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Preface

This journal mainly includes articles relating to creativity in music education.

The Institute of Creativity in Music Education, the publisher of this journal, was founded for researching creative music-making over 30 years ago and continues to hold seminars about once a month with music teachers and researchers who are interested in creative music-making.

In 1991, the Institute welcomed Professor John Paynter from the United Kingdom, who is a proponent of creative music-making, to give what may have been the first workshop on this topic in Japan. Since that workshop, the Institute has been involved in several international festivals in Japan. For example, when the Japan Society for Contemporary Music held the Tokyo Festival of Contemporary Music at Suntory Hall in1991, we gathered to hold a symposium by Paynter and the Japanese composer Toshinao Sato, concerts composed and performed by children, and two workshops by famous composers, namely José Maceda and Yuji Takahashi. Maceda, a Filipino, introduced music using bamboo instruments, such as tongatong and sageipo, of the Kalinga people of Luzon, Philippines, and created music with participants using these instruments. Most of the participants of this workshop were Japanese school teachers, making it a catalyst for the spread of tongatong as well as ethnic music-based creative music-making in Japan.

Since then, we have also invited guests from abroad to give workshops and lectures, and have held research conferences on creativity in music education once a year over last 15 years.

At present, we hold an online seminar about once a month and have several practical sessions based on the use of the TAS model in creative music-making. These are not only for kindergarten, primary school and secondary school students but also for children with special needs. The special issue of this volume, “Everybody can create music,” is against this background and some of the activities of the research groups have been reflected.

We hope that the journal will continue to be a base for research in music education and creativity, and that it will continue to grow.

Yukiko Tsubonou
Chief Editor of the International Journal of Creativity in Music Education
Executive Director of the Institute of Creativity in Music Education (ICME)

Inclusive Creative Music-Making based on the TAS Model

－Theoretical Framework of Music Education for Children with Special Needs－

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Abstract

Inclusive Creative Music-Making is proposed to expand creative music education based on the TAS model (Tsubonou, 2020, 2021) for children with special educational needs. The author clarifies the objectives of *Inclusive Creative Music-Making* through theoretical deliberations and suggests a framework based on the TAS model. Moreover, the contributions of a clinical developmental psychologist as an adviser on the TAS model are examined. Finally, the author discusses four practical steps and the collaboration by the TAS team conducting class activities for *Inclusive Creative Music-Making* by reviewing two case studies.

Keywords: inclusive education, Creative Music-Making, the TAS model, clinical developmental psychology

Creativity in music education for children with special needs

A frequently cited definition of creativity describes creativity as the process of making or producing something novel and useful (Sternberg & Lubart, 1999). Recent research by Tan et al. (2019) expanded this definition by focusing on the continuum of creativity and "interactive effects among interest, effort, expertise, or disciplinary knowledge that are ready to transform materials, objects, or systems that can benefit people in the large society" (Kaufman & Beghetto, 2009 in Tan et al., 2019, p.4, l.14-16). They also proposed creative music education in which "music educators collaborate with musicians, historians of music, creativity researchers, and learners who are interested in mastery of musical instruments, music theory, composition, improvisation, and the like creativity in music activities [*sic*]." (Tan et al., 2019, p.5, l.13-16). The current study further expands the idea of creative music education by proposing creative music education for children with special educational needs, which the author has termed *Inclusive Creative Music-Making,* based on the TAS model (Tsubonou, 2020, 2021).

The concept of inclusive creativity devised by Lyons is explained as follows:

> "Inclusive Creativity is a concept devised by Professor Frank Lyons at Ulster University in collaboration with key partners such as Share Music Sweden and Drake Music, which aims to level the playing field in performance and composition for disabled musicians by developing new technologies and methodologies for their use." (DRAKE MUSIC, 2016)

The definition above centers on musicians with physical challenges supported by new technologies, such as information communication technologies (ICTs). However, the current study focuses on children with special educational needs and discusses creativity in music education. This study's purpose is to propose *Inclusive Creative Music-Making* through clarifying the concept of inclusive creativity in music education by referring to the Sustainable Developmental Goal 4 (SDG 4), the inclusive curriculum developed by the Organization for Economic Co-operation and Development (OECD, 2021), and the TAS model proposed in Tsubonou (2020, 2021). The author examined the objectives of *Inclusive Creative Music-Making* by referring to the Japanese National Curriculum Guideline for Special Needs Education. Moreover, the author has discussed the contributions of a clinical developmental psychologist as an adviser on the TAS model.

What is inclusive creativity in music education?

Inclusive education

Inclusion is explicitly highlighted in global education and emphasized in SDG 4. Oie (2021) examined collaborative learning for playing the *Koto* in music classrooms by referring to the initial UNESCO SDG 4: to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." The author reported collaborative music education for diverse students, such as returnee students and students having roots in for-

eign countries and regions. Diversity is widely defined as "special needs," and teachers try to coordinate lessons that are understandable to all the students.

