

DEVELOPMENT OF A DISASTER MITIGATION BOOK FOR ELEMENTARY SCHOOL STUDENTS

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Abstract

The background to the problems faced in society, especially the Malang area, East Java, is that several natural disasters have occurred which have resulted in victims. Therefore, education is needed from an early age in order to minimize the number of victims of natural disasters. The aim of this research is to develop a disaster mitigation book for disaster education in elementary schools. The development of learning media in the form of disaster mitigation books is very necessary so that elementary school students have readiness, both knowledge and skills related to the threat of disasters around them and can behave well when a disaster occurs. The research method used is development research with the ADDIE model. Activities are carried out in the stages of Analysis, Design, Development, Implementation and Evaluation. The data collection techniques used were questionnaires and documentation. The research subjects involved were material experts and media experts for elementary school education. Data analysis uses percentage techniques and descriptions of research results. The research procedure starts from initial analysis, product design, product development, product application, and product evaluation. The research results show that the book developed received a positive response from validators. Based on the assessment of material expert validators, the product obtained results of 93.75%. Based on the assessment of media experts, the book product received a score of 98%. These results prove that the product developed can be categorized as a very valid product based on the results of expert validator assessments and can be said to be suitable for elementary school students.

Keywords: disaster mitigation; book; learning media; elementary school

Abstrak

Latar belakang masalah yang dihadapi di masyarakat, khususnya daerah Malang Jawa Timur yaitu beberapa kali terjadi bencana alam yang menyebabkan korban. Oleh karena itu diperlukan edukasi sejak dini agar dapat meminimalisir adanya korban bencana alam. Tujuan penelitian ini adalah mengembangkan buku mitigasi bencana untuk pendidikan kebencanaan di sekolah dasar. Pengembangan media pembelajaran berupa buku mitigasi bencana sangat diperlukan agar siswa sekolah dasar mempunyai kesiapan, baik pengetahuan maupun keterampilan terkait ancaman bencana disekitarnya serta dapat berperilaku baik ketika terjadi bencana. Metode penelitian yang digunakan adalah penelitian pengembangan dengan model ADDIE. Kegiatan dilaksanakan dengan tahapan Analisis, Perancangan, Pengembangan, Implementasi, dan Evaluasi. Teknik pengumpulan data yang digunakan adalah angket dan dokumentasi. Subjek penelitian yang dilibatkan yaitu ahli materi dan ahli media untuk pendidikan sekolah dasar. Analisis data menggunakan teknik persentase dan deskripsi hasil penelitian. Prosedur penelitian dimulai dari analisis awal, perancangan produk, pengembangan produk, penerapan produk, dan evaluasi produk. Hasil penelitian menunjukkan bahwa buku yang dikembangkan mendapat respon positif dari validator. Berdasarkan penilaian validator ahli materi, produk memperoleh hasil sebesar 93,75%. Berdasarkan penilaian ahli media, produk buku memperoleh skor 98%. Hasil tersebut membuktikan bahwa produk yang dikembangkan dapat dikategorikan produk sangat valid berdasarkan hasil penilaian validator ahli dan dapat dikatakan cocok untuk siswa sekolah dasar.

Kata Kunci: mitigasi bencana; buku; media pembelajaran; sekolah dasar

Received : 2024-02-02

Approved : 2024-04-20

Revised : 2024-04-17

Published : 2024-04-30



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Introduction

One of the provinces in Indonesia is East Java. One of the areas is Malang Regency. This region is not immune to natural disasters which occur almost every year with almost the same pattern of natural disasters. Based on the results of a preliminary study conducted, the Malang Regency area often experiences natural disasters, such as floods and landslides (Sensus, 2021). The results of another study also stated that from December 2021, 2022, until early 2023, Malang Regency experienced the natural disaster of the eruption of Mount Semeru (Mulyono & Paramitha, 2022; Nadhiroh, 2023). This of course needs attention so that local communities can have the right knowledge, skills and attitudes when facing disasters. In this way, it is hoped that it can minimize the occurrence of casualties

Disaster education has become a concern for many parties today, include in Indonesia. This is shown by the many previous studies that have taken part in research related to disasters that occurred in Indonesia. Several previous research results show that natural disasters are an important topic to explore and find solutions so that they do not cause more loss of life and property (Gosal, Tarore, & Karongkong, 2018; Imam A Sadisun, 2004; Isnaini, 2019; Larasati, Hariyanto, & Kurniawan, 2017). The results of research obtained by previous researchers show that attention regarding natural disasters that occur, especially in Indonesia, requires a solution, one of the best solutions is through the field of education, especially learning in schools.

