

Full Length Research Paper

Learning to play natural percussion instruments: An environmental expression for preschool trainee teachers

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As future preschool educators, trainee teachers need to experience how to connect their children to their natural environment and instill environmental consciousness. This study qualitatively explored the trainee teachers' expressed particular concerns or special interest for the natural environment after participating in the natural percussion instrument-making activities and the ideas of how trainee teachers would incorporate this activity into their future classroom. The sample for this study comprised of 30 preschool trainee teachers. Information was collected through trainee teachers' written reflections, video-recorded observations and written song for a percussion activity. With some natural materials found in the campus compound such as small pieces of wood, sticks, stones, dry branches, small branches, and bamboo, trainee teachers were able to create percussion instrument and sing an environmental song. The findings showed that engaging trainees in percussion activities using natural materials enables him/her to develop a stronger sense of responsibility and stewardship towards taking care of their environment. Trainees also developed ideas of how children should interact with nature and learn through their senses so that they are given the appropriate basis for exploring and learning to appreciate and love nature. The study provided ideas that could help preschool trainee teachers in enhancing the development of children's environmental consciousness in future classroom.

Key words: Percussion instrument-making activities, environmental consciousness, preschool trainee teacher, environmental song

INTRODUCTION

In line with the Malaysian National Education Policy, Environmental Education (EE) is introduced across the curriculum in both primary and secondary schools. Students are introduced to environmental issues and protection through core subjects such as science, local studies, geography and English/Malay language. Various teaching and learning strategies have been developed to enhance environmental awareness and internalise values on the importance of environmental protection. In Teacher Training Institutes, the trainee teachers are exposed to the importance of the environment protection and how to instil environmental awareness through EE

across the curriculum.

Though environmental education is infused into the school curriculum, it is unfortunate that its importance is not stressed in the field of early childhood education and thus children do not really see the real connection to their lives and the world beyond the classroom (Lim, 2003). A reason was that many early childhood educators would view discussions on environment problems and issues as depressing and fearful, and therefore inappropriate for young children. Another reason was that environment problems and protection are too heavy to be 'dumped' on young children. While these perceptions might be pervasive in early childhood education, they were by no means shared by everyone working in the field. Nevertheless, early childhood educators should bear in mind that they play an important role to educate and create awareness on environmental appreciation and

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protection to the children. Educating children is the key to ensure lasting environmental conservation. As such, it is important to think of possible ways of introducing the topic in early childhood education programmes that are interesting and suitable for children.

Wells and Lekies (2006) points out the importance of direct experiences in nature to the development of positive attitudes toward the environment, which translate into responsible behavior toward the environment. Children learn through their senses such as sight, sound, touch, taste, and smell and thus form an appropriate basis for exploring and learning to appreciate and love nature. As suggested by Didonet (2008), children are very sensitive to, interested in and curious about the elements of nature such as animals, plants, flowers, water, the land, wind, etc. This means that the local environment can offer unlimited direct experiences for children to explore and find out for themselves how nature works. The key to appreciate the natural environment is having fun in it and simply being outdoor. As such, early childhood education, from its early beginning, should include in the programme exploratory activities with natural elements such as plants, flowers, seeds, soil and stones. This is the basis on which to connect children to nature and to nurture an appreciation of nature in them.

According to National Environmental Education Advisory Council, one of the greatest implications of the lack of connection to the environment is the lack of knowledge and desire to protect it as noted as follows:

"Many of today's environmental challenges are complex and intractable, and they cannot be solved by government regulations alone. Addressing these issues will require a citizenry that is informed and environmentally literate and willing to translate its knowledge into action" (National Environmental Education Advisory Council, 2005, p. 9)

Therefore, educators should not only be equipped with knowledge to teach for their students, but they also need some knowledge to teach for the earth. If the next generation is desired to respect nature and care for the earth, it is important to include now, in the early childhood education programme, the study of the interdependence between human beings and the environment. Everything deeply practised and felt in the early years of human development remains for the rest of one's life.

As such, training of early childhood educators should raise educator's awareness of the role that early childhood education could play in fostering caring and responsible citizens who are genuinely concerned with their mother earth. This initiative should begin in early childhood, as the values, attitudes, behaviours and habits acquired in this period may have a long-lasting impact in their life later.

