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## Developing Independent Values Through Traditional Games in Realizing Disaster Response Schools

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### ABSTRACT

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Indonesia is a country prone to various types of natural disasters, including floods, earthquakes and volcanic eruptions. Sidoarjo Regency, especially the Waru area, often experiences natural disasters that affect community life and education. Schools are one of the effective vehicles to build a culture of disaster preparedness for citizens, especially for students, educators and education personnel by providing information, knowledge and skills. This research aims to develop independent values through traditional games to realize disaster response schools at SMP Negeri 4 Waru. The research method uses development research that uses the 4D model which has 4 main stages, namely define, design, develop and disseminate to develop learning tools. Data were collected through observation, interviews, and document analysis. The results of the assessment by the material expert of 82% and the design expert of 85% indicate that the type of traditional game has a high independent value and the product is suitable for use as one of the PJOK learning media at SMP Negeri 4 Waru. Furthermore, the results of student trials amounted to 88% with a very high category in shaping independent character through traditional games for disaster mitigation. This study concludes that the integration of traditional games in the education curriculum can be an effective strategy to develop independent values and improve disaster preparedness in schools. It is recommended that schools in disaster-prone areas adopt this approach.

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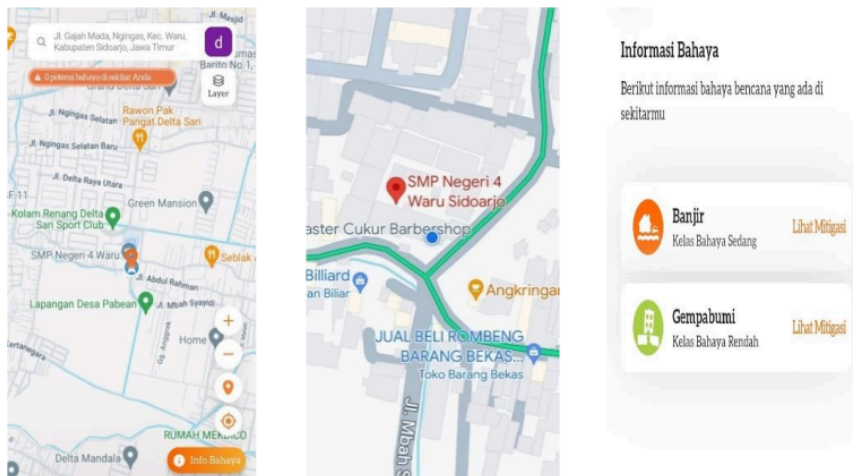
### INTRODUCTION

Indonesia is a region that is highly vulnerable to natural disasters due to its location in tectonic zones and active volcanoes. This causes the country to be at high risk of various disasters such as earthquakes, tsunamis, volcanic eruptions, and floods (Zuriah, 2021). In addition to natural disasters, human activities such as development, population growth, and environmental damage also trigger other disasters, such as forest fires, air pollution, and terrorism (Nugroho et al., 2021). Natural disasters that occur in Indonesia have a major impact, both materially and non-materially, and cause significant disruption to human life. Some disasters that often occur include earthquakes, landslides, disease outbreaks, and social conflicts (Khairunnisa et al., 2024).

Throughout 2022 to 2024, East Java experienced 14 types of disasters, such as flash floods, landslides, extreme weather, drought, and forest fires, which caused material losses and casualties. One significant event was the forest fires on Mount Bromo, Arjuno, and Lawu in 2023 which claimed 5 lives, injured 8 people, and damaged thousands of houses (Musaropah et al., 2020). The East Java

Provincial Government has declared a Hydrometeorological disaster emergency status for 2023-2024. According to Law No. 24 of 2007, disaster preparedness involves planned efforts in anticipating risks. Currently, disaster management approaches focus more on prevention and mitigation before disasters occur, as the frequency of disasters in Indonesia increases (Soetiawan, 2023) .

