

Visual Communication Design

Practice notes

Engaging in Interactive Book Reading: General Warming Up Before Exercising for Children

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Abstract: Many parents are encouraging their children to exercise as a result of the COVID- 19 pandemic. Many others, on the other hand, do not warm up before participating in any sport. This is dangerous since it increases the risk of sprained muscles, cramping, and other problems. Warming up is crucial before exercising, yet many people are still unaware of the risks of not doing so. The objectives for this project is to create an interactive sports book. Unlike traditional books, this interactive book will use lift-the-flap, slide, or spin-the-wheel strategies to make learning more entertaining for children. To promote the socialization of young people through sports. As well as teaching children how to warm up with the assistance of adults. The method used is qualitative method. The results is It is clear from the in-depth interview and observation that many people still ignore the importance of warming up. Several children revealed in interviews that their teacher did not teach them how to warm up, and one of them learned about warming up via YouTube. Which means that the video that children see isn't always appropriate for their age group's warming up movement. According to the findings of the interviews, manipulating a scenario and performing fundamental movements is an effective technique to teach preschool children to warm up. The 7 Primal Movement Patterns is a great warm-up for children aged 3- 5 years. The seven basic movements are twist, push, pull, bend, squat, lunge, and gait. They represent the most basic breakdown of all human movements.

Keywords: interactive ebook, warming up, exercise, children

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INTRODUCTION

Physical education and sports improve the quality of students organically, neuromuscular, cognitively, and emotionally through physical exercise, according to the role of physical education and sports as an important part of the education system (SK. Mendikbud 413/U/1987). It will greatly affect the organic growth and development of students if activities are enthusiastic, regular, and continuous and packaged in a pleasant environment (Laelatul et al., 2019). Physical Education, Sports, and Health have been acknowledged by the government through Law No. 20 of the Republic of Indonesia governing the National Education System, which stipulates that PJOK courses shall be taught from elementary to high school/vocational and similar levels. Education aims to foster the development of all parts of a person's personality (Idris F et al., 2012). The most visible part to be developed through physical education and sports is the physical side, but aspects of the noble values that will define the character of civilized human beings are also established invisibly through the sports that are taught (Ghildiyal R, 2015).

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The phenomenon of Indonesian society towards sports according to the Ministry of Youth and Sports, the number of Indonesians who are now actively exercising has only reached 35.7 percent of the overall population, based on statistics from the Central Statistics Agency in 2018. Residents aged 5 and up contribute up the population of the census. Esa Sukmawijaya, The Head of the Planning and Organizational Bureau of the Ministry of Youth and Sports, believes that the result of 35.7 percent is insignificant for a country as big as Indonesia. Indonesia's population is currently estimated to be around 260 million people. "This BPS data is accurate, and it can be compared between provinces and nations around the world. Only 35.7 percent are in this category " Sukmawijaya said (2019). The types of sports that are popular among Indonesians are as follows: according to the findings of the Indonesian Survey Scale (SSI) study, 90.8 percent of Indonesians are familiar with football. 47.6% of people who are aware of it like it. Football outperformed badminton (18.8%) and volleyball (12.4%). Nielsen found that badminton and football contests become a binder for the audience's nationalism, according to a Kompas.com article (2018). Therefore, the Indonesian people's understanding and the need to exercise must be increased in order for the nation's generation to be physically and intellectually strong. Sport is being encouraged not just for the sake of sport, but also to address broader societal issues such as health, antisocial behavior, and community relations.

Physical activity is beneficial to kids of all ages. According to a study that followed children from kindergarten through fourth grade, sports participation helps them develop and improve cognitive skills (Piche, 2014). Academic achievement, including grades and standardized test scores, is linked to physical exercise in general. Furthermore, such activity can have a positive impact on attitudes and academic performance, including improved concentration, attention, and classroom behaviour (GAO, 2012). According to the designer, one of the most important problems is people's lack of understanding the importance of warming up before exercising, especially for parents who invite their children to exercise but do not have a sports background. In all sports and physical activities, it is common practice to warm up before engaging in physical activity (Better Health Channel, 2018). Warming up before exercise is important to prevent injury, prepare muscles and joints for use during physical activities, boost body temperature, and promote blood circulation, according to Kompas, Halodoc, Bola.com, and Okezone.com. Fleming (2019) stated that if a person skips the warm-up, their body will be susceptible to muscle sprains, cramps, and other muscle injuries. Has the potential to cause stress and tension in the muscles, especially the heart.

