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DEVELOPMENT OF THE "DARING TO FACE SHOCKS" BOOK TO IMPROVE EARTHQUAKE DISASTER MITIGATION SKILLS IN EARLY CHILDHOOD AT BEKASI NATURE SCHOOL

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Abstract
This study aims to improve the ability to mitigate earthquake disasters in early childhood using picture story books with story telling and role playing methods. This study was conducted at Bekasi Nature School in February 2025 - April 2025. The method used in this study is a combination of quantitative and qualitative methods. The population in this study were all kindergarten students of Bekasi Nature School consisting of 60 students, and the sample used was 30 students using purposeful random sampling techniques. The instrument used in this study was an interview using a questionnaire. Based on the data analysis of the book Dare to Face Shocks, it was stated that it was very feasible with a percentage of 93.75%. The results of student responses regarding interestingness obtained a percentage value of 98.7% with very interesting criteria. Student knowledge in understanding how to mitigate earthquake disasters increased with an N-Gain test of 0.7742, which is greater than 0.7 (> 0.7) and is said to be effective. With an effectiveness level of 77%. Thus, it can be concluded that the book "Daring to Face Shocks" is not only engaging but also has a significant impact on disaster mitigation learning. This makes it highly suitable and effective for use in disaster education for early childhood.
Keywords: Books, Earthquake Mitigation, Early Childhood

Abstrak
Penelitan ini bertujuan untuk meningkatkan kemampuan mitigasi bencana gempa bumi pada anak usia dini menggunakan buku cerita bergambar dengan metode story telling dan role playing. Penelitian ini dilaksanakan di Sekolah Alam Bekasi pada Bulan Februari 2025 – April 2025. Metode yang digunakan dalam penelitian ini adalah metode kombinasi (mixed method) kuantitatif dan kualitatif. Populasi dalam penelitian ini adalah seluruh siswa TK Sekolah Alam Bekasi yang tediri dari 60 siswa, dan sampel yang digunakan adalah 30 siswa dengan menggunakan teknik purpose random sampling. Instrumen yang digunakan dalam penelitian ini adalah dengan wawancara menggunakan angket. Berdasarkan analisis data buku Berani Menghadapi Guncangan dinyatakan sangat layak dengan memperoleh persentase 93,75%. Hasil respon peserta didik terkait kemenarikan memperoleh nilai persentase 98,7% dengan kriteria sangat menarik. Pengetahuan peserta didik dalam memahami cara mitigasi bencana gempa bumi mengalami peningkatan dengan uji N-Gain 0,7742 yang mana nilai tersebut lebih besar dari pada 0,7 (> 0,7) dan dikatakan efektif. Dengan tingkat efektivitas sebesar 77%. Dengan demikian dapat disimpulkan bahwa Buku Berani Menghadapi Guncangan tidak hanya menarik, tetapi juga berdampak signifikan dalam pembelajaran mitigasi bencana. Hal ini menjadikan buku tersebut sangat layak dan efektif digunakan dalam pendidikan kebencanaan bagi anak usia dini.
Kata Kunci: Buku, Mitigasi Gempa Bumi, Anak Usia Dini

INTRODUCTION

Natural disasters never choose who their victims are, because natural disasters are a series of unexpected events, causing loss of life, damage to facilities and infrastructure and impacting people's lives.[1] The impact of losses and damage caused by disasters is not felt by one individual, but rather is mass, harming many surrounding communities because each individual's vulnerability to disasters is different.[2] The impact of disasters can cause moral and material losses for the communities that experience them.[3] Disasters that come suddenly without prediction cause people to feel threatened and panic,[4] thus causing many losses due to the lack of community preparedness. One of the disasters that comes suddenly, unexpectedly and without prediction is an earthquake.[5]

Earthquakes are a natural disaster that is vulnerable because Indonesia is an active tectonic region located between three plate boundaries: the Indo-Australian plate moving north, the Eurasian plate moving south, and the Pacific plate moving east to west.[6] The National Disaster Management Agency (BNPB) recorded that in 2022, there were 18 earthquakes in one year, with 87 fatalities. Therefore, mitigation efforts are needed to reduce the risk of sudden earthquakes.[7]

West Java experienced the highest number of earthquakes in 2022. The high potential for earthquakes makes public knowledge about disaster mitigation crucial. Disaster mitigation efforts before and after a disaster will impact the number of victims. Women, the elderly, and children are among the most vulnerable groups affected. Children are particularly vulnerable to disasters due to their limited knowledge and limited information on how to protect themselves from the threat of disaster.