OCED (2021) identified significant equity gaps following global curriculum innovations. These included gaps in digital curricula, personalized curricula, cross-content and competency-based curricula, and flexible curricula. Confronted with these gaps, OCED focused on inclusive curriculum design in which equality, equity, and inclusion are highlighted. OCED policy emphasized that "21st-century curricula should be truly inclusive, leaving no learners left behind." Fundamental concepts in OCED (2021) are explained below:

> ***Equality***: offering equal opportunities to all students (e.g., minimum curriculum standards or a core curriculum)
>
> ***Equity***: providing differential support for students based on individual needs (e.g., remedial learning for students with difficulties)
>
> ***Inclusion***: embracing diversity (e.g., removing systematic barriers to learning so that students can learn just as they are without any differential support) (p.5)

Inclusion embracing diversity, including special educational needs, is potentially related to creativity as defined by Sternberg and Lubart (1999) as the process of making or producing something novel and useful.

Creativity in music education based on the TAS model

Creativity in music education is elaborately unfolded in the TAS model proposed by Tsubonou (2020, 2021). Creative Music-Making is defined as music activities in which children spontaneously make music using their entire environment (Koma, 2021). It is also described as activities involving professional musicians and children participating in music making while communicating with each other (Tsubonou, 2020). The TAS model, an original educational music program proposed in Tsubonou (2020), defines the relationship of three music class stakeholders: T, Teachers, A, Advisers, and S, Supporters. These stakeholders' positions and roles are shown in Figure 1 and Table 1, respectively.

Figure 1

TAS model indicating the positions of participants (Tsubonou, 2020)

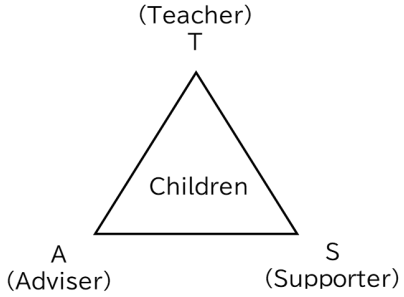


Table 1

Roles of TAS participants in the model during class activities (Tsubonou, 2020)

Participants	Roles
T: Teachers	Those who organize class lessons as a whole
A: Advisers	Music researchers, composers who advise about music
S: Supporters	People, especially performers that support teachers and children with their live sounds and music

Tsubonou (2021) unfolded and expanded the ideas of this model for children with special needs and highlighted the critical concept of being "error-free." Error-free music making is free from dissonance and distorted rhymes. Typical scale structures such as pentatonic scales and blues scales contribute to this type of music-making.

Inclusive creativity in music education

The TAS model and the error-free concept provide the potential foundation for realizing inclusive creativity in music education. The TAS model can explore and create new types of inclusive music lessons (*Music for all*), develop collaborative and innovative environments (*Error-free environment*), and enhance and evaluate original and unique expressions (*Respects and Values for uniqueness*). These activities are closely related to SDG 4's goal to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." The objectives of inclusive creativity in music education must be clarified by referring to the National Curriculum Guideline of Japan. Furthermore, there is a need to reexamine the TAS model's participants. These issues are discussed below.

What are the objectives of *Inclusive Creative Music-Making*?

The National Curriculum Guideline of Japan

The current Course of Study for music is highly focused on creativity, being influenced by *Twenty-first Century Skills* in which *creativity and innovation* predominate (Takasu & Takasu, 2019). *Creative Music-Making* is included in the current Course of Study for primary and secondary education. Takasu and Takasu (2019) described the sociocultural approach to creativity as follows:

> "In Japanese elementary and junior high schools, activities for music making are often implemented in small groups of four to six students. Collaborative and sociocultural creativity is essential for social problem solving. Creativity as suggested in the Course of Study for music can be understood from a sociocultural approach to creativity and creativity is regarded as an ability that can generate rich values for a society." (p.221)

The author's description explicitly reveals close relationships between creative music activities and sociocultural problems, including inclusion. The current Course of Study for special needs education has recently included *Creative Music-Making,* suggesting the potential link between music education and traditional special needs education activities defined as *Activities to Promote Independence* (*Jiritsukatsudo*). The following are the objectives of these specific activities:

> "Each pupil and student can build the base of harmonious mental and physical development by aspiring to be independent and fostering the knowledge, skill, attitude and habit that are necessary for improving/overcoming the difficulties in learning and living due to disabilities independently." (Ministry of Education, Culture, Sports, Science and Technology, 2017)

The contents of *Activities to Promote Independence* (*Jiritsukatsudo*) are (1) health maintenance, (2) psychological stability, (3) forming human relationships, (4) understanding the environment, (5) physical movements, and (6) communication. Among these activities, psychological stability, forming human relationships, and communication are closely related to the sociocultural approach to creativity. The content of these three dimensions is shown in Table 2.