Warming up is important for adults, but new research suggests that it is even more important for children. A thorough warmup for children reduced soccer injuries by 50%, according to a study published in the Sports Medicine journal (2018). Warming up is divided into three types, namely: General Warm-Up, Warm-Up Stretching, and Sport-Specific Activity (Massachusetts Institute of Technology, n.d). In more detail, based on an interview with a National strength & conditioning coach, Karsiman stated that warming up consists of four methods, namely RAMP (Raise, Activate, Mobility, and Potentiate). Raise to increase pulse rate, Activate and Mobility are usually combined with use to activate muscles and mobilize joints, and Potentiate is a warm-up to prepare for core training or sport specific activity. The best type of warm up for children is light to moderate aerobic activity that engages the child and gets their body moving but isn't too physically taxing (Holecko, 2021). The 7 Primal Patterns, discovered by Paul Chek of the C.H.E.K. Institute more than 40 years ago, are examples of basic movements. Twist, Push, Pull, Bend, Squat, Lunge, and Gait are the seven basic movements developed during ontogeny (i.e. growth and development from infancy to adult) and are the most basic breakdown of all human movements (Shrump , 2020). However, warming up before exercising is much more important to prevent strain injury, this is also said by Rachel et al. (n.d).

Based on the data shown above, it is important for adults including parents and teachers to understand the significance of tiny details such as warm-ups for their children. This knowledge is crucial for adults and children in order to prevent muscular injury. There have been numerous reports of childrens getting cramping while playing sports or quickly suffocating while playing. One of them was quoted from Kompas.com news, entitled Injuries to Children Due to Playing Trampolines Soared 12 Times (Ayunda, 2016). Mostly due to a lack of muscle readiness (Helloheat.com, n.d). It requires knowledge from as early as possible before engaging in any sort of exercise, which can be obtained through interactive books. Within a shared book reading interaction, interactive shared book reading tactics include specialized before-reading, during-reading, and after-reading strategies (Klesius and Griffith, 1996). Talking about a targeted word in a different context, having the children say the word aloud, imitating the word with an action/sound, asking wh-questions about the story, prompting for elaborations and expansions, modeling expansions, asking for descriptions, and cloze procedures are all examples of during-reading strategies (Trivette and Dunst, 2007). The designer intends to work with Kelas Renang, a swimming school, to help disseminate information. Kelas Renang is one of the foundations that offers private swimming lessons for infants and preschoolers who are certified in aquatics, which is a good fit for the book's target market. The designer intends to work with Kelas Renang to create a welcome gift for new members, which will include an interactive book by the designer.

The primary goal of this project is to produce an interactive book that emphasizes the necessity of warming up before doing exercises. Unlike the traditional book, this interactive book will include lift-the-flap, slide, or spin the wheel techniques to make a more engaging learning experience for children. The designer chose this book because she likes to combine knowledge about how to warm up with other benefits. Unlike devices, which are dangerous for the eyes, the maximum amount of time that children can spend watching gadgets is only two hours, according to the results of an interview with Halodoc. In addition, unlike interactive books, devices may not help to improve motor skills. The reason for choosing interactive book style is because judging from children's books about sports in Indonesia, one of them is the traditional book earlier. Too much text, not engaging, and don't have any guide on how to do the warming up. Several resource persons informed that interactive books were not only able to impart knowledge, but were also able to make children active. To encourage young people's socialization in sports. These features may encourage verbal communication and interaction between the child and adult (Goldstein, 2011), which can in turn increase the use and understanding of new vocabulary words and children are expected to engage with physical activity too. Parents also need to understand the importance of warming up for their children to prevent injury or strain muscle.

METHODS

This writing applies a qualitative method with a descriptive analytical approach. Based on observations through literature studies and information related to pop-up book works, the research subjects are children who are physically active in sports. Data collection was conducted by field observations, interviews and discussions, and other supporting aspects of the pop-up book making process and warming up movements for children. Furthermore, the data is reduced, summarized and analysed. The data for this study came mostly from printed books, e-books, journals, and news, as well as background information and theoretical foundations. The contents of the interactive book will be based on a combination of data from books and a discussion between national coach, and athletes. Other media sources used in this research are from journals and articles such as Journal of Strength and Conditioning