Research has shown that music instruments almost

universally engage young children's curiosity and attention, prompting exploration, experimentation, and multi-sensory investigation of form and function (Suthers, 2004). According to Eisner (1994), music is particularly important for experiencing the joy of creating, learning ways of expressing thoughts, knowledge, and feelings beyond words. Hargreves (1994) supported that learning occurs through movement and quick emotional associations. Therefore, young children inherently express themselves through music and movement and tactile kinaesthetic experiences. Whitwell (1997) contends that creative participation in music improves self-awareness and creates positive attitudes towards oneself.

The main goal in early children education is to cultivate the child's own natural desire to learn (Harris, 2007). As children have a natural desire to play and sing (Harris, 2009), music-making activities using natural materials can do much to connect children to their natural environment. The children are active learner with the ability to explore and assemble natural materials in their surrounding environment. For example, collecting objects which allow children to create natural percussion such as the chink of chunkies, the rattle of broom pods, the music of marble galls (from oak trees) in a jar, and the shaking of shells or banging of bones can help develop an appreciation for their natural environment. This kind of hands-on exercise includes natural materials normally encountered in everyday living experiences. According to Gibson (1969), learning proceeds rapidly due to the initial availability of environmental stimulation. Thus, making and playing percussion instrument could help children to develop and sustain an interest in, appreciate and love of the natural environment. It is the preschool educator's role to help their children connect with nature in a way that makes their learning more exciting and relevant and encourages more environmental consciousness.

The purpose of the study

Preschool teachers have the greatest influence in shaping young children's attitudes, values, behaviours, habits and skills. As future preschool educators, trainee teachers need to have some knowledge on how to connect their children to their natural environment and instill environmental consciousness. They are responsible for nurturing young children and providing them with simulating and prepared environments for learning, as Dr. Maria Montessori (Montessori, 2009) notes:-

'The secret of good teaching is to regard the child's intelligence as a fertile field in which seeds may be sown, to grow under the heat of flaming imagination'.

Preschool trainee teachers therefore need to experience how percussion making activities using natural materials

would help them to encourage more environmental consciousness before they can translate this knowledge into action. Accordingly, the purpose of this present study is to explore trainee teachers' learning experience with percussion instrument-making activities and the ideas of how to incorporate this learning experience into their future classroom. Specifically, the present study set out to answer the following research questions:

What were the trainee teachers' thoughts after participating in the natural percussion instrument-making activities?

What ideas/expectations do trainee teachers have regarding their aspiration to implement percussion activities in their future preschool classroom?

OPERATIONAL DEFINITION

Natural percussion instruments - instruments that are hit with natural materials such as pieces of wood, sticks, stones, bamboo to give rhythm to music.

Environmental consciousness - The trainee teacher's expressed particular concerns or special interest for the natural environment, eg: perceived environmental degradation and the need to preserve flora and fauna.

ACTIVITY DESCRIPTION

The natural percussion activities took place in an Environmental Educational (EE) lesson over a period of two hours for a group of 30 KEMAS (Community Development) preschool trainee teachers. The age of trainee teachers range from 18 to 21. The approach for percussion activities was set in six steps as presented in Figure 1.

Trainee teachers were divided into a group of 3-4 group members. Each group had to work co-operatively to create a percussion instrument. Each group were required to discuss and identify natural materials found in the campus compound that they feel will work best to create percussion instrument. Trainee teachers should select the natural materials lying on the ground such as small pieces of wood, sticks, stones, dry branches, small branches, bamboo, cones, and blades of grass.

The percussion instrument should make a characteristic sound such as clapping with sticks or stones, crackle with dry grass or leaves, blow in blades of grass, etc. to give rhythm to music.

Trainee teachers then used the selected materials to create simulated percussion music and explore the sounds that the instruments made. On a blank sheet of white paper, each group wrote a song that included as many words as they can think, expressing their environmental concern. Each group then performed their own natural percussion musical instrument and sang a

song to the other groups in the class. Trainees were encouraged to hit their instrument freely, expressing the music in whatever manner is most natural to them. No other background music was needed during the performance of the group.