Learning is a process of interaction between students and teachers in achieving certain learning goals. Disaster education through the learning process at school can be carried out since elementary school. This is supported by several previous studies that primary school education as one of the first formal educations is very influential in students' future attitudes regarding the environment and when facing disasters. Previous research has shown several media developments and strategies carried out for disaster education in schools, namely: (1) earthquake hazard maps; (2) 2D animation media related to volcanoes; (3) flood prevention and control approach; (4) picture story book about volcanic disaster mitigation; and (5) learning model for volcanic disaster mitigation (Ambri & Nur Rahmi, 2022; A. Nugroho, 2018; Ridwan et al., 2023; Sebastian, 2008; Suryaningsih & Fatmawati, 2017). This further strengthens that learning related to disaster mitigation has been a concern of Indonesian education for at least 15 years.

The study that has been carried out is really necessary because Indonesia is one of the countries where many natural disasters occur. Based on data from BNPB in 2021 (Azanella, 2021) information was obtained that judging from statistical data, disasters that occurred in Indonesia had decreased from 4.69 in 2020 to 3,093 in 2021. However, the impact of the number of fatalities in 2021 had increased compared to 2020. It was further revealed that provinces experiencing natural disasters Most often in West Java, East Java, Central Java and Aceh (Azanella, 2021; Sensus, 2021). These results further strengthen the need for learning media that supports disaster education from elementary school age in East Java.

There are two natural disasters that occur most frequently in East Java, namely floods and landslides (Sensus, 2021). Flood-prone areas are areas that are easily or have a tendency to be hit by floods. The vulnerability of an area is influenced by physical/environmental, social, economic and political conditions, institutions and actions that do not pay attention to the principles of sustainability in that area (Wismarini & Sukur, 2015). Floods are natural disasters that need attention because they can threaten lives and property loss (Umar, 2013). The impacts of flood disasters include buildings that can be damaged and destroyed due to the impact of floods, being swept away by currents or the erosion of puddles, landslides around

foundations, pools of mud, oil and other materials that can contaminate the soil, loss or damage to seeds and livestock (Sebastian, 2008).

Landslides are a geological event where ground movement occurs such as the fall of rocks or large lumps of soil. This event often occurs on natural or artificial slopes and is actually a natural phenomenon due to disturbances or factors that influence it and cause a reduction in shear strength and an increase in soil shear stress (Setiadi, 2013). Arifin, et al stated that landslides are disasters that can result in quite large disasters, both in the form of property and loss of life so that they can affect people's lives in the long term (D. D. Nugroho & Nugroho, 2020). Landslide disasters are the main contributor to death, damage and disruption to society (Renaud, Rieux, & Estrella, 2013).

The use of book media to improve students' knowledge, skills and attitudes has been carried out by previous researchers. Based on previous research, the use of books oriented towards local excellence can improve student character (Mahanani, Sutarno, & Muchtar, 2021; Wijayanti, 2019). The results of other research also state that AR-based digital books for traditional homes can increase children's interest in reading for learning (Kao, Tsai, Liu, & Yang, 2016; Ningsih & Dijaya, 2022). Therefore, the use of books as a learning medium for elementary school students in Indonesia is still relevant for use in learning activities.