Table 2

Activities to Promote Independence (*Jiritsukatsudo*) *closely related to Creative Music-Making*

(2) Psychological stability
1. Matters related to emotional stability
2. Matters related to understanding situations and corresponding to changes
3. Matters related to motivation for improving/overcoming learning difficulties or living with disabilities
(3) Forming human relationships
1. Matters related to fundamental relationships with others
2. Matters related to others' intentions and understanding of their feeling
3. Matters related to self-understanding and behavioral control
4. Matters related to essential group participation

(6) Communication
1. Matters related to fundamental communication abilities
2. Matters related to language understanding and expression
3. Matters related to forming and using language
4. Matters related to selecting and using means of communication
5. Matters related to communicating according to the situation

Objectives of *Inclusive Creative Music-Making*

The above description implies a potential cross-content approach developed with *Creative Music-Making* in music education and *Activities to Promote Independence* (*Jiritsukatsudo*) for children with special educational needs. Objectives of this cross-content approach named *Inclusive Creative Music-Making* are expected to embrace the goals of *Music Making* and *Activities to Promote Independence* (*Jiritsukatsudo*) as educational activities. The proposed critical concepts are proactivity, spontaneity, mutuality, collaboration, sensitivity, responsivity, and self-regulation. These are closely linked to both objectives of *Creative Music-Making* and *Activities to Promote Independence* (*Jiritsukatsudo*).

Contributions of clinical developmental psychologist: What is the Adviser's role?

In this section, implementing *Inclusive Creative Music-Making* is focused on. The TAS model, in which advisers are expected to play critical roles in specific practical issues concerned with special needs, provides a robust framework for this type of activity. One potential candidate for an advisor is a clinical developmental psychologist, who can provide relevant advice on research and practical ethics related to understanding children's developmental stages, identifying their difficulties and strengths, and adjusting the environment for the children. The proposed participants of the TAS model for *Inclusive Creative Music-Making* and the proposed revised roles of the participants in this model are displayed in Figure 2 and Table 3, respectively.

Table 3

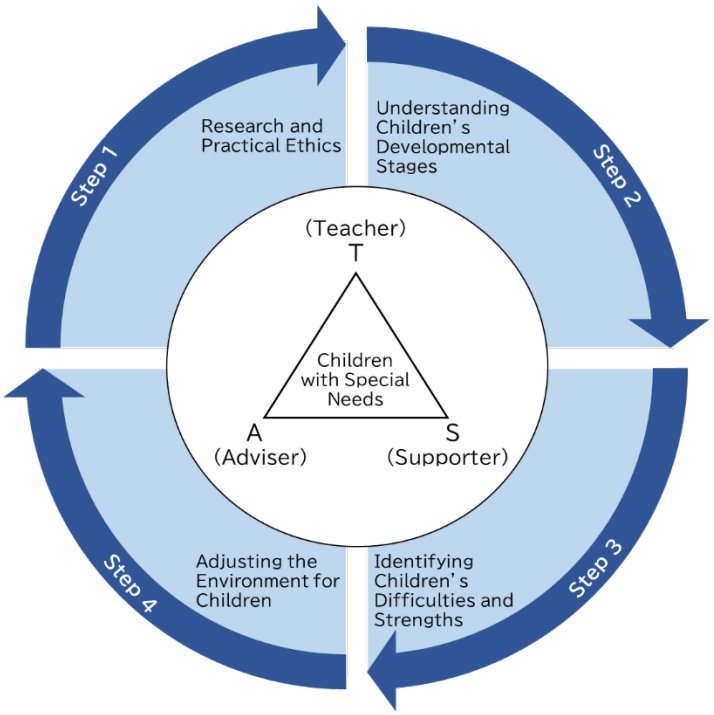
Revised roles of TAS model's participants in Inclusive Creative Music-Making

Participants	Roles
T: Teachers	Those who organize the class lessons as a whole
A: Advisers	Music researchers, composers who advise about music *Clinical developmental psychologists give advice on research and practical ethics, children's developmental stages, their difficulties and strengths, and adjustment of the environment for them.*
S: Supporters	People, especially performers that support teachers and children with their live sound and music

Note) Descriptions in italics were added to the original version proposed in Tsubonou (2020).

Figure 2

TAS model for Inclusive Creative Music-Making



The TAS model for *Inclusive Creative Music-Making* is discussed by examining two case studies in the next section. The author, a clinical developmental psychologist, was in-

volved as an adviser. The author has also discussed the collaboration of the TAS team consisting of music researchers, music teachers, musicians, special needs education teachers, and a clinical developmental psychologist in planning the music lessons.