Over the past 10 years the increase in natural disasters has had a significant impact on education units, such as deaths, injuries, school damage and psychosocial disruption. Some schools are even used as temporary shelters, making them unusable for learning (Barba-Martín et al., 2020) . From 2016 to 2019, disasters affected 568,000 students in 5,680 education units, with losses exceeding 1 trillion Rupiah. Disaster education is important because it helps individuals deal with disasters and increases preparedness, and reduces vulnerability (Mohanty et al., 2021) . Schools play an important role in teaching disaster risk and encouraging preparedness (Shute et al., 2021) . The following is the location of SMP Negeri 4 Waru according to the Inarisk application along with the potential hazards that occur:



**Figure 1.** Location of SMP Negeri 4 Waru Based on Inarisk Application and Potential hazards

Schools are places where students learn and where a large number of students and teachers gather. Thus, schools are very strategic places for mitigation-related activities that have a collective impact (Muhyi and Hakim, 2024: 28).

Schools are an effective means of building a culture of disaster preparedness for students, educators and stakeholders by providing disaster-related information, knowledge and skills. Disaster education in schools is a sustainable strategy in disseminating disaster knowledge. Teachers, especially PE teachers, have an important role in integrating disaster preparedness materials into learning, such as in athletics and outdoor education materials. Physical Education also teaches discipline, sportsmanship,

independence, and cooperation, which can be developed through traditional games, especially at the junior high school level (Zeng et al., 2020) .

## **METHODS**

### **Type of Research**

<sup>1</sup> This study uses a research and development method with the 4-D model developed by Thiagarajan, Semmel, and Semmel. The 4-D model consists of four main stages, namely Define, Design, Develop, and Disseminate (Creswell & Creswell, 2018) . In the Define stage, researchers set the development requirements, including formulating the learning design. In the Design stage, the initial product design is made based on material analysis. The Develop stage involves media production, validation, and product trials, while the Disseminate stage includes testing, packaging, and product dissemination. This model was chosen to develop the value of independence through traditional games in creating disaster-responsive schools, which was then tested for feasibility through validity and trials (Sugiyono, 2019) .

### **Model/Product Test**

In the test design, the researcher conducted socialization to students about the traditional game book to ensure their understanding of the purpose and meaning of the game in building independent character for disaster mitigation. The test subjects consisted of 250 8th grade junior high school students, both boys and girls, who were involved in traditional games to develop independence in disaster response situations. Data were collected through several instruments, namely validation sheets from traditional game material experts, book design validation sheets, and student observation sheets, which were used to assess the game model and student responses to the traditional game.

### **Data Analysis**

The data in this study were analyzed descriptively qualitatively, including traditional game scores, product design, and student responses. Analysis of the feasibility of traditional game materials was carried out with expert validation sheets and student responses, converted from qualitative to quantitative values using a Likert scale. The percentage technique is used to analyze data from expert validation and trial results, according to the formula (Sugiyono, 2021) . The quality of traditional game book products is assessed based on the criteria table, where the media feasibility category is based on the average score. Quantitative data from the assessment is then processed through the calculation of the number of scores and the percentage of each indicator to assess the feasibility of the product.

## **RESULTS AND DISCUSSION**

### **Research Results**

#### **1. Define Stage**

Data collection was conducted at SMP Negeri 4 Waru through observation of traditional game

practices to develop the value of independence in natural disaster mitigation. The observation results show that not all traditional games dominate the formation of independent values, although this value is very important in dealing with disasters. Teachers are advised to choose games that are fun and can be integrated in PJOK learning to form independent character. In the curriculum analysis, traditional games are considered in accordance with the values of the Pancasila Student Profile, especially independence, which is relevant to disaster mitigation. An analysis of the characteristics of grade VIII junior high school students was also conducted, which showed that they are able to think logically, thus requiring learning that emphasizes independence. The material analysis highlights elements of movement skills, movement knowledge, and their utilization in daily life, all of which can support the development of independent character. The learning objective of this traditional game book is to improve learners' ability to practice specific movements and work independently when playing traditional games.