Research, Journal of Health Education, Journal of Medical and Health Scientific Periodicals, Journal of Genetic Psychology, Journal of Computers and Education, Journal of Infographic Layout Sheet, International Journal of Sport, Education and Society, Journal of History, Types and Examples in Design, The Design Journal, Journal of Color Research & Application, Journal of Design and Art, Journal of Warming Up & Stretching, Journal of Infographic for Kids, Journal of Grid System, Journal of Education and Culture, and Journal of Color Harmony. In addition to books, journals, and articles, the designer includes an observation to gain a better understanding of the phenomenon. The observation will take place in a Senayan area where parents are encouraging their children to participate in sports activities. The reason I chose this area is because the vibe and the age range of the children match with the target market. Besides that, this book is aimed at the middle to upper class and the aquatic stadium is an ideal location for observation because those who join aquatic are members of expensive monthly clubs. However, the observation will also take place in the GBK area, where the children's warm-ups are not quite as common. The purpose of this observation is to learn how parents perceive warm-up sports for them and for their children. And the same goes for children, from their favourite sports to their knowledge of warming up. Children and their parents were observed exercising outside GBK Senayan for two hours, and interviews with children and parents who were participating in sports were conducted. For a week, observations were made at the Senayan aquatic stadium, examining how the children's swimming club was before, during, and after swimming. The author also conducted interviews to several people to get more in-depth information. In order to get the information about sport for children, the interviewees are Karsiman, S.Pd, ASCA (National strength & conditioning coach) around 30 years old, Juriana, M.Si (lecturer in sports psychology at the University of Jakarta) middle 40s, and Awalludin S.Pd (Teacher in Labscool Playgroup) around 30 years old. Finally, the designer will do an interview in the Senayan area, where people participate in sports and bring their children to exercise too. Several children called Shafa (9 years old), Abia (7 years old), and Revina (7 years old) were interviewed in order to learn more about their sport and warm-up routines. In addition, Risal (around 50 years old) and Edwin (middle 40's), the parents, were interviewed in order to have a better knowledge of how they perceive warming up and how they introduce it to their children.

RESULTS

Concept

This interactive book was made to remind as well as educate children and adults about the importance of warming up before engaging in any sport activity. Made in the form of an interactive book so that children can learn to engage and be active in their motor skills in sports. Rather than videos, it was created in the style of a book to encourage children's literacy from an early age according to an interview with Awalludin (playgroup teacher) in December 2021. Reducing the risk of eye pain when staring at the layer for too long according to Halodoc. Book is also supports today's learning outcomes in Indonesia curriculum for children.

Warming up exercises will be performed in storytelling with the character Tarzan, based on Awalludin and Juriana's interview suggestions. Tarzan was chosen because he is well-known among children, is not physically demanding, and usually performs basic actions such as squatting, lunging, bending, twisting, pulling, pushing, and gait. Tarzan's character incorporates natural and outdoor elements, the designer plans to employ natural colors and monochrome. Since the content will be providing the movements, the artwork style will be a cartoon with a semi-realistic body, making it clear for children to

follow. The designer will employ an infographic style for the design, according to the designer's findings, infographics are beneficial in boosting student learning outcomes. The main draw of this book is its interactivity and engagement, which is achieved through the employment of different strategies that correspond to the book's topic, notably sports. As a result of the designer's research, this strategy boosted both learning performance, literacy, and children's motor skills in an enjoyable way. As a result, the designer will employ a variety of pop-up techniques, including moveable, lift the flap, and Volvelles, so that viewers may not only read the text and see the visuals, but also touch and follow the movements. There will be one until two interactive techniques applied to each spread. The seven basic movements will have an activity that matches to the techniques, for example, a pull movement will have narration and an infographic about how the muscle moves on the left page. The right page, on the other hand, will be about games, or the benefit of the movements. Hardcover was chosen for two reasons: its function and the book's intended audience. The hardcover's purpose is to protect the contents of the book, which are quite heavy. The interactive paper mechanism of the book combines paper until the pages are thick enough, and the hardcover is supposed to handle the weight. The purpose of utilizing hardcovers is to prevent books from being damaged as rapidly as possible due to the nature of children who are still destructive and unpleasant with products. Also, if it is accidentally splashed with water by a child, the book cover does not become sluggish.

The warming up movements will be guided by the book, which is about basic primal movement patterns and contains the most basic breakdown of all human actions: Twist, Push, Pull, Bend, Squat, Lunge, and Gait are some of the exercises that everyone can do. This will be the first of a series of children's interactive books in the field of sports based on the designer's research, with a focus on sharing knowledge about how to warm up for kids. Warming up will be taught to children, and adults will know how crucial it is to do so in order to avoid muscular injury. Preventing is better than cure. This book will also provide benefits and activities to keep children interested in learning the movements. Since the book is intended as an introducing warm up to children, the presented text also has to be interesting and clear for the children to read. The font that will be used in this book is sans serif fonts based on the literature chapter, sans serif fonts make the text more readable, clear, and also there will be a lot of illustrations in each page, the designer decided to use a simpler font, so that the overall look of each page is not overwhelming for children to learn.

This interactive book will be summarized into a single book with a limited number of pages. Children and adults are the intended audience (teacher and parents). Warming up will be introduced to children, and adults and reminding the significance of warming up before engaging in any physical activity to avoid muscular injury and other issues. Since Gramedia Kids frequently produces children's books, this book will be published by them. This interactive book will use the Gramedia logo. Since the book's target audiences are children in the middle to upper social classes, and because most children in that social class have learned basic English and are fluent in it, the designer chose English as the book's primary language. However, because the words used in this book are simple English vocabulary, children will have an easier time understanding the material.