Collaboration of the TAS team in planning the lessons for *Inclusive Creative Music-Making*

The following are four concrete steps for lesson planning and collaboration with the TAS team for *Inclusive Creative Music-Making*. The process is examined based on two case studies: one on the students in the special needs school and the other on children in special needs classes. The school principals' informed consent was obtained before conducting the study. The author plans to report further details of the study in future publications.

The proposed four steps of the TAS model for *Inclusive Creative Music-Making* are displayed in Figure 2. These steps include research and practical ethics, understanding children's developmental stages, identifying children's difficulties and strengths, and adjusting the environment for children. The steps consist of a circular system, in which each step proceeds in a circular path along with the progress of team collaboration.

Step 1: Research and Practical Ethics

Before conducting educational programs or research for children with special educational needs, ethical considerations must be examined. In general, the children's parents, the school principals, and other related people should be well-informed about the purpose of the educational activities and/or research. The TAS team shared essential ethical information and made efforts to obtain the informed consent of school principals.

Step 2: Understanding Children's Developmental Stages

Understanding the developmental stages of children with special needs is a fundamental requirement for conducting educational activities. Therefore, the TAS team carefully examined the developmental stages of cognitive, linguistic, communication, so-

cial-emotional, and motor skills. Then, the team shared children's information with classroom teachers, conducted participant observations in their classes, and communicated directly with the children. Understanding the children's developmental stages contributes to identifying the strengths and difficulties of children in conducting activities.

Step 3: Identifying Children's Difficulties and Strengths

Identifying the children's difficulties and strengths has practical implications for developing lessons. The following are examples of children's difficulties and strengths shared within the team.

Examples of difficulties:

- limited activities due to hypersensitivity to auditory, tactile, visual, and other types of stimuli
- limited manipulation due to limited fine motor skills
- limited activities due to limited control of the on/off system (transition from one activity to another)
- limited understanding of context and teacher's instructions due to limited cognitive skills
- limited verbal and/or nonverbal communication with each other

Examples of strengths:

- positive attitudes to listening to sounds and music
- positive attitudes to making sounds and playing musical instruments
- positive engagement in musical activities
- positive attitudes to communicating with each other
- curiosity about music and freedom from stereotypes

Step 4: Environmental Adjustments for Children

The TAS team examined environmental adjustment from a Universal Design (UD) perspective based on children's strengths and difficulties shared within the team. One aim of UD is to provide access to high-quality educational goals. The team selected appropriate musical instruments adjusted to the children's developmental stages and strengths, arranged musical instruments, including their position, size, and colors, among others, used ICT, including iPads, and provided instructions in various methods: verbal or non-verbal, and auditory or visual. The team made strong efforts to provide a supportive and enhancing environment to the children during the lessons.

Conclusion

This study proposed *Inclusive Creative Music-Making* based on the TAS model and examined the objectives and roles of a clinical developmental psychologist as an adviser. Four concrete steps were taken in collaboration with the TAS team when planning the lesson. The TAS model for *Inclusive Creative Music-Making* is expected to provide a theoretical framework for further studies in this field.

Acknowledgments

I am deeply grateful to the teachers, children, and other members of the TAS team.

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Practicing Sound Education for Children with Hearing Impairment

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Abstract

Music education in deaf schools in Japan usually focuses on visual information. This study proposes a new curriculum for hearing-impaired children based on Schafer's *A Sound Education* which I used to teach music to hearing-impaired children at a deaf school in Aomori over two school years. Throughout the study, participation observation was utilized to discern the behavior of the students. Six elementary and two high school students were selected as participants to practice the sound education exercises. Analysis of the observation data revealed that these exercises helped hearing-impaired children to hear various sounds, suggesting the necessity of music classes based on sound education.

Keywords: sound education, hearing-impaired children, participation observation

Practicing Sound Education for Children with Hearing Impairment

The standard view in deaf schools has been that hearing impairment makes it impossible for children to hear sounds and that hearing-impaired children cannot experience music through hearing. In recent years, most students in Japanese deaf schools have been children with severe or profound hearing impairment who are equipped with cochlear implants and hearing aids. Takahashi (2012) notes that in 2008, the rate of children with cochlear implants in deaf schools was 90% in kindergartens and 86% in elementary schools. This means that they can hear sounds when equipped with implants.

Music Education in Deaf Schools from the Pre-war to Post-war Periods

In pre-war Japan, music in deaf schools was treated as a component of other subjects, such as Japanese language and physical education. In these subjects, hearing-impaired children were taught correct pronunciation and speech through rhythmic training. The purpose of rhythm training is to enable hearing-impaired children to pronounce and speak as fluently as non-impaired people do.

