

Preparedness of Rumah Ilmu Library in Facing Fire Disasters: Safety Education for Campus Society

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Abstract: Due to its contents and amenities, Rumah Ilmu, a library building at Universitas Negeri Semarang, is vulnerable to fire disasters. The goal of this study is to analyse the safety aspects of Rumah Ilmu building. In this study, a qualitative methodology and a descriptive strategy were applied and a direct interview with the informants was conducted to collect the data needed. This study was carried out between February and March of 2023. Rumah Ilmu building has met all the government's standards with the fulfilment of 10 components (71.42%), However, 3 components (21.42%) consisting of fire extinguishers, evacuation directions, and assembly points have been implemented but have not met the standards, and 1 component (7.16%) has not been implemented at all, namely the main gate. Suggestions for the preparedness of the Rumah Ilmu in dealing with disasters include increasing the number of fire extinguishers, sprinklers, and rescue facilities, such as installing emergency lighting, adding an area for assembly points, checking periodically related to exit door locking, and arranging an evacuation plan. Additionally, disaster mitigation education should be provided through training, educational videos, and posters to staff and visitors.

Keywords: Rumah Ilmu, library building, preparedness, fire disaster, emergency

INTRODUCTION

Libraries are institutions that manage collections of written works, printed works, recorded works, and other library materials that are used as sources of information. The university library is a foundational component of higher education that, together with other supporting components, contributes to the attainment of its universities' vision and mission (Wijayanti, 2004). Therefore, it is the obligation of the library management team to maintain and preserve the collections in the library to avoid disasters. Disaster preparedness by libraries is important in preparing for disasters.

A disaster plan is a standardised strategy for a library's potential response to a disaster. This planning strives to lessen potential losses of property or life. Libraries frequently solely emphasize on typical duties when maintaining the library. This involves focusing on lending services, information retrieval, and information management. In fact, the presence and continuation of these information sources are threatened by a variety of disaster variables, including both natural and human-caused disasters. The university library is one of the main places for lecturers and students to study, making it a public place synonymous with great danger (Cammalleri et al., 2020).

Disasters, including fires, can happen at any time and harm the belongings and facilities of the library. It might be challenging to forecast when a fire disaster will occur or how severely it will affect the collection of the library. It is vital to routinely inspect the electrical installation in the room used to keep library materials or the library building to prevent fire damage.

Irregular monitoring of various facilities and equipment triggers fires that cause various impacts. High losses can occur because most of the contents of the library are flammable items such as reading books. Fires can quickly destroy library collections, including components that are not easily replaced such as ancient manuscripts and rare collections that are difficult to obtain. Library collections are defined as all library materials that are processed and then collected to be stored and disseminated to meet the community's need for information (Yulia et al., 2009). Damage and destruction of collections will certainly hinder access to information on various things in the library. The repair process for the library requires a long duration of time regarding flammable library materials. Besides that, if all or most of the collection is burned down, it is necessary to re-collect the library materials.

The existence of numerous books and other fire carriers in libraries has encouraged the researchers to research library preparedness in dealing with fires, even making designs of safe personnel evacuation, its models, the corresponding calculation software, and its developed tools. For example, Pathfinder software used by Hu and Chen (2014) to simulate the safe emergency evacuation of high-rise building fire like libraries, Chen JW et al. (2015)

investigated the relationship between the number of evacuations and the emergency exit, and many more. This study focuses on how to prepare libraries, specifically Rumah Ilmu in UNNES in 2023, in dealing with fire disasters, what must be done when a fire occurs, evacuation routes, evacuation time calculations, and what needs to be improved.

In the initial survey, researchers interviewed one of the librarians at the Rumah Ilmu Unnes regarding the readiness of the Rumah Ilmu in dealing with fire disasters. From the observations, the researchers found several fire extinguishing equipment on each floor of the library as well as a complete building security system. One of the prepared efforts that has been carried out by the Rumah Ilmu Unnes in dealing with fire disasters is of concern as well as being of interest to researchers. The researcher feels that this research is important to conduct as a reference for other university libraries in fire disaster preparedness because this is related to the library which contains important collections containing information and important University archives. This research further examined how the Rumah Ilmu Unnes is prepared in the availability of disaster equipment with a view to ensuring disaster preparedness and response practices in fire disasters.

