

THE INNOVATION OF MUSIC NOTATION INTO COLOUR CODING AND NUMBERS

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ABSTRACT

This study aims to see the extent to which the effectiveness of the use of musical notation that uses Colour Codes and Numbers to replace standard musical notation among Special Education students with Learning Disabilities. This is because the pupils are unable to remember alphabetic codes (C, D, E, F, G, A, B,C'), are confused to read standard musical notation, and are unable to play musical instruments according to song notes. In this study, a total of 17 Special Education students with Learning Disabilities were selected as the study sample. The measurement tool of the study involved the use of observation checklists and interviews. As a result of the study, these students can recognize, understand, and can play songs with notes that have been innovated. Indirectly, students' skills in playing percussion instruments such as angklung and bells can be improved. Next, these students can make music performances with confidence. This method will be disseminated to Pre-School and mainstream students at Sekolah Kebangsaan Bukit Beruntung.

Keywords: Music Notation, Numbering & Colour code, Special Education with Learning Disabilities

1. Introduction

Music Education focuses on efforts to explore and develop the talents and potential of students so that they can keep practicing the learnt skills and then produce students who are confident, skilled, competent and positive in life. The learning and facilitation process (PdPc) of music education emphasizes more in the singing skills, playing percussion instruments, and playing recorders. This process gives priority to the activities to meet all the requirements of the curriculum provided based on the abilities and creativity of students. Music Education Teaching Modules were prepared based on the Music Education Curriculum Standards to help the teachers to conduct teaching in effective manner. However, to meet the needs of individuals, teaching and learning in the Special Education Program for the Integration of Learning Disabilities is flexibly designed in accordance with the Education (Special Education) Regulations 2013, 8. (1) (c) which states; A teacher can make modifications to: i. teaching

and learning methods or techniques ii. time allotted for each activity iii arrangement of activities, and iv teaching aids any modifications made under paragraph (1) (c) shall be following the Special Education Curriculum.

The learning and teaching process that takes place in the classroom is a determinant key of the future success of the country. Education is also the foundation for the formation of a united nation-state. Through education, individuals have the opportunity to improve their quality of life, become successful members of society, and actively contribute to the development of the country (Ministry of Education Malaysia [MOE], 2012a). This effort is to produce a Malaysian citizens who are knowledgeable, skilled, virtuous, responsible, and able to achieve personal well-being and contribute to the harmony and prosperity of the family and country to every section of society.

Students with special needs are known to be different from normal students in terms of mental, sensory, communication, social behavior, or physical (Jamila, 2005). This difference results in a modified form of education being given to these pupils so that they able to develop their abilities. Appropriate teaching and learning methods play an important role in improving thinking skills, formation of positive behaviors, giving self -confidence as well as improving the academic achievement of students with learning difficulties (Hussein et al., 2020). Appropriate teaching aids (BBM) are required by Pupils with Special Needs (MBK), especially in helping them understand certain concepts. The construction of accurate teaching aids and the correct way to use them is expected to improve the achievement of MBK in mastering a subject skill (Siti Fatimah & Mustafa, 2018). Therefore, special education teachers need to be creative and innovative in producing methods and teaching aids to improve the skills to be taught and attract students to be actively involved in PdPc activities carried out.

The innovation of color code and number notation was based on the opinion of Johami Abdullah, 1993 who stated that Lowell Manson a music education figure who was once called the “Father of Music Education” in America thought that all students could sing and had the right to learn music.

1.1 Problem Statement

Teachers who teach MBK often face a various problems in the conducted PdPc such as lack of concentration and low self -confidence. Some of the MBKs do not master basic skills such as communication, problem solving, behavioral skills, group work, academic foundation, interpersonal, computer, time management, self-management, insecurity, following instructions, personality management and social integration (Zainudin et al., 2009).

