

Environmental and Hydroponics Education for Children through Story Book Design

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Introduction

Hydroponics is a new technique in the advancement of planting. Hydroponic farming system can utilize even on the land in the yard or house. Hydroponics is a method of agricultural cultivation without using soil media and an agricultural activity carried out using water as a medium to replace soil. Hydroponics is an agricultural method that uses planting media in the form of water or liquid that is rich in plant nutrition. Hydroponic system is to make plant roots in direct contact with nutrients while getting enough oxygen to optimize plant growth.

One way out that can be done is to increase the interest of the younger generation in farming activities. It can be started early (children) and in a simple way. One of them is by educating children about hydroponic farming. To education in hydroponics, children need knowing for hydroponic process, that a plant roots are either submerged in water or a film of nutrients mixed in water is constantly encompassing the root zone, keeping it hydrated and nourished. Hydroponics uses substantially less water as compared to the soil farming. Water is not wasted in this process, as it gets recovered, filtered, replenished and recycled.

The purpose of this study is to designing the appropriate eco-friendly story book media about Introduction of Hydroponics and Environmental and climate change related to agriculture for children. Story book that contains information about hydroponics and environmental introduction with simple hydroponic planting procedures. in the contents of the story book it is also explained that hydroponics can play a great contribution in areas with limitation of soil and water.

Methods

The research for potential to be developed story book with hydroponic theme. This research was a research with descriptive study methode using a qualitative approach. Data collection was carried out through several methods including site observation, in-depth interviews, document study methods. The sampling technique was carried out by using purposive sampling method. Data were analyzed using an interactive analysis model. The action that will be taken is to try to use the research results into a prototype work related to story book design with education concept of hydroponic.

Results and Discussion

Potential process to first step in children's learning to recognize hydroponics, it is recommended to start by introducing the understanding, function and purpose of the hydroponic environment. The main thing is to introduce that hydroponics uses nutrient water as a growing medium so that it is not dirty in the planting process. Hydroponic as a medium for growing plants without using soil media as a growing medium and taking the required mineral nutrients from a nutrient solution dissolved in water [8]. The hydroponic system that is recommended as an initial practice for children to grow hydroponics is the Wick System (Wick System).

Books read by children usually contain knowledge content that is new to them. This can be the reason children will have difficulty finding new vocabulary or pictures they have never seen before. This book about hydroponics really needs parental assistance such as mentoring and supervision, because in this book there are various terms commonly used in the world of agriculture as well as some hydroponic practice training needs that need to be met.

Picture stories are a form of unified story accompanied by pictures that serve as decoration and support for the story that can help the process of understanding the contents of the story. The choice of colors, layouts, and illustration styles adjusts to the target audience based on research that has been done previously. Main Media in the design of the illustrated story book "Hydroponics: Farming Without Soil" visually shows an illustration characters for children. In this section, children will be guided on how the hydroponic planting process is simple, starting from sowing, transplanting seeds, to maintenance. Supporting or additional media in this design are hydroponic kits, posters, x-banners, tote bags, cloth masks, stickers, and social media advertisements.

continuation in discussion...

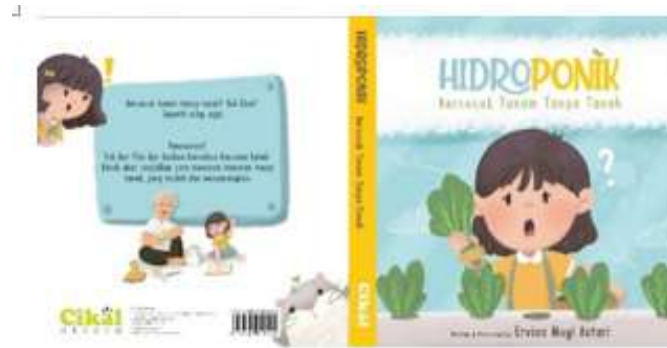


Figure 2. Design of Story Book Cover



Figure 3. Picture Storybook Contents 01



Figure 4. Picture Storybook Contents 02



Figure 5. Picture Storybook Contents 03

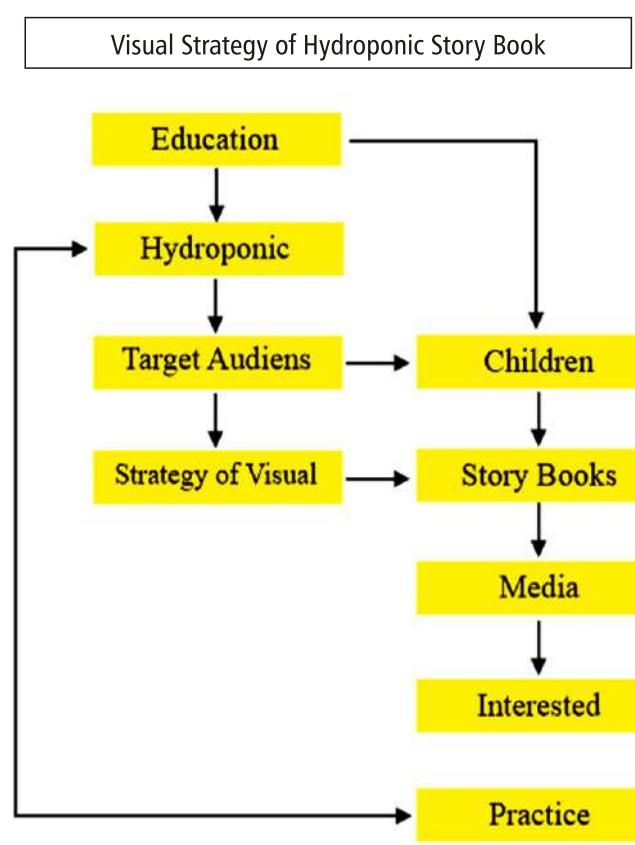


Figure 6. Poster



Figure 7. Hydroponic kits



Figure 8. X-Banner



Figure 9. Sticker



Figure 10. Social Media Ads

Conclusion

After carrying out the stages in working on this Final Project, it can be concluded that there are many aspects that must be considered in making picture story books that contain knowledge about hydroponics for children. Instilling interest in farming activities can be done from an early age. One of them is through picture story books. Several parts of this Final Project discuss the basics of hydroponics such as the meaning, benefits, and procedures. A very important step in the making of this book is in-depth research to get the right and appropriate information for children. The target audience of this hydroponic picture book is children with a suitable illustration style, such as using clear character shapes and contrasting and bright colors. Apart from that, there are other aspects such as readability of the writing and the appropriate layout of the writing, so that the book is comfortable to read.

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