

# Improvement of Volunteer Competency through First Aid Training

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## ABSTRACT

This program aims to improve volunteer competence through first aid training. This first aid training activity was carried out using the following methods: (1) lecturing; and (2) practice. The analysis used was descriptive analysis and paired samples t-test. The data description shows the mean pre-test = 35.37 while the mean post-test = 39.23. Based on the results of the data analysis, it was concluded that there was a significant difference between before and after the participants joined the training program. This means that there is an increase in volunteer competence after participating in the training program.

**Keywords:** competence, volunteering, training, first aid, red cross

## 1. INTRODUCTION

Disasters can occur anywhere and anytime, on a small or large scale. When a disaster falls into a large category, the presence of volunteers to help overcome the disaster is very crucial. It is common for each region to have a map of the distribution of areas with a potential for disaster, such as flood points, landslides, or fires. Volunteer is one element of the disaster management system. Volunteers are volunteers who are ready to help the community in overcoming disasters in disaster-stricken areas. Volunteers are commonplace under the coordination of the Indonesian Red Cross (Palang Merah Indonesia / PMI).

Malang Raya, East Java, Indonesia as an area that includes Malang City, Batu City and Malang Regency is also inseparable from the disaster. The Regional Disaster Management Agency (BPBD) of Malang City recorded many disasters as of September 2017, as many as 87 disasters, including landslides dominating with 36 incidents; whirlwind totaling 23 incidents; 11 puddles of water; and 10 fires [1]. The disaster caused damage to residential areas and public facilities, such as schools, places of worship, and bridges [2].

Regulation of the Head of the National Disaster Management Agency Number 4 of 2012 concerning Guidelines for the Implementation of Disaster Safe Schools / Madrasas categorizes Malang as an area that has an earthquake risk index with a high category and a maximum tsunami height of 11 meters with a tsunami arrival time of 29 minutes [3]. If you look at the incidents of natural disasters that have recently occurred, then disaster response is important to get priority to be managed properly. Disaster response is the awareness, readiness and preparedness of people, both individually and in groups in dealing with disasters, with the aim of reducing risks and losses due to disasters.

Volunteers who are members of PMI Malang City in particular, not only help large-scale disasters, but also accidents that are categorized into small categories, such as helping victims of traffic accidents, evacuating victims of suicide victims, or victims of fire. The disaster occurred without knowing the time, place, and who was the victim [4]. Volunteer preparedness, which is supported by qualified competencies, is an important factor for volunteers in providing first aid assistance. Provision of professional first aid will increase the ease and accuracy of further medical delivery to victims.

Referring to the various potential disasters, it is appropriate for local governments and related institutions to pay attention to the roles, functions and presence of volunteers. It is hoped that the first aid training for Malang Raya volunteers can become a vehicle for volunteers to improve their competence. This training program is an effort to assist and support the Malang City PMI Program which has the task of fostering volunteers. In addition, this training program is also a vehicle for volunteers to exchange knowledge of red cross and experience dealing with various types of disasters. First aid training is crucial to be held, given the limited number of volunteers and also the many types of disasters that occur in the community. This first aid training is a vehicle for volunteers to improve their competence.

**2. METHOD**

The targets of this first aid training activity are volunteers. This first aid training activity was carried out using the following methods: (1) lecturing; and (2) practice. The lecture method is used to provide material about the concept of first aid. The materials that will be provided are: (1) first aid; (2) basic anatomy and physiology; (3) assessment (4); basic life support and cardiac pulmonary resuscitation; (5) bleeding and shock; (6) injury; (7) burns; (8) transfer of patients; and (9) medical and environmental emergencies.

Meanwhile, the practical method is used when the training participants perform first aid for a victim (as a first aid simulation). Each material contains practical activities that must be carried out by participants. This first aid practice aims to familiarize volunteers with cases of various injuries that may occur to victims. These injuries can be minor, moderate, and severe. All these wounds were handled in different ways.