Kelas Renang swimming school will collaborate on this book. The goal of this collaboration is to get books into the hands of the correct audience, which is kids who participate in sports. The Kelas Renang logo will also be included in the book. Kelas Renang is one of the internationally recognized swimming schools in Indonesia. Founded in 2015 and developed in 2020, the goal is to make swimming a life skill that everyone should have. The method employed is the German international swim school method, which includes a water safety component. As of December 2021, Kelas Renang has 176 students from

5 cities, with the youngest students being 2 months old and the oldest being 65 years old. Surfing, diving, aqua natal swimming, and aqua natal yoga are all available at this swimming school.

Mind Mapping

The first step in the creative process is to have a brainstorming session, during which the designer seeks out as many ideas as possible to incorporate into the book. The designer chose to make a mind map after the brainstorming session, which contains essential terms and important aspects that will aid the designer during the design process.

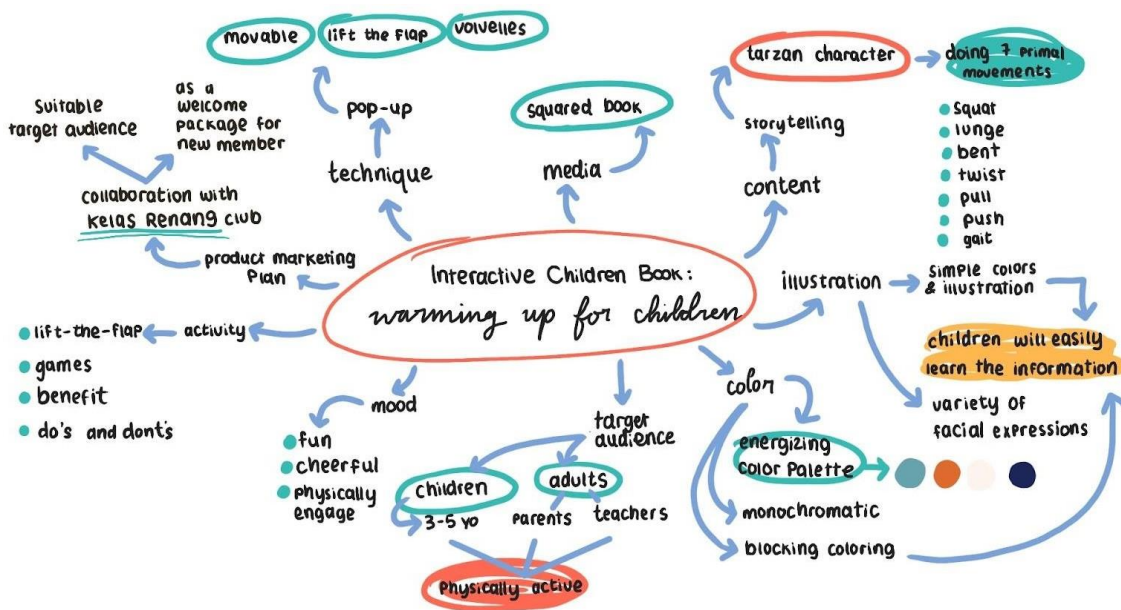


Figure 1. Mind Map.

Mood Board

One particular example for visualization tools is the mood board, which is widely used and accepted in different design disciplines when it comes to defining objectives concerning human experience. Doesn't go into detail about the book's design, but the mood, feel, and vibes that will be sensed are depicted in the mood board below.

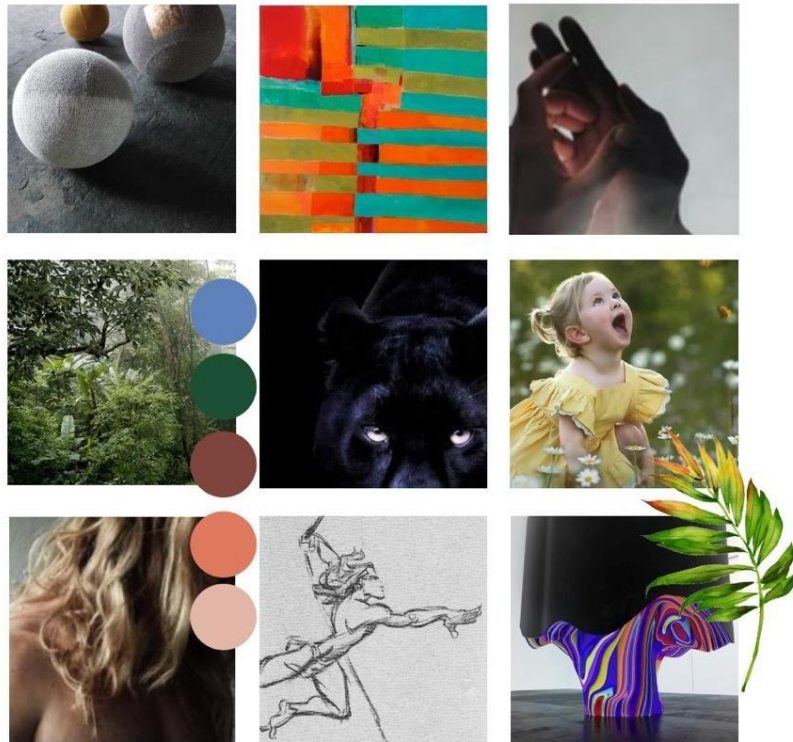


Figure 2. Interactive book mood board.

