useless and useless items are one factor (Swasono et al. 2020). This comprehension results in a lack of involvement in waste management (Junaidy et al. 2021). Humans and the environment are negatively impacted by unmanaged waste (Sari, Amrina, and Rahmah 2021). Unmanaged waste can become a breeding ground for disease vectors (Jamaluddin and Zarnila 2020), causing floods, affecting the global climate (Ain, Auvaria, and Nurmaningsih 2022). When waste is not managed, it is typically disposed of recklessly or into landfills. According to research findings, a single landfill has the potential to cause adverse health effects and increase global warming by 6,379,506.17 CO₂ eq/year (Ula, Prasetya, and Haryanto 2021). The government has made written regulations containing sanctions for violations committed in waste management. (Augia, Akhila, and Fitriyani 2023), However, its implementation has not gone well (Yolanda and Septianda 2023).

Effective waste management (Ni'mattulah, Sjafari, and Riswanda 2022) can reduce the negative impact of waste (Shukor et al. 2011). Effective waste management is related to community involvement because waste comes from community activities (Rosida et al. 2023). Waste disposal, waste sorting, and waste utilization are examples of community involvement in waste management. Understanding that waste is more than just discarded material encompassing items that can be reused is closely associated with the procedure of sorting and using waste (Prayogi and Utama 2022)..

Community characteristics are important in managing waste because by knowing the characteristics of food they are able to identify what information they are willing to understand (Albarracin et al. 2022) and can determine effective methods (Tarigan, Rogaleli, and Waangsir 2020), so as to increase participation (Br Tarigan and Dukabain 2023; Khalil et al. 2022). Participation is related to community motivation (Hayana 2015; Herliani, Humaedi, and Adharai 2018) and learner characteristics in determining learning outcomes (Jennah 2019). Increasing participation can be conducted through various methods, one of which is by increasing understanding of waste management (Rosida et al. 2023). Increasing understanding can be performed through learning media literacy (Saputra, Kusnadi, & Nanna, 2022), where it helps the adoption of behavior (Austin et al. 2021). Increasing public understanding about waste management can be conducted by various learning media such as mass media, online media, books (Daniyati et al. 2023), leaflets and other media sharing (Sakur et al. 2022). Learning media that suits the characteristics of society (Kisworo 2017) will make it easier for the public to absorb the information received (Daniyati et al. 2023). The advantages of using media in the classroom encompass increased clarity, interest, and a positive attitude toward the subject matter and the learning process (Karo-Karo and Rohani 2018). The right learning media has a positive impact on understanding the information provided (Megawati 2013; Suseno, Albab, and Martadireja 2021). This research uses learning media that is prepared according to community conditions related to waste management so that it can increase participation in managing waste.

This research is distinct from previous studies in that the learning materials are created employing data collected from participants during waste management focus groups. Respondents consist of various elements in society who have a role in waste management in an area (Presiden Republik Indonesia, 2012) and serve as a motivator (Affandy, Isnaini, & Yulianti, 2015). These members include housewives, administrators of the Neighborhood Association namely the administrators of the Neighborhood Association (RT)/(RW), dasawisma administrators, Karang Taruna administrators (Darban Astane and Hajilo 2017), and waste management in the RT area. The identification results obtained information about the need for waste management materials. The waste management material is compiled in a book and leaflet for adults (Megawati 2013) which is called learning media in this research. The research aims

to determine the effectiveness of learning media in increasing knowledge and community participation in waste management so that waste problems can be overcome.

2. RESEARCH METHOD

This study employed a qualitative, quasi-experimental research methodology. Mixed methods are the method utilized. The participants in this study included housewives, waste managers in RT 41, administrators of youth organizations, dasawisma, administrators of the RT 41 Association, and other members of the community involved in waste management in Liliba Village. There were 45 individuals in the sample. With a test power of 80% and a significance of 95%, the sample size required to test the hypothesis of the mean difference between two paired groups was determined using the sample size formula (Roflin, & Liberty 2022). The criteria for respondents are being able to read and write and being active in managing waste in their group.