**Table 1 Stanfive Formula**

Stanfive	Category
$X < (M - 1.5 SD)$	Worse
$(M - 1.5 SD) < X < (M - 0.5 SD)$	Bad
$(M - 0.5 SD) < X < (M + 0.5 SD)$	Medium
$(M + 0.5 SD) < X < (M + 1.5 SD)$	Good
$(M + 1.5 SD) < X$	Great

This training program was attended by 78 volunteers, PMI Malang City, Indonesia. To find out whether there is an increase in competence, students are given a test question given during the pre-test and post-test. The pre-test is given before training and the post-test is given after the training [5]. The analysis used was descriptive analysis and paired samples t-test. Data descriptions were used to calculate the mean (M), standard deviation (SD), maximum score, and minimum score. Furthermore, the data is presented in the form of a frequency distribution table [6], [7]. The formula used for the frequency distribution is standard. The standard formula is presented in Table 1. Paired samples t-test was used to

determine whether there were differences in the competency scores of participants before and after participating in the training program [8]. Data analysis was performed with a software program IBM SPSS Statistics 24.

**3. RESULTS**

The program to increase the competence of Malang Raya volunteers through first aid training was carried out before the covid-19 pandemic, so that trainees do not use health protocols. The following is documentation of these activities (Figure 1, Figure 2, Figure 3). First aid is the provision of immediate assistance to sufferers of illness or injury / accident that require basic medical treatment. The objectives of first aid are: (1) to save the soul of the sufferer; (2) prevent defects; and (3) provide comfort and support the healing process [9], [10].



**Figure 1 Discussion on First Aid from PMI Trainers**



**Figure 2 Example of a Figure Caption (figure caption)**



**Figure 3 Example of a Figure Caption (figure caption)**

Table 2 is the test results before (pre-test) and after (post-test) participants join the training program. The results of the pre-test score data description are: mean =

35.37; standard deviation = 19.40; maximum score = 68; and the minimum score = 11. The results of the post-test score data description are: mean = 39.23; standard deviation = 20.46; maximum score = 70; and the minimum score = 12. Referring to the results of the data description calculation, it can be seen that there is an increase in the score of 3.86 (from the calculation of the mean post-test minus the pre-test = 39.23 - 35.37 = 3.86).

**Table 2 Pre-Test and Post-Test Scores**

Pre-Test						Post-Test					
19	58	11	42	14	48	19	58	20	60	17	54
14	48	18	58	18	56	22	64	25	70	23	66
16	52	18	56	18	56	14	48	15	50	19	58
19	58	18	56	14	48	25	70	22	64	23	66
18	56	12	44	20	60	20	60	20	60	22	64
18	56	23	66	19	58	20	60	23	66	15	50
17	54	13	46	24	68	20	60	16	52	19	58
12	44	14	48	16	52	15	50	20	60	16	52
18	56	12	44	11	42	20	60	22	64	18	56
22	64	19	58	14	48	22	64	19	58	21	62
16	52	22	64	20	60	22	64	22	64	19	58
12	44	19	58	16	52	12	44	16	52	17	54
16	52	15	50	24	68	20	60	17	54	23	66

Furthermore, the pre-test and post-test data are presented in the frequency distribution table as presented in Table 3. To find out whether there is an increase in the competence of the training participants, the pre-test and post-test data were analyzed using Paired Samples T-test. Analysis using the assistance of the IBM SPSS Statistics 24 program. The results of the Paired Samples T-test analysis are shown in Table 4. Referring to the results of the Paired Samples T-test analysis, it is known that sig. 0.000 < 0.05; it can be concluded that there is a difference between the pre-test and post-test results. Based on the results of the calculation of the data description, it is known that the mean pre-test = 35.37 < mean post-test = 39.23. So, it can be concluded that this training can improve the competence of training participants (there is an increase in the mean of 3.86).

**4. DISCUSSION**

Volunteer competence must be continuously improved through various training programs. The program focuses on volunteer competence, especially first aid. First aid competence is the main ability when volunteers carry out their duties at the disaster site. Regular exercises and disaster simulations can improve volunteers' first aid competence.

It is very important to increase volunteer competence periodically and continuously. This is because the number of volunteers in Indonesia is not proportional to the needs, which requires 120 thousand volunteers, but Indonesia has 35 thousand volunteers [11]. It takes a systematic effort to increase the number of volunteers in Indonesia, the number of volunteers determines the effectiveness and efficiency of the personnel assistance provided by volunteers. In order to optimize the current

number of volunteers, the competency factor also needs to be considered, so that even though volunteers are limited in number, they have sufficient competence to carry out their duties [12].