The aim of this research is to produce valid disaster mitigation book media based on material and media experts as a learning media tool in elementary schools. This research is important to carry out immediately because East Java as part of Indonesia is in second place in the number of disaster events that occur and has the threat of loss of life and property. Thus, it is important to prevent fatalities through the field of elementary school education. The novelty of this research is the preparation of a disaster mitigation book that is adapted to the level of understanding of elementary school students in Indonesia, especially in the Malang Regency area

Research Methods

The research method used is the ADDIE research and development method. The 5 steps of research activities carried out are: (1) Analysis; (2) Design; (3) Development; (4) Implementation; (5) Evaluation (Branch, 2009). The analysis stage was carried out by reviewing the curriculum in elementary schools and literature related to natural disasters as a basis for preparing disaster mitigation books. Next, the design stage is carried out by compiling a book framework consisting of chapters and sub-chapters and their contents which will be built into a book product. At the development stage, what was carried out was to compile the contents of a book related to natural disaster mitigation that was adapted to the competencies and characteristics of elementary school students. At the implementation stage, validation was carried out with material and media expert validators. The evaluation stage is carried out by improving notes in the form of suggestions and input from validators.

The research techniques and instruments used were questionnaires and documentation. The research subjects involved were material experts and media experts for basic education. The validation sheet given to material experts contains aspects related to the concept of disaster and eco-science which consists of 12 statement items. Meanwhile, media experts include aspects related to product quality and language which consist of 12 statement items.. Research data analysis uses percentage techniques for quantitative data and descriptions for qualitative data.

This research activity was carried out from April to September 2023. The research procedure carried out starts from the initial data analysis stage, followed by product design

planning, product development, product application, and product evaluation. The initial data analysis stage is an activity carried out by reviewing existing problems in the field and reviewing documents related to existing problems. Furthermore, product design planning includes activities to create a disaster mitigation book product framework, collecting various materials from various sources, as well as creating or collecting documentation in the form of images or photos that support the creation of the book. The next activity is developing book products, namely completing the book framework that has been created previously in accordance with the research objectives. After that, the next step is implementing product trials in elementary schools in Malang Regency because the background of this research is in Malang Regency, East Java. In the final stage, namely product evaluation, namely providing corrections and completing the product based on the results of product trials that have been carried out. The product activity in this research is a Disaster Mitigation Book for Elementary School Students which consists of 64 sheets combined with pictures and material descriptions.

Results and Discussion

There are several activities carried out in analysis activities. This activity will be carried out in April-May 2023 with the agenda of reviewing the 2013 Curriculum and the Merdeka Curriculum regarding natural disasters. Based on studies that have been carried out, in the 2013 curriculum there are themes related to the environment and natural disasters, including themes of natural events, the earth and the universe as well as objects in the surrounding environment. Meanwhile, in the Merdeka curriculum there is material about natural disasters in the science and science subjects.

The second step was design. This stage contains activities for preparing a book draft. There are 4 chapters in the disaster mitigation book, namely Chapter I Before a Disaster Occurs, Chapter II After a Disaster Occurs, Chapter 3 Knowledge, and Chapter 4 Evacuation Cards. Next, a book cover design is created.

Development. At this stage the book framework that has been created is then developed into a product in the form of a disaster mitigation book. Various literature studies were carried out to develop products so that disaster mitigation book media could be realized. This book uses language adapted to the characteristics of elementary school students so that it uses language that is easier for elementary school age students to understand and understand.

There are several natural disasters that are highlighted and deepened in this book, starting from what needs to be prepared before a disaster occurs, what must be done when or after a disaster occurs, as well as various knowledge related to natural disasters. At the end of the development activities, approximately 60 book pages were obtained which contained preventive actions before a disaster occurred and knowledge related to disasters that had occurred in Indonesia. This book also uses various pictures and illustrations to help elementary school students understand. This activity will be carried out from May to August 2023.

After the material and images have been designed, the next step is developing the cover design. The cover of the disaster mitigation book for elementary school students was developed with an animation concept that can provide an overview of several natural disasters that can occur in the surrounding environment. Apart from that, it is also equipped with animated images of a boy and a girl which depict the gender of students in elementary school. The book cover image is presented in Figure 1 below.



