



Design of the “Hello Maggot” Program E-book For Pesan Trend Educational Area Visitor Age 18-24 Years

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Abstract

Pesan Trend is a non-formal education area for young people, Pesan Trend has a goal to convey good messages to become a trend in the midst of society. One of the focuses movement of Pesan Trend is on environmental issues, with the amount of waste currently available, making Pesan Trend moved to breed BSF (Black Soldier Fly) fly larvae to be able to decompose organic waste. The use of media in the form of E-books is considered to be able to help the teaching and learning activities at Pesan Trend which use the concept of tours and simulations in their teaching and learning activities. So it requires flexibility in the learning process and requires media that is easy to use and not easily damaged. The method used in this design is a qualitative method. Data collection techniques in this design use interview techniques and direct observation to the Pesan Trend education area. The design of this E-book educational media is based on theories related to editorial, visual communication design science, AISAS, icons, photography, and other theories related to design. The design of the E-book with the title "HELLO MAGGOT pocket book BSF fly larvae breeding for organic waste solutions" aims to make people, especially teenagers, more concerned about the environment in which they live.

Keywords: E-book, maggot, pesan trend.

1. Introduction

Pesan Trend is one of the programs developed by the Hijrah Youth Foundation which was founded by Ustadz Hana Attaki, Lc. Pesan Trend was first introduced to the public in 2019 and development just started in 2020 (Ahmad, 2019). Pesan Trend is designed to move in the field of education, especially for young people or teenagers, where education, worship, and "play" or a place to develop the potential of young people are in a contiguous area. Pesan Trend is planned to be opened to the public in 2023 and does not set a fee for visitors, fees will be charged if visitors want to use more facilities provided such as lodging or learning that requires more costs such as horse riding. Visitor quota restricted as many as 150 people per day by making reservations online in advance. Pesan Trend target audience is young people or teenagers in the area of Bandung City and Bandung Regency.

Currently Pesan Trend is currently compiling curriculum and learning to be implemented in 2023, where later visitors to Pesan Trend will receive learning such as reciting the Qur'an, ta'lim, fiqh material, morals, aqidah, archery, horse riding, farming, and other life skill programs. Farming material has several lessons in it such as gardening, making fertilizer, raising sheep, raising chickens, knowledge about waste, and using maggot to break down organic waste (Handayani et al., 2021; Alvarez, 2012). One of the sub-learning materials for farming is a maggot breeding education called Hello Maggot which shows how maggot processes organic waste from the organic waste alms program. The collected waste will later be processed into compost and BSF maggot feed or fly larvae.

The BSF fly (Black Soldier fly) has the Latin name *Hermetia Ilucens*, which is an insect belonging to the Diptera order of the Stratiomyidae family, originating from America. The larvae produced from BSF flies are able to eat as much as 2-5 kg of organic waste per day for 1 kg of maggot. This number is a very large number, considering that maggot's own body size is only a few millimeters, so that maggot is able to become a good decomposer of organic waste to break down organic waste in the midst of society (Kaya et al., 2021; Gougbedji et al., 2021). Apart from being able to decompose organic waste, the results of the leftover maggot feed can become quality organic fertilizer, so this fertilizer will also be used by Messages of Trend to provide nutrition for the plants they have. The maggot educational program called Hello Maggot is prepared to be given to visitors so that it requires effective media in the tour and simulation-based learning process.

In conveying its information, Pesan Trend uses social media devices such as Instagram. The current number of Instagram followers of Pesan Trend is 90 thousand followers. The Instagram account contains development reports, ongoing activity reports, tips, and content that collaborates with other program children such as Shift Care, Jungle School, and Lesswaste Shift. However, the media owned by Pesan Trend in the form of an Instagram account that

informs the programs and activities that they are carrying out are still felt to be unable to convey the message optimally, especially the maggot discussion that was previously broadcast on Instagram Lesswaste Shift in the form of a video and short material about BSF flies. Short video shows and short content about BSF flies cannot yet describe in detail the use of maggot waste that can be done by the people in the environment where they live. In addition, the appearance of the content is still not visually attractive. Seeing the huge potential for maggot to reduce organic waste in the city of Bandung, and the huge potential for spreading knowledge from media owned by Pesan Trend and also the activities that will be carried out by Pesan Trend, media is needed that is able to provide education about the importance of using maggot for decomposing organic waste, media education on how to decompose organic waste using maggot using media in the form of e-books and other supporting media is felt to provide effective and efficient learning in supporting the learning that visitors will get when they study at the place.