**Table 3 Frequency Distribution of Test Results**

Test	Category	Interval	f	%
Pre-test	Worse	< 6.27	0	0.00
	Bad	6.27 - 25.67	39	50.00
	Medium	25.67 - 45.07	6	7.69
	Good	45.07 - 64.48	30	38.46
	Great	64.48 <	3	3.85
Post-test	Worse	< 8.55	0	0.00
	Bad	8.55 - 29.00	39	50.00
	Medium	29.00 - 49.46	2	2.56
	Good	49.46 - 69.92	35	44.87
	Great	69.92 <	2	2.56
N = 78				

Volunteer competencies are basically the same as the competencies possessed by other types of human resources, which can decrease when they are not used for a long time and are not continuously trained [10]. Therefore, first aid training needs to be carried out regularly [13]. First aid is the provision of immediate aid to sick sufferers or victims who need basic medical treatment to prevent disability or death. The main principle of first aid in dealing with blood, body fluids from sufferers are blood and all body fluids as a medium for disease transmission. The objectives of first aid are: (1) to save the soul of the sufferer; (2) prevent defects; and (3) provide comfort and support the healing process [14].

There are 3 types of helpers, namely: (1) common people, people who are completely ignorant and have not been trained in first aid; however, only practice what you have seen and heard about first aid; (2) first helper, people who were present or first arrived at the scene and have been trained in first aid; and (3) special power, people who are trained, and can do more than what the first helper did [15]. Table 5 describes the obligations and qualifications of first aid actors.

**Table 4 Obligations and Qualifications of Firs Aid Performers**

OBLIGATIONS (what first aid performers must do)	QUALIFICATION (traits that must be possessed by first aid actors)
Keeping yourself, your team, and those around you safe	Honest and responsible
Can reach sufferers	Emotional maturity
Recognizing and resolving threatening problems	Be professional
Ask for help / referral	Real measurable ability
Provide help quickly and precisely	Socialization ability
Help other first aid actors	Good physical condition
Participate in maintaining patient medical confidentiality	Have a sense of pride
Communicating with other officers	
Preparing sufferers for transportation	

**Table 5 Paired Samples T-test**

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Mean Error	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Pre_Test - Post_Test	-3.859	6.149	.696	-5.245	-2.473	-5.543	77	.000

## 5. CONCLUSION

The results of the data analysis concluded that there was a significant difference between before and after participants joined the training program. This means that there is an increase in volunteer competence after participating in the training program. This is supported by the increase in the mean score before and after the participants attended the training, as much 3.86.