There are four stages to this study. Knowledge of waste management, waste management practices, and the media, which are anticipated to be a source of information on waste management, are all included in the first step of identifying community conditions. Focus groups were utilized to conduct discussions during this phase (FGD). FGDs were carried out on each community element group. The topic discussed was the condition of the community regarding waste management including knowledge, attitudes, waste management practices, and expected learning media. The FGD data was processed using thematic analysis. The results of data analysis become the basis for determining the learning media that is prepared and the content of the learning media, namely reference books, and leaflets. The second step involves creating educational materials, such as books and pamphlets, based on the findings of the focus group discussion. Testing educational materials in the form of books with the ISBN 978-623-5431-47-5 and pamphlets with the copyright 000528694 is the third step. Before this stage, a pre-test is performed to gauge the respondent's level of knowledge. Respondents were given one week to study the books and leaflets provided. After that, a post-test was carried out. The final stage is to identify the waste management follow-up plan that will be carried out by the respondent. After that, the respondents are provided with books and pamphlets to read and utilize for waste management. Then, a post-test was administered and the final stage was to identify follow-up waste management actions performed by respondents.

The data were analyzed qualitatively and tested using the Paired T Test via the SPSS 26 application. The research has proof of research ethics with no. No.LB.02.03/1/0079/2022 published by the Health Research Ethics Committee - Health Polytechnic Ministry of Health Kupang.

3. RESULTS AND DISCUSSION

Table 1 shows that learning media such as books and leaflets are used to raise public awareness about waste management. Respondents' knowledge increased by 24%. Knowledge before using learning media is an average of 54% and after using learning media an average of 79%. Test results with the Paired T-Test demonstrate that there is a significant difference in knowledge before and after using learning media ($p = 0.000$).

Table 1. Paired test of respondents' knowledge.

		Paired Samples Test							
		Paired Differences					T	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1	Knowledge before using the media - Knowledge after using media	-10.239	10.378	1.530	-13.321	-7.157	-6.692	45	.000

Table 2. Test of the effectiveness of learning media.

		Paired Samples Test							
		Paired Differences					T	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1	Book-leaflet	.283	1.241	.183	-.086	.651	1.544	45	.130

Table 2 shows that a total of 45 respondents were given a learning media of books and leaflets for a week. Respondents stated that both learning media have similarities in increasing knowledge. There are only differences in the appearance of different media. The results of the learning media effectiveness test showed that there was no difference between book media and leaflet media in increasing respondents' knowledge ($p=0.130$).

Table 3. Description of learning media according to respondents.

Media description	Book		Leaflets	
	Amount	%	Amount	%
Attractive appearance	31	67	26	57
Complete contents	38	83	38	83
Increase knowledge	43	93	39	85
Reference source	42	91	40	87
Gives motivation	45	100	45	98

Table 3 shows that learning media provides motivation (100% books and 98% leaflets), and is a reference source in waste management (91% books and 87% leaflets). Both learning media also increased respondents' knowledge (books 93% and leaflets 85%). Respondents stated that both learning media have similarities in increasing knowledge. The content of the learning media was stated by respondents to be 83% complete, there were only differences in the appearance of the different media.