2. Literature Reviews

2.1. E-book media

According to Nyakeri (2017), E-book or digital book is a publication that consists of text, images, and sound and is published in digital form that can be read on an electronic device such as a computer, smartphone, or tablet. In general, e-books aim to give people easy access to add insight and knowledge. However, according to Prabowo and Heriyanto (Yoo, 2019), the goals of making e-books include preserving library collections, providing library services, space efficiency because e-books save more space, create collections that are not limited by space and time and save cost.

2.2. Photography

According to Bull (2010), photography comes from the Greek, namely photo from phos which means light, and graphy from graphe which means writing or picture. So, photography has a meaning or meaning as writing or drawing with light. According to Blocksom (2017), photography is an activity of recording and manipulating light to get the results we want. Furthermore, Putro (Peres, 2021) Photography has several important roles for human life, including to record a document or historical moment, as a work of art, photojournalism, even as a learning medium. Photographic media has several advantages in the power of conveying messages. According to Dale's Cone of Experience, Visual media has a 20% higher level of effectiveness compared to reading only text. Macro photography according to Davies (Peres, 2021) macro photography is the most challenging form of photography, yet potentially the most interesting and rewarding, often revealing amazing patterns, textures, colors and details invisible to the naked eye. Apart from that, Davies also believes that taking macro photography requires meticulous technique, perseverance, and patience. So, not a few photographers feel frustrated when taking pictures.

2.3. Icon

According to Burks (1949), an icon or icon is a sign that is similar to the object it represents. It can be said that an icon is a sign that has the same characteristics as what is intended. Icons are not just simplified images but each image that represents the object represented. Icons do not require agreement (convention) in interpreting them. An icon can be defined as a physical object that resembles what it represents. The representation is characterized by similarities (Kusuma et al., 2019).

2.4. Editorial Design

According to Caldwell, Cath & Yollanda (2014) editorial design is a visual journalism to entertain, inform, instruct, communicate, educate, or combine all of them. The functions of editorial are to give expression and personality to content, attract and retain audiences or readers, and organize material clearly. Editorial design has elements in it, such as layout, whitespace, colors, graphic elements, and typography. Layout according to Ambrose and Harris, London (2005) in Leborg (2006) is an arrangement of design elements that are interconnected in a field so as to make it have an artistic arrangement. In general, layout is the layout in a field or space. In the science of visual communication design, layout is the main thing because a good design must have a good layout too. In this design, the authors use a grid layout with two types of grids used, namely the Manuscript grid (one-column grid) and the Column grid (column grid). According to Leborg (2006), the Manuscript grid is the simplest grid because it only consists of one column. The main structure of this grid is determined by one column in the middle, while the column grid according to Leborg

(2006) is a grid composed of an arrangement of columns in its format. The use of this grid has the advantage of flexibility, because it can contain complex content between text and images or illustrations.

2.5. Maggot or Black Soldier Fly larvae

Taxonomically, BSF flies (Black Soldier Fly) or with the scientific name *Hermetia Illucens L.* Physiologically, the Black Soldier Fly has a black body, the length of these flies ranges from 15-20mm. Eggs are a sign of the beginning of a new life cycle and indicate the end of the previous life stage, where the female BSF fly will produce 400-800 eggs and place them in dry and protected cavities or crevices. The female fly will die shortly after laying eggs. The eggs are stored by female flies in hollow places or protected gaps to avoid predators and direct sunlight which can reduce the water content in the eggs.

In addition to storing in a place with gaps, the eggs are stored near rotting garbage, this is intended so that when the eggs hatch after four days and are only a few millimeters in size, they will not be difficult to find food and they can immediately get food around them. These newly hatched larvae immediately enter the feeding phase, where they will eat garbage greedily so that their size, which was only a few millimeters at first, will increase to 2.5 centimeters and have a width of 0.5 centimeters, while the color will become slightly beige. Maggot or BSF fly larvae are able to consume a variety of foods that vary from organic materials, including market organic waste, urban organic waste, household organic waste, food processing leftovers to feces produced by animals and humans. The flexibility of this maggot food also makes maggot an ideal insect capable of producing protein.

2.6. Rubbishorganic

Organic waste is waste that easily decomposes such as leftover food, vegetables, dry leaves, and so on. This waste can also be processed into compost.