Data collection

Trainee teachers were invited to write their reflection immediately after the performance of the percussion activities. Trainee teachers were asked to write down their own thoughts about the percussion activities and the ways that their experience might help in their future teaching in preschool. These written reflections on their learning experiences served as a primary data source. In addition, a video recording was made to record student behaviours indicative of engagement in percussion activities, this included trainee teachers' expression and enthusiasm during the percussion instrument-making activities and performance. The observed behaviours served as a secondary data source to corroborate the emergent categories in trainee teachers' written reflections. The third instrument was written lyrics in their songs.

Analysis of qualitative data

Specific themes and variables as proposed by Estrada (2007) were used as guidelines when analyzing trainee's stewardship of the environment in their written reflections and composed songs. They were appreciation and value of the natural world, compassion/sensitivity, and sense of responsibility. These themes and variables were complemented by recorded observations of particular behaviours during percussion activities. The researcher shared the written reflections and composed songs with a music lecturer as independent rater to check whether she interpreted the information in the same way. The congruence between researcher and independent rater in categorizing trainee's thoughts was looked for to establish validation in the finding.

The trainee teachers' written reflections were translated from Malay language into English version using "Back Translation Method".

FINDINGS

What were the trainee teachers' thoughts after participating in the natural percussion instrument-making activities?

Learning to play natural percussion instruments which were made in a group setting provided a stimulating environment to promote environmental consciousness in

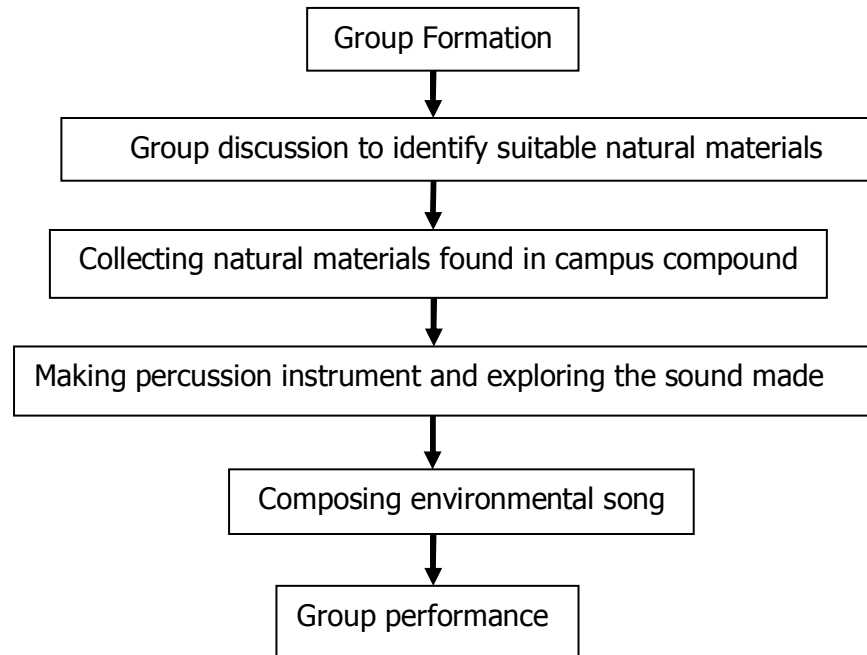


Figure 1. The approach used for percussion activities.

trainee teachers. This was shown through their written reflections and observations based on the video recording. Following were the trainee teacher's responses to experiences in the percussion activity:-

Fostering Interest in and self expression about environment

Trainees indicated that the activity raised their interest to create percussion instrument. They were able to express their appreciation of the environment via the song they composed. The following reflections illustrate this:

'This activity is entirely delightful, raising our interest to find suitable natural materials to create our percussion instrument. The activities made us to express our concern for the environment, through the lyrics of our song. We learn to appreciate, remember, internalize and aware of the importance of the interdependence between human beings and the environment. What is most meaningful was the creation of our song that has important messages to be remembered by all of us'

'The activities were unique because we can express what we feel about environment using our own made percussion instruments and composed songs'

'Even though the song is short and simple, it's lyrics has brought meaningful environmental messages to be reflected by all of us.'

Recorded observation data further confirmed that trainee teachers displayed active interest in exploring natural materials in their surroundings and getting to know different ways in which the material can produce sound. For example, they strike the plastic bottles with Rosary Pea (from *Abrus precatorius* tree) to listen the sounds that it made. The trainees made their own beat and explore if there was a rhythmic difference. Over time, the trainees began to internalize the accented beat of natural materials and music made in order to complement the lyrics of their song.