METHODS

This study used a qualitative method with a descriptive approach as its research methodology. According to Sugiyono (2020), qualitative research techniques can be viewed as naturalistic research techniques that use natural settings. Descriptive research, according to Siyoto (2015), is a study that examines a phenomenon in greater detail by identifying its differences from other occurrences. Data for this study were gathered through observation, interviews, and documentation studies. In this study, data collection, data presentation, and conclusion-drawing approaches were used. This research was conducted during February and March of 2023. The main objective of this research is to learn about the safety analysis of Universitas Negeri Semarang Rumah Ilmu library building as part of an emergency preparedness program. The primary data collection technique was conducted by observation and direct interview to the informants, including the Head of Asset Management of Rumah Ilmu, front desk staff, general staff, security guard, and visitors. The questions were about knowledge of respective informants regarding the Rumah Ilmu safety system, evacuation way, assembly point, and what to do when experiencing fire disasters. Furthermore, secondary data collection through documentation studies.

RESULT AND DISCUSSION

The Interviews were conducted with three informants in to explore information about a) Their knowledge of disaster management, including: attitudes and education about disaster mitigation. b) Disaster management in Rumah Ilmu UNNES, including: the location of assembly points, evacuation routes, and disaster management from Rumah Ilmu. In general, according to the views of the three visitors, the possibility of a disaster that might occur in the Rumah Ilmu was a fire. This could be caused by electricity that was too large and resulted in electricity short circuit or human error in the Rumah Ilmu. One of the three visitors to the Rumah Ilmu has had a disaster mitigation course. But the three visitors did not recognize where the assembly points and evacuation routes were. According to them, the preparedness of Rumah Ilmu in the face of disaster is quite good because there are fire extinguishers, alarms, sprinklers, and smoke detectors were on each floor. Visitors felt that the Rumah Ilmu Library should provide education on fire disaster mitigation because knowledge of how to prevent, reduce the risk of, and respond to fires is essential in maintaining their own safety as well as that of others around them. Without adequate knowledge of fire disaster mitigation, visitors may not know how to avoid the risk of fire or how to take appropriate action in the event of a fire.

Apart from visitors, interviews were also conducted with several staff who worked at Rumah Ilmu. According to their statements, an enormous and fatal disaster has never happened to this library considering this building is still relatively new. Only a few times did an electric short circuit occur at several points which could be quickly resolved, and the elevator got stuck due to overload. The leader often reminded everyone, especially officers, not to smoke in air conditioned rooms. In 2023, there was a water leak on the 3rd and 5th floors, even so action has been taken in the form of confirmation to the leader and assigning cleaning service officers to move the shelves filled with books so that no library materials were exposed to water and potentially be moldy and damaged, and the leaking part was repaired immediately. According to Danang, a general administration staff, and Retma, librarian, knowledge and understanding of disaster preparedness of the staff need to be developed through comprehensive training.

There were fire extinguishers and fire alarms on each floor in anticipation of a fire which was always checked every year. Even so, only a few library staff have been provided with disaster mitigation training. If the fire extinguishers and other safety systems were still unable to prevent fire, the officers would immediately contact the UNNES center and the firefighter. In addition, officers would direct visitors to evacuate immediately through the

emergency exits on the right and left side of the building to the assembly point in the outside area or in front of the yard of the library

Rumah Ilmu Safety System

Fire System

In the aspect of safety in the event of a fire disaster, as a form of preparedness, it is necessary to pay attention to equipment which can support rapid action in tackling fire disasters, including:

1. Hydrant protection system
Fire Hydrant protection systems are fire protection measures in all risk classes which are designed to provide quick access to water in the event of a fire (Jawaharlal Nehru Centre for Advanced Scientific Research, 2021). Hydrant installation in the form of a piping system connected to the main water source to provide water for firefighters (Li et al., 2018).
2. Smoke detector or smoke alarm
A smoke detector or smoke alarm is a device used to detect smoke and emit an alarm sound to warn people of a potential fire. Smoke detectors can operate alone or be interconnected which can cause all detectors in an area to sound a warning alarm (Kubba, 2016).
3. Sprinkler system
The sprinkler system is a fire protection measure consisting of pipes arranged along the ceiling. The pipe is filled with water under pressure, and an additional source of flow is provided for constant flow (Ilo et al., 2018). Sprinklers are placed in certain locations. The way the sprinkler itself works when a fire occurs is that the seal on the sprinkler head will explode at a predetermined temperature, and a steady stream of water then flows (Simbolon et al., 2020).
4. Fire extinguisher
Fire extinguishers use substances that will cool the heat of combustion, extinguish the fuel, or remove oxygen so that the fire cannot continue to burn.