Figure 1. Cover Disaster Mitigation Book

Implementation

Implementation activities are carried out with validation from material experts and media experts. The material expert involved is MZ and ZF as Media experts. This activity will be carried out almost simultaneously in September 2023 after the product is developed. Furthermore, results were obtained from material expert validators that the book product developed obtained results of 93.75%. These results indicate that the product is in a very valid category. Results from media expert validators obtained results of 98%. This shows that the product is in a very valid category seen from media appearances. The results of the material and media expert assessment are described in table 1 below.

Table 1
Validation Results by Expert Validators

Validation Indicator	Total score	Maximum Score	Information
Disaster Concept	26	28	Material Expert Validator
Eco-Science	19	20	Material Expert Validator
Product Quality	31	32	Media Expert Validator
Language	16	16	Media Expert Validator

Evaluation. After the product receives results from the validator, the next step is to improve the notes or suggestions and input from experts regarding the book development that has been carried out. There are several notes and suggestions for correction, namely: (1) writing or spelling errors; (2) abbreviations that are not commonly used by students are conveyed more communicatively, for example BNPB and BPBD; and (3) arrange the position of the picture so that students focus on the same explanation and picture so that it is easier for students to read.

Indonesia as part of the world cannot be separated from natural disasters. There have been various natural disasters that have occurred in Indonesia and this has caused many victims, both lives and property. There are several recorded natural disasters that have an impact on elementary school students, including the natural disaster of the Semeru volcanic eruption in East Java, natural disasters of flooding, and landslides (Agustina, Wicaksi, Susilowati, & Wulandari, 2021; Isnaini, 2019; Sahana, 2021). Based on census results, it also shows that East Java is one of the provinces with the second highest ranking after West Java

regarding natural disasters, one of them is the eruption of the Semeru volcano in Lumajang (Putra, Maarif, Kurniawan, Widodo, & Saragih, 2022; Sensus, 2021). These results certainly require a response so that education related to disasters or natural disasters can be obtained by students since elementary school.

Education in elementary school is the main foundation for further education. Therefore, it is important for education in elementary schools to receive attention, including regarding disaster education. Having good education regarding environmental sustainability can support the reduction of natural and non-natural disasters that could occur in the future because students' character has been formed. There are several media that are commonly used to instill character in schools, including textbooks, accompanying books, pictures, videos, providing examples and other learning media that can provide provisions for developing the character of the nation's next generation (Mahanani, Akbar, Kamaruddin, & Hussin, 2022; Sebastian, 2008; Setiadi, 2013). This is also in line with the Minister of Environment and Forestry's regulation Number 52 of 2019 concerning the movement for environmental care and culture in schools. Another policy related to education contained in Law No. 20 of 2003 concerning the National Education System also states that in order to strengthen students' competence regarding the environment and the threat of disasters, it is carried out through a local content curriculum in schools (Indonesia, 2003; Kehutanan, 2019). Based on this, disaster mitigation book products for elementary school students are very relevant to the theories and policies that apply in Indonesia.

Based on the validation results of the disaster mitigation book product, the results were 93.75% in the very valid category. These results indicate that the book developed is appropriate to the level of material for elementary school age students. As previously discussed, the material in the disaster mitigation book is in accordance with the current curriculum in elementary school. This is in accordance with Syaodih's opinion that learning should be adapted to the demands, needs and developments of society (Suryaningsih & Fatmawati, 2017). This strengthens the production of disaster mitigation book products because this book can answer the community's need for understanding disaster mitigation. Apart from that, the research conducted has proven to further strengthen previous research which resulted in the conclusion that books have a good impact on developing students' values or character (Sattar Chaudhry, 2014; Tan, Mahadir Naidu, & Jamil Osman, 2018).