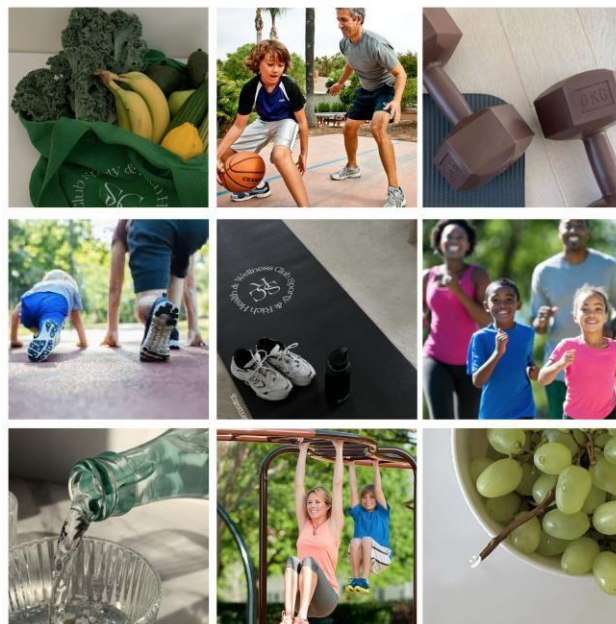


Figure 3. Target market moodboard.



Figure 4. Color usage moodboard.

Sketches

The first character resembled the one above and had a cartoonish body, wide eyes, soft edges, and a purple shirt. But after that, the color seemed too subdued and dull for children. The designer then tries to adjust the character's color to match the one on the right.

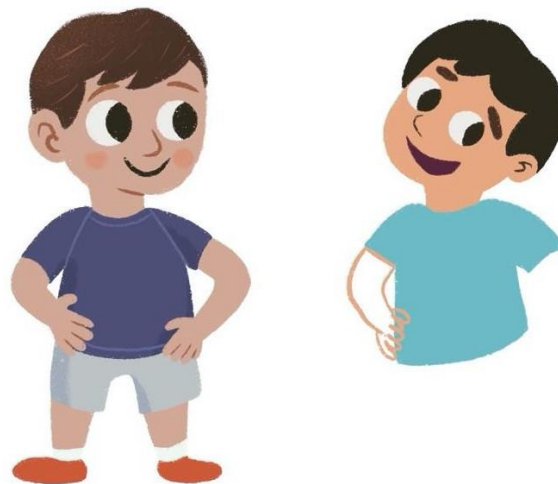


Figure 5. Deciding the shape of the character.

The designer tried to explore the art style that will be used later in the process. Try a caricature this time, where the head is oversized and out of proportion to the body. For kids, it seems playful, but the body is out of proportion. And the topic of this book will be guiding a movement. For children to easily follow clear movement instructions, a proportionate body is required.



Figure 6. Second character alternative.

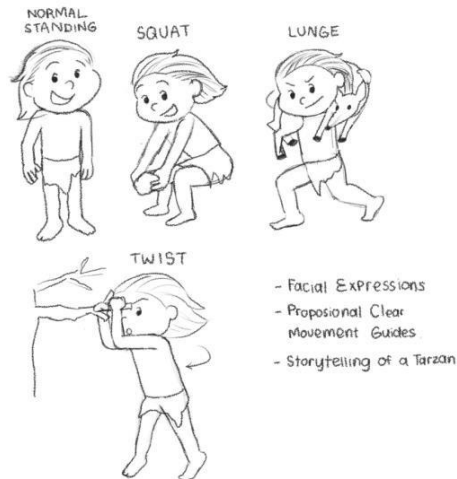


Figure 7. Third character alternative.

The designer chooses to create further sketches in one character style to check if it is appropriate to guide movement after brainstorming and choosing which character type is comfortable to draw and understandable for young children.



Figure 8. Final Tarzan character.

This is the last character design that will be created for the kid-friendly book. With a unique eye shape that reflects the number six and adorable facial expressions that reflect the emotions of the movements made. Despite having a body that is proportionate enough for the movement to be understood, the figure yet has a playful character.



Figure 9. Black Leopard and Elephant character.

Followed by several characters of Tarzan's friends in the book. There will be 3 more characters who accompanied Tarzan to build his house, namely Ape, Elephant, and Black Leopard. The designer tried to match the shape of the other characters with Tarzan's character.