Rumah Ilmu UNNES is a 5-storey building which has a building area of 500 m (about 1640.42 ft)² and a land area of 3500 m (about 2.17 mi)². Related to fire safety equipment based on the several tools mentioned above, which can be detailed as follows: (1) On the first floor of the Rumah Ilmu UNNES building there are several rooms with 6 smoke detectors, 2 smoke alarms, 13 sprinklers, 5 light fire extinguishers, and 1 hydrant system. (2) On the second floor of the Rumah Ilmu UNNES building there are several rooms with 24 smoke detectors, 2 smoke alarms, 28 sprinklers, 5 light fire extinguishers, and 1 hydrant system. (3) On the third floor of the Rumah Ilmu UNNES building there are several rooms with 28 smoke detectors, 2 smoke alarms, 33 sprinklers, 5 light fire extinguishers, and 1 hydrant system. (4) On the fourth floor of the Rumah Ilmu UNNES building there are several rooms with 13 smoke detectors, 1 smoke alarm, 18 sprinklers, 4 light fire extinguishers, and 1 hydrant system. (5) On the 5th floor of the Rumah Ilmu UNNES building there are several rooms with 12 smoke detectors, 1 smoke alarm, 16 sprinklers and 4 light fire extinguishers and 1 hydrant system. Apart from inside the building detailed above, outside the building there are also 7 hydrant systems that are designated in disaster management of a fire disaster. So, if counted as a whole, the Rumah Ilmu UNNES has 83 smoke detectors, 108 sprinkles, 5 building hydrants, 7-yard hydrants, 23 light fire extinguishers, and 8 smoke alarms.

Emergency Stairs

In the first survey, researchers made observations regarding the availability and functioning of emergency stairs there. Rumah Ilmu library has two emergency staircases, namely on the left and right of the building. Based on the observation results, it was found that the emergency exit doors on several floors could not be used, such as the emergency exit on the ground floor on the left which was closed and tied with a rope on the stairs and the emergency door leading to the rooftop was also closed. During the second survey it was found that all emergency staircase doors could function as they should. Starting from the ground floor emergency exit to the emergency exit leading to the rooftop, both the right and left lanes of the building can be used. Furthermore, the researchers conducted an experiment on the duration of time on the evacuation route by land to the assembly point to the air route via the rooftop. The results of the evacuation time experiment were 50 seconds from the 5th floor to the 1st floor via the emergency stairs while from the 1st floor to the gathering point it was 40 seconds. Therefore, overall, it takes 90 seconds to gather at the assembly point from the 5th floor. The duration of evacuation time when going through the roof top from the 2nd floor to the 5th floor ranges from 48 seconds to 50 seconds. Each section of the emergency staircase has 2 smoke detectors positioned at every turn of the stairs.

Evacuation Way

Rumah Ilmu library has a floor plan which contains the layout of the rooms and evacuation routes when a disaster occurs while in there. Position plans are on each floor of the Rumah Ilmu. The first floor, to be precise, is in front of the emergency staircase door on the right and in front of the stairs from the basement. The plan is equipped with evacuation routes and alternative routes and the duration of time needed to use these routes. Apart from that, the positions of gathering points, hydrants, alarm bells, and fire extinguishers are also clearly described on the plan. In the elevator there is also a floor plan which contains only a rough description of the names of the rooms and floors in the Rumah Ilmu library building.