3. Materials And Methods

3.1. Materials

The data used in this design includes direct observation of the Pesan Trend educational area, conducting interviews with several sources such as the head of the program division, deputy chairman of the foundation, advisors to the foundation, the Pesan Trend team, and the supervisor of the SIMPEL waste bank located in Arcamanik, Bandung. The author also collects questionnaires and literature studies. In the interview session, the author asked questions to get information about the history of Pesan Trend, maggot breeding in Pesan Trend, program names, Pesan Trends vision and mission, programs that will run on Pesan Trend media that has been used, and Pesan Trend needs related to media. In the contents of the e-book, the author obtained from various existing literature studies such as the book *Process of Processing Organic Waste with Black Soldier Fly*, the book *The Use of Black Soldier Fly (BSF) Larva (Maggot) in Organic Waste Management*, the *MAGOT book High Protein Fish Feed & Bio Organic Waste Processing Machines*, and the *Maggot Promise* book. In addition to getting the contents of the text through existing books, the author also obtained it through interviews with the Pesan Trend team.

3.2. Method

In this design, the authors use qualitative research methods to obtain the data needed during the research. In its application, the author made direct observations of the Pesan Trend educational area, conducted interviews with Pesan Trend, program heads, foundation advisers, deputy foundation heads, SIMPEL waste bank supervisors. And distributing questionnaires to find out the audience. In addition to using qualitative research methods, the authors also carried out the stages of the design methodology by going through pre-production, production and post-production stages.

At the pre-production stage, the author carries out the pre-production stage by creating a page plan that will be applied to the e-book, then the author can determine what kind of icon and photography will be attached to the page. After that, the author creates design assets such as predefined icons and photography. After the pre-production stage is complete, the author then carries out the production stage by laying out the e-book using Adobe Illustrator software by adding icons and photography that has been made and layout with a predetermined page plan. After the production stage is complete, the author carries out the post-production stage by uploading the e-book in pdf format. to the issuu.com website so that the book display becomes more interactive and later easy to share with visitors.

4. Results And Discussion

4.1. Results

This design is a design that departs from existing problems, based on the results of the author's interview with Pesan Trend, it was found that the program regarding maggot education did not yet have media to be used for the learning process, so e-book media was chosen by Pesan Trend because e-books have the advantage flexibility in its use and deemed suitable for tour- and simulation-based learning methods. The media in the form of an e-book is equipped with various kinds of photos and icons that aim to make the audience understand and be more interested in the contents of each discussion in this e-book.