Disaster mitigation education is one way that can be provided to children as early as possible, because young children still do not understand what they should do if a disaster occurs.[8] Schools and teachers have a crucial role in providing disaster mitigation education as a foundation of knowledge that children need to learn, thus fostering a culture of disaster mitigation both before, during, and after a disaster.[9] Disaster mitigation education at the kindergarten level is also expected

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[1] D. Kollek, "Hospital Disaster Readiness: Why Are We Unprepared?," in *Research Paper in Canadian Association of Emergency Physician Disaster* (2013).

[2] Oliver-Smith, "Theorizing Disasters: Nature, Power, and Culture," in *Catastrophe and Culture: The Anthropology of Disaster*, ed. Dalam S.M.Hoffman A. Oliver-Smith (School of American Research Press, 2002).

[3] dan Murshed Abarquez, *Community-Based Disaster Risk Management: Field Practitioner Handbook* (ADPC, 2004).

[4] Naomi Zack, *Ethics for Disaster* (Rowman & Littlefield Publishers, 2009).

[5] Pujianto, *Bahan Kuliah Perencanaan Struktur Tahan Gempa* (Universitas Muhammadiyah Yogyakarta, 2007).

[6] Dedi Hermon, *Geografi Bencana Alam* (Raja Grafindo Persada, 2015).

[7] I.Wayan Subagia and I. G. L. Wiratma, "Mitigasi Bencana Alam Gempa Bumi," in *Dalam Seminar Nasional Research Inovatif, Lembaga Penelitian UNDIKSHA* (2013).

[8] Mirza Desfandi, "Urgensi Kurikulum Pendidikan Kebencanaan Berbasis Kearifan Lokal di Indonesia," *Sosio Didaktika* 1, no. 2 (2014).

[9] R.D.N. Setyowati, "Studi Literatur Pengaruh Penggunaan Lahan terhadap Kualitas Air," *Jurnal*

to increase children's understanding, behavior, and abilities in facing disasters.[10] The changes that occur include the dimension of understanding whether their residence is a disaster risk zone, in addition it is also expected to foster awareness in preparing for self-rescue before a disaster occurs that can result in loss of life and train skills in rescue efforts when facing a disaster.[11] Considering the threat of natural disasters that can occur anytime and anywhere, children need to be given knowledge and training to be ready to face natural disasters. Children are also prepared to know how they respond when a disaster occurs and what actions they need to take after a disaster occurs, teaching children about the types of disasters, the dangers that may arise, and how to deal with these situations, thereby increasing children's readiness in facing disasters.[12]

Learning from Japan, which is also located in the "Ring of Fire," disaster mitigation is implemented through community disaster mitigation training. This mitigation training is not only for adults but also begins at an early age. Children are introduced to earthquake mitigation in schools through knowledge of disaster risks and disaster response drills. These drills are conducted routinely through songs and earthquake simulations, repeated in class every three months.

Learning at the kindergarten level is expected to include diverse activities; the more diverse the activities, the more children will learn.[13] Early childhood is an active individual, so school activities must also be diverse and varied. Lecture-based learning will be less absorbed by children because their focus is still unstable for long periods. Varied activities can enrich children's ideas and insights about everything and make it easier for them to accept new knowledge.[14] New creations or understandings are born from curiosity. In general, children are easily captivated by new things that attract their attention. They are able to carefully observe the objects around them. Educators who understand this condition always encourage the development of children's potential in exploring new things, including by providing an understanding of natural disaster mitigation.[15]

Early childhood acquires knowledge through engaging and enjoyable experiences, including storytelling. The art of storytelling is an effective way to convey moral messages to children without making them feel patronized.[16] Through storytelling, children are taught to learn

Ilmu-Ilmu Teknik-Sistem 12, no. 1 (2016): 7–15.

[10] Aldila Rahma and Fanny Rizkiyani, "Peningkatan Pemahaman Guru PAUD tentang Kebencanaan Melalui Pembelajaran Sains," *Jurnal Publikasi Pendidikan* 9, no. 3 (2019).

