

The Implementation of Board Game as an Educational Medium about Stunting in Surabaya, Indonesia



Daniel Kurniawan Salamoon¹, Hanjaya Siaputra², David Kristianto³

¹Humaniora and Creative Industries Faculty, Petra Christian University

^{2,3}School of Business and Management, Petra Christian University

ABSTRACT: Indonesia Is One Of Many Countries That Still Fighting Against Stunting. Based On Data From The 2021 Indonesian Toddler Nutrition Status Survey (Ssgbi), Indonesia's Prevalence Is Still At 24.4% Or Around 5.33 Million Children Under Five Years Old. That Condition Happened Also In A City Like Surabaya. From That Perspective There Is A Needs To Help Young Mother Especially To Understand About This Matter And To Educate Them How Important Nutrition To Their Children. By Their Behaviour, Usually Young Mothers Nowadays Being Busy With Their Gadget And Work. Our Method Is To Find An Educative Approach But Offer Some Fun Learning On That Process. We Try To Sort Out Some Healthy And Nutritious Recipes And Making It As Content To Our Boardgame.

KEYWORD: Boardgame, Stunting, Education

INTRODUCTION

In the midst of the growing cases of the COVID-19 pandemic in Indonesia, the Central Statistics Agency (BPS) in 2020 revealed that the Labor Force Participation Rate (TPAK) for women had increased by 1.32%, at which time many women who were previously not in the labor force were starting to work in pandemic era to seek income due to economic demands. (BPS, 2020). When technological developments occur more rapidly, the costs that will be incurred will also become greater. This condition will cause a mother to not have time to give breast milk to her child and tends to choose to give formula milk as a substitute for breast milk.

This condition causes a mother to not have time to give breast milk to her child and tends to choose to give formula milk as a substitute for breast milk. Even though children aged 0-2 years need breast milk as nutrition to grow and develop. Giving breast milk to children is very important, because breast milk has nutrients that cannot be replaced by any substance or food ingredient to provide a strong immune system, especially during the COVID-19 pandemic. Apart from lack of time, the mother's knowledge and psychology especially around working class, are also factors that cause a child not to receive exclusive breast milk, which is necessary to create quality breast milk (Unicef, 2021). Mothers need to maintain and care for their health through nutritious food and positive thoughts so that there is no shortage of breast milk.

After the breastfeeding phase, mothers usually prepare their children for the food phase, especially starting from 6 months old babies. Even though it is in an advanced era, Indonesia is currently still fighting against stunting. Based on data from the 2021 Indonesian Toddler Nutrition Status Survey (SSGBI), Indonesia's prevalence is still at 24.4% or around 5.33 million children under five years old. The stunting rate actually decreased from previous years, but the President of the Republic of Indonesia, Ir. Joko Widodo targets that by 2024 the stunting rate will be around 14%. Efforts to reduce the stunting rate include several methods in the form of health education, especially for young women and pregnant women, starting from community health centers in various regions.

Stunting causes babies to have a height that is not appropriate for their age, besides that, stunting causes them to be susceptible to disease, their intelligence level is below normal and their productivity is low. The high prevalence of stunting in the long term will affect the Indonesian economy. According to SehatNegeriku.kemkes.go.id there are 3 ways which government did to reduce stunting around Indonesia. One of which is focusing on complete nutritious food and strengthening the presence of animal protein in food. Providing this kind of information is very important, especially for young mothers. However, a different approach is needed from both the family and the government, for example through *posyandu* (grassroot community healthcare).

This research activity focuses on innovation in designing educational games and digitalization by providing healthy recipe content by website so it can reach and attract the interest of more people to learn healthy recipes and provide effective results for young mothers and children. The focused content is about delicious and nutritious food and drink recipes assisted by Hotel Management students through the Catering & Patisserie Operations course and the Catering & Patisseries Operational Management

The Implementation of Board Game as an Educational Medium about Stunting in Surabaya, Indonesia

course at Petra Christian University as well as collaborating with experienced local game industry partners based in Surabaya, PT. Kawan Main Bersama (Tabletoys Indonesia), related to providing counseling through educational games to mothers and children.