The results of a preliminary survey by teachers during PdPc found that low and medium functioning students had a few problems to play the recorder as contained in DSKP year 5 revised 2017 Learning Standard 4.2.1 fingering and playing Note G, Note A, Note B, Note C ', Note D '. In DSKP year 6 Learning Standards 3.2.2. Blow the recorder according to note E and Note F. The students are confused and faced difficulties to remember the alphabetic codes (C, D, E, F, G, A, B,). Besides that, reading standard musical notation causing them to be unable to play musical instruments and perform accordingly.

1.2 Form of Innovation

The Colour and Number Code method (1, 2,3,4,5,6,7,1 ') has been implemented in order to attract the student's attention and the innovated musical notation is easier to understand. As a result, the students' skills in playing percussion instruments can be improved tremendously and these students can perform music with confidence.

Figure 1 shows the process of innovation of standard musical notation from the notation of letters C, D, E, F, G, A, B, C' to colour codes and numbers

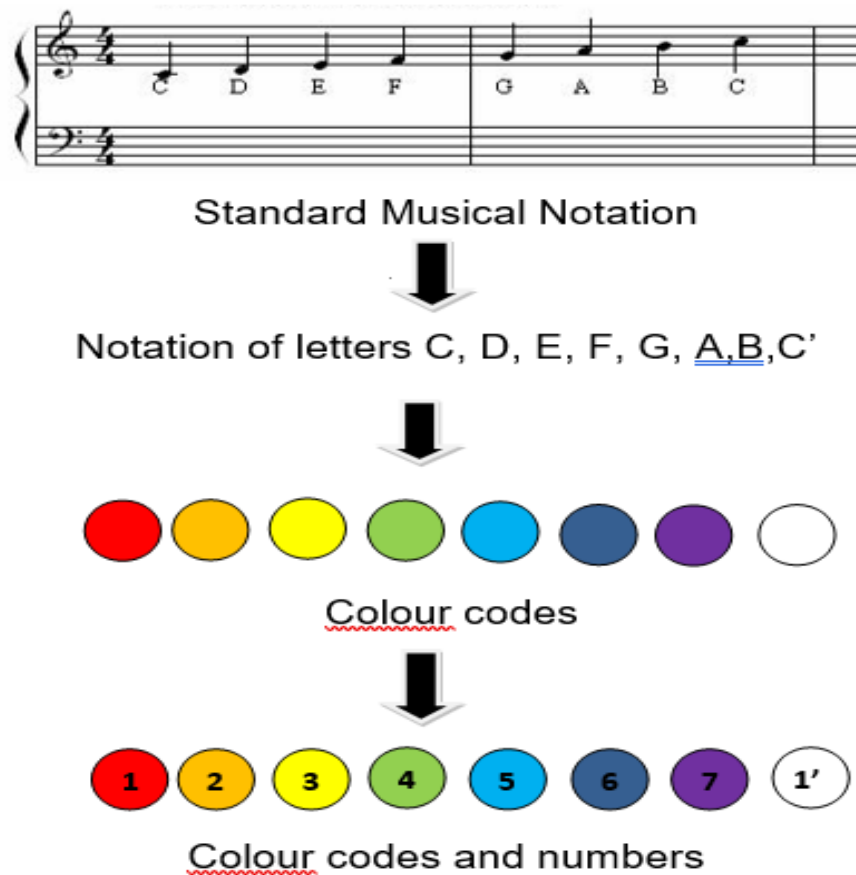


Figure 2 Innovated musical notation to colour and number codes



1.3 Target Groups

This standard musical notation innovation project to colour and number codes has been implemented to overcome the problems faced by students of the Special Education Integration Program (PPKI) at SK Bukit Beruntung 2 in mastering the skills of playing percussion instruments such as *Angklung* and bell. The researcher conducted a study to observe the effectiveness of the innovation produced by involving a total of 10 students of PPKI Standard 4 Terampil and 7 students of PPKI Standard 5 Terampil.