[11] D. Suhardjo, "Arti Penting Pendidikan Mitigasi Bencana dalam Mengurangi Risiko Bencana," *Jurnal Cakrawala Pendidikan* 2 (2015): 174–88.

[12] Sudaryono, *Dasar-Dasar Evaluasi Pembelajaran* (Graha Ilmu, 2012).

[13] Rusman, *Model-Model Pembelajaran: Mengembangkan Profesionalisme Guru* (RajaGrafindo Persada, 2010).

[14] Jarwl, *Efektivitas Layanan Bimbingan Kelompok dalam Meningkatkan Konsentrasi Belajar Siswa* (Universitas Kristen Satya Wacana, 2010).

[15] Lia, *Upaya Guru Memberikan Pengetahuan dan Kesiapsiagaan dalam Menghadapi Bencana Alam kepada Anak TK Negeri Pembina Kota Tangerang* (Universitas Islam Negeri Syarif Hidayatullah, 2022).

[16] D. Wardiah, "Peran Storytelling dalam Meningkatkan Kemampuan Menulis, Minat Membaca dan

from the stories told and develop empathy.[17] Storytelling using engaging books can stimulate children's imaginations by imagining characters, places, and events in the story, helping them develop analytical thinking skills. Furthermore, children aged 4-6 are at a pre-reading age, so reading storybooks can stimulate their interest in books. Early childhood also has unique characteristics that they enjoy, namely playing and having fun. Therefore, a role-playing learning method is needed to implement mitigation activities when a disaster occurs. Role-playing is a learning method that aims to help students discover their identity by demonstrating, showing, or demonstrating a condition or event they have experienced and understanding how to behave in social relationships.[18] Role-playing activities are conducted when children simulate earthquake disaster mitigation. Children act out roles to build self-confidence and reduce anxiety when a disaster strikes suddenly.

Based on initial observations, Bekasi Nature School students engage in numerous extracurricular activities, such as camping and mountain and sea expeditions. Therefore, regular knowledge development, starting at an early age, is necessary. Not all young children have the same understanding of what an earthquake is and how to mitigate disasters and protect themselves during an earthquake. This is evident in the book "Dare to Face the Shock," which researchers have created with an attractive design and easy-to-understand content. Therefore, this book can be used by kindergarten teachers at Bekasi Nature School to deliver earthquake mitigation material. Through this book, children gain many benefits, not only in knowledge but also in emotional development, language development, and interest in the pre-reading stage.

LITERATURE REVIEW

Early childhood is a highly vulnerable group to the impacts of natural disasters, including earthquakes, due to their limited physical, cognitive, and emotional capabilities. Therefore, disaster mitigation approaches that are tailored to children's developmental characteristics are crucial. One effective approach is through picture-book-based learning, storytelling, and role-playing.

According to Pianta & Walsh,[19] the most effective learning for early childhood is through a visual, concrete, and interactive approach. In the context of disaster education, picture books help children understand complex concepts like earthquakes through engaging illustrations and simple narratives. Sari & Yuliani[20] showed that the use of picture books in disaster education can

Kecerdasan Emosional Siswa," *Wahana Didaktika: Jurnal Ilmu Kependidikan* 15, no. 2 (2017): 42–56.

[17] Bunga Killing and I.Y. Killing, "Karakteristik Prososial Anak Autis Usia Dini di Kupang," *Jurnal PG-PAUD Trunojoyo* 3 (2016): 1–8.

[18] Dinar Latifa and Ahmad Juanda, "Sosiodrama Pada Pembelajaran IPS Sebagai Upaya Peningkatan Kepercayaan Diri Siswa," *Jurnal Ilmiah WUNY* 16, no. 4 (2015), https://doi.org/10.21831/jwuny.v16i4.3513.

[19] R.C. Pianta and D.J. Walsh, *High-Risk Children in Schools: Constructing Sustaining Relationships* (Routledge, 1996).

[20] I.T.Mustika Sari et al., "Improving Early Childhood Prosocial Behavior through Activity

significantly improve children's understanding of safety measures.

Storytelling methodhas also proven effective in conveying earthquake mitigation messages. Stories specifically designed with characters close to children's lives can foster empathy and internalize safety messages. According to Isbell et al.,[21] storytelling helps children build an emotional connection with the story, making the message easier to understand and remember.