**Table 1.** Description of Learning Outcome Elements

No.	Elements	Description
1	Movement Skills	This element is the distinctiveness of learning PJOK which is an educational process about and through physical activity, consisting of sub-elements: a) Fundamental Movement Pattern Development Activities, and b) Motor Skills Development Activities in the form of Games and Sports Choice Activities, Gymnastics Activities, Rhythmic Movement Activities, and Water Games and Sports Activities (conditional)
2	Motion Knowledge	This element is in the form of understanding, application, analysis, evaluation, and creation of concepts, principles, procedures, tactics and movement strategies as a basis for performing skills, performance, and a culture of active living in each sub-element: a) Fundamental Movement Pattern Development Activities, and b) Motor Skills Development Activities in the form of Games and Sports Choice Activities, Gymnastics Activities, Rhythmic Movement Activities, and Water Games and Sports Activities (conditional)
3	Motion Utilization	This element is in the form of knowledge and movement skills and their utilization in daily life, consisting of sub-elements: a) Activities to maintain and improve physical fitness related to health and skills, and b) Healthy Living Behavior Patterns
4	Character Development and Internalization of Movement Values	This element is in the form of character development and gradual internalization of movement values designed through various physical activities, consisting of sub-elements: a) Personal and Social Responsibility, b) Values of Fun, Challenge, Self-expression, and Social Interaction

## 2. Design Stage

At the design stage in this media development research, the material compiled focuses on traditional games that can form independent values to realize disaster response schools. With the guidance of lecturers, 40 traditional games were selected as initial material, which will be developed in accordance with the character of independence in natural disaster mitigation. Furthermore, the traditional game book concept was designed with a framework including cover, preface, table of contents, introduction, learning objectives, material description, and bibliography. This design was then revised based on input from lecturers before the validation stage. Product simulation was conducted involving students of class VIII-6 SMP Negeri 4 Waru to test the understanding and practice of traditional games, the results of which were used to improve the product.

## 3. Development Stage

This development stage involves product assessment by material experts and design experts to evaluate the quality before being used by students. The assessment was carried out through a questionnaire to determine the feasibility of the product, with suggestions from experts used as material for improvement. The material expert who assessed was Dr. Luqmanul Hakim, M.Pd., who evaluated the relevance of traditional games in shaping independent character. The following is a questionnaire for material validation by experts:

**Table 2:** Results of Material Expert Validation of Traditional Games with Independent Character

No.	Types of Traditional Games	Independent Character Score				
1.	Sack Race	1	2	3	4	5
2.	Fortresses	1	2	3	4	5
3.	Tug of War	1	2	3	4	5
4.	Engklek	1	2	3	4	5
5.	Egrang	1	2	3	4	5
6.	Gobak Sodor	1	2	3	4	5
7.	Marbles	1	2	3	4	5
8.	Catapult	1	2	3	4	5
9.	Gasing Competition	1	2	3	4	5
10.	Jump Rope	1	2	3	4	5
11.	Kites	1	2	3	4	5
12.	Kasti Ball	1	2	3	4	5
13.	Flip Flops	1	2	3	4	5
14.	Gobak Sodor Putar	1	2	3	4	5
15.	Cricket Marbles	1	2	3	4	5
16.	Batting Marbles	1	2	3	4	5
17.	Hide and Seek	1	2	3	4	5
18.	Riff-raff Football	1	2	3	4	5
19.	Racing Jumpers	1	2	3	4	5
20.	Singing	1	2	3	4	5
21.	Searching for Objects	1	2	3	4	5