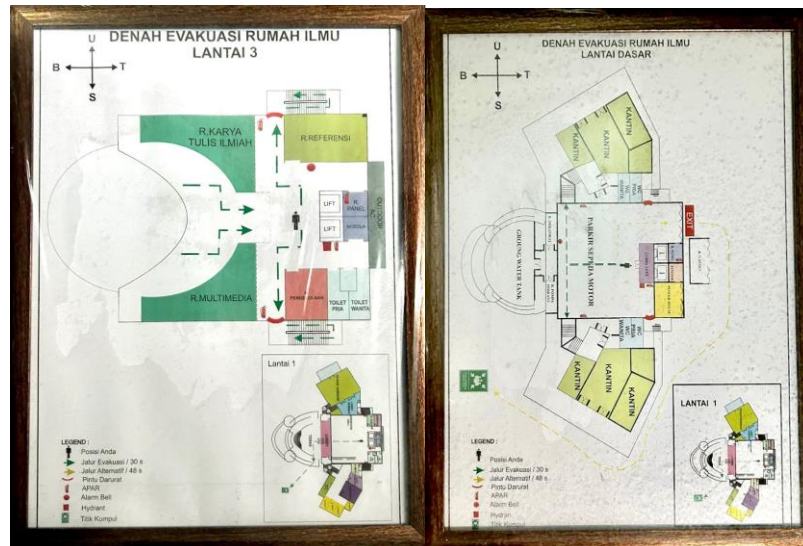


Figure 1. Evacuation route plan at Rumah Ilmu on the first floor and third floor

The Implementation of the Application of Safety Standards

Standards and rules used in this study include Law of the Republic of Indonesia Number 24 of 2007, Regulation of the Minister of Public Works Number 26/PRT/M/2008, and Regulation of the Minister of Public Works and Public Housing of the Republic of Indonesia Number 14/PRT/M/2017.

Active fire protection system

With a land area of 500 square meters and class A fire-prone status which involves solid combustibles, of organic origin such as wood, paper, plastic, cloth, or rubber. Rumah Ilmu UNNES Library must meet fire protection requirements which include:

1. Fire alarm and detector
 Fire alarm system in Rumah Ilmu operates automatically through the activation of a hazard signal system fire (fire alarm) or sprinkler system mounted on buildings and manually in the control room. There are 8 alarms and 83 smoke detectors spread throughout the building. According to the applicable regulations, the detector must be installed in a closed room and integrated with the air handling unit. All detectors at Rumah Ilmu (100%) meet the standards.
2. Light fire extinguisher (APAR)
 Rumah Ilmu has a total of 23 fire extinguishers spread over five floors. This amount only meets 46% of the amount determined by regulations. All fire extinguishers do not have installation marks, the installation height of fire extinguisher is not suitable, and some are not equipped with a check sheet.
3. Hydrant
 For buildings of more than two stores, a class I standpipe system must be installed. Rumah Ilmu has a total of 12 standpipe systems with 2.5-inch diameter spread outside and inside the building. The hydrant components in Rumah Ilmu are 100% fulfilled.

5. Sprinkler

Rumah Ilmu has bulb-type sprinklers totaling 108 points spread throughout the building with an average of 21 on each floor. The number of sprinkler points in the Rumah Ilmu has fulfilled 78% of the criteria set by the applicable regulations.

Passive Fire Protection System

Referring to the same regulations, a passive protection system consists of 4 components, namely fire-resistant construction, safe distance, main gate, and entrance.

1. Construction

Required fire-resistant construction includes fire barriers, fire walls, outer walls associated with the building site protected, fire resistance requirements based on construction type, partitions to prevent the spread of fire, and roof coverings, must be maintained and must be repaired, or replaced appropriately in the event of damage, alteration, cracking, penetration, displacement or due to incorrect installation. The fire resistance components and building structures of Rumah Ilmu 100% comply with standards.

2. Safe distance

The safe distance component between buildings around Rumah Ilmu has met the standard, namely 3-6 meters between buildings for buildings under 5 floors.

3. Main gate

There is no main gate to control the incoming and the outgoing flows in Rumah Ilmu, this component has not complied with standards.

4. Entrance

The main roads in the university grounds are paved and capable of providing access for emergency vehicles, it is also equipped with a walkway for pedestrians. The width of the main road ranges from 3.7-4 meters, while the width of the fire engine ranges from 2-2.5 m with a length of 6-7.7 meters, thus the corner of the road bend / turn is sufficient for fire engines to pass through. This component is 100% fulfilled.

Means of Rescue

Every building must be equipped with means of egress that can be used by residents of the building (Geren, 2016) to have enough time to get away safely without getting in the way of things caused by an emergency. The means of rescue contains 6 components:

1. Emergency door

There are 14 emergency doors that are connected to the emergency stairs in Rumah Ilmu. The doors are made of fireproof steel plate covered with rockwool density 100kg/m³. The building has 100% compiled this component.

2. Emergency stairs

In Rumah Ilmu, there are emergency stairs on two sides, right and left. Both functions well and connect each floor to the rooftop and escape to the ground floor. This component is 100% fulfilled.

3. Evacuation directions

The building has enough evacuation route signs. However, the placement of these signs is too high, more than recommended. The ideal placement is no more than 46 cm from the bottom of the floor so that the sign can be seen clearly if the room is filled with fire smoke. Therefore, the directions sign has not met the standard set by the government.

4. Corridor

Corridor component entirely (100%) fulfilled and in accordance with standard where the condition is not used for warehouse and free from hindrance.