Meanwhile, role-playing gives children the opportunity to directly practice what to do during an earthquake. Role-playing allows children to actively express their understanding and strengthens procedural memory for rescue steps. Research by Lestari & Wulandari[22] showed that children involved in role-playing activities responded more quickly and accurately to earthquake simulations.

The combination of these three methods—picture books, storytelling, and role-playing—forms a holistic approach that aligns with the learning styles of young children. Through this fun and non-threatening approach, children can learn to recognize earthquake risks and understand how to protect themselves.

RESEARCH METHODS

This research is a research and development (R&D) by producing a picture book as a learning medium for earthquake mitigation for early childhood. Development research is research that has the goal of developing new products or old products that are updated and effective for use in schools.[23] The product to be developed is a picture book containing a guide to earthquake disaster mitigation for early childhood. This product was developed to increase the knowledge of early childhood in the Nature School regarding earthquake disaster mitigation. The ADDIE development model. The ADDIE model has the advantage of systematic work stages.[24] The stages passed in the research were evaluated and revised with the aim of improving for the next stage, so that the product created becomes a valid product. The ADDIE development model has five stages, The five stages are Analysis, Design, Development, Implamentation, Evaluation. In the stages of the ADDIE development model, it must be arranged systematically so that researchers can easily solve problems.

Storytelling with Puppets," *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini* 2, no. 2 (2018): 155.

[21] R. Isbell, "The Effects of Storytelling and Story Reading on the Oral Language Complexity and Story Comprehension of Young Children," *Early Childhood Education Journal* 32, no. 3 (2004): 157–63.

[22] S. Lestari and D. Wulandari, "Penerapan Metode Role Playing dalam Pembelajaran Mitigasi Bencana Gempa Bumi pada Anak Usia Dini," *Jurnal Pendidikan Anak Usia Dini* 6, no. 2 (2018): 123–32.

[23] L.R. Gay, *Educational Research: Competencies for Analysis and Application* (Prentice-Hall International (UK) Ltd, 1981).

[24] Made Tegeh and Made Kirna, "Pengembangan Bahan Ajar Metode Penelitian Pendidikan dengan ADDIE Model," *Jurnal Pendidikan* 11 (2013): 1–16.

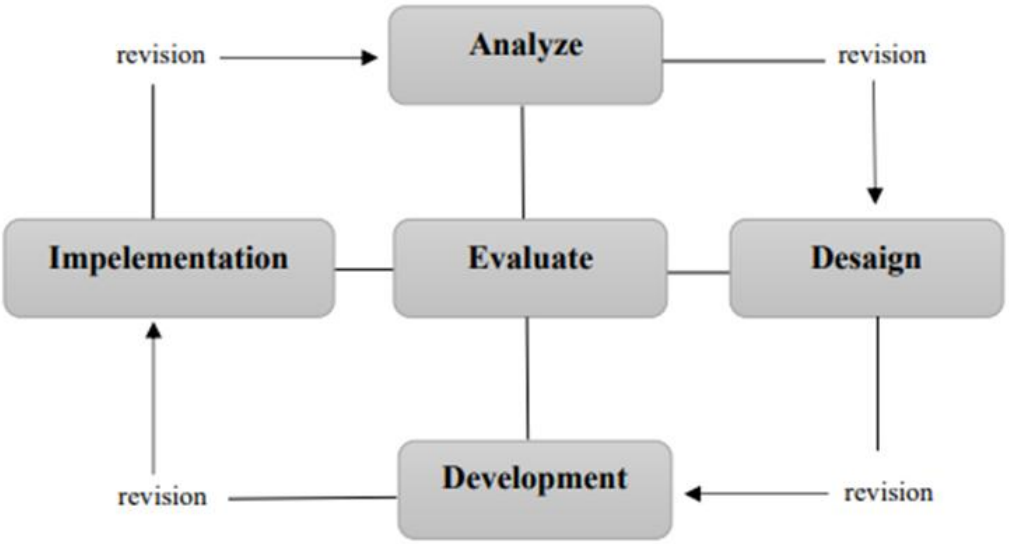


Figure 1.ADDIE Research and Development Flow

The research subjects were drawn from the student population of Bekasi Alam Kindergarten for the 2024/2025 academic year. Subjects were selected using purposeful random sampling. Furthermore, the research data source also included the vice principal for research and development at Bekasi Alam Kindergarten.