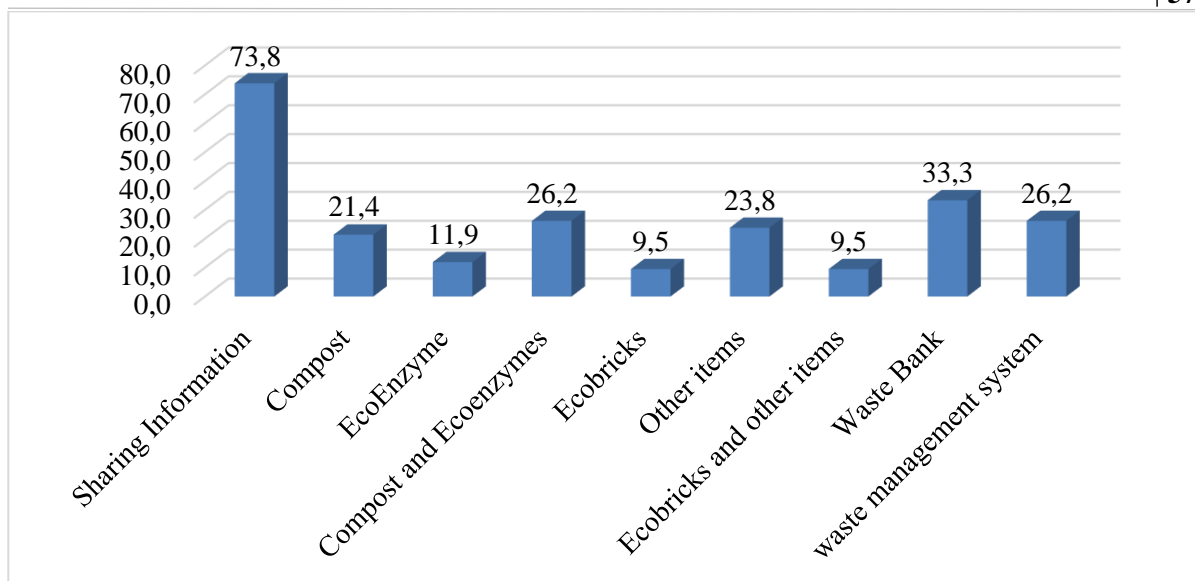


Figure 1. Waste management follow-up plan

Figure 1 shows that the follow-up plan for managing waste by respondents after employing learning media is shown in Figure 1. The highest follow-up was sharing information about waste management at 73.8%, followed by creating a waste bank at 33.3%.

Knowledge about waste management influences a person's attitude in managing waste. Knowledge and waste management are interrelated. In other words, more knowledge means better waste management (Antika, Jumakil, and Nuraladewi 2023). Known information about waste can change perceptions and actions in managing waste (Magdalena, Tjahyadi, and C. 2023a; Windiari and Salsabiela 2022). There are various sources of information about waste management. One source of information that is easily accessible is books (Firmansyah and Humaidi 2022) and leaflets (Rosadi et al. 2021). The study involved distributing learning media, which are books and pamphlets, to participants, who then owned them. This will make the book exceptionally accessible and allow for repeated reading, which will help with comprehension of the waste management material. According to the study findings, after reading or using the supplied books and pamphlets, respondents' knowledge increased by 24%. This demonstrates how learning resources can expand knowledge (Khalil et al. 2022) community about waste management (Komara et al. 2023).

The results of the study demonstrate that the contributions of book and pamphlet media to the development of public knowledge are comparable. Thus, it has the same effect of increasing public awareness. This demonstrates how well the material is communicated, resulting in no apparent improvement in knowledge development. Statements from respondents describing the two media as equally fascinating and offering comprehensive information serve to support this. These findings also demonstrate that the community can use these two educational resources as informational resources and a source of reference for waste management. In this study, most of the respondents were women, where in managing household waste, women were the main actors (Akhmadi and Amaliyah 2022; Dorris et al. 2022) and creative in processing waste (Hafizah and Hidayat 2023).

Utilizing educational materials also encourages respondents to follow up. Increased community participation in waste management will result from follow-up. The results of the follow-up survey regarding waste management (73.4%) indicate that the information collected is valuable and should be extensively shared. This is an opportunity for more people to become aware of the waste management information discovered in learning media, which could eventually influence how individuals manage their waste. The community can establish a waste