## REFERENCES

- [1] "Hingga September 2017, BPBD Catat 87 Kejadian Bencana," BPBD Kota Malang, 2017. <http://bpbd.malangkota.go.id> (accessed Oct. 12, 2020).
- [2] Surya-Malang, "Beragam Bencana Terjang 22 Kecamatan di Kabupaten Malang Selama 2016," Surya Malang, 2016. <http://suryamalang.tribunnews.com> (accessed Oct. 23, 2020).
- [3] BNPB-RI, "Regulation of the Head of the National Disaster Management Agency Number 4 of 2012 concerning Guidelines for Implementing Disaster-Safe Schools / Madrasahs." BNPB-RI, Jakarta, 2012.
- [4] D. E. Kusumaningrum, T. Triwiyanto, and I. Gunawan, "Educational Management of Natural Disaster Response at Lapindo Mudsidoarjo East Java," *J. Basic Appl. Sci. Res.*, vol. 6, no. 4, pp. 1–8, 2016.
- [5] I. Gunawan, *Pengantar Penelitian Kuantitatif*. Malang: Universitas Negeri Malang, Penerbit UM Press, 2019.
- [6] I. Gunawan, *Introduction to inferential statistics*. Jakarta: Rajawali Pers, 2016.
- [7] J. Stevens, *Applied Multivariate Statistics for the Social Sciences*. Mahwah: Lawrence Erlbaum Associates, 1996.
- [8] I. Gunawan, *Pengantar Statistika Inferensial*. Jakarta, 2016.
- [9] I. Gunawan et al., "Improving Disaster Response Through Disaster Simulation," *Int. J. Innov. Creat. Chang.*, vol. 5, no. 4, pp. 640–653, 2019.
- [10] A. Gunawan, I., Kusumaningrum, DE, Zulkarnain, W., & Nurabadi, "Improving Student Disaster Response at State University of Malang through Disaster Simulation," Malang, 2019.
- [11] Republika, "Jumlah Tagana di Indonesia Masih Sangat Kurang," Republika, 2017. <https://www.republika.co.id/berita/nasional/daerah/17/10/25/oyd01g384-jumlah-tagana-di-indonesia-masih-sangat-kurang> (accessed Oct. 21, 2020).
- [12] I. Gunawan et al., "Prestasi Belajar Mahasiswa Fungsionaris UKM KSR PMI Unit Universitas Negeri Malang," *Ilmu Pendidik. J. Kaji. Teor. dan Prakt. Kependidikan*, vol. 2, no. 2, pp. 171–177, Dec. 2017, doi: 10.17977/um027v2i22017p171.
- [13] H. Andringrum and I. Gunawan, "Cultivation of Healthy Life for Students in School: A Literature Review," 2019, pp. 16–17, doi: 10.2991/icet-18.2018.42.
- [14] I. Gunawan, T. Triwiyanto, and D. E. Kusumaningrum, "The Mentoring of Textbooks Writing for the Facilitators of Junior High School Red Cross | Atlantis Press," in *Proceedings of the International Conference on Education and Technology (ICET 2018)*, 2018, pp. 233–236, Accessed: Nov. 13, 2020. [Online]. Available: <https://www.atlantis-press.com/proceedings/icet-18/125926652>.
- [15] I. Gunawan et al., "Hidden Curriculum and Character Building on Self-Motivation based on K-means Clustering," in *2018 4th International Conference on Education and Technology, ICET 2018*, Jul. 2019, pp. 32–35, doi: 10.1109/ICEAT.2018.8693931.
- [16] Gunawan, I. (2016). Pengaruh Kepemimpinan Transformasional dan Kepuasan Kerja terhadap Perilaku Kewargaan Organisasi Guru Sekolah Dasar Negeri Kecamatan Kras Kabupaten Kediri. *Premiere Educandum: Jurnal Pendidikan Dasar dan Pembelajaran*, 5(01).
- [17] Gunawan, I., Benty, D. D. N., Kusumaningrum, D. E., Sumarsono, R. B., Sari, D. N., Pratiwi, F. D., ... & Hui, L. K. (2020). Pengaruh Gaya Kepemimpinan, Kemampuan Manajerial, Efikasi Diri, Dan Prestasi Belajar Terhadap Kesiapan Kerja Mahasiswa. *JMSP (Jurnal Manajemen dan Supervisi Pendidikan)*, 4(2), 126-150.
- [18] Gunawan, I. (2016, March). Merevitalisasi Kepemimpinan Pancasila dalam Bidang Pendidikan. In *Prosiding Seminar Nasional Penguatan Manajemen Pendidikan di Era Kompetisi Global*, Jurusan Administrasi Pendidikan Universitas Negeri Malang, Malang (Vol. 12, pp. 67-84).
- [19] Tryanasari, D., Mursidik, E. M., & Gunawan, I. (2013). Pengembangan Buku Pedoman Microteaching Berbasis Lesson Study Prodi PGSD FIP IKIP PGRI MADIUN. *Jurnal Pendidikan*, 19(1).
- [20] Sul-toni, S., Gunawan, I., & Pratiwi, F. D. (2018). Perbedaan Motivasi Belajar Mahasiswa antara Sebelum dan Sesudah Mengikuti Pelatihan Motivasional. *Ilmu Pendidikan: Jurnal Kajian Teori dan Praktik Kependidikan*, 3(1), 115-119.
- [21] Zahro, Z. R., Andringrum, H., Sari, E. P., & Gunawan, I. (2017, November). Sekolah Siaga Bencana: Kajian Evaluatif Kesiapsiagaan Sekolah Menghadapi Bencana. In *Seminar Nasional Pendidikan Sinergitas Keluarga, Sekolah, dan Masyarakat dalam Penguatan Pendidikan Karakter*, Fakultas Ilmu Pendidikan Universitas Negeri Malang, Malang, Indonesia (pp. 249-258).
- [22] Kusumaningrum, D. E., Gunawan, I., Sumarsono, R. B., & Triwiyanto, T. (2019). Pendampingan Pengelolaan Perpustakaan untuk Mendukung Gerakan Literasi Sekolah. *Abdimas Pedagogi: Jurnal Ilmiah Pengabdian kepada Masyarakat*, 2(3), 164-169.
- [23] Gunawan, I. (2019). *Manajemen Kelas Teori dan Aplikasinya*. Jakarta: Rajawali Pers.
- [24] Gunawan, I. (2013). *Qualitative research methods*. Jakarta: Bumi Aksara.