In the post-war period, "*Rissyoka*" (now "music") was established as a subject in deaf schools, although this was based mainly on rhythm training to acquire correct pronunciation and speech. This practice continues to the present day.

Music Education Situation in Deaf Schools in Japan

According to a questionnaire survey on music education for hearing-impaired children in deaf schools by Isaka and Shichi (2015), most classes focus on singing and playing instruments but not on creative music-making. In one of the few examples of such music creation, children were instructed to beat drums according to some rhythms, following notes drawn on cards that were presented in advance. Their survey also showed that creative music-making is impeded by the following factors: (a) children have a difficulty hearing sounds, (b) the activity itself is difficult, (c) the children show different responses, and (d) they lack creativity.

Music Education Situation in Deaf Schools in Aomori

A questionnaire survey of high school students and an observation of an open class at a junior high school showed that no activity, such as creative. Wakinaka (2009, pp. 100-102) states that hearing-impaired children have difficulty in acquiring language due to difficulties in hearing spoken language, which leads to various "stumbling blocks. music-making, was taking place in deaf schools in Aomori. Three examples of music classes were obtained from this survey of high school students. First, in a singing class, students sang a song after reading the lyrics and imagined the scenes expressed by the lyrics. Second, students sang with a pitch in accordance with the movement of the teacher's hands. Third, in the instrument class, students played Japanese drums while watching the teacher's instruction. It was observed in the open class at the junior high school that a student played the cello in her instrument class because it makes low-frequency sounds, which are easy for hearing-impaired children to perceive. Japanese drums produce similar low-frequency sounds that students can perceive relatively easily. In the instrument class, the teacher pointed out the student's mistakes on the cello that she could produce the correct sounds.

While working at a deaf school, I was asked to do the following: (a) teach onomatopoeia corresponding to sounds, (b) describe some symbols in a score instead of notes, and (c) present photos and illustrations of the images in a song. Similarly, in many cases, teachers present visual information in classes in deaf schools in Aomori. Students may then consider the given information to be the only correct answer, which makes them feel forced to follow the guidelines. This requirement for high-level skills causes certain children to dislike music.

Hearing Impairment

Damage to hearing affects a part of the auditory organ that transmits sound information. Agatsuma (2011, p. 5) classified hearing impairment into three types: (a) transmission deafness, (b) perceptive deafness, and (c) mixed deafness. People with transmission deafness experience damage to the external ear and the middle ear. People with

perceptive deafness experience damage to the inner ear and the nerve cells connected to it. People with mixed deafness experience damage to both organs.

In deaf schools, the rate of children with perceptive deafness is higher than that of children with other types of deafness. Children with perceptive deafness have difficulty hearing high-frequency sounds, which has led to the current situation where teachers select the Japanese drum and cello as instruments that students play in instrument classes.

The Practice of Sound Education

Methods

Oda (2010) defines ethnography as a process whereby the investigator joins an activity and observes the behaviors of the people involved in it. I adopted ethnography to investigate the behaviors of children in a music class at Deaf School A in Aomori, where I had been working for two years. In addition to the ethnographic investigation, informal interviews were conducted. Six elementary and two high school students were selected as participants for this research, and they practiced some exercises based on sound education. The students differed in their hearing ability. Two elementary school students had cochlear implants in both ears, two had a cochlear implant in one ear and wore a hearing aid on the other, and the remaining two elementary school students and the two high school students wore hearing aids in both ears. This paper analyzes the results of the ethnographic investigation and informal interviews.

Composition of the Classes

At the elementary school, the music class is held twice a week, one class for all grades and the other for individual grades (lower grades and middle to upper grades). The high school conducts a music class twice a week. Students practice exercises in terms of sound education, such as soundwalk[1]; creative music-making using sheets of paper[2] and their own voices[3]; and sound diaries[4].

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1 The soundwalk is an exploration of the soundscape of a given area using a score as a guide. (Schafer, 1994, p. 213)

2 Take a sheet of paper and try to pass it around the room absolutely silently. It's harder than you think. As soon as your

Results

Soundwalk

Soundwalk was practiced twice by elementary school students. At first, most of the students could actively hear sounds while walking in the direction of the sound and talking about hearing sounds. Some students removed their cochlear implants and hearing aids to hear sounds without them. In the feedback, I asked them what kinds of sound they had heard. Their answers included footsteps, the sound of wind, airplanes, treading through grass, treading on snow, a shaking fence, and so on. They were interested in sounds and the activity of hearing sounds. Most students, except for student A, could hear the soundscape in their ears but not through their cochlear implants or hearing aids.