In recent years, the gaming industry has experienced rapid growth, especially in Indonesia. According to the Ministry of Tourism and Creative Economy (Kemenparekraf), the gaming industry is one of the industries that continues to grow during the pandemic by contributing IDR 24.88 trillion or around 2.19% of Indonesia's gross domestic product (GDP) in 2020. In fact, the gaming industry is entered into the 2021 national priority program, occupying the seventh position as the largest contributor to Indonesia's creative economy GDP. Learning patterns and processes have begun to change from the era of teaching as a source to an interactive process where students or targets of information become participants in the teaching process. By using the board game concept, it is hoped that we can provide efficient information in a fun way so that it is more attractive to the target audience. (Wirawan, 2022). This condition is important to become the foundation of our research. It showed that games become a tools or medium to teach something that might be too difficult to understand for some people.

This activity in the form of creating recipes combined with board games and digital media aims to (1) realize the handling of stunting problems through MPASI innovation & education, (2) realize health learning through interactive games and insight into healthy recipes, especially the MPASI menu, (3) provide MSME opportunity regarding healthy recipe learning methods, (4) realizing economic improvement through digital integration for each output designed so that it can reach various locations in Indonesia. This research supports providing solutions to the priority issues of the G20 Indonesian Presidency, namely digital connectivity and recovery after the Covid-19 pandemic, digital skills and digital literacy and data flow across national borders.

STUDY ABOUT BOARDGAME

Board games and education have a longstanding and symbiotic relationship, with board games offering a range of benefits for learning and development. (Chiarello, 2016). Well designed boardgame have many benefits for learning and development such as :

1. **Cognitive Development:** Board games often require critical thinking, strategy, and problem-solving skills. Players must make decisions, plan ahead, and adapt to changing circumstances. This can enhance cognitive skills like decision-making, spatial awareness, and logical reasoning.
2. **Social Interaction:** Board games encourage social interaction and cooperation. They provide a platform for players to communicate, negotiate, and work together, promoting the development of interpersonal skills, such as teamwork, communication, and empathy.
3. **Math and Literacy Skills:** Many board games involve elements of math and reading, making them an engaging way to reinforce these fundamental educational skills. Players may need to count, calculate scores, and read instructions or cards.
4. **Creativity and Imagination:** Board games often involve storytelling, role-playing, or creative thinking. These aspects can stimulate the imagination and encourage players to think outside the box.
5. **History and Culture:** Some board games are designed around historical events or different cultures. These games can serve as educational tools, helping players learn about specific time periods, geography, and cultural traditions in an interactive and engaging way.
6. **Memory and Concentration:** Playing board games can improve memory and concentration. Many games require players to remember rules, strategies, or the positions of game pieces, thus exercising memory and focus.
7. **Learning through Play:** Board games make learning fun. When education is enjoyable, it tends to be more effective. Children and adults alike can absorb and retain information better when they are engaged in an enjoyable activity.

Gee claims that well-designed games can illuminate principles of good learning, particularly from a sociocultural approach (2007). For example, games provide a space of “psychosocial moratorium” where real-world consequences are lowered. Gee argues that good learning, too, requires a psychosocial moratorium, which can be provided either in educational games or in other learning activities. While Gee’s approach is driven by broad principles of learning, games can also incorporate specific instructional strategies, such as embedded assessment. (Gee, 2007)

METHODOLOGY

1. Data Gathering

The data collection stage was carried out using qualitative methods by holding Focus Group Discussions and quantitatively by collecting Big Data through SEO and Content Pillar analysis. Procurement of the Focus Group Discussion involved DUDI partners as resource persons and 40 students as the committee providing the Focus Group Discussion.