No.	Types of Traditional Games	Independent Character Score				
22.	Cooking Soil	1	2	3	4	5
23.	Weaving	1	2	3	4	5
24.	Embroider	1	2	3	4	5
25.	Painting Batik	1	2	3	4	5
26.	Making Leather Puppets	1	2	3	4	5
27.	Drawing Sand	1	2	3	4	5
28.	Wood Carving	1	2	3	4	5
29.	Knitting	1	2	3	4	5
30.	Batik	1	2	3	4	5
31.	Mask Making	1	2	3	4	5
32.	Making Handicrafts from Cardboard	1	2	3	4	5
33.	Making Children's Toys	1	2	3	4	5
34.	Making Musical Instruments	1	2	3	4	5
35.	Making a Kite	1	2	3	4	5
36.	Making miniature traditional houses	1	2	3	4	5
37.	Making Bamboo Plaiting	1	2	3	4	5
38.	Making Miniature Ships	1	2	3	4	5
39.	Making Clay Sculptures	1	2	3	4	5
40.	Making Pottery	1	2	3	4	5
Total Score: 117						

Indicators of independent character include self-confidence, ability to think and act independently, tendency to solve problems, courage to take risks, and strong self-control. Assessment of traditional games that support independent character is done using a Likert scale, with a score of 1 to 5. The material expert suggested that traditional games should not only be individual, but also involve groups while still maintaining aspects of independence. The highest score of traditional games related to independence was obtained after expert validation with categories ranging from very unfavorable to very good.

The results of the analysis by material experts filtered 40 traditional games into 16 that best support the formation of independent values for disaster mitigation. After considering school facilities and infrastructure, 8 games were selected, namely catapult, kasti, sack race, tug of war, marbles, jump rope, hide and seek and kite. The game book design assessment was conducted by Dr. Suharti, S.Pd., M.Si., M.Pd., a design expert who is competent in developing traditional game book products.

**Table 3.** Results of Design Expert Validation of Traditional Game Book with Independent Character

No.	Assessment Aspect	Assessment Score				
1.	Attractiveness of the cover design.	1	2	3	4	5
2.	Consistency of titles in each chapter.	1	2	3	4	5
3.	Appropriateness of titles and .	1	2	3	4	5
4.	The book can be studied by learners independently ( <i>self instruction</i> ).	1	2	3	4	5
6.	Books can be used as a <i>stand alone</i> learning resource.	1	2	3	4	5

7.	The book provides interesting explanations through a mix of text and images.	1	2	3	4
8.	Books allow learners to learn completely ( <i>self contained</i> ).	1	2	3	4
9.	Books in accordance with the advancement of science and technology.	1	2	3	4
10.	Flexibility of book use ( <i>user friendly</i> ).	1	2	3	4
11.	Books can be used without the help of the educator as a facilitator.	1	2	3	4
12.	Books can visualize material from a combination of text, images, and illustrations.	1	2	3	4
Average Score and Category		3.4 (Very Good)			
Percentage		85%			

**Table 4.** Indicators of Self-Assessment of Character in Traditional Games for Disaster Mitigation

No.	Assessment Aspect	Assessment Score				
1.	I feel that physical activity with traditional games has helped me develop courage and resilience.	1	2	3	4	5
2.	I feel more confident in facing challenges after participating in physical activities with traditional games.	1	2	3	4	5
3.	I feel more independent in solving problems and completing tasks after playing traditional games that involve teamwork.	1	2	3	4	5
4.	I feel more skillful in communicating and cooperating with friends after participating in traditional games.	1	2	3	4	5
5.	I feel that physical activity with traditional games has helped me develop self-confidence and understand my own abilities and limitations.	1	2	3	4	5
6.	I feel more responsible for myself and my team after participating in physical activities with traditional games.	1	2	3	4	5
7.	I feel better able to manage my emotions and stress after engaging in physical activities with traditional games.	1	2	3	4	5
8.	I feel more adaptive and flexible in dealing with unexpected changes or situations after playing traditional games.	1	2	3	4	5
Total Score:						

The design assessment of the book "Traditional Games with Independent Character for Disaster Mitigation" by Dr. Suharti was declared very good and suitable for use. The assessment questionnaire of students in class VIII-6 related to traditional games showed that 84% of students felt that the catapult game developed courage, 90% were more confident and independent, 85% felt that independent character was formed, 95% were more skilled at communicating, 91% felt more responsible, 90% were better able to manage emotions, and 92% felt more adaptive in dealing with unexpected situations.

