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Application of Color Code Music Notation in Learning Piano for Early Childhood

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Abstract
Introducing piano instruments to young children can significantly enhance their cognitive and academic development. This study delves into the effectiveness of using "Buku Musikku/My Music Book," a resource created by Yuniasri Maya Aisyah, specifically designed to teach preschoolers tone notation using color codes. A qualitative research approach was employed, focusing on a music course house in Pontianak City, Indonesia. Data was gathered through participant observation, interviews, and documentation, and its validity was ensured through source triangulation. The interactive model of Miles and Huberman was used to analyze the data. The study examined how color-coded music notation on piano instruments can aid early childhood understanding of fundamental musical elements: rhythm and melody. The rhythm section utilized fruit-shaped objects to visually represent beat values, while the melody section focused on matching color codes to specific note targets. The key finding of this research is that color-coded tone notation can indeed help young pianists recognize notes more effectively, making it a valuable tool for early childhood music education.

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INTRODUCTION

Exposing young children to music can foster their cognitive and academic abilities. The early years (0-6) are a crucial period for children's development, and engaging in a variety of activities, including music, can play a vital role in their growth. Learning music can also benefit children in the areas of intellectual, social, and emotional growth (Lubis et al., 2024; Sagala & Putra, 2023). Other vital benefits associated with music for early childhood are increasing creativity and imagination, increasing intelligence, and strengthening memory (Putri et al., 2024; Santosa, 2019). The education curriculum in Indonesia in 2013 stated that various fields, including music learning, must be taught in the implementation of early childhood education (Purhanudin & Nugroho, 2021).

Music serves as a powerful tool for early childhood development. It acts as a bridge, nurturing and enhancing cognitive and intellectual abilities. Additionally, music acts as a platform, harmonizing children's physical, social, and emotional development. By engaging with music, children can express their imagination and creativity in a meaningful and enjoyable way.

Based on these arguments, researcher are interested in exploring the introduction of music in early childhood. More specifically, the main point of this research is related to using piano instruments to stimulate early childhood development.

The learning process with piano instruments for early childhood only sometimes teaches block notation, as is often done with students in adolescence and adulthood. Generally, the piano is used as a direct medium. The introduction of block notation as a medium in piano learning for early childhood is more varied. The unique feature lies in the visual design, such as the shape of the notation that looks bigger; there are pictures accompanying the block notation, as well as the play of colors on the block notation. Variations in the visual design of block notation are key. As stated by Anggraini et al., the suitable method for teaching piano instruments in early childhood focuses on experience, visualization, and repetition (Anggraini et al., 2023).

A preliminary study conducted by Aisyah and Sinaga found that block notation without color makes it difficult for preschool children to apply it and even play with it (Aisyah & Sinaga, 2023). Meanwhile, the design of block notation with attractive visuals is also important to bring the experience of playing the piano to life and stimulate its memory (Putra, 2023b).Other sources say that the attractive visual design of the piano instrument's block notation can also increase reading comprehension in early childhood (Pandapotan & Dr. Trisakti, 2017). Therefore, recognizing block notation needs to be complemented with interesting visual variations to help develop an interest in playing the piano in early childhood so that children can comprehensively absorb the materials in basic music theory.

A study mentioned that children aged 5-6 often find boredom in piano learning (Aisyah, 2017). A writer developed a book containing piano learning materials for children to fulfill the need for a media introduction to music, especially piano, in early childhood (Aisyah & Sinaga, 2023). The book was named "Buku Musikku." After being tested, a piano teacher at an early childhood school gave a testimonial (Aisyah & Sinaga, 2023). The testimonial mentions that the visualization of fruits greatly helps early childhood in

identifying notation through color coding and mastering rhythm. In addition, Buku Musikku also has benefits related to improving early childhood gross motor skills through piano dancing instructions.

As a follow-up to the study, the researcher is interested in describing and examining how Buku Musikku/My Music Book is applied in early childhood. So, this research focuses on two things: first, to describe and analyze the contents of Buku Musikku/My Music Book; second, to describe and analyze Buku Musikku/My Music Book as an alternative teaching material in piano learning in early childhood classrooms.

METHOD

This research uses a descriptive qualitative approach. The selection of qualitative methods is considered appropriate because the data collection method is open-ended, using analysis of interview transcripts and images, representation of research information in the form of images and tables, and the researcher's personal interpretation of existing research findings (Creswell, John, 2014). In this study, qualitative methods were used to find answers to open data through the involvement of resource persons (children, piano course managers, and parents). The results of interviews with students and parents, the results of taking pictures, and data and information generated from observations were analyzed. All aspects of the qualitative approach are framed descriptively, aiming to present conclusions and verify the research findings descriptively rather than numerically.

The research questions of this study are: 1) How is the content of Buku Musikku analyzed? 2) What are the results of applying Buku Musikku as an alternative teaching material for piano learning in early childhood?

This study's research location is a music tutoring institution in Pontianak City, Indonesia, Chrislie Music House. Three-course participants were observed. Data collection used participatory observation techniques that required researchers to interact with informants during the activity. In-depth interviews were conducted with informants to explore information about 1) the use of color codes in block notation, 2) the impact of using colors in block notation in piano playing, and 3) mastery of music theory in terms of rhythm.