The results of the media expert validator, the disaster mitigation book product received a validity level of 98% with a very valid category. This shows that the book being developed is in accordance with the ethics of book making. There are several things that must be considered in preparing a book, namely: (1) consistency in the use of symbols and terms; (2) the material is accurate, appropriate, complete and systematic; (3) the material text is easy to understand or communicative; (4) provide special boxes/labels for formulas, material emphasis and example questions; (5) provide attractive colors and designs; and (6) use a standard/legible font size (Asyhari & Silvia, 2016; Soesilo & Munthe, 2020; Su'udiah, Degeng, & Kuswandi, 2016). These results also strengthen the study of the importance of media in classroom learning as part of teacher teaching creativity and optimizing learning (Anwar, Shintasiwi, & Mulianingsih, 2020; Mahanani, Umayaroh, & Roebyanto, 2020). Based on this, it can be concluded that the mitigation book developed is in accordance with the provisions for developing books for students in schools. Therefore, the research results in the form of a disaster mitigation book product for elementary school students can be used as a supporting book for material related to natural disaster mitigation for elementary school students, especially in East Java.

Conclusion

Based on the activities that have been carried out, it can be concluded that the Disaster Mitigation book for elementary school students can be developed in accordance with the ADDIE research and development stages. The validation results also show that the product developed is declared valid in terms of material and media. The validation results by the material validator obtained a result of 93.75% with a very valid category. Results from media expert validators obtained results of 98% with a very valid category. These results show that the media developed can and is suitable for use in elementary schools on disaster-related material. The implication of the results of this research is that the product developed can be a source of support for elementary school teachers and students in learning activities related to natural disaster mitigation material. Hopefully this research can be useful for elementary school students in Malang, East Java and Indonesia in general as a disaster mitigation effort in the field of elementary school education.

References

- Agustina, Y. D., Wicaksi, D., Susilowati, S., & Wulandari, R. A. (2021). Deteksi Dini Ptsd Pada Korban Gunung Semeru Di Lumajang. *Jurnal Pengabdian Masyarakat LPPM Universitas Bondowoso*, 1(2).
- Ambri, A., & Nur Rahmi, A. (2022). Pembuatan Animasi 2d Terbentuknya Gunung Berapi Dan Dampak Yang Ditimbulkan Bagi Lingkungan Menggunakan Teknik Motion Grafik. *Information System Journal*, 4(2), 1–6. <https://doi.org/10.24076/infosjournal.2021v4i2.666>
- Anwar, K., Shintasiwi, F. A., & Mulianingsih, F. (2020). Teacher Optimization in Utilizing Media Literacy for Social Science Learning in Semarang. *International Journal of Emerging Technologies in Learning (iJET)*, 7(15), 141. <https://doi.org/10.3991/ijet.v15i07.13227>
- Asyhari, A., & Silvia, H. (2016). Pengembangan Media Pembelajaran Berupa Buletin dalam Bentuk Buku Saku untuk Pembelajaran IPA Terpadu. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, 5(1), 1–13. <https://doi.org/10.24042/jpifalbiruni.v5i1.100>
- Azanella, L. A. (2021). *BNPB: Jumlah Bencana 2021 Turun tapi Dampak Bencana Naik*. Kompas.com. Retrieved from <https://www.kompas.com/tren/read/2021/12/31/190000565/bnpb--jumlah-bencana-2021-turun-tapi-dampak-bencana-naik?page=all#page2>
- Branch, R. M. (2009). *Instructional Design: The ADDIE Approach*. USA: Springer. Retrieved from https://books.google.co.id/books?id=mHSwJPE099EC&pg=PA108&hl=id&source=gbs_selected_pages&cad=1#v=onepage&q&f=false
- Gosal, L. C., Tarore, R. C., & Karongkong, H. H. (2018). Analisis Spasial Tingkat Kerentanan Bencana Gunung Api Lokon Di Kota Tomohon. *Jurnal Spasial*, 5(2). Retrieved from <https://ejournal.unsrat.ac.id/v3/index.php/spasial/article/view/20810/20501>
- Imam A Sadisun. (2004). *Manajemen Bencana: Strategi hidup di wilayah berpotensi bencana*. <https://doi.org/10.13140/2.1.1563.4567>