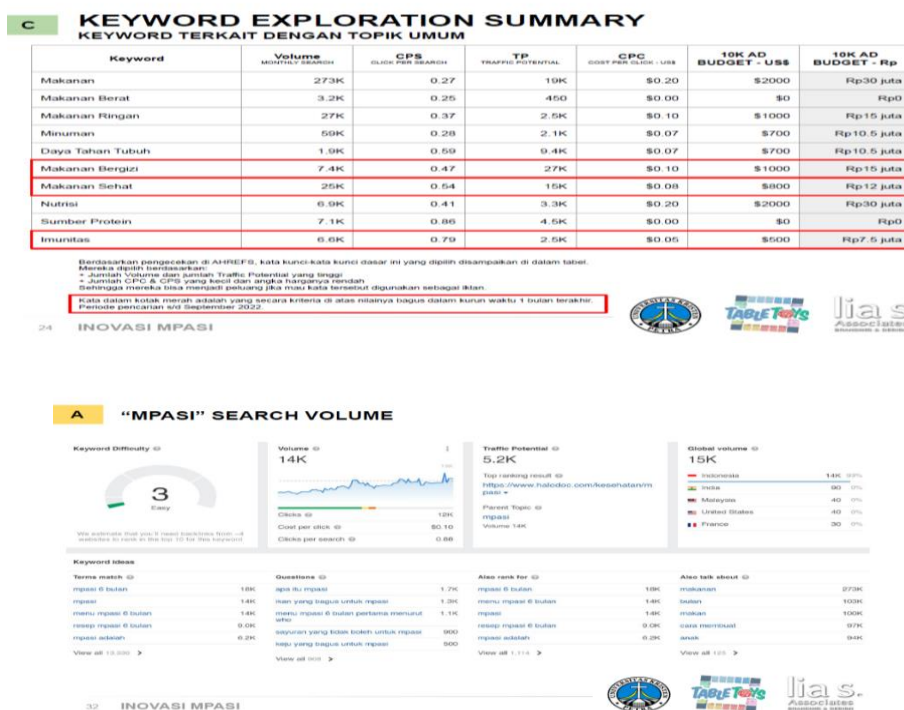


Figure 1. SEO Research Table

The object of the research is mothers and food MSMEs, so that the data obtained can be analyzed as a reference for designing healthy recipes "MPASI Innovation" created by students.

2. Design Production

The design of the student's "MPASI Innovation" recipe & game website was designed based on initial research data as well as adapting courses, teaching materials and exams to industry needs. In the process, the game process design is designed based on content created from recipes regarding MPASI innovation.

This landing page website was created as a medium for disseminating healthy recipes so that they can be accessed by people throughout Indonesia, where this platform makes the marketing process fast and easy by having clear directions to provide information that is intuitive and easy to understand to customers in order to add value to the content. on specific topics that are not too complicated.

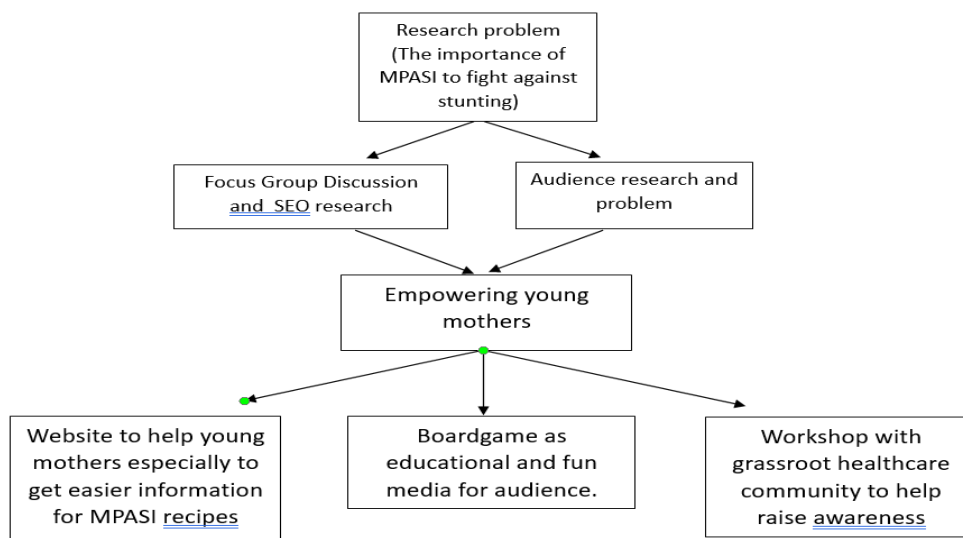


Figure 2. Research Result

DESIGN RESULT

1. Visual Design for Boardgame

Design planning begins with brainstorming ideas for how to play and determining the visual design style that will be used in this game. This activity involves lectures, students and workshops activity from PT. Kawan Main Bersama.



Figure 2. Brainstorming Ideas

After going through the workshop process, the visual components began to be determined. These components are:

1. Logo Design
2. Material card design
3. Menu card design
4. Design game instructions
5. Game packaging design

Logo Design

This game is called Rodeo Dapur. The use of the word Rodeo shows an exciting attraction concept. "Dapur" means kitchen which have relation with cooking activities. It is hoped that with this name, the target audience will not feel like they are just reading information about MPASI but that there will be something interesting there.