5. Assembly point

Rumah Ilmu only has one assembly point located in front of the building. This amount does not meet the standard (50%) because there are at least 2 points so that if one point cannot be used, alternative assembly points are still available (Widowati et al., 2017).

6. Routine Maintenance

Routine maintenance of the active fire protection system, such as fire extinguisher and hydrant, at Rumah Ilmu is carried out once every 6 months according to the head of the asset management. This amount meets the standards set by applicable regulations.

CONCLUSION

A university library is the place for lots of prominent documents and works of the university, thereby it has to be maintained and protected from any disasters, including fire. The interview result showed that visitors have not had adequate knowledge of fire disaster mitigation and did not recognize the evacuation route to the assembly point. Meanwhile, the majority of library staff of Rumah Ilmu also have not been provided disaster mitigation training for this particular building. However, they knew what to do once the fire occurred. Law of the Republic of Indonesia Number 24 of 2007, Regulation of the Minister of Public Works Number 26/PRT/M/2008, and Regulation of the Minister of Public Works and Public Housing of the Republic of Indonesia Number 14/PRT/M/2017 set 14 components to meet the safety standards and rules. The Rumah Ilmu building has compiled all the standards with fulfillment of 10 components (71,42%), including fire alarm and detector, hydrant, sprinkler, construction, safe distance, entrance, emergency doors, emergency stairs, corridor, and routine maintenance. The three others (21,42%) have been conducted but have not met the standards, namely number of light fire extinguishers, evacuation route signs placement, and the number of assembly points. Besides, the main gate standard has not been implemented at all (7,16%).

Suggestions that can be given in this study related to the preparedness of the Rumah Ilmu in dealing with disasters include an active fire system, in the form of increasing the number of fire extinguishers to a total of 50 light fire extinguishers with a distribution of 10 for each floor, increasing the number of sprinklers to 28 for each floor and provision of spare sprinklers of not less than 6 spare sprinklers. For passive fire systems, in the form of making the main gate at the exit facility complete with an entrance control system and access to the exit of the building. For rescue facilities, improvements that should be made are installing emergency lighting, adding an area for gathering points, checking periodically related to exit door locking, and arranging the layout of an evacuation plan that is more visible and clearer by placing them in strategic places, such as in front of the elevator in every floor and in front of the main door. The evacuation map needs to include information regarding evacuation procedures and route planning exit, as well as floor plans, and safe areas for shelter (OSHA, 2018). In addition to the things mentioned above, other suggestions related to the preparedness of the Rumah Ilmu in dealing with disasters, especially fires, namely through the provision of education through training, educational videos, and posters to the staff and visitors of the Rumah Ilmu in depth regarding disaster preparedness at the Rumah Ilmu. especially for fire disasters. One form of providing education can be through simulating disaster events with sufficient frequency so that both staff and visitors can practice and get used to acting when a disaster occurs later. In addition, a study (Tahmasebinia et al., 2022) stated that in existing buildings, reconstruction based on simulation results can increase the guarantee of the safety of human life and property.

REFERENCES

- Alfalasi, S., Akmal, S., & Hakimi, H. (2022, December). Quality Awareness on Fire Safety Equipment for A Building. A Review Paper from The UAE Perspective. *Social Science Journal*, 12, 253-261.
- Bansal, J. (2015, January). Disaster Management in Libraries: An Overview. *Gyonkash-The Journal of Library and Information Management*, 6.
- Cammalleri, V., Marotta, D., Protano, C., Vitali, M., Villari, P., & Cattaruzza, M. S. (2020). How do combustion and non-combustion products used outdoors affect outdoor and indoor particulate matter levels? A field evaluation near the entrance of an Italian university library. *International Journal of Environmental Research and Public Health*, 17(14), 1–15. <https://doi.org/10.3390/ijerph17145200>
- Chen, J., Guan, Z., & Kang, Q. (2015). Simulation Study on Library Evacuation Based on Pathfinder, China Academic Electronic Publishing House 16, p. 170.
- Departemen Pekerjaan Umum. Peraturan Menteri Pekerjaan Umum Nomor 26 Tahun 2008 tentang Persyaratan Teknis Sistem Proteksi Kebakaran pada Bangunan Gedung dan Lingkungan. Jakarta.
- Department of Facilities Management University of South Florida. (n.d.). *Fire Extinguishers*. Fire Safety.
- Geren, R. L. (2016). *Applying the building code during design : step-by-step process*. Wiley.
- Hu, J. W. and Chen, S. S. (2014). Analysis of Security Evacuation Simulation and Optimization of a University Library. *Procedia Eng.* 71, 558–566.
- Ilo, P. I., Izuagbe, R., Mole, A. J. C., & Ekwueme, L. (2018). Measuring disaster preparedness and response practices in university libraries in Nigeria: The role of disaster equipment. *International Journal of Disaster Risk Reduction*, 31, 85–91. <https://doi.org/10.1016/j.ijdr.2018.04.007>
- Jaafar, M., Salim, N. A. A., Salleh, N. M., Sulieman, M. Z., Ulang N. M., & Ebekoziem, A. (2021). Developing a Framework for Fire Safety Management Plan: the Case of Malaysia's Public Hospital Buildings. *International Journal of Building Pathology and Adaptation*. DOI 10.1108/IJBPA-04-2021-0060