- Indonesia, P. R. (2003). *Undang-undang Republik Indonesia Nomor 20 tahun 2003 tentang sistem pendidikan nasional*. Departemen Pendidikan Nasional.
- Isnaini, R. (2019). Analisis Bencana Tanah Longsor di Wilayah Provinsi Jawa Tengah. *Islamic Management and Empowerment Journal*, 1(2), 143–160. <https://doi.org/10.18326/imej.v1i2.143-160>
- Kao, G. Y.-M., Tsai, C., Liu, C.-Y., & Yang, C.-H. (2016). The effects of high/low interactive electronic storybooks on elementary school students' reading motivation, story comprehension and chromatics concepts. *Computers & Education*, 100, 56–70. <https://doi.org/10.1016/j.compedu.2016.04.013>
- Kehutanan, K. L. H. dan. (2019). *Peraturan Menteri LHK Nomor 52 tahun 2019*. Kementerian Lingkungan Hidup dan Kehutanan.
- Larasati, Z. R., Hariyanto, T., & Kurniawan, A. (2017). Pemetaan Daerah Risiko Banjir Lahar Berbasis SIG Untuk Menunjang Kegiatan Mitigasi Bencana (Studi Kasus: Gunung Semeru, Kab. Lumajang). *Jurnal Teknik ITS*, 6(2), C363–C368. <https://doi.org/10.12962/j23373539.v6i2.23899>
- Mahanani, P., Akbar, S., Kamaruddin, A. Y. B., & Hussin, Z. B. (2022). Educational Analysis to Develop Character in Malaysia and Indonesia. *International Journal of Instruction*, 15(3), 377–392. <https://doi.org/10.29333/iji.2022.15321a>
- Mahanani, P., Sutarno, & Muchtar. (2021). Big Book Based on SAS Method Using Kvisoft Application to Strengthen Reading Literacy for Student. *2021 7th International Conference on Education and Technology (ICET)*, 235–240. Malang, Indonesia: IEEE. <https://doi.org/10.1109/ICET53279.2021.9574701>
- Mahanani, P., Umayaroh, S., & Roebyanto, G. (2020). Creativity of Junior High School Teacher in Learning in the Time of Covid-19: *Proceedings of the 1 St International Conference on Information Technology and Education (ICITE 2020)*. Presented at the 1st International Conference on Information Technology and Education (ICITE 2020), Malang, Indonesia. Malang, Indonesia: Atlantis Press. <https://doi.org/10.2991/assehr.k.201214.296>
- Mulyono, J., & Paramitha, N. A. (2022). Management Of The Mount Semeru Eruption Disaster Through Social Capital. *International Journal of Education and Social Science Research*, 05(06), 307–319. <https://doi.org/10.37500/IJESSR.2022.5624>
- Nadhiroh, F. (2023). *Gunung Semeru Erupsi Lagi, Tinggi Letusan 800 Meter*. detik.com. Retrieved from <https://www.detik.com/jatim/berita/d-6567504/gunung-semeru-erupsi-lagi-tinggi-letusan-800-meter>
- Ningsih, M. F., & Dijaya, R. (2022). *Buku Saku Digital Untuk Rumah Adat Berbasis Augmented Reality*.
- Nugroho, A. (2018). Pengembangan Model Pembelajaran Mitigasi Bencana Gunung Meletus Di Sekolah Dasar Lereng Gunung Slamet. *Jurnal Pengabdian Masyarakat Multidisiplin*, 1(2), 131–137. <https://doi.org/10.36341/jpm.v1i2.413>
- Nugroho, D. D., & Nugroho, H. (2020). Analisis Kerentanan Tanah Longsor Menggunakan Metode Frequency Ratio di Kabupaten Bandung Barat, Jawa Barat. *Geoid*, 16(1), 8. <https://doi.org/10.12962/j24423998.v16i1.7680>