The initial data collection techniques for this research and development included observation and interviews with the vice principal for research and development. Furthermore, pre- and post-test questionnaires containing responses from Bekasi Nature School Kindergarten students regarding earthquake disaster mitigation were used.

To conduct the interviews and distribute the questionnaires, the researcher previously requested validation of the picture book product as a learning medium, which was carried out by the vice principal for research and development, Mrs. Lona Amalia Puspita, S.Pd. The purpose of the product validity analysis was to determine whether the product was feasible to be developed. The product validity data analysis was conducted before the product trial. The following formula was used to assess product validity.

$$P = \frac{\sum x}{\sum xi} \times 100\%$$

P = Percentage of Eligibility

$\sum x$ = Total score obtained

$\sum xi$ = Maximum score

100% = Constant

Based on the results of the formula calculation, a percentage is obtained which will be

analyzed to obtain the feasibility criteria for the product being developed. The feasibility criteria according to Arikunto in Fauzan, Ahmad (2011) are as follows:

Table 1. Product Eligibility Criteria

Percentage of Achievement (%)	Eligibility Criteria
76% - 100%	Very Worthy
51% - 75%	Worthy
26% - 50%	Quite Decent
0% - 25%	Not feasible

Source: Fauzan, 2011

Based on the explanation of the criteria above, the researcher can conclude that products that obtain a percentage of 76-100% are in accordance with the specified criteria and do not need to be revised. Meanwhile, products that obtain a percentage of 51-75% are already within the specified criteria and do not need revision. If the product obtains a percentage of 26-50%, the product is declared less feasible and does not meet the specified criteria and requires revision. Meanwhile, products that obtain a percentage of 0-25% are declared unfit and do not meet the specified criteria and need revision.

After being validated by experts, the developed product will be implemented with students. This questionnaire is obtained from student responses to determine the attractiveness of the product developed by the researcher. The questionnaire data for student responses is calculated using a Likert scale score (Riduwan, 2005).

Table 2. Likert Score Criteria

No.	Information	Score
1	Not attractive	1
2	Less attractive	2
3	Interesting	3
4	Very interesting	4

Source: Riduwan, 2005

The score data obtained from the student response questionnaire was then analyzed using the following calculation formula:

$$P = \frac{\Sigma x}{\Sigma xi} \times 100\%$$

P = Percentage of Product Attractiveness

$\sum x$ = Total student response scores

$\sum xi$ = Maximum score

100% = Constant

The next data collection technique was to analyze the product's effectiveness level. Data were obtained from pre-test and post-test results, which included knowledge and attitude indicators. The knowledge indicator was provided through storytelling and interviews. Meanwhile, the attitude indicator was generated through role-play activities during an earthquake. The results of both tests were then analyzed using the N-Gain test using IBM SPSS Statistics to determine the increase in students' knowledge regarding earthquake mitigation.

RESULTS AND DISCUSSION

This research produces a productThis research developed a media book on earthquake mitigation for early childhood, particularly at Bekasi Nature School, entitled "Dare to Face Shocks." This research developed the product using the ADDIE development model. The following describes the development procedure for the book "Dare to Face Shocks."

The first stage begins with analysis. The analysis phase revealed that students at Bekasi Alam Kindergarten have dynamic learning characteristics. They enjoy being actively involved in learning and are highly curious. To achieve this, interactive and engaging learning media are essential. Furthermore, fostering a desire to read and enriching vocabulary is crucial in learning. Therefore, storytelling through books can encourage early reading habits and become an experience that not only educates but also enriches children's emotional and social lives. After identifying the students' needs, researchers developed a product to address the aforementioned issues, namely the book "Dare to Face Disasters" as a children's guide to disaster mitigation.

The second stage is design. In the design stage, researchers developed the book "Dare to Face Shocks," including the materials, size, layout, and color scheme, the materials used, and the instruments for validation with the validator and the instruments for student responses. The following is the design of the book "Dare to Face Shocks."

1. Designed using board book paper measuring 15 cm x 15 cm x 1.5 cm.
2. Printed using spine binding.
3. Use soft colors so as not to reduce students' concentration on the story in the book.
4. The selection of images is adjusted to the disaster and Nature School material.
5. The writing in the book is dominated by black so that it is easier to read and does not interfere with the concentration and view of students.