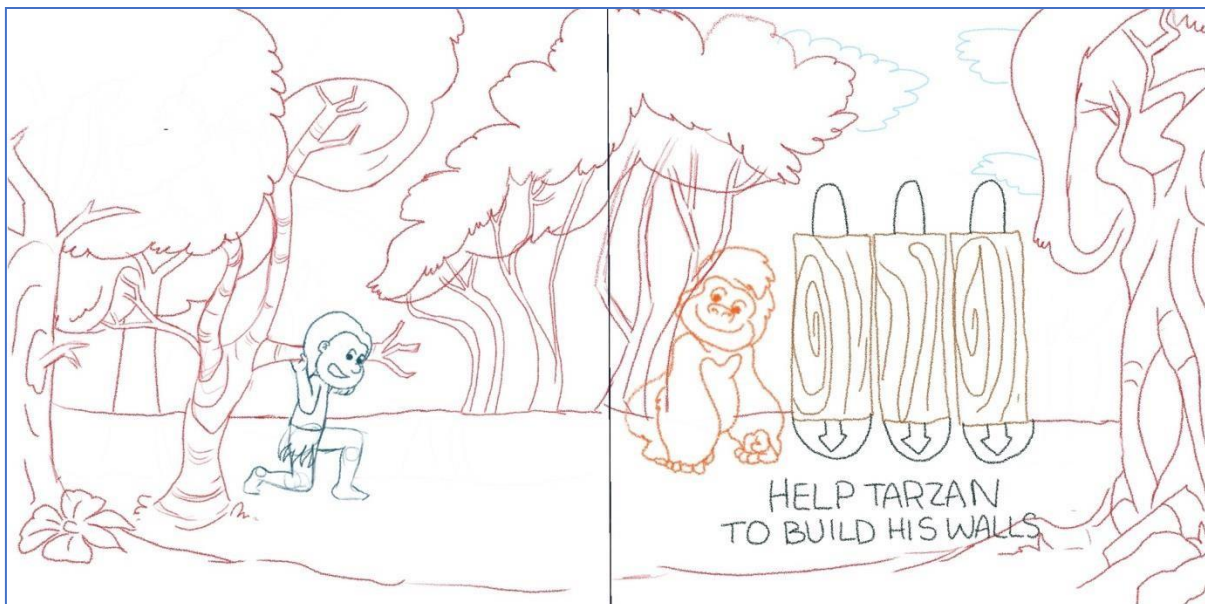


Figure 10. Lunges movement – benefit spread.

After getting the character and art style that the designer feel comfortable, the next step is to sketch for one spread. Above is a sketch for the first movement, namely Lunges, with games on the right.

Content Layout

The book's material will be consistent; the first spread of the book features a storyline. With a storyline, the next spread begins the warming up process. Each page on the left contains a story, while the pages

on the right will contain games or movement benefits. And to round out this book, one more storyline spread.

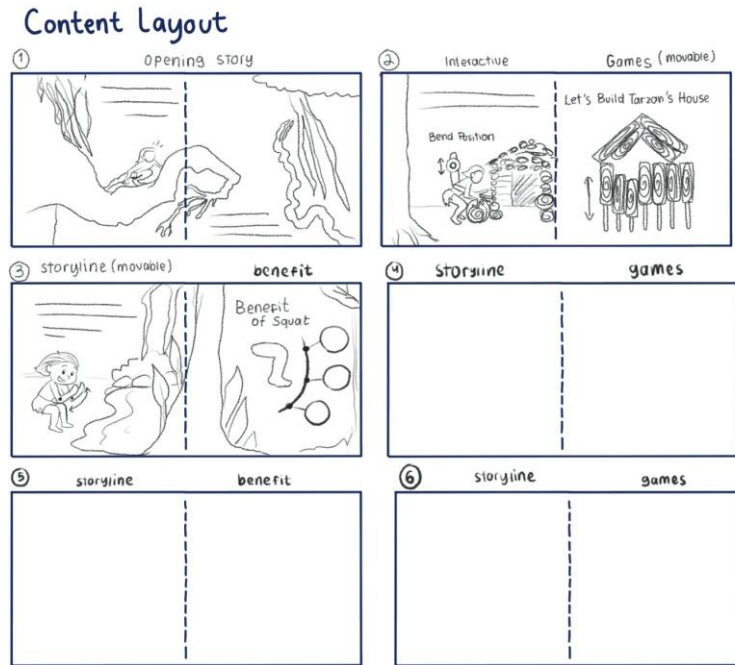


Figure 11. Content layout plans.