In the transition to the second session, student A improved her hearing skills in the soundwalk. On questioning about the kinds of sound she heard, she replied that she heard the following: footsteps, the sound of an airplane, heating, scratching her foot, and so forth. She could then find some differences in sounds between the two types of shoes and between walking and running. She said that she wanted to hear the sounds of various types of shoes.

The high school participants heard the sounds while nodding with a smile. In the feedback, I asked them what they thought. They answered: “I did not know that there were many sounds”; “I could hear the sounds that I wanted to hear.” Then, I asked them what kinds of sound they had heard. They answered as follows: wind, footsteps, bird sounds, opening and closing of doors, jumping goldfish, heating, nose sounds, flowing water, and treading on gravel.

Creative Music-making Using Paper and Voices

In two creative music-making activities, pieces of paper and voices were used. The first activity proceeded as follows. Elementary school students made sounds by breaking, rolling, rubbing, and hitting a piece of paper. They then attempted to pass a piece of paper

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fingers touch the paper, they make a sound. (Schafer & Imada, 2009, p. 46)

[3] Someone goes to the center of a circle. Each person takes a turn calling out the name of the person in a different way: singing, whispering, murmuring, wailing, moaning, bleating, crying. (Schafer & Imada, 2009, p. 70)

[4] Here are some questions to begin your diary: What was the first sound you heard this morning on waking? What was the last sound you heard last night before sleeping? What was the loudest sound you heard today? What was the most beautiful sound you heard today? Try to answer these questions for each day in your Sound Diary. (Schafer & Imada, 2009, p. 25)

around without making any sounds. Finally, they were instructed to play a musical work of their own with a piece of paper. In doing so, they were requested to observe the movements of their own bodies and listen to the sounds made by their movements. They were interested in the different paper sounds produced by their movements, but one of them found the activity difficult. The same kind of activity was done at the high school, in which they moved a piece of paper rhythmically, creating their own musical work. In this activity, the students found that the sounds changed depending on the size and number of pieces of paper, which made it possible for them to enjoy the activity. After the exercise, they said they felt that the activity was very difficult but fun because they had always practiced the Japanese drums and had never experienced their own creative music-making.

The second activity, in which only elementary school students were involved, proceeded in the follow manner. Students decided on some signs showing the degree of speed, volume, height, and beginning or ending. A conductor was selected to stand in the center and signal to the surrounding students to make voices. It was easy for the students to understand this activity.

Sound Diary

The students were asked to document the sounds they heard in their own diaries. Elementary school students described loud sounds that they could hear indoors, such as the sounds of a TV, an arcade, and a vacuum cleaner. Student A did not seem to know what to write in this activity. However, in the next activity, she figured out what to write and described the sound of wind, a car engine, and her mother's voice. She was also interested in the difference between the sounds heard with and without her cochlear implants.

In addition, one high school student did not seem to know what to write in the first activity. However, in the second activity, the student heard raindrops, wind, and the air passing through the throat.

Discussion

Soundwalk

Student A received a visually biased education; therefore, she did not use her sense of hearing effectively. However, in the second exercise, student A could hear the sounds of her environment and found that the sounds differed depending on the material; she became interested in the different ways to hear. The soundwalk activity resulted in the growth of her hearing ability.

Creative Music-making Using Paper and Voices

The activity using pieces of paper helped students realize that they could produce various sounds by changing the shape of the piece of paper and the movements of their bodies. The students had been given answers by teachers in most music classes; therefore, they were worried about whether activities, such as creative music-making, without a determined answer were right for them. However, as it turned out, the activity using voices was easier because the signs were given to the students as determined answers.

Sound Diary

Most elementary school students described only loud sounds heard indoors during the first exercise. However, in the second exercise, they were able to hear various environmental sounds. The reason why loud sounds could only be heard indoors is that these students had cochlear implants; therefore, those sounds could be naturally heard in their ears. In the first and second sessions, the types of sound heard were different because, by doing sound education exercises, the students gained the habit of hearing sounds without their cochlear implants and hearing aids.

Through these exercises, hearing-impaired children could hear sounds while supported by hearing aids and cochlear implants. In summary, it is necessary to deepen the discussion about music education so that hearing-impaired children can interact with sounds and music.

Conclusion

Deaf education tends to teach students based on visual information because they have difficulty hearing. Before “music” was established as a subject, there was training in pronunciation and speech, learning rhythm, and training to feel pitch through vibration. Now, “music” is an established subject, and although “training” is no longer used, teachers in deaf schools still teach pronunciation and speech by making the body move to understand rhythm, and by using instruments such as Japanese drums and the cello.

However, most students currently enrolled in deaf schools wear hearing aids, cochlear implants, or both and have some hearing ability. Thus, sound education should foster their ability to hear sounds and nurture the relevant ability because it is based on the sense of hearing.