After the design of the book "Dare to Face Shocks" has been carried out according to procedures and consulted with the supervising lecturer, this book can then be developed according to the standardized design according to existing needs.

The third stage is *Develop* (Development). At this stage, the researcher developed the book as a storytelling medium for educators. The following is a description of some of the developments

in the content of the book "Dare to Face Shocks":

1. The book "Dare to Face Shocks" has two covers: front and back. The cover is designed with a classroom activity background. The title is in the top center and includes the words "Earthquake Guidebook for Little Heroes." The back cover has the same background as the front cover, along with the logos of Jakarta State University and Bekasi Nature Schools, as well as a synopsis of the book's contents.

Figure 2. Book Cover

2. The book's content design includes several supplementary pages, including a foreword, credits, and a table of contents. The design uses visuals depicting a location similar to Bekasi Nature School and uses soft colors. The book's content consists of 15 pages, with 9 containing stories and 6 pages containing specific guidelines for earthquake mitigation. The page numbers are listed at the bottom of the material.

Figure 3. Contents of the book "Dare to Face Shocks"

3. The next step was to validate the product with the validator in consultation with curriculum management, managers, and educators at TK Alam Bekasi, as well as the supervising lecturer. The validation results by the content experts showed that the product achieved a feasibility rating of 93.75%, which is considered very feasible.

The fourth stage is implementation. The implementation stage is carried out after the media has been validated and declared suitable by the validators. The book "Dare to Face Shocks" as a guidebook for earthquake mitigation for early childhood was implemented with 30 students at Bekasi Alam Kindergarten. The implementation of the book "Dare to Face Shocks" was carried out

through story reading by educators using a two-way storytelling method by conducting questions and answers in the middle of the story reading. After the storytelling activity was carried out, researchers invited students to role play or role play to see the students' understanding of the story that had been read. Researchers divided students into several roles, including those who played the role of educators, students, officers and victims. During the implementation, students were also asked to fill out a questionnaire conducted by the interview method between students and researchers which aimed to determine the results of students' understanding regarding earthquake mitigation carried out through story telling role play activities.

The final stage is evaluation. This evaluation stage is the stage where researchers evaluate the media as a whole. This stage aims to determine the percentage of book feasibility. This media evaluation can be determined from the results of the feasibility percentage by looking at the assessment results as well as suggestions and criticisms from validators in the previous stage. The suggestions and criticisms from validators for the book "Dare to Face Shocks" include adding a prayer during a disaster, replacing the "don't panic" symbol, and changing the background of the scene during the evacuation process listed on page 13. Then, the researchers made several revisions based on the validators' input.

The presentation and analysis of product test data were obtained from expert validation data and the results of the Pre-test and Post-test of students in the Bekasi Alam Kindergarten class. Based on the results of the validation calculations by media design experts on the book "Dare to Face Shocks" obtained above, the percentage of feasibility obtained was 93.75%. The calculation results obtained the criteria of very feasible and no revision was needed.

The product's attractiveness analysis was conducted based on responses from Kindergarten students at Bekasi Nature School through a questionnaire. The student responses regarding the book's attractiveness achieved a score of 98.7%. Therefore, the book "Dare to Face Shocks" is deemed suitable for use by students aged 4-7 at Bekasi Nature School.

Data analysis of students' knowledge in earthquake disaster mitigation was obtained from the Pre-Test and Post-Test through interviews with researchers. The pre-test was conducted before the product was tested, while the post-test was conducted after the students were tested using the book product "Dare to Face Shocks" using the storytelling method. The results of the analysis of students' knowledge in earthquake disaster mitigation through the post-test and pre-test experienced a percentage increase of 92.5%. The N-gain test conducted and processed through the IBM SPSS Statistic 26 program using the storytelling and role-playing methods using the book "Dare to Face Shocks" can be said to be effective in increasing early childhood knowledge of earthquake mitigation, because the results of the N-gain test obtained a result of 0.7742 which is greater than 0.7 (>0.7). With an effectiveness level of 77%.

