

Reading Visual Signs in Interactive Book: “Five Senses and Body Parts”

Mita Purbasari

Binus Northumbria School of Design, Bina Nusantara University, Jakarta 11480, Indonesia

Abstract

Supplementary books are often found in bookstores as an additional learning media to support the smooth teaching and learning process in schools. This book is made and packaged in such a way as to make it easier for students to understand because it contains more pictures, has an attractive appearance, has a non-standard layout, usually has more pictures than writing, and is full of surprises in the form of activities such as games, coloring, and questions and answers. To understand the designer's creative process, this study discusses visual signs in the form of forms, colors, and other visual signs contained in the book using William Morris's semiotic approach, focusing on syntactic, semantics, and pragmatics. This book has been tested on some beginner students because this book can develop their imagination and encourage them to be more sensitive in using and developing their five senses. It is hoped that interactive books like this can develop and circulate widely in Indonesia at affordable prices to help the intellectual process of the nation's children in the coming years.

Keywords: interactive book, visual signs, forms, colors

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1. Introduction

Books are important when talking about science and school. Generally, the teaching and learning process becomes more complete with the existence of mandatory books. However, many compulsory books are difficult for beginner students to understand, especially science-themed books. Science lessons are difficult, confusing, and boring (Astri, 2016). Meanwhile, science education, or the *Ilmu Pengetahuan Alam* (IPA), is one of the important subjects taught in elementary schools. IPA is a science related to human life (Zubaidah, et.al, 2018). Science plays a huge role and provides benefits to human life. Science must be able to benefit a nation. The economic welfare of a nation is highly dependent on science, which is why science is often referred to as the basis of technology. Science education is essential to be taught in the early school years because it is significant for children's development in many ways (Brostrom, 2015). Because science is important, science is included in one of the subjects taught in primary education and registered for testing in the Primary School National Examination (*Ujian Nasional*). A survey conducted by the Organization for Economic Co-operation and Development states that the quality of education in Indonesia is ranked 57th out of 65 developing countries in Asia (Nasution et.al, 2018). This means that education in Indonesia is still far below standard, and science education needs to be improved. To increase students' interest in studying science education, additional books are needed that are suitable for a different learning system from compulsory books. This supplementary book has parallel content and supports compulsory books but has a different learning system, is easy to learn and has an interactive method. This interactive book provides sensations and other experiences in the activities form such as games and quizzes so that students will find fun ways of learning.

An interactive book entitled *Five Senses and Body Parts* designed by Claudia Sergio to meet the prerequisites for undergraduate graduation (*Strata 1*) at Bina Nusantara University, on science for beginners between 6-7 years old (grade 1 elementary school), has a visual appearance, which is interesting. With a simple but attractive drawing style, attractive colors, pop-up techniques, and other sensations, this book can be used as a supplementary or additional book (Figure 1).



Figure 1. Front and Back Cover, (Sergio, 2020)

This interactive book has 4 series in which you will learn about human life, namely *Five Senses & Body Parts*, *Healthy Living Habits*, *Non-Living Things* and *Day & Night*. The interactive book in this research focuses only on the topic *Five Senses & Body Parts*. Information is conveyed using an infographic technique, in which many complex messages are conveyed through pictures with a play of shapes and colors. Humans have a tendency to be more comfortable looking at images than long texts. Infographics can have a significant impact on student learning (Naparin and Saad, 2017).

2. Reading Visual Signs of the Book by Semiotic


The research applied a qualitative method by doing a literature study, interview the book designer, and observation for collection data. The layout, images, colors and typography of the book were analyzed by using Morris's semiotic approach. Semiotics is the study of meaning-making, the study of sign processes and meaningful communication (Hoed, 2011:6-7). A science that studies the life of signs within society is conceivable. It would be part of social psychology and consequently of general psychology. Semiotics focuses on syntactic (the relationship between a sign and another), semantics (the relationship between a sign and its basic meaning, and pragmatic (the relationship between a sign and its users) (Danesi, 2004). In this research, what is called syntactic is the design elements used in the book. Pragmatics is the relationship between design elements and readers (elementary grade 1), and semantics become the symbolic meaning of using these design elements.

Some of the aesthetics and characters that will be built in this book are interactive learning media with an infographic system through a combination of visual and narrative that is friendly, fun, easy to read and understand. The book has been tested on the target audience to find out whether the design elements used are right on target in accordance with the message to be conveyed.