Final Implementation

The designer collected a reference for cartoon styles commonly used for children's books. The designer looks for references from Pinterest and in bookstores. Many children's books use soft and not too edgy shapes. Previously, the designer wanted to use illustrations that did not have a proportional body, but since the content of this book is a warming up guide for children, the designer decided to use a proportional body with a disproportionate head so that it still looks quite playful. At first, the designer made a rough sketch on Procreate application. Tarzan is depicted as in the film but redrew using the designer's art style. His cheeks are chubby and his expression is cheerful and the colors follow the palette from the film Tarzan. Tarzan is described as an active child, has long hair, and only wears leaf bottoms.



This interactive book teaches kids about warming up, with adults as a secondary audience. Based on this research, the designer made the decision to develop a warming-up guidebook in the style of a manipulation scenario so that the kids could participate and have fun while doing it. The narrative of Tarzan building his wooden home with the help of his friends serves as a warm-up. The book has four main characters: Tarzan, Ape, Elephant, and Black Leopard. Since the book takes place in a forest, natural colors, earth tone like blue for the sky, green for the trees and bushes, and brown for skin tones and tree trunks are utilized.

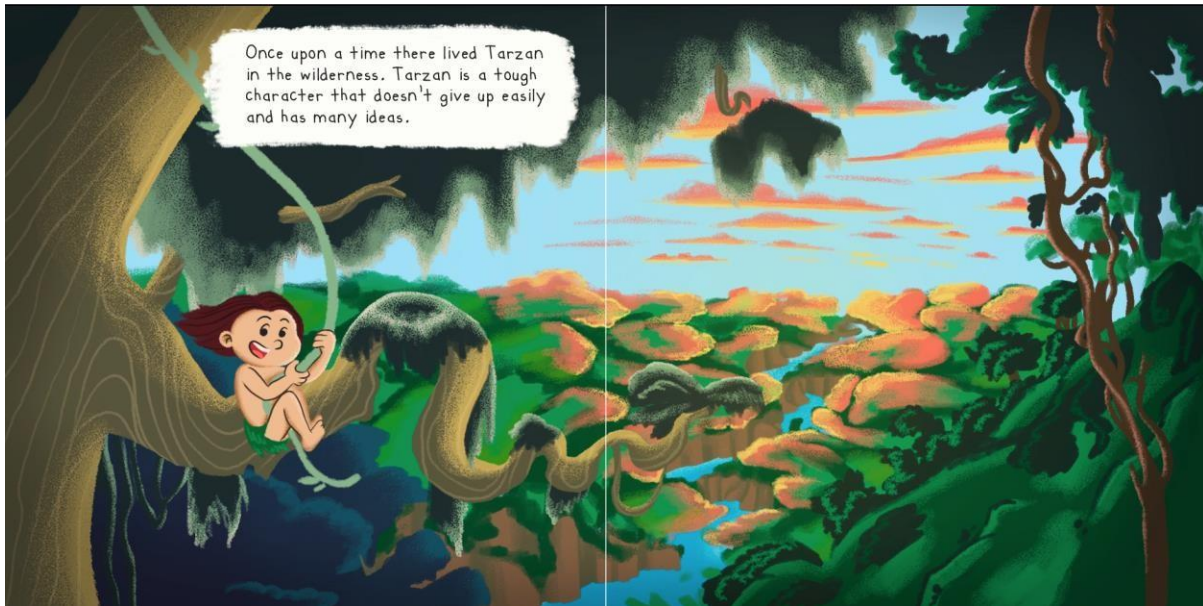


Figure 13. Opening story page.

In accordance with the book's systematics, the guide to the warming up movement begins with an opening story without interactive techniques. And also ends with a closing story without interactive as well. Tarzan is shown playing while dangling from a tree vine in the opening story above. A vignette effect is applied to the artwork to make the middle stand out without being overpoweringly wide. This story's purpose is to set the mood for children to become immersed in the mood created by the altering scenario approach based on the result of interview. To keep them comfortable to read, the coloring and patterns are kept as simple as possible with gradations and tree lines.