When practicing these sound education activities for hearing-impaired children, they became aware of the sounds around them and began to tell themselves how they heard the sounds. In addition, while touching, watching, and smelling something, they found that—even in the case of shoes—they could hear different sounds when different materials were used, and that sounds differed depending on the actions. It can be concluded that hearing-impaired children perceive sounds using various senses. In other words, all senses, including hearing, become sensitive through the experience of hearing sounds in their surroundings. To foster children’s abilities, music education based on hearing is more effective than that based on visual information.

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Exploring Music-Creating Activities Through Picture Books in Childcare Support Settings

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Abstract

The study examined music-creating activities in childcare centers in Japan, focusing on activities involving picture books, and explored new ways of supporting childcare through musical play. We held a trial session on music-creating activities inspired by reading picture books, and conducted a questionnaire survey on participating parents to clarify the musical play between parents and children at home.

The results showed that hand-clapping, belly-drumming, and foot-tapping sounds found in picture books were easy for children to imitate. The results also suggested that there is a need to develop activities that parents and children could engage in together. Therefore, we conducted an analysis of picture books and suggested several such musical activities.

Keywords: music-creating activity, picture books, childcare support

Music-Creating Activities through Picture Books in Childcare Support Settings

Childcare support emerged in Japan in the 1990s, when centers for community childcare support were established as places where parents and children could get together, interact with others, and discuss their concerns and worries about child care. By FY2020, there were 7,735 centers like these, and their functions were divided into two types: “general” and “cooperative” type.[1)] The general type included permanent local childcare centers such as nurseries and kindergartens, which were established to enhance the childcare support functions of communities. The cooperative type included various childcare support facilities such as child welfare, which provided places for parents and children to gather. In other words, childcare support was positioned as something that was addressed by the entire society surrounding children.

Reading picture books is one of the favorite activities of preschoolers, which takes place not only in preschool facilities, such as nurseries, but also in childcare support settings. A typical example of childcare support through picture books is the “Book Start Project.” In Japan, it was implemented on a trial basis during the Children’s Reading Year 2000, and by April 2001, 12 municipalities incorporated Book Start as a new project.[2)] This project was believed to play an important role in strengthening bonds between parents and children through picture books, and in supporting childcare by connecting parents and children with people in the community. It was often conducted at centers for infant health checkups. In addition, as a follow-up to the Book Start Project, book salons were established at local government libraries, where parents and children could easily access picture books.

Kawai (2001) argued that reading picture books to children could maximize the power picture books and discussed the importance of sound as an element in picture books. He stated that there are “songs” and “words” among the sounds depicted in picture books, and to “listen to the sounds of picture books.” In other words, even if a picture book does not actually have sounds, we could experience them by imagining the scene, listening carefully, and letting our minds wander. There are “words” in the sounds through which, we could imagine the sounds. Kawai also mentioned “music” that had been developed by picture book “sounds.” However, there is no clear explanation as to what makes the “sounds” develop into

"music." This study, therefore, focused on the structures of music as the process of constructing such "sound" into "music." This is also stated in the "Music" section of the Japanese elementary school curriculum guidelines: to relate several sounds into a coherent whole using the musical structure as a clue, specifically, the musical structures of "repetition," "call and response," and "change" as described in the "Common Items for each activity" section. Therefore, we selected picture books for music-creating that focused on these musical structures for this study.

Takeuchi and Oku (2007), referring to Kawai et al. (2001), found that pictures, words, and themes have musical aspects. In addition, Furuichi (2010) focused on the music found in picture books, indicating the close relationship between picture books and music. Although Kan et al. (2017) and Okabayashi et al. (2017) have conducted research on music-making based on sounds and music depicted in picture books in school education, there is little to no research on musical play based on picture books in childcare support.

We developed musical play based on picture books in childcare support due to the following reasons: 1) both parents and children are familiar with picture books; 2) Sounds are an important element of picture books; and 3) sounds and music-creating based on picture books is practiced at the elementary school level and above. In the past, musical play for parents and children in childcare support was conducted as a way to promote the inheritance of culture at home, such as warabe-uta play (e.g., Ochiai 2017), concerts by experts (e.g., Kasai 2019), and parent-child eurhythmics workshops (e.g., Komatsubara et al. 2017). However, in this study, we proposed a new way of supporting childcare through music by using picture books.

This study provided a trial session of music-creating activities based on reading picture books and conducted a questionnaire survey of the parents who participated in the session to clarify the musical play between parents and children at home.

Methods

Participants

The subjects of this study were 17 pairs of preschoolers and their parents who attended a special parent-child day at K kindergarten held as part of childcare support and 16

preschoolers at a public K kindergarten in Tokyo.