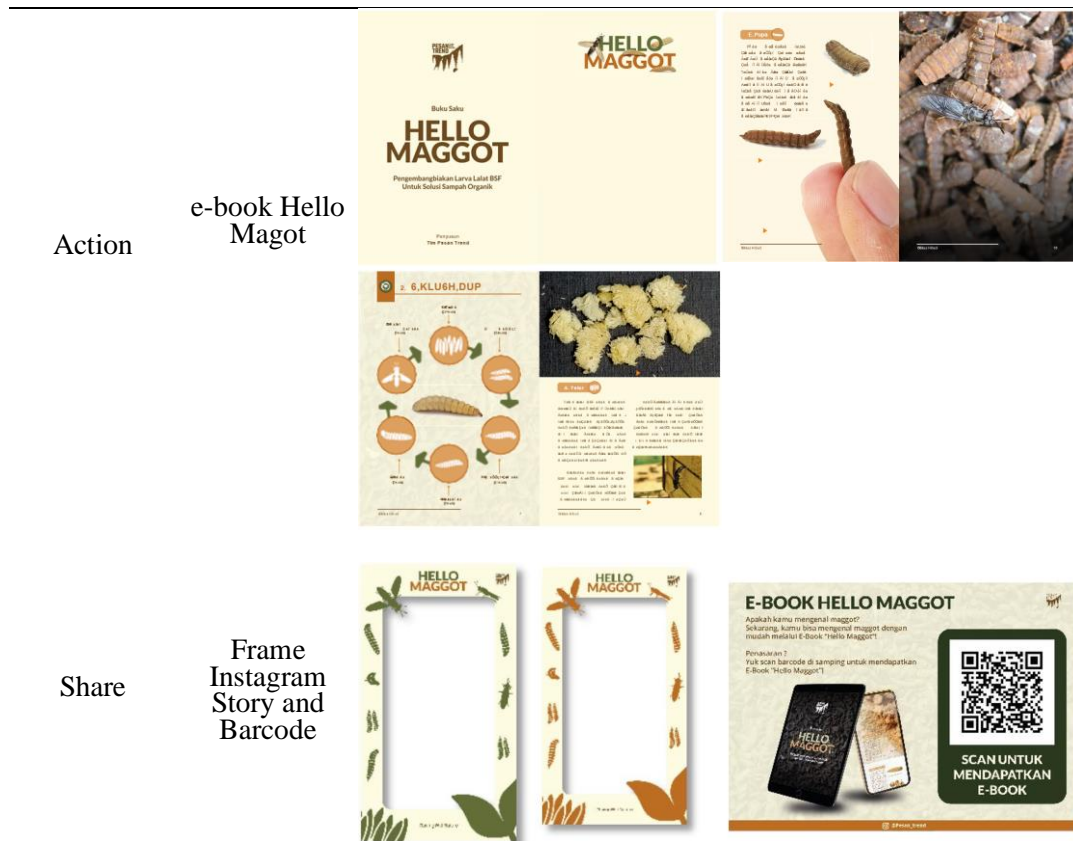
4.2. Discussion

4.2.1. Communication Strategy

In this design, the authors use the AISAS communication. Strategy, Sugiyama & Andree (2011) AISAS is formed from Attention, Interest, Search, Action, and Share and the AISAS model is considered more relevant to the digital era that is currently developing. To apply this AISAS communication strategy, the author applies the media that the author makes at each point.

Table 1: Communication strategy-AISAS

AISAS	Media	Results
Attention	Instagram Feed and Instagram Reels	
Interest	Banner and Poster	
Search	Instagram Account @pesan_trend	



Action e-book Hello Magot

Share Frame Instagram Story and Barcode

4.2.2. Creative Strategy

The creative strategy used in this design is to make an e-book that is equipped with macro photography and other photography and icons, so that the audience can see small objects clearly, such as seeing the body of the BSF or maggot fly larvae, seeing the shape of the fly's body. BSF, see BSF fly eggs, see newly hatched BSF fly larvae and other small objects. It is intended that the audience can better understand the material presented.

4.2.3. Design Strategy

Design strategy is an action carried out by a designer or team of designers to realize a goal to be achieved and become a final decision. The design strategy in this design includes layout, typography, color, photography, and editorial.

1) Editorial

In designing this E-book, the editorial design functions to organize various visual elements that will be applied into a harmonious whole. The use of photography and typography in this design is combined with the use of a grid layout of the type manuscript grid and column grid which can contain many graphic elements and has flexibility in its application so that it can adapt to the content or information to be conveyed. Layouts is the arrangement of the elements into one field so as to produce an artistic arrangement. The type of layout used in this design is a grid layout, this layout uses the help of lines or grids when doing layouting or is called a grid system. The author uses two types of grid layouts to create layouts for the E-book, the first is the manuscript grid and the second is the column grid. On the layout of the front and back covers, the author provides the Pesan Trend logo as information that the e-book that the author has created will be published by Pesan Trend for their visitors.

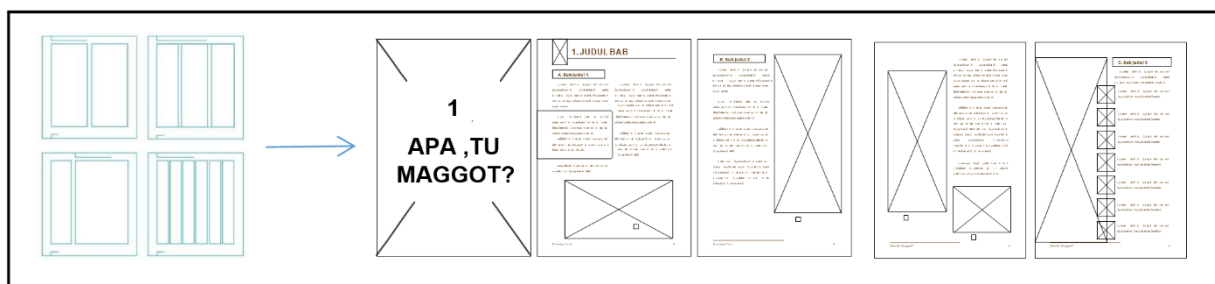


Figure 1: Column grid

2) Typography

The typography used in this design is sans serif typography, this type of typography is taken from the media that has been used by the previous Trend Messages. In addition, this type of typography is also more widely used on computer screens, because this type of typography is simpler than serif typefaces, and also sans serif typefaces are easier to read when the size is small (Leborg, 2006). The typography used in this design are:

- a. Lato: The use of a typography called Lato is used by writers for parts of headlines or main titles, because this type of typography has a thick typeface so that it can make it easier for readers to see the title.
- b. Open Sans: This type of typography, called Open Sans, is used by writers for content or material text, because this type of typography is often used for content by digitally displayed media. In addition, when the writer searched for typefaces that matched with Lato on the website fontjoy.com, this typeface became one of the typefaces that matched with Lato's typefaces.