3. Visual Signs of Five Senses and Body Parts

Five Senses & Body Parts is a supplementary book in interactive format with a visual-tactile and kinesthetic-tactile learning style approach in natural sciences subjects. This interactive book is an additional knowledge book that reviews material for beginner students in semester one, especially in chapter one. School children in middle and upper social life levels today cannot be separated from their English fluency skills. Therefore, this book is presented in English. The aim of the book is to help students learn science with an interesting and fun method. The target users of this book are first grade elementary school students with middle and high economic abilities, because the social life of the family can afford to buy additional books outside of compulsory books. The book *Five Senses & Body Parts* explains in more detail than textbooks in general using the infographic method, the students can understand the subject more easily and deeply. Infographic is not only visually appealing but also improve student learning outcomes and conceptual understanding (Alrwele, 2017; Bicen and Beheshti, 2017). In addition, material, students are also given experience in using their five senses by using sensory stimulation techniques to make this material more interesting and unforgettable. For example, stimulation of touch, hearing, and smell. In addition, there are pop-up techniques such as moving, opening and closing certain parts, 3-dimensional pop-ups, where the reader can touch, feel, and find out with his hands.

Each material uses an analogous color approach to strengthen the character and message that need to convey to the reader. Fonts for children should be easy to see and read (Bessemans, 2016). This book uses the font Children Sans, because it has characters in accordance with the main target (children) with a clear level of readability, building a pleasant atmosphere. This letter is used for the title and body text. Although this typeface is a decorative typeface, it is still easy to read because it is not used for long text (Figure 2).



ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklm
nopqrstuvwxyz
1234567890

Figure 2. Children Sans Typeface, (dafont.com)

Generally, the book size is 24 x 24 cm, colored, printed on art carton, and has a hard cover to protect it from damage to rough use. The book structure consists of front and back covers, inside pages in the form of 1) a table of contents where there is a brief explanation of how the book is used, 2). main content pages (skin and bones, body parts, and five senses), 3). additional pages in the form of guessing games, sticking stickers, and quizzes. In every single page of the spread, there is must be techniques pop up and activities related to the material. The

entire book contains 24 pages, excluding the front and back covers. The interactive book has 3 children (2 boys and 1 girl) as the main character with different characters and visuals. There were three racial differences: yellow hair with pale white skin, straight black hair with brown skin, and curly hair and black skin. Differences in skin color help children to understand that there are differences in races and tribes in this world. This knowledge is essential for building universal insights (Flood, 2020). The depiction of these three characters with their cute faces, round eyes, and big eyes creates a friendly and playful character, just like a typical child depiction the symbolic meaning of this difference is boundless friendship, joy is belonging to everyone (Figure 3).



Figure 3. Character Illustration, (Sergio, 2020)

This interactive book displays children's activities outside the home, such as in fields, outdoors, yards, jungle camping, and others, indicating that the five senses and parts of the human body can be used to explore the world. Each color combination will create a different character and message (Cole et al., 2014). Likewise, every page of the five senses has its own color combination associated with the function of the five senses. Books for children should use a combination of interesting, bright, and cheerful colors but not too many, so that they are easy to remember (Kramer and Prior, 2019). Thus, the use of color in this book, in addition to each part of the five senses having a different color associated with the object, color selection also uses a harmonious system, namely using an analogues color scheme and chromatic colors. The use of a combination of bright and harmonious colors strengthens the character of the object of research (visual page for each of the five senses) so that children can easily remember the colors associated with the function of each sense.

The front and back covers (Figures 1 and 2) have pictures of three children with happy faces; then become a character in this book; walking while holding binoculars is ready to explore a park or forest dominated by green plants and bright blue clouds as a symbol of cool and fertile nature where plants and animals live. The first spread is a table of contents page shows the kids are playing in front of the house. These three kids that always look happy are ready to invite readers to play and explore the outside environment and interesting places. The reader has been invited to play by opening the sections given a window, which is where there is information about the page numbers of each section of the book. In addition to the page number information, there is a brief description of the book. Green and light blues dominate this page, adding to a lush, lush and bright look (Figure 4).