1.4 Research Objectives

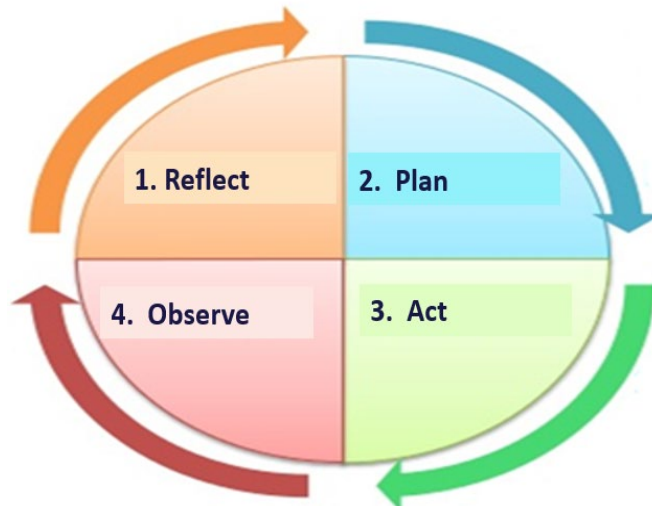
The purpose of this study was to improve percussion instrument playing skills using musical notation innovations using Colour and Number Codes. In particular, this study has the following objectives:

- 1.4.1 To improve students' comprehension of reading musical notation
- 1.4.2 To enhance the fine motor skills, eye and hand coordination of students.
- 1.4.3 Students can play musical instruments
- 1.4.4 Students can perform correctly and confidently.

2. Methodology

Reseachers practiced the constructed model from Kemmis & McTaggart (1988) in order to conduct this study.

Figure 3 Kemmis & McTaggart Model (1988)



2.1 Reflect

The process of action research begins with the process of implementing individual reflections in the classroom while the researcher is teaching Music Education. The reflection done by the researcher includes an assessment in terms of strengths and weaknesses of the tasks performed together with suggestion of ways to overcome the weaknesses and strengths of the problems that occurred. Researchers also tried to list any problems seen during the learning and facilitation process (PdPc) by using several instruments to identify the focus of problems faced by students. Therefore, researchers have used observations and interviews to gather all relevant information. Researchers manage to detect the main problem faced by students after doing the analysis those students unable to play the recorder and replace the instruments to *Angklung* and bells. On top of that, students also cannot understand and read musical notation according to the provided syllabus. Therefore, students find it difficult to follow PdPc theoretically and are unable to focus during the lessons.

After having a discussion with Music Education subject teachers, it was found that PPKI students could not recognize, understand and read standard music notation. As a result, they are unable to play musical instruments well. Meanwhile, discussions with Mathematics and Art Education subject teachers stated that low-functioning students could recognize colours and the students with moderate functioning can recognize colours and recognize numbers very well.

Figure 4 PPKI Students unable to recognize the music notations



2.2 Plan

Researchers have devised several measures that can help improve students' skills of playing musical instruments and reading musical notation. Researchers have made observations using checklists to ensure the effectiveness of musical notation innovation.

Based on the checklist of observations conducted:-

- a) Unable to understand and read standard musical notation.
- b) Can recognize the colours red, orange, yellow, green, light blue, dark blue, purple and white.
- c) Can recognize and pronounce numbers 1,2,3,4,5,6,7.
- d) Students can shake musical instruments such as *Angklung* and bells.
- e) Students were unable to perform the fingering techniques and play the recorder accordingly

2.3 Act

For this step, researchers have applied the teaching of Music Education, especially reading and understanding musical notation as well as performing using *Angklung* and bells. Researchers' prepared musical notation based on colour and number and planned several activities that suits to the level and ability of students in order to help them master the basic skills of music, especially in reading song notes.