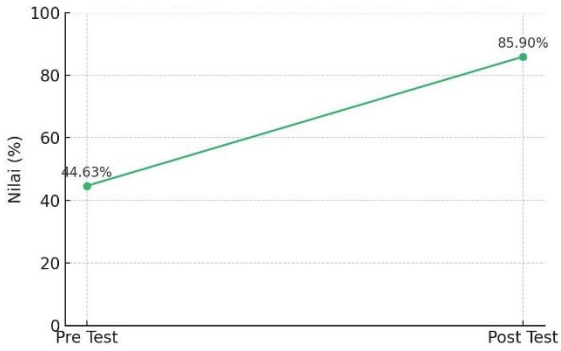
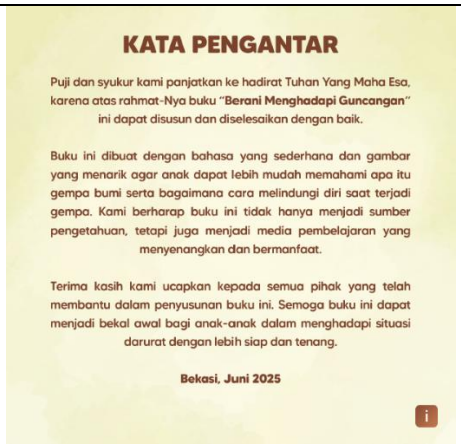


Figure 4. Graph of Pre-Test and Post-Test Values

After conducting the expert validation stage, suggestions were obtained and incorporated into the validation. The next step was to revise the developed product based on the validator's suggestions and input to improve it before implementing it with students. Here are some product revisions that have been developed:

Table 3. Product Revisions

No.	Before Revision	After Revision
1.	-	
	Revised aspects	The addition of a foreword page at the beginning of the book aims to provide a general overview of the contents of the book and thanks as an appreciation to those who have helped.

<table>
<tr><td rowspan="2">2.</td><td>-</td><td> 
</td></tr>
<tr><td>Revised aspects</td><td>The addition of a table of contents page aims to make it easier for readers to find and understand the structure and location of the information they need.</td></tr>
<tr><td rowspan="2">3.</td><td> 
</td><td> 
</td></tr>
<tr><td>Revised aspects</td><td>The addition of an image of protecting oneself using a bag aims to make it easier for children to protect their heads with their bags.</td></tr>
<tr><td>4.</td><td> 
</td><td> 
</td></tr>
</table>

	Revised aspects	The change in the setting from a park to a field on page 6 aims to give children the right visualization when protecting themselves during an earthquake.
5.		
	Revised aspects	The purpose of changing the “don’t panic” symbol is to make the image clearer and easier for children to understand.
6.	-	
	Revised aspects	Adding prayers during disasters. Adding prayers during disasters is part of character education, so that children become accustomed to praying in various situations, including emergencies.

7.	-	
	Revised aspects	The addition of a bibliography page shows that the findings presented in this book are based on a review of relevant literature.

CONCLUSION

First, the development of the book "Dare to Face Shocks" was developed using the ADDIE model through five stages: analysis, design, development, implementation, and evaluation. During the development stage, the book "Dare to Face Shocks" was validated by experts. Based on the validation results, the book "Dare to Face Shocks" was declared very suitable and did not require revision, with a 93.75% approval rating from expert validators regarding material and media.

Second, the student response to the book "Dare to Face Shocks" received a score of 98.7%, categorized as very interesting. This percentage was obtained from an earthquake mitigation book for early childhood designed with attractive images and colors, and a setting appropriate to the conditions at Bekasi Nature School. Therefore, "Dare to Face Shocks" was deemed suitable for use by students aged 4-7 at Bekasi Nature School.

Third, the analysis of students' knowledge of earthquake mitigation through the pre-test and post-test showed a 92.5% increase. The N-gain test was effective in increasing early childhood knowledge of earthquake mitigation, with an effectiveness rate of 77%.

The researcher acknowledges that this research is far from perfect, with weaknesses, shortcomings, and limitations. He feels this is a necessary learning experience for researchers and future research.

BIBLIOGRAPHY

Abarquez, dan Murshed. *Community-Based Disaster Risk Management: Field Practitioner Handbook*. ADPC, 2004.

Desfandi, Mirza. "Urgensi Kurikulum Pendidikan Kebencanaan Berbasis Kearifan Lokal di Indonesia." *Sosio Didaktika* 1, no. 2 (2014).

Gay, L.R. *Educational Research: Competencies for Analysis and Application*. Prentice-Hall International (UK) Ltd, 1981.