Data analysis used the interactive model proposed by Miles and Huberman (Miles et al., 2014). The stages of data collection include observation, interviews, and documentation. Furthermore, the data is condensed based on the research topic. Finally, data analysis and a conclusion drawing were carried out. In order for the data not to be subjective and valid, the researcher used the source triangulation technique by comparing the interview data with further interviews conducted with academics and practitioners in the piano field. The interview mainly discussed the function and usefulness of Buku Musikku, especially in the accessibility of color-coded media for knowledge of reading block notation on cognitive and psychomotor aspects (piano playing skills).

RESULT AND DISCUSSION

1. Result

a. Review of Buku Musikku Contents

Buku Musikku is a teaching material/teaching book written by Yuniasri Maya Aisyah in 2020 and published by Halaman Moeka

Publishing (Aisyah, 2020). In Buku Musikku, there is also a teaching guide for tutors/teachers that explains the following:

1) Combination of material in the form of basic theory of learning piano and practice;
2) advice to tutors/teachers to continue using alphabetical notation and solmization if children are found to be developing at a more advanced stage;
3) advice to tutors/teachers to train children's rhythmic ability with the clapping method;
4) tutors/teachers can play their parts according to the written chords or their improvisation level;
5) advice to teachers/tutors to use the book flexibly and not sequentially if the results of observations of children show good cognition and skills and
6) Suggestions for teachers to hone children's oral skills by conducting singing sessions using the solmization and lyrics available in the song.

The guidebook also contains many colored stickers with various shapes, namely the alphabet, numbers, and stars, that tutors/teachers can use as rewards for children who have successfully played songs, colored, and guessed rhythmically. Children will be encouraged to collect points as Stars whenever they successfully fulfill the challenges/tasks.

Buku Musikku provides three main points related to color coding in piano learning. The three main points are introducing piano keys, note prices in block notation, and the numbering of fingers on the piano with color coding. Here is an example of an introduction to the piano keys in Buku Musikku:

Figure 1. Introducing piano keys to children by giving color to black keys

In the introduction activity about piano keys, as shown in Figure 1, learners are asked to give color to the black piano keys. The picture of the grand piano with all the keys is still in plain color. So, the tutor/teacher must first compare My Music Book's plain color with the original piano shape. Based on the observations made to the learners, the children can give black color to the cis, dis, fis, gis, and ais keys or five black colors in the range of one octave of piano keys.

In order to introduce the price of beam notation notes, Buku Musikku also provides various shapes of pictures, such as fruits, in which the price of beam notation is mentioned. Children are then asked

to affix colors according to the shapes listed in the book. The following is an example of an activity to introduce the price of beam notation in Buku Musikku:

Figure 2. Introduction to Tone Value in Block Notation

The observation results showed that the children's scholastic skills were tested to distinguish the pitch value of the beam notation using colors and fruits as media. When they succeeded in giving the right color according to the pitch value of the beam notation, it meant that the indicator of the ability to distinguish rhythms had been exceeded (successful).

The introduction to finger numbering and scales uses the application of color coding. My Music Book has five colors: red, blue, green, orange, and purple. The five colors are composed of finger numbering: 1 (thumb), 2 (index finger), 3 (middle finger), 4 (ring finger), and 5 (little finger). The following is an example of a color-coded finger numbering activity:

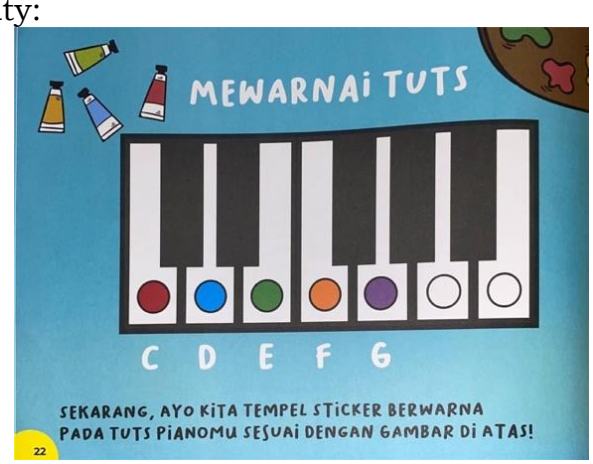

Figure 3. Using Color Coding instead of Finger Numbering

In addition to using color codes, alphabetic codes are also written to determine the type of tone, namely c, d, e, f, and g tones. The color code on the finger number aims to make it easier for children to read the type of tone in the colored block notation, as illustrated below:

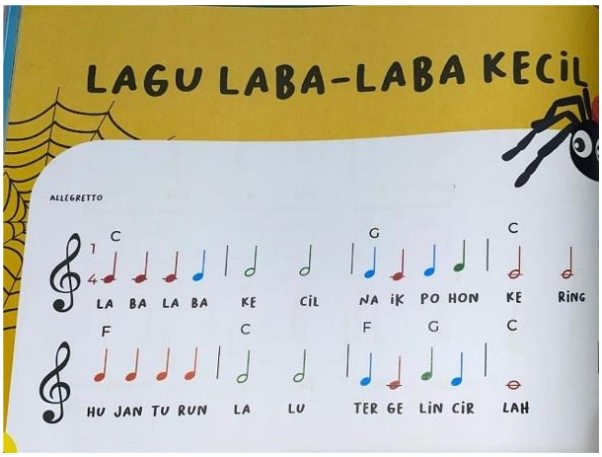

Figure 4. Color-coded application of block notation in a children's song

The indicator of the success of the finger numbering technique using color coding is when students successfully apply the theory by playing the piano instrument following the correct pitch value and rhythm. If that is fulfilled, the child can play notes with piano keys.

b. Application of Buku Musikku in Piano Learning for Early Children

Based on the results of interviews conducted with learners, color coding was proven to help them recognize beam notation. The learners recognized that with the various colors on the fruit shapes, they could more easily distinguish the value of the beam notation tone, namely the value of half, half-dotted, and quarter.

Another finding showed the impact of color on block notation in piano playing, which was also obtained from an interview with another learner. The student claimed to be able to confidently play the notes of the song with the correct pitch value and pitch type. When the learner plays the song with the tutor/teacher, he/she can correctly play the notes according to the color code in My Music Book. Here is a picture of the activity of one of the learners who is playing the song according to the color code:


Figure 5. Using a piano, students are playing a song according to the color code on the block notation.

Meanwhile, mastery of music theory in terms of rhythm is measured by indicators of learners' success in playing songs and providing color

coding in tone value recognition activities. Learners are required to explain that by giving color codes to the pictures, they also understand the value of the notes played.

One parent mentioned that Buku Musikku can be a good alternative for early childhood or preschool children to learn music. She said that with the book, children can more independently practice applying the materials given at the course repeatedly when they practice at home. In addition, the instructions given in Buku Musikku can also help parents understand basic music material more easily. It is recognized that it can help them assist their sons and daughters who are learning music.

In addition, based on observations made from March to April, it was found that three categories of preschoolers had difficulty reading colorless block notation even with the help of the finger numbering technique. The difficulties experienced by these three preschool category piano students were influenced by boredom and decreased concentration levels after the first 15 minutes of the course. Due to the boredom that peaked after 15 minutes, the three early childhood piano students could only continue the piano lesson at the end.

2. Discussion

The application of color coding on block notation in basic piano playing activities for early childhood can help them train their basic musical skills, especially the type of piano instrument. The piano instrument playing materials and the skills a pianist possesses will continue to increase in level.

An advanced pianist must also be equipped with advanced beam notation reading skills, namely, sight reading (Putra, 2017; Putra & Sagala, 2022). Sight reading is an advanced skill for a pianist when faced with the ability to read block notation for the first time spontaneously.

Reading music at first sight is crucial for all musicians, especially pianists (Wristen, 2005). They frequently encounter situations where strong sight-reading skills are essential. This ability certainly needs to be honed from an early age so that a pianist's skills can be well-formed until adulthood.

Buku Musikku has proven to be an easy introduction to color-coded block notation, which is fundamental for beginning piano players, especially young children. Once they master block notation thoroughly, their confidence will increase. The more they practice and perform their piano playing, the more mature and honed their skills will become (Putra, 2023a).

Color coding is an element that needs to be considered in learning music in early childhood. Research supports this, stating that the method of using colors, or what is also called figurenotes, opens up cognitive and psychomotor opportunities in music more optimally (Kivijärvi, 2019; Kuo & Chuang, 2013). There are also various other elements, such as puppet characters and musical figures, as found in Sagala and Putra's research (Sagala & Putra, 2024).

The involvement of various colors can also help develop early childhood brain abilities, incredibly stimulating the sense of sight (Sari & Syafi'i, 2021). Early childhood's ability to recognize colors can also improve

cognitive abilities (Kharizmi et al., 2023). In addition to cognitive abilities, understanding and developing the basic skills of piano instruments is essential to prepare for forming early childhood scholastic abilities (Nurhadi et al., 2023). Early children who are well-trained in musical insights will also become more mature and ready to improve their focus. Focus is a very important asset for them in absorbing learning materials at the next level of school.

The results of this study support the conclusion reached by Aisyah's research that through the use of Buku Musikku in piano learning, children can more easily recognize scales. Visualizing images and color coding on the block notation can help them understand the value of block notation and rhythm more quickly and improve gross motor skills through piano strumming activities (Aisyah, 2017). In addition, the results of this study also support the piano teacher's statement in Aisyah and Sinaga's research that, in terms of cognitive and psychomotor development, preschool-aged children who learn piano can develop well according to their learning stages (Aisyah & Sinaga, 2023).

CONCLUSION

Introducing music through the piano instrument helps young children equip themselves with cognitive and scholastic abilities. Through color coding in block notation, early childhood can play the piano effectively and efficiently. Using My Music Book media can suppress students' boredom and difficulty in reading block notation. With this media, it is proven that students can recognize rhythms, differentiate tone values, and play the piano with the correct tone value and pitch accuracy. Further research will be conducted on using learning media to develop early childhood music skills.

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