Realising individual potential

Trainee teachers also expressed that percussion activities serve as an opportunity to realise their own personal potential as reflected in the following excerpts:

'I found this activity very interesting because we are able to use our own creativity to compose a song as well as to play our own made percussion instrument. I have never expected that I am able to produce such a good music when I beat the pebble with a piece of wood. What a loss if these natural substances disappear in the world!'

'I have never thought that my friends are good in writing lyrics. It has touching message in regards to the need for environmental protection'

'I have never thought that my group can make such a harmonised and rousing music when we sing and play

our percussion instrument; it is hard to believe that none of our band members had any prior musical training. More interesting is that we are able to invent music and song that expresses our appreciation for nature.

No doubt that trainee has individual potential to produce percussion instrument and environmental song if chance was given for them to explore the value of natural materials in their surrounding. This would indirectly allow them to develop environmental consciousness.

Learning the value of team work

Trainee teachers noted that team work helped them to successfully produce their own song and percussion instrument.

'We feel how good to cooperate with each other to get our percussion instrument and song done. The cooperation between group members made this activity successful. We are proud of our song namely 'keindahan yang hilang' (The loss of beauty). The message behind this song is heartfelt.'

'Working as a group gave us the opportunities to express the work we were doing and learn from one another. We realise that it is important to work together to produce coordinate music'.

Observation data further confirmed that trainee teachers, as a group tried their best to come up with the environmental words for their song. Clearly, these activities provided the trainees with the opportunity to experience the value of team work in percussion activities, and subsequently raise the level of their environmental consciousness.

Promoting self satisfaction and a sense of ownership

Trainee teachers generally felt 'ownership' of their outcomes, and thus gained self satisfaction. As trainees remarked:-

'We gain self satisfaction from our efforts to compose and sing an environment song. It's our fantastic creations!'

'The magic of finding a new way of producing music using natural materials is one of the most exciting discoveries that we make. I like our song 'Bumi kita' (our earth), it allows us to sing emotionally while playing the percussion instrument.

'The sense of satisfaction from composing to hearing our song is just brilliant. I could see the joy on our face even though we were getting tired after whole day long lesson'.

There is no doubt that percussion activity enabled trainees to feel a sense of ownership and pride in the work accomplished. Self satisfaction was achieved because trainees were given real creative challenge. They were creatively engaged in group percussion activity of which they have some ownership.

Experiencing creative expression

Trainee teachers generally felt that the percussion activity provides pleasure, joy and an outlet for creative expression. Explanations for this were:

'The percussion sessions were creative and fun; we have freedom to explore the different sound made by different natural materials. We also have chance to observe other group performance, it is amazing!'

'Playing percussion instruments is exciting for us. We love clapping with natural materials around us such as stick, stone, wood, bamboo, shell. By following the lyrics of the song, we are able to form a natural orchestra!'

Recorded observation data further indicates that the performance sessions were full of enjoyment and rousing (Figures 2a and 2b). The trainees were emotionally engaged singing their own piece of song and in performing rhymes using percussion instruments. Without a doubt, playing percussion instruments is a creative way for trainees to explore sound made by different natural materials. When trainees respond to the music with body motion, playing percussion instrument and sing a song, they are developing and exploring their innate creativity. Within this interactive environment and the use of natural percussion instrument, trainees learn to work together musically with their friends and subsequently develops higher levels of environmental consciousness.

Cultivating values about environment

Trainee teachers found the activity had provided a platform to cultivate good environmental values in them as the following excerpts indicate:

'What I like most about this activity is to compose our song namely "Cintai alam kita (love our environmental)'. We were enjoying the music by singing and playing percussion instruments. The process of composing songs made me to reflect on the degradation of nature and natural resources on earth nowadays. It reminded me what should I do to further prevent the degradation of our earth'

'I was so amazed by different sound made by other group, using their own made insruments. But something



2a



2b

Figures 2. The trainees were emotionally engaged in singing and playing percussion instruments

still remain in my heart, natural materials can actually produce such a lovely sound. What a loss when world loses its natural resources due to human beings' greed and we may lose the most beautiful sound in the world!