Figure 4. Table of Content Pages, (Sergio, 2020)

The second spread is a brief about skin and bones material. The interactive activity is the pull the tab technique, then the first image that covered by clothes will be replaced by the bone's illustration. Readers are also invited to open a window containing a brief description. The girl character looks harmonious against the background made in pink with yellowish grass. The use of colors that are not the same as real natural colors

makes the atmosphere more dramatic, lighter, and creates a pleasant atmosphere. So that children are not afraid to see the shape of the skull. The most interesting in this page is the vertical layout format, while others are horizontal. To play around in this page, we need to rotate the book (Figure 5).



Figure 5. Skin and Bones Pages, (Sergio, 2020)

The third spread page talks about body parts. The character of a boy with blonde hair is playing on a swing with a cloud background on this page. This section contains brief information about body parts and body structures, namely the head, body, hands and feet. The interactive activity on this page is turning over the paper in the shape of a cloud, and you will see the boy's entire body, complete with his limbs (Figure 6). A simple depiction with not too many colors (analogue colors) can make the object the main focus so that the information provided is conveyed well.



Figure 6. Body Parts Pages (Sergio, 2020)

The next spread is included in the first part of the five senses, namely the eye as the sense of sight. On this page, a girl is seen looking at a monkey using binoculars that can be moved back and forth. This is to explain that the eye is able to see things near and far. On the right side of the page, there is a picture of the eyeball complete with the names of the sections. The interactive activity in this section is by turning the face of the girl who is winking one eye, the reader finds brief information about the eye. The predominant colors are blue, green, and brown tone, leading to natural colors from the surrounding environment to get unity between the image, color and text so that readers get the message conveyed (Figure 7).



Figure 7. Sense of Sight Pages (Sergio, 2020)

The next part is the sense of hearing, namely the ears. Slightly different from the previous page, interactive activity is a button that must be pressed, and a sound is heard. The atmosphere built on this courtyard is that of life in the forest, where there are many voices that we rarely hear and realize in everyday life. Like the sound of the wind, rubbing leaves, animals, and so on. The forest atmosphere is calm, peaceful, dark because of the many large trees created from the blue, turquoise and green color families of various tones. Text is placed into groups so that it does not fill up one place only and gives a playful effect. The interactive activity on the left page uses a rotating technique to change the type of musical instrument the characters are holding (Figure 8).



Figure 8. Sense of Hearing Pages, (Sergio, 2020)

The next page is the tongue as a taste sense. The nuances displayed on this page are camping or camping activities, with a reddish color. Usually, when we do camp activities, we bring a variety of supplies, this is where we try different flavors. buds or the tongue and the sweet taste found in the first part of the tongue, which is the tip of the tongue. The interactive activity in this section is to draw the edge of the paper with the taste bud on the left page, so that the reader can see what types of food and drinks are being asked to taste. This activity allows readers to experience various kinds of flavors, such as bitter, sweet, sour, salty and savory. Information is conveyed in a playful way, using illustrations or visuals that are fun and playful so as to infer the reader's curiosity to do what is asked (Figure 9).



Figure 9. Sense of Taste Pages (Sergio 2020)

The next sense is the nose, which is used for smelling. The atmosphere is illustrated in a garden in the

afternoon by using yellowish orange and brown. These colors give a pleasant fragrance and fresh atmosphere. On this page, the reader is given an interactive activity by kissing a flower drawing that is held by this child character. It smells a nice, light and soft fragrance like we smell real flowers. Another activity is on the right page, where the character of a child is covering his nose because of an unpleasant odor, when the black plastic trash image is opened, an image of food waste is visible which causes an unpleasant smell (Figure 10).



Figure 10. Sense of Smell Pages (Sergio, 2020)

The final senses discussed in this book are the touch (skin). The atmosphere you want to display is a farm, because in this unusual place there are many objects that we can touch with different sensations. For example, holding sheep's hair, thorns on a tree. Like an infographic, the text is divided according to the image. Information is given briefly and concisely. The interactive activity here is that the reader can touch the sheep and feel the soft sensation of the fleece as if we were touching a cotton ball. The color purple is used because of the sensitive color of human veins and a lot of it under the skin is generally described as purple or bluish. (Figure 11).