Figure 3. Logo Design

Ingredient Cards

Ingredient cards are the cards that form the basis of the game where these ingredient cards will be the cards that must be arranged by the players who will later compete to arrange these cards based on the menu cards that appear. Players will compete to quickly arrange the ingredients according to the menu card instructions. The material card consists of 4 basic colors, namely: blue, green, red and yellow. Each of these cards represents a certain ingredient. Blue represents animal protein. Green represents vegetables and fruit. Red represents vegetable protein. Yellow represents carbohydrates. The ingredient card design is the result of discussions and research regarding the need for ingredients for cooking, especially MPASI recipes.



Gambar 4. Blue Design



Gambar 5. Green Design



Gambar 6. Red Design



Gambar 7. Yellow Design

Menu Cards Design

The menu card is a component in this game which is the target or objective of the game where players will arrange the ingredients according to the instructions that appear on the menu card.



Gambar 8. Menu cards design

Game Rules Design

The next process is to create a design regarding the game instructions. It is hoped that this design will be helpful for those who are playing this game for the first time.



Gambar 9. Game rules.

The Implementation of Board Game as an Educational Medium about Stunting in Surabaya, Indonesia

Packaging Design

In order to store game components, packaging is needed. So that in the future, this game can be played again



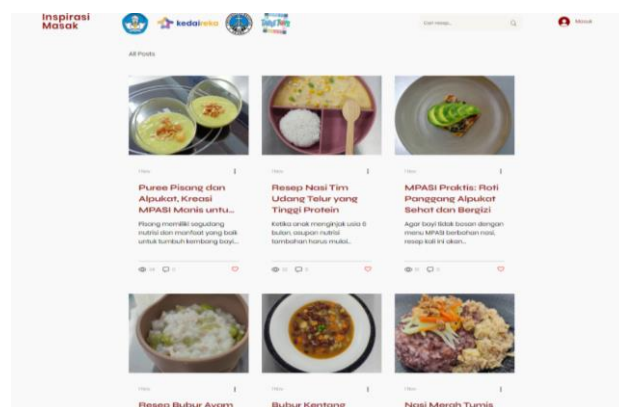
Gambar 10. Packaging visualization

2. Website Design

As a follow-up to the board game, once created, the next media is the website. The aim of this website is to provide complete recipe information so that it can be an inspiration and cooking guide for mothers who need it, especially to support making healthy MPASI for children. This website is named *Inspirasi Masakku* (My Cooking Experience).



Gambar 11. Tampilan Home Page



Gambar 12. Website Design

The Implementation of Board Game as an Educational Medium about Stunting in Surabaya, Indonesia

3. Workshop

The next process is to hold a workshop for the community regarding the importance of understanding MPASI, especially for young mothers, so that it is hoped that it can help reduce stunting rates in toddlers and children.



Gambar 13. Workshop Documentation

This workshop activity aims to provide education to the public regarding the importance of providing balanced nutrition, especially when giving MPASI to toddlers.

CONCLUSION

Knowledge about MPASI needs to receive attention and become educational material, especially for young mothers in this era. As for audience, young mother in this era, information can be attained from many media like social media. But that is too much and can even be biased can create confusion for them. Certain media is needed that is special and clear and able to reach the generation of young mothers in a fun and informative way. Using board game media as an educational tool is a good step so that initial information is not obtained in a boring way and is followed by a website that summarizes recipes so that it is hoped that it will provide education regarding MPASI recipes that are easy to make but have good nutritional value.

In this research process students were also involved. Student involvement here has a positive impact where students become more concerned about social issues such as education about MPASI. Students are also more able to participate in society. In general, the results of this research were well received by the public in the workshops held.

REFERENCES

- 1) BPS. (2020). Retrieved from www.bps.go.id
- 2) Chiarello, F. &. (2016). Learning and Role-Playing Games. *International Journal of Game-Based Learning (IJGBL)*, 1-14.
- 3) Gee, J. P. (2007). *What Video Games Have to Teach Us About Learning and Literacy*. St. Martin's Publishing Group.
- 4) Salen, K., & Zimmerman, E. (2004). *Rules of Play*. MIT Press.
- 5) Sudargo, T., & Kusmayanti, N. A. (2021). *Pemberian ASI Eksklusif sebagai Makanan Sempurna untuk Bayi*. UGM Press.
- 6) Unicef. (2021, Agustus). Retrieved from Pekan Menyusui Sedunia: UNICEF dan WHO serukan dukungan yang lebih besar terhadap pemberian ASI di Indonesia seiring penurunan tingkat menyusui selama pandemi COVID-19: www.unicef.org
- 7) Wirawan, A. (2022). *Yuk Bikin Board Game Edukasi*. Mekanima Inspira Negara.



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.