The results of the data analysis showed that the catapult game was very effective in shaping various aspects of students' independence and skills. A total of 84% of students felt the game helped develop courage and resilience, while 90% stated that the catapult game increased confidence in facing



challenges as well as the ability to be independent in solving problems. In addition, 85% of students felt that the game shaped their independent character, 95% thought it improved communication and cooperation skills, and 91% felt more responsible. 90% of students also felt that it improved their ability to manage emotions and stress, and 92% felt that they were more adaptive in dealing with change.



**Figure 2:** Catapult game

The traditional catapult game is a simple Y-shaped toy made of wood, rubber and leather that was originally used by children for hunting, but is now more often used for target shooting practice. The game was popular among children in the 1990s, especially for picking fruits such as mangoes or guavas. Catapults are made from easy-to-find materials and teach shooting skills without involving danger to humans. In the modern era, catapult games are still enjoyed as a fun learning tool, with benefits such as increased courage, independence and social skills. The benefits of catapult games for resilience and concentration are that playing catapults requires mental resilience and high concentration to aim and fire correctly. In disaster mitigation, resilience and concentration help individuals stay focused and calm when facing high stress situations during disaster mitigation.

Data analysis of the baseball game showed that 85% of students felt the game helped develop courage and resilience, and 91% of students felt more confident and independent in solving problems. A total of 87% of students saw the game as building independent character, while 95% of students felt more skillful in communicating and cooperating, as well as being responsible for themselves and the team. In addition, 91% of students felt that the game helped them better manage their emotions, stress, and become more adaptive in dealing with unexpected situations. These results show that the game has a significant positive impact in shaping students' independent character and social skills.



**Figure 3.**

Played on an open field, the game involves batting, throwing and catching skills, as well as running ability, and relies heavily on teamwork. The game trains discipline, a sense of community, and solidarity between players. To play the game well, mastery of basic techniques is required. Analysis of the tug-of-war game showed that 83% of students felt the game helped develop courage and resilience, while 87% felt more confident. A total of 91% of students felt the game increased independence in solving problems, and 98% of students felt more skilled in communicating and working together. In addition, 92% of students felt the game increased responsibility, and 90% felt more adaptive in dealing with unexpected situations. The benefit of playing baseball in adjusting to change is that baseball games often require quick adaptation to changes in the game or field conditions. This reflects the ability to adapt to emergency situations that can change quickly. Players learn to rely on personal initiative and judgment to make the right decisions at critical moments.



**Figure 4.** Tug of War Game

Tug-of-war is a popular folk sport in Indonesia that not only serves as a means of exercise, but also fosters a spirit of cooperation and physical fitness, and reduces tension. Although played in teams, the game still establishes the value of independence as each individual strives to achieve a common goal, which is relevant in the context of disaster mitigation through increasing individual endurance and courage. The results of the analysis of the jump rope game showed that 80% of students felt that this game helped develop courage, 84% were more confident, 88% were more independent, and 95% felt more skilled in cooperating with friends. The benefit of tug of war is to form cooperation with personal initiative which means that although tug of war is a team game, each individual must take the initiative to make their best contribution without having to be directed. In disaster mitigation, the ability to work together while remaining independent and proactive is essential for coordination and effectiveness in coping with emergency situations.



**Figure 5.** Jump rope game

Jumping rope is a popular game in Indonesia, generally played by girls, although boys often participate as well. This game uses rubber bands woven into a 3-4 meter long rope. The rubber rope is usually easily available in traditional markets. The results of the sack racing game data analysis showed that 81% of students felt that the game helped them develop courage and resilience and 87% felt more independent in solving problems. A total of 97% of students thought the game improved communication and cooperation skills, and 88% felt the game improved responsibility, ability to manage emotions, and flexibility in dealing with change. The benefits of jump rope in problem solving and adaptation are that jump rope games often require players to overcome various challenges, such as varying rope speeds and precise coordination of movements. The ability to problem-solve and adapt quickly are important qualities in disaster situations, where conditions can change rapidly and require an independent and effective response.