bank because educational materials, particularly books, provide details on the advantages, goals, and procedures involved in accomplishing it. This can encourage respondents to have plans to form a waste bank and change their behavior in managing waste (Leman, Claramita, and Rahayu 2021). The book, which is a medium for information on waste management, also contains information about waste management that has been conducted in the Liliba sub-district, which is RT 41, where the good practices that have been performed can be employed as an example in performing waste management practices (Blaschke and Marin 2020).

Digital applications utilizing community-based research methods may also be employed to provide waste management information to increase community participation in waste management (Saputra et al. 2023). Media designed from the results of FGDs can help increase knowledge and behavior about waste management. This happens because its preparation involves the active participation of users in understanding problems and solutions from their point of view (Sekarningrum et al. 2021). The information presented is also relevant, so it can motivate users to change their behavior positively. Disseminating information through prepared media is one strategy to increase participation in waste management (Wijayanti et al. 2023). Short videos can also be utilized as information media to complement the information obtained through books and leaflets (Al Hanif, Mahdalena, and Handayani 2023). This research can be continued by monitoring changes in community behavior in processing waste (Chaengmongkol et al. 2021) and involving stakeholders (Utami, Nurwati, and Lestari 2024). The information received can change perceptions and attitudes that are more critical towards problems that arise and influence intentions to change behavior (Kasjono et al. 2023; Magdalena et al. 2023b). Efforts to increase education for the community to be more communicative and more flexible have become a planned program that can be achieved and implemented well (Susilawati et al. 2023)

4. CONCLUSION

There is a significant difference in knowledge before and after using learning media. There is no difference between book media and leaflet media in increasing respondents' knowledge. The resulting reference books and leaflets can be used as media to increase people's knowledge and ability to manage waste and overcome problems in waste management.