- Putra, D. R. K., Maarif, S., Kurniawan, L., Widodo, P., & Saragih, H. J. R. (2022). The Role of Lumajang's Regional Disaster Management Agency Facing of Semeru Volcanic Eruptions. *International Journal of Innovative Science and Research Technology*, 7(12).
- Renaud, F. G., Rieux, K. S., & Estrella, M. (2013). *The Role of Ecosystems in Disaster Risk Reduction*. Tokyo Japan: United Nations University Press. Retrieved from https://books.google.co.id/books?hl=en&lr=&id=9mTRjKmN1LwC&oi=fnd&pg=PR5&dq=Sudmeier-Rieux,+2013&ots=n3mCvEldG5&sig=yArYgjY4tWWLP6wXazDLt_OUOEg&redir_esc=y#v=onepage&q=Sudmeier-Rieux%2C%202013&f=false
- Ridwan, M., Soehaimi, A., Sinung Baskoro, S. R., Sopian, Y., Setianegara, R., & Cita, A. (2023). Pengembangan Peta Bahaya Gempabumi di Batuan Dasar untuk Daerah Cilacap dan Sekitarnya. *Jurnal Geologi Dan Sumberdaya Mineral*, 24(1), 31–38. <https://doi.org/10.33332/jgsm.geologi.v24i1.704>
- Sahana, W. (2021). *Penanganan Banjir Rob Di Kota Tanjungbalai*. 4.
- Sattar Chaudhry, A. (2014). Student response to e-books: Study of attitude toward reading among elementary school children in Kuwait. *The Electronic Library*, 32(4), 458–472. <https://doi.org/10.1108/EL-04-2012-0041>
- Sebastian, L. (2008). Pendekatan Pencegahan Dan Penanggulangan Banjir. *Dinamika Teknik Sipil*, 8(2), 8.
- Sensus, T. (2021). *Jumlah Kejadian Bencana Alam Menurut Kabupaten/Kota di Provinsi Jawa Timur*. Badan Pusat Statistik. Retrieved from <https://jatim.bps.go.id/statictable/2021/09/06/2236/jumlah-kejadian-bencana-alam-menurut-kabupaten-kota-di-provinsi-jawa-timur-2020.html>
- Setiadi, T. (2013). Perancangan Sistem Informasi Geografis Pemetaan Daerah Rawan Tanah Longsor, Mitigasi Dan Manajemen Bencana Di Kabupaten Banjarnegara. *Jurnal Kesehatan Masyarakat (Journal of Public Health)*, 7(1). <https://doi.org/10.12928/kesmas.v7i1.1050>
- Soesilo, A., & Munthe, A. P. (2020). Pengembangan Buku Teks Matematika Kelas 8 Dengan Model ADDIE. *Scholaria: Jurnal Pendidikan dan Kebudayaan*, 10(3), 231–243. <https://doi.org/10.24246/j.js.2020.v10.i3.p231-243>
- Suryaningsih, E., & Fatmawati, L. (2017). Pengembangan Buku Cerita Bergambar Tentang Mitigasi Bencana Erupsi Gunung Api Untuk Siswa Sd. *Profesi Pendidikan Dasar*, 4(2), 113–124. <https://doi.org/10.23917/ppd.v4i2.5310>
- Su'udiah, F., Degeng, I. N. S., & Kuswandi, D. (2016). Pengembangan Buku Teks Tematik Berbasis Kontekstual. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan*, 1(9).
- Tan, B. P., Mahadir Naidu, N. B., & Jamil Osman, Z. (2018). Moral values and good citizens in a multi-ethnic society: A content analysis of moral education textbooks in Malaysia. *The Journal of Social Studies Research*, 42(2), 119–134. <https://doi.org/10.1016/j.jssr.2017.05.004>
- Umar, N. (2013). Pengetahuan Dan Kesiapsiagaan Masyarakat Menghadapi Bencana Banjir Di Bolapapu Kecamatan Kulawi Sigi Sulawesi Tengah. *Jurnal Keperawatan Soedirman*, 8(3), 9.

- Wijayanti, T. S. (2019). *Pengembangan Buku Saku Biologi Berorientasi Keunggulan Lokal Untuk Meningkatkan Karakter Peserta Didik*. 4(5).
- Wismarini, Th. D., & Sukur, M. (2015). Penentuan Tingkat Kerentanan Banjir Secara Geospasial. *Dinamik*, 20(1). <https://doi.org/10.35315/dinamik.v20i1.4630>