**Figure 6.** Sack Race Game

Sack race is a popular traditional game in Indonesia, especially during Independence Day celebrations. Although synonymous with independence celebrations, this game has existed since the Dutch colonial era and was originally played by children at school or village events. Nowadays, the sack race game is also played by adults in various institutions to enliven the Indonesian Independence Day. Data analysis of the marbles game showed that 79% of students felt the game increased courage and confidence, while 86% felt the game established independence and the ability to complete tasks. A total of 98% of students felt more skilled in communicating and working together, and 90% felt able to

manage emotions and stress, making the game effective in building adaptive and independent characters. The benefit of jumping rope in quick decision-making is that participants must quickly make decisions on how to jump and maintain balance to avoid falling. This ability is especially important in disaster situations, where quick and precise decision-making can save lives.



**Figure 7:** Marbles game

Marbles, also known by various names such as gundu, keneker, and guli, are small balls made of clay, marble, or glass, used by children to play and collected for their aesthetic shape. Marbles usually measure about 1.25 cm and are widely sold in traditional markets. Analysis of the hide-and-seek game showed that 81% of students felt the game helped develop courage, and 87% felt more independent in solving problems. A total of 89% of students felt more skilled in communicating and cooperating, and 88% felt the game helped them become more responsible and able to manage emotions and stress. The benefits of the marbles game in strategizing and Decision-making are that players must develop effective strategies to win the game. This involves quick and precise decision-making, similar to situations in disaster mitigation where individuals need to make effective decisions to reduce the risk and impact of disasters.



**Figure 8.** *Hide-and-seek* game

*Hide and seek* has been around for thousands of years and is played in different parts of the world under different names, such as *el escondite* in Spain and *hide and seek* in England. In Indonesia, the game also has various names, such as Ucing Sumput in Sunda and Jepungan in Java. Petak umpet

involves finding a friend who is hiding and can be played by two or more people, the more players, the more exciting the game. Analysis of the kite game showed that 83% of students felt the game helped develop courage, and 90% felt more independent in completing tasks. A total of 92% of students felt the game increased responsibility, and 89% felt more adaptive in dealing with unexpected situations, making the game effective in shaping independent character and social skills. The benefit of playing hide-and-seek for initiative and personal responsibility is that each player must take the initiative to find a hiding place and keep themselves from being found. This teaches personal responsibility in maintaining one's own safety, which is very important in disaster mitigation where each individual must be proactive in protecting themselves and others.



**Figure 9:** Kite game

Kites are a popular game for both children and adults, especially during high wind seasons as the wind plays an important role in raising the kite. The skill and prowess of the player is also required for the kite to fly well. Usually, this game is played in open fields such as school grounds or the beach. The kite game has no connection with social events or religious elements, but simply as entertainment and a way to fill leisure time. For adults, the game can be a means of releasing fatigue, while for children, it is pure entertainment after finishing school activities. Analysis of the kite game shows that 83% of students feel they can develop courage and resilience, 87% of students feel more confident in facing challenges, 90% of students feel more independent in overcoming problems and completing tasks, 87% of students feel they form independent characters, 81% of students feel more skilled in communicating and cooperating with friends, 92% of students feel more responsible for themselves and the team, 88% of students feel more able to manage emotions and stress, 89% of students feel more adaptive and flexible in dealing with changes or unexpected situations. The benefit of kite flying for decision-making independence is that participants have to make quick decisions regarding kite positioning, rope handling, and anticipating changes in wind conditions. This helps build independence in decision-making, which is an important skill in disaster mitigation where quick and timely responses are necessary.