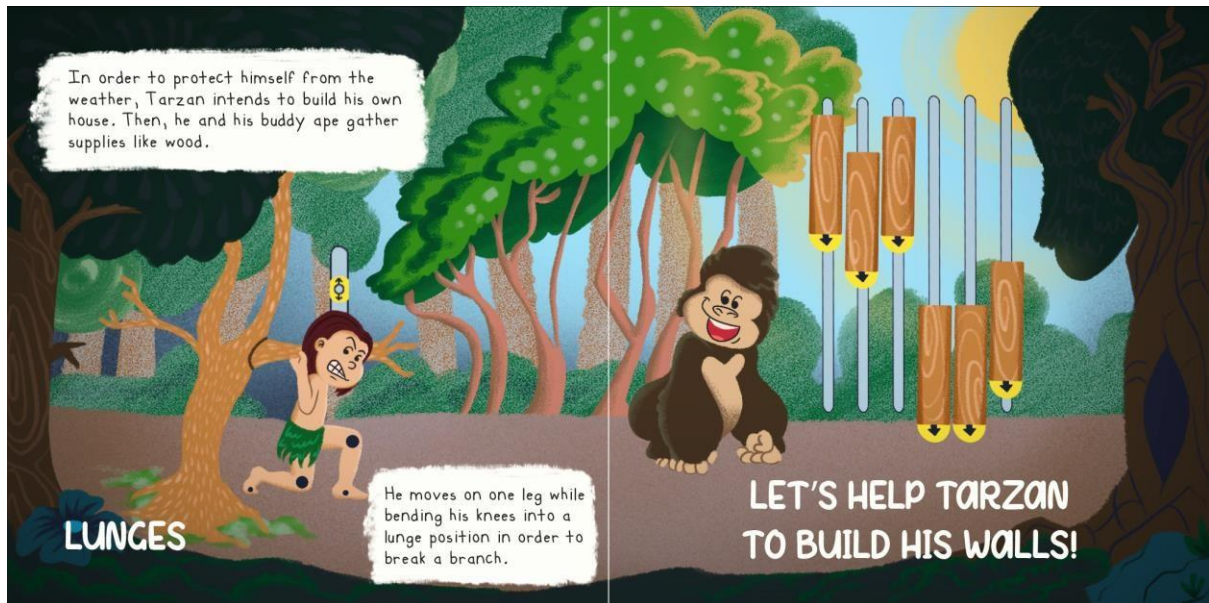


Figure 14. Lunges spread.

The first warm-up movement is a set of lunges. The movement is brought about by the story of Tarzan who is gathering his wood to make a house. As in the original Tarzan tale, Tarzan's buddy Ape is always by his side. The left spread includes a plot and an explanation of each movement, as was already described. There will also be games or benefits from each movement on the right. The white text bubble makes the text easier to read. Kiddish Medium is the font used for the storyline or body text; Letter Kids is used for the header or title on the right page and the movement title in the bottom left corner. The name of each warming-up exercise will be in the lower left corner. For Tarzan to be able to sense the movement he was doing, a funny expression was created for him. Each spread will always take place in a forest, with the sky growing gloomier as the story progresses. The artist's original art style was used to create the illustration. In order to prevent children from finding reading shapes overwhelming, shapes are made as easy as possible. Pop-up tactics will always be identified with a yellow sign and an arrow so that the instruction is obvious and simple for kids to understand.



Figure 15. Twist spread.

Twists are the next move after lunges. The right page will alternate benefits with games. This time it is the benefit of doing a twist. This page is designed so that parents and children understand the benefits apart from movement.

CONCLUSION

Physical activity is beneficial to kids of all ages. Sports participation helps them develop and improve cognitive skills. In all sports and physical activities, it is common practice to warm up before engaging in physical activity. Warming up is important for adults, but new research suggests that it is even more important for children. It's crucial to warm up before exercising to avoid strain injuries and to get the body ready for any physical activity. The best type of warm up for children is light to moderate aerobic activity that engages the child and gets their body moving but isn't too physically taxing. Based on interviews and observations conducted by designer at the Senayan Sports Center, there are still many children who don't do it and don't even know what warm up is. Thus, the designer suggests using an interactive children's book as a medium for distributing information about this warming up movements. Awalludin, a kindergarten teacher, encourages the creation of interactive children's books since they are necessary to improve literacy in children's learning outcomes in the Learning Outcomes system in Indonesia for kindergarten students in addition to being active and introducing warming up. Awalludin also mentioned that teachers in schools might utilize this interactive book as a tool or a lesson plan to educate kids how to move. This interactive book's main subject is children's general warming up. The movements will be based on Paul Chek of the C.H.E.K.'s Seven Primal Patterns. Children are more motivated to manipulate a scenario if they feel like they are a part of the plot, so the interactive book will be presented as a storyline. Warming up exercises will be performed in storytelling with the character Tarzan, based on Awalludin and Juriana's interview suggestions. Tarzan was chosen because he is well-known among children, is not physically demanding, and usually performs basic actions such as squatting, lunging, bending, twisting, pulling, pushing, and gait. This interactive book was made to remind

as well as educate children and adults as a second target about the importance of warming up before engaging in any sport activity. A variety of pop-up techniques is applied, including moveable, lift the flap, and Volvelles. This book uses infographic method, according to the designer's findings, infographics are beneficial in boosting student learning outcomes. This book's illustrations are drawn in a cartoon style with proportionate bodies so that children can grasp the instructions for warming up. The colors of the illustration are natural colors, bright and vibrant colors so that it appeals to the children's eyes. This book's illustrations are drawn in a cartoon style with proportionate bodies so that children can grasp the instructions for warming up. Natural, vibrant colors that are appealing to children's eyes make up the illustration's palette. In conclusion, the creator of this interactive book believes that it will help children and parents understand the important of warming up in a playful and interesting way.

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