It appeared that experiences in percussion activity help trainees become more concerned about environmental degradation. They became more concerned of the world they live in, thus cultivating a sense of responsibility and environmental consciousness in trainee teachers.

What ideas/expectations do trainee teachers have regarding their aspiration to implement percussion activities in their future preschool classroom?

For the open-ended question, "How would I integrate percussion activities in my future preschool's classroom?", most trainees indicated that they will use this idea in the subject of science, music, Malay and English language. They addressed the need to bring children outdoor to explore, research and categorize some natural materials such as dry leaves, branches, stones in order to create their simple percussion instrument. They wrote "The music session should be creative and fun, with an emphasis on freedom for children to explore using their senses". They added that this will provide children with opportunities to interact with and directly experience nature. They felt that this activity is suitable for children to create a song that are familiar to them using the children's own words. Indirectly, it will provide a basis for children to explore and learn to appreciate and love nature, as a Malay proverb says 'To bend a bamboo, while it's still a shoot. In sum, the percussion activities did provide an idea for teacher trainees to recognize the value of the natural environment as a teaching and learning tool and to instill more environmental consciousness in the classroom.

Analysis of written songs

Ten written songs were analysed. The wording of the song clearly expressed their feelings on the flora depletion and degradation of earth and its resources. These were reflected in the repeated use of some environmental consciousness related words: 'don't destroy our natural environment', 'don't let our children be the victim of human's greed', 'Don't cut down the trees, they are hard to find.', 'think about future generations.', 'We do not inherit the earth from our ancestors, we borrow it from our children.', 'we need to heal our earth, 'Man must appreciate their earth', 'human will suffer from his greed' and 'Take care of our earth'. These were further categorized according to themes and variables as specified in Table 1.

DISCUSSION

Making natural percussion instrument and composing an environmental song in a group setting is one of the most satisfying things that trainees found. Trainees who create music together using natural percussion instrument generate that same inner satisfaction and a sense of ownership. In this activity, each trainee had a "hands-on" opportunity to explore the sounds of self made percussion instruments. Working in a group, students learned about the character of each collected natural material and experience how they come together to create music! As such, students develop basic music skills, as well as team spirit, through movement, rhythm activities, singing, and playing percussion instruments. They also learn how to compose an environmental song, how to come up with the words, how to play songs using percussion instruments, and how to compose as a team. The process of composing a song aids to the

Table 1. Themes and variables used for categorizing words in written songs.

Themes and variables	Words in the song
Appreciation and value of the natural world	love our earth, Man must appreciate their earth, how lucky we are to see God's beautiful creations.
Sense of responsibility	save our earth, think about future generations, avoid pollution and earth will be safe, protect our fauna and flora, don't let our children be the victim of human's greed, Don't cut down the trees, they are hard to find,
Compassion/sensitivity	Our earth is dying, we need to heal our earth, human will suffer from his greed

development of self expression and environmental consciousness. The value of composing songs lies in the development not only of trainees' own musical activity, but also of their ability to appreciate and evaluate the compositions of it.

The trainee teacher's creativity in transforming natural materials into musical percussion instruments result in a highly entertaining performance. Trainees had a hands-on experience to realize individual potential when playing in "synchronicity" and see the essential aspects of their songs. The music created by the trainee teachers has focused on the goal of the team to work together in rhythm with each other to promote coordination and movement. While immersed in these activities affectively, the musical and environmental consciousness did emerge automatically.

The natural percussion activities involve much musical behaviour such as singing, movement and playing instruments. These experiences give trainees a broad range of musical avenues for expression which can be applied in their teaching and learning in preschool. Creative engagement was enhanced where learning was student-led, that is where trainees had a sense of ownership of outcomes and were given a choice in the expression of their work.

What the preschool teacher trainees found interesting and what they had learned about the percussion activity are transferred to their responses of how they hoped to bring their children to explore natural materials found within their own environment, to create and play own simple percussion instruments.

Conclusion

Making percussion instruments with simple natural materials and participating in group music and song making experiences were great way to promote environmental consciousness in trainees. These activities allowed trainees to experience how children should learn through their senses so that they are given the appropriate basis for exploring and learning to appreciate and love nature. Trainees also developed ideas of how they would incorporate this learning experience into their

future classroom. Hopefully, this will transfer into action in the future!

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