- Jawaharlal Nehru Centre for Advanced Scientific Research Department of Science and Technology, Govt. Of India. (n.d.). Fire Hydrant System.
- Kementerian PUPR. Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat Republik Indonesia Nomor 14 Tahun 2017 tentang Persyaratan Kemudahan Bangunan Gedung. Jakarta.
- Kubba, S. (2016). *Impact of energy and Atmosphere LEED v4 Practices, Certification, and Accreditation Handbook* (2nd ed., Vol. 4).
- Li, M., Zhu, S., Wang, J., & Zhou, Z. (2018). Research on Fire Safety Evacuation in a University Library in Nanjing. *Procedia Engineering*, 211, 372–378. doi:10.1016/j.proeng.2017.12.025
- Matthews, G. & Eden, P. (1996). Disaster Management Training in Libraries. *Library Reviews*, 45 (1), 30-38.
- Mishra, A. K., & Aithal, P. S. (n.d.). Preparedness and Costing on Fire Safety Installation In Commercial Buildings. Occupational Safety and Health Administration. (2018). "Emergency preparedness and response: getting started. United States Department of Labor 9.
- Pitri, N. (2019). Kesiapsiagaan Perpustakaan Dalam Menghadapi Bencana Kebakaran di Dinas Perpustakaan dan Arsip Daerah Provinsi Jambi. *Jurnal Ilmu Perpustakaan dan Informasi*, 3 (1), 18-32.
- Purpura, P. P. (2013). *Life Safety, Fire Protection, and Emergencies Security and Loss Prevention* (6th ed.).
- Rafi, M. M., Ahmed, S., Lovreglio, R., & Dias, C. (2022). Investigating a University Library Building Evacuation in Pakistan During a Semi-announced Fire Drill. *Fire and Materials*, 1-12. doi:10.1002/fam.3111
- Simbolon, L. N. S., Wiguna, I. P. A., & Adi, T. J. W. (2020). Weighting variables for building performance evaluation. *IOP Conference Series: Materials Science and Engineering*, 930(1), 012018. <https://doi.org/10.1088/1757-899x/930/1/012018>
- Tahmasebinia, F., Jiang, R., Sepasgozar, S., Wei, J., Ding, Y., & Ma, H. (2022). Using Regression Model to Develop Green Building Energy Simulation by BIM Tools. *Sustainability (Switzerland)*, 14(10). <https://doi.org/10.3390/su14106262>
- Widowati, E., Koesyanto, H., Wahyuningsih, A. S., & Sugiharto, S. (2017). Analisis Keselamatan Gedung Baru F5 Universitas Negeri Semarang sebagai Upaya Tanggap terhadap Keadaan Darurat. *Unnes Journal of Public Health*, 6(2), 101. <https://doi.org/10.15294/ujph.v6i2.13696>
- Wijayanti, L. (2004). Perpustakaan Perguruan Tinggi: Buku Pedoman. Jakarta: Direktorat Jenderal Pendidikan Tinggi Depdiknas.
- Xiao, M., et al. (2021). Simulation and Optimization of Fire Safety Emergency Evacuation in University Library. *AIP Advances* 11, 065323. doi: 10.1063/5.0056046
- Yulia, Y., Janti, S., & Gristinawa. (2009). Pengembangan Koleksi. *Universitas Terbuka*.
- Zheng, H., Zhang, S., Zhu, J., Zhu, Z., & Fang, X. (2022). Evacuation in Buildings Based on BIM: Taking a Fire in a University Library as an Example. In *International Journal of Environmental Research and Public Health* (Vol. 19, Issue 23). <https://doi.org/10.3390/ijerph192316254>