Hermon, Dedi. *Geografi Bencana Alam*. Raja Grafindo Persada, 2015.

Isbell, R. "The Effects of Storytelling and Story Reading on the Oral Language Complexity and Story Comprehension of Young Children." *Early Childhood Education Journal* 32, no. 3 (2004): 157–63.

Jarwl. *Efektivitas Layanan Bimbingan Kelompok dalam Meningkatkan Konsentrasi Belajar Siswa*. Universitas Kristen Satya Wacana, 2010.

Killing, Bunga, and I.Y. Killing. "Karakteristik Prososial Anak Autis Usia Dini di Kupang." *Jurnal PG-PAUD Trunojoyo* 3 (2016): 1–8.

Kollek, D. "Hospital Disaster Readiness: Why Are We Unprepared?" In *Research Paper in Canadian Association of Emergency Physician Disaster*. 2013.

Latifa, Dinar, and Ahmad Juanda. "Sosiodrama Pada Pembelajaran IPS Sebagai Upaya Peningkatan Kepercayaan Diri Siswa." *Jurnal Ilmiah WUNY* 16, no. 4 (2015). https://doi.org/10.21831/jwuny.v16i4.3513.

Lestari, S., and D. Wulandari. "Penerapan Metode Role Playing dalam Pembelajaran Mitigasi Bencana Gempa Bumi pada Anak Usia Dini." *Jurnal Pendidikan Anak Usia Dini* 6, no. 2 (2018): 123–32.

Lia. *Upaya Guru Memberikan Pengetahuan dan Kesiapsiagaan dalam Menghadapi Bencana Alam kepada Anak TK Negeri Pembina Kota Tangerang*. Universitas Islam Negeri Syarif Hidayatullah, 2022.

Oliver-Smith. "Theorizing Disasters: Nature, Power, and Culture." In *Catastrophe and Culture: The Anthropology of Disaster*, edited by Dalam S.M.Hoffman A. Oliver-Smith. School of American Research Press, 2002.

Pianta, R.C., and D.J. Walsh. *High-Risk Children in Schools: Constructing Sustaining Relationships*. Routledge, 1996.

Pujianto. *Bahan Kuliah Perencanaan Struktur Tahan Gempa*. Universitas Muhammadiyah Yogyakarta, 2007.

Rahma, Aldila, and Fanny Rizkiyani. "Peningkatan Pemahaman Guru PAUD tentang Kebencanaan Melalui Pembelajaran Sains." *Jurnal Publikasi Pendidikan* 9, no. 3 (2019).

Rusman. *Model-Model Pembelajaran: Mengembangkan Profesionalisme Guru*. RajaGrafindo Persada, 2010.

Sari, I.T.Mustika, H. Toha, and Y. Nurani. "Improving Early Childhood Prosocial Behavior through Activity Storytelling with Puppets." *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini* 2, no. 2 (2018): 155.

Setyowati, R.D.N. "Studi Literatur Pengaruh Penggunaan Lahan terhadap Kualitas Air." *Jurnal Ilmu-Ilmu Teknik-Sistem* 12, no. 1 (2016): 7–15.

Subagia, I.Wayan, and I. G. L. Wiratma. "Mitigasi Bencana Alam Gempa Bumi." In *Dalam Seminar Nasional Research Inovatif, Lembaga Penelitian UNDIKSHA*. 2013.

Sudaryono. *Dasar-Dasar Evaluasi Pembelajaran*. Graha Ilmu, 2012.

Suhardjo, D. "Arti Penting Pendidikan Mitigasi Bencana dalam Mengurangi Risiko Bencana." *Jurnal Cakrawala Pendidikan* 2 (2015): 174–88.

Tegeh, Made, and Made Kirna. "Pengembangan Bahan Ajar Metode Penelitian Pendidikan dengan ADDIE Model." *Jurnal Pendidikan* 11 (2013): 1–16.

Wardiah, D. "Peran Storytelling dalam Meningkatkan Kemampuan Menulis, Minat Membaca dan Kecerdasan Emosional Siswa." *Wahana Didaktika: Jurnal Ilmu Kependidikan* 15, no. 2 (2017): 42–56.

Zack, Naomi. *Ethics for Disaster*. Rowman & Littlefield Publishers, 2009.