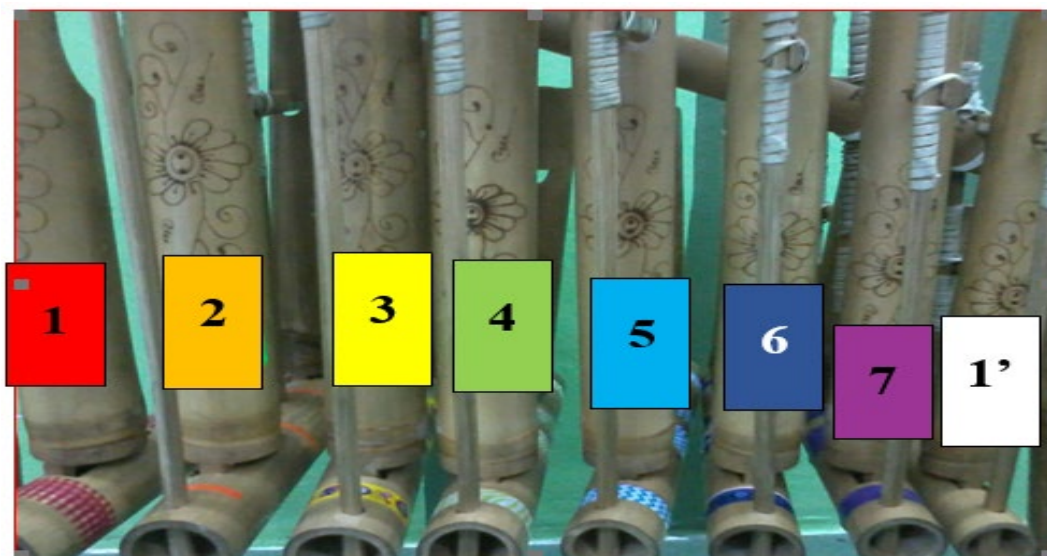
The following are the teaching implementation steps that have been carried out by researchers:

1. Introduce students to colours and numbers.
2. Introduce angklung musical instruments and bells along with musical notation.

Figure 5 the bell instrument has been labelled with colour and number notation



Figure 6 Angklung has been labelled with colour and number notation



2.4 Observe

At this stage, the researcher are required to re-observe whether the methods used are successful or not in improving and enhancing the skills. The researcher has observed each activity that runs throughout the PdPc accordingly by using observational instruments such as checklists and video recordings to collect data.

3. Findings

3.1 Observation

Based on the observation conducted after the study, the researcher found that the targeted students can recognize and understand the musical notation that has been innovated to color code and numbers and can even perform the song 'Baby Shark' and 'Rasa Sayang'.

3.2 Interview

The table below shows a summary of the findings from the interviews.

Table 1: Results of the interview findings of the study sample after the project was carried out.

Interview Questions	Yes	No
1. Can you understand and recognize the notation that has been innovated to the colour and number code?	17	0
2. If given the opportunity are you confident to make a musical performance using bell and angklung instruments?	17	0

Based on above Table 1, it has been proven that this study successfully achieved the objective since the targeted students can recognize, understand and read musical notation that has been innovated and can make musical performances by using bell and angklung instruments well.

4. Results

Special Education students found that the innovated notation are easier to read, understand and remember musical notation through the colour codes and numbers they have learned. Therefore, they can perform songs using bell and angklung instruments well.

Figure 7 Students can read and understand the notation of songs that have been innovated with confident, happy and excited.



The researcher recorded the performance of PPKI students in video playing musical instruments such as *Angklung* and bell well based on the musical notation that has been innovated to colour code and number. In addition, the coordination between the mind, eyes and hands of students can also be improved and more focused when reading the musical notation.

5. Conclusions

This study gave a great impact in terms of improving the skills of playing musical instruments, self-confidence, high motivation and fun to play music collaboratively with friends. Initiatively, the researcher thinks that this study should be extended to Pre-School and mainstream students. However, this study requires further improvement and refinement from time to time so special education students can performs at the school and district level somewhere in future.

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