Figure 2: The Typography used in this design are Lato and Open Sans

3) Color

Color is an important thing in a design, with the presence of color, the identity or image of an object can be conveyed, both in conveying a message or physically differentiating objects. Color is an element that can attract the attention of the audience, improve mood, describe an image, and so on (Leborg, 2006). In addition, colors also have different meanings in each color that appears, thus creating a psychological effect on the audience. The colors in this design are taken from natural colors and also the tone colors used by Pesan Trend on media they already have, such as the Pesan Trend logo and the color tones on photos uploaded to their Instagram social media account. In addition, the author also uses colors that come from nature in accordance with the Pesan Trend campaign, namely Living with Nature. So the author gets the color combinations used by the author in designing various media in this design.

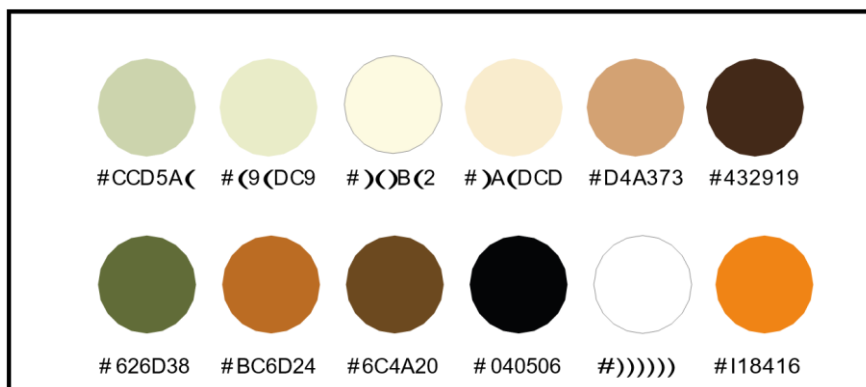


Figure 3: The Typography used in this design are Lato and Open Sans

4) Photography

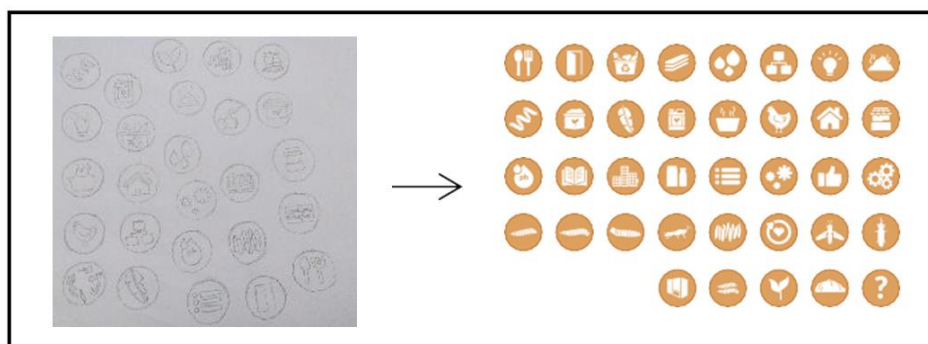
In this design, photography becomes an important point as a messenger to the audience. Therefore, the results of this photography are expected to be able to provide a visual explanation to the audience. In this design the author uses several tools to support the results of the photo, the author uses the Lumix GH-5 camera to get human interest photos and to capture large quantities of fast moving objects, Canon 250 camera D To get photos of plants, maggots, and other photos that require a depth effect that is not obtained when using a smartphone camera, the author also uses the Xiaomi Redmi note 8 smartphone camera to make macro photos. After processing the photos, the author then carries out the photo editing stages using Adobe Lightroom software to uniform colors and sharpen images that are considered less sharp.



Figure 4: The Process of making Photographic assets

5) Icon

According to Wantoro and Cahyadi (2020), an icon or icon is a sign that is similar to the object it represents. It can be said that an icon is a sign that has the same characteristics as what is intended. In the process of making it, the author uses 3 ways, including sketching, viewing and modifying icons that are already on the internet, and tracing the photos that have been taken so that the icon looks the same as the object it will represent.

**Figure 5:** The Process of making Icon**5. Conclusion**

The design of the E-book regarding the breeding of BSF fly larvae is intended to introduce and provide information about BSF fly larvae and BSF flies equipped with photography so that readers can understand in detail about every discussion in this E-book. On the other hand, it is hoped that by introducing BSF fly larvae to the public, especially among young people, it can make them understand more about the importance of processing waste independently and can reduce the amount of organic waste that ends up in landfills. The visual style and media approach used in the E-book are taken from existing Pesan Trend media, such as typography, message approach with photography, and the colors used. The use of photography with macro techniques is used to create a cleaner and more elegant impression, so that the stigma about maggots that are disgusting can be minimized.

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