Figure 11. Sense of Touch Pages (Sergio, 2020)

After the Five Senses and Body Parts page is completed, there are 4 additional activity pages that can make readers not lose interest in continuing to explore and lure readers to use their five sensory tools. The first activity page is seeking for and counting the same number of objects as the request in the white box at the bottom of the image. The selection of visual images of the circus atmosphere, because generally girls and boys like the circus because it is funny and fun. The reader's senses of sight are stimulated in this game. Generally, circuses use those that are dominated by red, yellow, and white with several other colors that are not far from grayish black. The combination of these colors creates an impression of joyful and happiness (Figure 12).



Figure 12. Activity Find the Images Pages (Sergio, 2020)

The second additional activity page is “find the words”. The atmosphere created is the joy of children on the bus to school. With the interactive lift the flab technique, the reader can open the bus windows so that the three characters are joking. The very front child character holds a flashlight with its light penetrating the word search game box. Flashlights are used as lighting to look for or see something. The reader's sense of sight is tested to look for words. Using yellow for the bus and some part of the store's awning, while has light and soft colors for background was a good way to get a quick attention of reader (Figure 13).

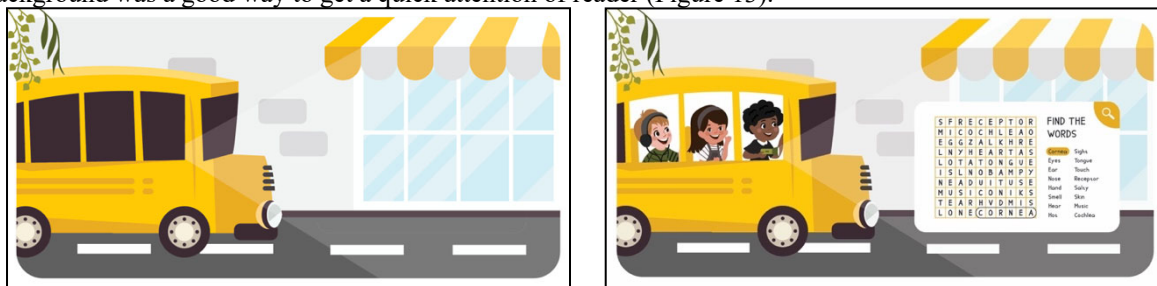


Figure 13. Activity Find the Words (Sergio, 2020)

On the next page, two activities are requested, namely describing favorite food on an empty plate, and attaching a picture or sticker according to the existing silhouette of the image. The results obtained will show the three characters doing activities related to the five senses, such as listening to music, looking through binoculars, touching and smelling flowers, and eating. Yellow reddish (orange tone) can arouse appetite (Spence, 2015). Meanwhile, on the right page, the atmosphere of the playground is dominated by green and blue, to create a beautiful, cool, and pleasant environment. This game requires careful eye in selecting and pasting objects as requested (Figure 14). The next page is the final activity in this book, which is a mini quiz, where eight questions choose the correct answer. Dominated by green and white, it creates a clean, healthy and fresh impression. A child sits on a chair and is placed in the bottom corner of the right page. Boys who are sitting can be used as an example of a learning position to do a good question is sitting, so they can concentrate and answer the questions well (Figure 15).



Figure 14. Activity 3rd and 4th Pages (Sergio, 2020)



Figure 15. Mini Quiz Pages (Sergio, 2020)

The composition of design elements is arranged in such a way as to resemble a quiz question but decorated with leaves to maintain a syntactic relationship with the previous pages. Likewise, the consistent use of analogous colors (blue-green-yellow). This interactive book has been tested on grade 1 elementary school children, aged 6-7. Enthusiasm proved that books with interactive activities and attractive and fun layouts and visuals can help and improve the process of understanding difficult material.

4. Conclusion

Compositing design elements in a book layout is very important to attract children to be interested, see, read, and understand its contents. Selection of fonts, image styles, colors, text arrangement, image placement, and interactive activities can help convey messages well. The Five Senses & Body Parts book has a good and interesting arrangement, selection and use of design elements. Moreover, the use of infographic layouts where visuals are more dominant than text, making information easy to read and understand. Visualization in the selection and use of image styles, the right colors, are able to present interesting and fun illustrations. It is hoped that supplementary learning books that can help improve students' understanding of compulsory material in schools can be packaged in a more interesting and fun way, so that students can enjoy the learning fun process. This research, of course, still has to be tried again with different content, in other schools. So that it can measure more accurately the usefulness of the book.

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