**Table 5.** Recap of the Overall Assessment Instrument for Traditional Games with Independent Character by Students of SMP Negeri 4 Waru Sidoarjo

No.	Traditional Games	Independent Value Indicator							
		1	2	3	4	5	6	7	8
1	Catapult	84%	90%	90%	85%	95%	91%	90%	92%
2	Kasti	85%	91%	91%	87%	95%	95%	91%	91%
3	Tug of War	83%	87%	91%	87%	98%	92%	88%	90%
4	Jump Rope	80%	84%	88%	85	95%	90%	87%	87%
5	Sack Race	81%	82%	87%	84%	97%	88%	88%	87%
6	Marbles	79%	79%	86%	86%	98%	88%	90%	85%
7	Hide and Seek	81%	79%	87%	86%	89%	88%	88%	84%
8	Kite	83%	87%	90%	87%	81%	92%	88%	89%
	percentage	82%	85%	89%	86%	94%	91%	89%	88%
	total percentage	702%							

The results of data analysis of all assessment instruments for traditional games with independent character for natural disaster mitigation at SMP Negeri 4 Waru Sidoarjo show an average of 88%, which falls into a very high category and does not require revision. The following is a recap of data analysis of traditional games with independent character for disaster mitigation at SMP Negeri 4 Waru:

**Table 6.** Recapitulation of Analysis Data

No.	Assessment Aspect	Appraiser			Average Score	Category
		Material Expert	Design Expert	Learners		
1	Book Material	82%	-	-	82%	High
2	Book Design	-	-	85%	85%	High
3	Independent Character	-	-	88%	88%	Very High

#### 4. Dissemination Stage (*Disseminate*)

In the stage of distributing traditional game books that focus on independent character building for natural disaster mitigation, researchers still concentrate the distribution of this media in State Junior High Schools in Waru District. The book was given to PJOK teachers as one of the learning resources to support disaster mitigation efforts in the region.

#### Discussion

SMP Negeri 4 Waru is located in Waru sub-district, which is known as one of the areas with a high risk of natural disasters, especially flooding. Data from BPBD shows that five villages in this sub-district often experience inundation, namely Waru, Tropodo, Kepuh Kiriman, Brebek, and Sedati Agung. This flooding is usually caused by the overflow of the Buntung watershed, which has even caused the road to Juanda Airport to be submerged. In 2021 and 2022, the Buntung watershed

overflowed again, causing flooding in people's homes (Regional Disaster Management Agency, 2022). According to Sidoarjo District Regulation No. 6/2009, Waru Sub-district is included in a flood-prone area.

To deal with these disaster risks, natural disaster mitigation in the school environment is important. This mitigation can be integrated into school learning. Previous research emphasizes the importance of the teacher's role in disseminating disaster risk reduction information to students through learning materials as well as extracurricular and intracurricular activities. Teachers also have the responsibility to shape students' attitudes and characters so that they can adapt in disaster situation (Festiawan, 2020). Traditional game books with independent character are an important medium to teach character to students through fun activities. According to Harianto and Muclas Samani, character education is not just a matter of memorization or formal knowledge, but more about actions reflected in daily behavior and examples from parents, teachers, and society. Independence, as one of the important characters, can be formed through play. (Martínez-Santos et al., 2020) which identifies the characteristics of independence, such as self-confidence, the ability to think independently, and the courage to take risks and control themselves.

Before being widely used this book must be assessed by material experts and design experts. (Junaedah et al., 2020) states that learning media need to be evaluated by experts in order to meet the appropriate criteria. Material experts assess the suitability of book content with disaster mitigation material, while design experts evaluate the appearance and structure of the book. Based on expert and student assessments, this book is considered very high quality and feasible to use as a learning tool in disaster mitigation at school.

## **2** **CONCLUSION**

Based on the research and discussion, it is concluded that the book of traditional games with independent character for disaster mitigation has a high level of feasibility based on material validation, design, and large group trials. This book is very feasible to use in learning PJOK to realize disaster response schools. Of the 40 types of games, 8 games were chosen as the most effective in shaping independent character, namely tug of war, jump rope, sack race, marbles, slingshot, kastiseekand kite. This book can also serve as an integrated learning media to help strengthen students' character education.

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