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REFERENCES

- Affandy, N. A., Isnaini, E., & Yulianti, C. H. (2015). Peran serta masyarakat dalam pengelolaan sampah komprehensif menuju zero waste. *Seminar Nasional Sains Dan Teknologi Terapan III* 3, pp. 803-814.
- Akhmadi, A., & Amaliyah, E. (2022). Women empowerment and its relationship with wealth indeks and COVID-19 prevention. *International Journal of Public Health Science (IJPHS)* 11(2):391-397. <http://doi.org/10.11591/ijphs.v11i2.21227>
- Ain, T.N., Auvaria, S. W., & Nurmaningsih, D. R. The Estimation of the Global Warming Potential (GWP) in the Scenario of Domestic Waste Management in Sukabumi City: Perkiraan Potensi Pemanasan Global pada Skenario Pengelolaan Sampah Domestik di Kota Sukabumi. *Jurnal Teknologi Lingkungan* 23(2):214–21. <https://doi.org/10.29122/jtl.v23i2.4919>.
- Albarracin, M., Demekas, D., Ramstead, M. J., & Heins, C. (2022). Epistemic communities under active inference. *Entropy*, 24(4), 476. <https://doi.org/10.3390/e24040476>

- Al Hanif, D. R., Mahdalena, V., & Handayani, L. (2023). Efektivitas Komunikasi Kesehatan Melalui Short Video Bagi Perubahan Perilaku Kesehatan. *Ekspresi Dan Persepsi: Jurnal Ilmu Komunikasi*, 6(2), 218-228. <https://doi.org/10.33822/jep.v6i2.5725>
- Antika, R., Jumakil, J., & Nurmaladewi, N.(2023). Hubungan Pengetahuan, Sikap dan Tindakan dengan Pengelolaan Sampah Di Kecamatan Kadia Kota Kendari Tahun 2022. *Jurnal Kesehatan Lingkungan Universitas Halu Oleo*, 3(4), 22-31. <http://dx.doi.org/10.37887/jkl-uho.v3i4.33213>
- Ardiansah, A., & Oktapani, S. (2023). Kendala dan Upaya Pemerintah Kota Dalam Pengurangan Sampah di Kota Pekanbaru. *Legalitas: Jurnal Hukum*, 14(2), 323-329. <http://dx.doi.org/10.33087/legalitas.v14i2.303>
- Augia, T., & Akhila, L. (2023). Faktor-Faktor yang Mempengaruhi Tindakan Masyarakat dalam Membuang Sampah Rumah Tangga Di Danau Singkarak. *Gema Lingkungan Kesehatan*, 21(1), 7-15. <https://doi.org/10.36568/gelinkes.v21i1.62>
- Austin, E. W., Austin, B. W., Willoughby, J. F., Amram, O., & Domgaard, S. (2021). How media literacy and science media literacy predicted the adoption of protective behaviors amidst the COVID-19 pandemic. *Journal of Health Communication*, 26(4), 239-252. <https://doi.org/10.1080/10810730.2021.1899345>
- Blaschke, L. M., & Marin, V. (2020). Applications of heutagogy in the educational use of e-portfolios. *Revista de Educación a Distancia (RED)*, 20(64), 1-21. <https://doi.org/10.6018/red.407831>
- Chaengmongkol, N., Sinthupuan, S., & Changkamanon, A. (2021, May). Student Behavior Report Management System on Somsri. IO. In 2021 18th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON) (pp. 581-584). IEEE.
- Daniyati, A., Saputri, I. B., Wijaya, R., Septiyani, S. A., & Setiawan, U. (2023). Konsep dasar media pembelajaran. *Journal of Student Research*, 1(1), 282-294.
- Darban Astane, A. R., & Hajilo, M. (2017). Factors affecting the rural domestic waste generation. *Global Journal of Environmental Science and Management*, 3(4), 417-426. <https://doi.org/10.22034/gjesm.2017.03.04.007>
- Dorris, L., Young, D., Barlow, J., Byrne, K., & Hoyle, R. (2022). Cognitive empathy across the lifespan. *Developmental Medicine & Child Neurology*, 64(12), 1524-1531. <https://doi.org/10.1111/dmcn.15263>
- Firmansyah, E., & Humaidi, M. N. (2022). Penerapan Media Pembelajaran Berbasis Teknologi dalam Menghadapi Turbulensi Pendidikan Yang Berkemajuan. *Research and Development Journal of Education*, 8(2), 660-665. <https://doi.org/10.30998/rdje.v8i2.13541>
- Hafizah, N., & Hidayat, M. (2023). Kreativitas Perempuan dalam Pengelolaan Sampah Rumah Tangga Melalui Bank Sampah Unit Andalas Sepakat Kelurahan Andalas Padang. *Jurnal Perspektif*, 6(1), 87-97. <https://doi.org/10.24036/perspektif.v6i1.739>
- Hayana, H. (2015). Socio-Economy and Culture on the Housewives' Participation in Waste Management in Bangkinang Sub-District. *Jurnal Kesehatan Komunitas*, 2(6), 294-300.
- Herliani, Y. K., Humaidi, S., & Adharani, Y. (2018). Pengetahuan, Keterampilan, dan Motivasi Warga Desa Jatiroke dalam Pengelolaan Sampah secara Mandiri. *Jurnal Pengabdian kepada Masyarakat*, 2(1), 23-36.
- Jamaluddin, J., & Zarnila, E. (2020). Hubungan Pengelolaan Sampah Rumah Tangga dan Kualitas Air Bersih dengan Kejadian Diare pada Balita di Desa Suka Mulia dan Desa Alur Manis Kecamatan Rantau Kabupaten Aceh Tamiang. *Jurnal EDUKES: Jurnal Penelitian Edukasi Kesehatan*, 40-45. <https://doi.org/10.52136/edukes.v3i1.25>
- Jannah, R. (2019). *Media Pembelajaran*. 1st ed. Banjarmasin: Antasari Press.

- Junaidy, J., Sugiannor, S., Anhar, D., Hamdie, A. N., & Saddiq, S. (2021). Evaluasi Pelaksanaan Peraturan Daerah Nomor 03 Tahun 2019 Tentang Pengelolaan Sampah Di Kabupaten Kapuas. *AS-SIYASAH: Jurnal Ilmu Sosial Dan Ilmu Politik*, 6(2), 40-49. <https://doi.org/10.31602/as.v6i2.5506>
- Karo-Karo, I. R., & Rohani, R. (2018). Manfaat media dalam pembelajaran. *Axiom: jurnal pendidikan dan matematika*, 7(1), 91-96.
- Kasjono, H. S., Suwerda, B., Yushananta, P., & Lestari, N. (2023). The Effectiveness of Ladder Climbing Games on The Knowledge, Attitude, and Practice of Sorting Waste. *Jurnal Info Kesehatan*, 21(3), 409-418. <https://doi.org/10.31965/infokes.Vol21Iss3.1126>
- Khalil, M., Northey, G., Septianto, F., & Lang, B. (2022). Hopefully that's not wasted! The role of hope for reducing food waste. *Journal of Business Research*, 147, 59-70. <https://doi.org/10.1016/j.jbusres.2022.03.080>
- Kisworo, B. (2017). Implementasi Media Pembelajaran Berbasis Prinsip-Prinsip Pendidikan Orang Dewasa Pkbm Indonesia Pusaka Ngaliyan Kota Semarang. *Journal of Nonformal Education*, 3(1), 80-86. <https://doi.org/10.15294/jne.v3i1.8987>
- Komara, E., Setiawan, H., Sikki, N., Hersusetiyati, H., Kosasih, K., Paramarta, V., ... & Octaviani, S. D. (2023). Diseminasi dan Edukasi Pengelolaan Sampah Jamaah Masjid Kelurahan Sarijadi Kota Bandung. *Jurnal Abdimas Sang Buana*, 4(2), 86-98. <https://doi.org/10.32897/abdimasusb.v4i2.2982>
- Leman, M. A., Claramita, M., & Rahayu, G. R. (2021). Predicting factors on modeling health behavior: a systematic review. *American Journal of Health Behavior*, 45(2), 268-278. <https://doi.org/10.5993/AJHB.45.2.7>
- Magdalena, N., Tjahyadi, R. A., & Keven, C. (2023). Faktor Anteseden Niat Perubahan Perilaku Masyarakat. *JIP-Jurnal Ilmiah Ilmu Pendidikan*, 6(2), 1304-1310. <https://doi.org/10.54371/jiip.v6i2.1642>
- Megawati, A. (2013). Penerapan Prinsip Pembelajaran Orang Dewasa (Andragogi) Pada Program Life Skill di Sanggar Kegiatan Belajar Kabupaten Pati. *Skripsi*. Jurusan Pendidikan Luar Sekolah Fakultas Ilmu Pendidikan Universitas Negeri Semarang.
- Ni'mattullah, N. M., Sjafari, A., & Riswanda, R. (2022). Manajemen Pengelolaan Sampah Di Kota Serang. *JURNAL MANAJEMEN AGRIBISNIS (Journal of Agribusiness Management)*, 10(1), 535. <https://doi.org/10.24843/JMA.2022.v10.i01.p04>
- Prayogi, M. A., & Utama, A. F. (2022). Meningkatkan Potensi Desa Menuju Masyarakat Cerdas, Kreatif, Berjiwa Sehat Dan Mandiri. *JURNAL PRODIKMAS Hasil Pengabdian Kepada Masyarakat*, 7(1), 22-26. <https://doi.org/10.30596/jp.v7i1.11244>
- Presiden Republik Indonesia. (2012). Peraturan Pemerintah Republik Indonesia Nomor 81 Tahun 2012 Tentang Pengelolaan Sampah Rumah Tangga dan Sampah Sejenis Sampah Rumah Tangga. Jakarta: Presiden Republik Indonesia
- Roflin, E., & Liberty, I. A. (2022). *Metode Menghitung Besar Sampel pada Penelitian Kesehatan*. Penerbit NEM.
- Rosadi, D., Emelda, Z., Mustawan, E., Febrianita, D., & Adelina, I. D. A. Y. (2021). Pemberian Edukasi Pengelolaan Sampah Berbasis Masyarakat dalam Rangka Peningkatan Pengetahuan Masyarakat di Desa Pemurus, Kecamatan Aluh-aluh, Kabupaten Banjar. *Selaparang*, 4(3), 678-683. <https://doi.org/10.31764/jpmb.v4i3.5014>
- Rosida, L., Pratiwi, D. I. N., Noor, M. K., Rosyida, W. S., Salsabilla, K. F., & Febriansyah, M. (2023). Sistem Pengelolaan Sampah Pada Masyarakat Pinggiran Sungai Melalui Pemilahan Sampah Rumah Tangga Sebagai Upaya Promosi Kesehatan. *Jurnal Pengabdian ILUNG (Inovasi Lahan Basah Unggul)*, 2(3), 526-535. <https://doi.org/10.20527/ilung.v2i3.6641>
- Sakur, S., Sitompul, J. A., Saragi, J. P., Yunita, S., & Melyani, S. S. (2022). Peningkatan Pengetahuan Siswa Mengenai Pemilahan Sampah Berdasarkan Karakteristik dan

- Sifatnya di SDN 027 Paritbaru. *Jurnal Pengabdian Masyarakat Indonesia*, 1(3), 53-59. <https://doi.org/10.55606/jpmi.v1i3.435>
- Saputra, A., Kusnadi, D., & Nanna, A. W. I. (2022). Aktivasi Gerakan Literasi Sekolah sebagai Upaya Peningkatan Kompetensi Masyarakat Perbatasan Kalimantan Utara. *KREATIF: Jurnal Pengabdian Masyarakat Nusantara*, 2(3), 81-89. <https://doi.org/10.55606/kreatif.v2i3.475>
- Saputra, F. O., Ingsih, K., Kartikadarma, E., Isthika, W., Johary, L., & Sakti, M. B. (2023). Pengelolaan sampah rumah tangga berbasis aplikasi pada seluruh bank sampah di Kecamatan Semarang Barat. *Jurnal Pengabdian Multidisiplin*, 3(2), 1-6. <https://doi.org/10.51214/japamul.v3i2.632>
- Sari, N., Amrina, D. H., & Rahma, N. A. (2021). Kajian dampak sampah rumah tangga terhadap lingkungan dan perekonomian bagi masyarakat kecamatan sukrame kota bandar lampung berdasarkan perspektif islam. *Holistic Journal of Management Research*, 6(2), 42-59. <https://doi.org/10.33019/hjmr.v6i2.2734>
- Sekarningrum, B., Sugandi, Y. S., & Yunita, D. (2020). Penerapan Model Pengelolaan Sampah "Pojok Kangpisman". *Kumawula: Jurnal Pengabdian Kepada Masyarakat*, 3(3), 548-560. <https://doi.org/10.24198/kumawula.v3i3.29740>
- Shukor, F. S. A., Mohammed, A. H., Sani, S. I. A., & Awang, M. (2011, June). *A review on the success factors for community participation in solid waste management*. In International conference on Management.
- Suseno, A. A., Albab, N. U., & Martadireja, S. (2020). Manfaat pemisahan sampah organik dan anorganik melalui media buku ilustrasi anak. *Besaung: Jurnal Seni Desain dan Budaya*, 5(1), 48-53. <https://doi.org/10.36982/jsdb.v5i1.1797>
- Susilawati, S., Rapiec, A. N., Susantina, F., Dalias, D., Sipayung, R., & Tirtana, D. (2023). Edukasi Perubahan Perilaku Masyarakat Dalam Pencegahan Penularan Covid-19 Kota Depok. *Jurnal Pelayanan dan Pengabdian Masyarakat (PAMAS)*, 7(2), 101-113. <https://doi.org/10.52643/pamas.v7i2.2058>
- Swasono, M. A. H., Zahroh, F., Mutiara, R., Nabila, I., & Zahril, T. (2020). Perkembangan Pola Pikir Masyarakat Terhadap Pengelolaan Sampah Di Desa Karangrejo Kecamatan Purwosari, Kabupaten Pasuruan. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 1(3), 190-204. <https://doi.org/10.31004/cdj.v1i3.914>
- Tarigan, L.B., & Dukabain, O. M. (2023). *Pengelolaan Sampah Kreatif*. Kupang: Rena Cipta Mandiri.
- Tarigan, L. B., Rogaleli, Y. C., & Waangsir, F. W. (2020). Community participation in waste management. *International Journal of Public Health Science (IJPHS)*, 9(2), 115-120. <https://doi.org/10.11591/ijphs.v9i2.20380>
- Ula, R. A., Prasetya, A., & Haryanto, I. (2021). Life cycle assessment (LCA) pengelolaan sampah di tpa Gunung Panggung kabupaten Tuban, Jawa Timur. *Jurnal Teknologi Lingkungan*, 22(2), 147-161. <https://doi.org/10.29122/jtl.v22i2.4690>
- Utami, D. R. R. B., Nurwati, I., & Lestari, A. (2024). School-based sexual and reproductive health education among adolescents in developing countries. *International Journal of Public Health*, 13(1), 141-149. <https://doi.org/10.11591/ijphs.v13i1.23267>
- Wijayanti, A. N., Dhokhikah, Y., & Rohman, A. (2023). Analisis partisipasi masyarakat terhadap pengelolaan sampah di kecamatan sumpersari, kabupaten jember, provinsi jawa timur. *Jurnal Pengelolaan Lingkungan Berkelanjutan (Journal of Environmental Sustainability Management)*, 7(1), 28-45. <https://doi.org/10.36813/jplb.7.1.28-45>
- Windiari, I. P., & Salsabiela, M. (2022). Persepsi Masyarakat Dalam Pengelolaan Sampah Di Kecamatan Indramayu: Persepsi Masyarakat. *Gema Wiralodra*, 13(2), 363-380. <https://doi.org/10.31943/gemawiralodra.v13i2.256>

Yolanda, V., & Septianda, M. F. (2023). Penerapan Prinsip Good Environmental Governance dalam Pengelolaan Sampah Pesisir di Pelantar II Kota Tanjungpinang Tahun 2023. *Jurnal Pemerintahan dan Kebijakan (JPK)*, 5(1), 17-29. <https://doi.org/10.18196/jpk.v5i1.19026>