Responses were obtained from all 17 parent-child pairs who participated. The number and ages respectively of the children were 1 at 1.5 years, 2 at 2 years, 4 at 3 years, 8 at 4 years, 1 at 5 years, and 1 at 6 years. There were 7 boys and 10 girls.

Procedure

Data for this study were collected in February 2020. A trial session based on a picture book was held for parents and children, after which the parents were asked to respond to a questionnaire survey. The survey included questions about the following: frequency of parent-child play at home (4-question method), content of play (multiple responses), frequency of music play (4-question method), whether they attended workshops or performances based on picture books and music, and their impressions of the activity. The procedure was approved by the Chiba University Faculty of Education Bioethics Review Committee.

Overview of the trial session for the music-creating activity

We selected a Japanese picture book, titled *HAHAHA no gakutai* [*HAHAHA Music Band*] for the trial session. The story gave an account of seven boys who treated each other like brothers, played body percussion, and stated that they could play music without any musical instruments. Rhythmic play with mimicry of body sounds was held after reading aloud to children, which was based on the book and used the sounds of belly and foot drums, and hand maracas. Focusing on body sound, Sachs (1962; 2012) stated “instrumental music, at first remote from passion, began in general as a percussive act of the body,” or body sound is the beginning of instrumental music. Therefore, regardless of whether one owns an instrument at home, parents and children can express music through the body.

Results

Case of the trial session

After reading a picture book to the children, T said, “I’d like to play ‘kindergarten band’ with you today.” They replied with a “yes” or “I’ll give it a try.” “What do you have in mind?” T asked. “How about this?”; some children clapped their hands and T imitated. Another child said, “I heard a belly drumming sound, too.” Then T said, “Well, do you want to try drumming your belly?” T sang, “ton ton ton un (♩♩♩𝄽),” while alternately drumming her belly. T gradually increased the speed and further changed the rhythm to “toto toto ton un (♫ ♫♩𝄽).” One of the mothers tapped her child’s belly to the rhythm. When T said, “Let’s try clapping together; ready, go!”, one child clapped her hands with the sound of footsteps. Most mothers were also clapping with children. When T repeated “ton toto ton un (♩♫♩𝄽)” with the hands clapping in an up-down motion, the children immediately imitated the gesture. T further, changed the rhythm by singing, “to-ne to ton un (𝅗𝅥. ♪♩𝄽),” while saying, “The rhythm changes!” Some children tapped a different rhythm, “to-ne to-ne (𝅗𝅥 𝅗𝅥).” When the rhythm was changed again to “to to-ne to ton un (♪♩ ♪♩𝄽),” some children began to clap their palms vertically, which they had been doing in an up-down motion.

The parents and children then divided into two groups, with the parents’ group repeating the “to to-ne to ton un (♪♩ ♪♩𝄽)” rhythm, while the children repeated the rhythm. Some children looked back at their parents sitting behind them, shaking their body and clapping their hands, whereas others tapped their bellies. Some children repeated the rhythm of “tone to to ton un” with their footsteps, while the parents repeated “tan tata tan un (♩♫♩𝄽)” with their hands, adding layers to the sound. The children further divided into two groups, with one group clapping to “ton ton ton un (♩♩♩𝄽)” and the other group tapping their bellies to “tan tata tan un (♩♫♩𝄽),” while the parents clapped the rhythm with their footsteps “tan tan tan un (♩♩♩𝄽).” Some children held their hands between their legs and tapped their feet together to the rhythm. The children laughed and said, “We’ve made K kindergarten band!”

(T = the author who led the session)

The result showed that the sounds of clapping, belly-drumming, and foot-tapping found in picture books seemed to be easy for children to play naturally. These elements were "layered" and "repeated" to form their own music. This repetition is one of the "Common items for each activity" specified in the musical section of Japanese elementary school curriculum guidelines. "Vertical music" was created by "layering" rhythms, while "horizontal music" was created by "repeating" them.

The following were the comments of parents who experienced the session: "It was a fun time," "It was interesting," "My daughter didn't show any interest when you were reading a picture book, but when you started playing with rhythm, she seemed to enjoy it very much," "Children seemed to enjoy playing together using their bodies," "My daughter seemed to enjoy it very much," "I thought the content was a simpler version of the rhythm play in the music class curriculum," and, "I think it is an interesting experiment."

The frequency of parent-child play at home

Regarding the frequency of parent-child play at home, 23% of the respondents answered "very often," and 53% answered "often," indicating that nearly 80% of the participants had ample opportunities to play at home (Figure 1).

The contents of play at home

Regarding the contents of play at home, "watching videos" was the most popular activity for 14 parents, followed by "toy blocks" and "singing" for 13 parents, "drawing" for 12 parents, and "picture books" and "pretend play" for 10 parents (Figure 2).

Figure1

The frequency of parent-child play at home

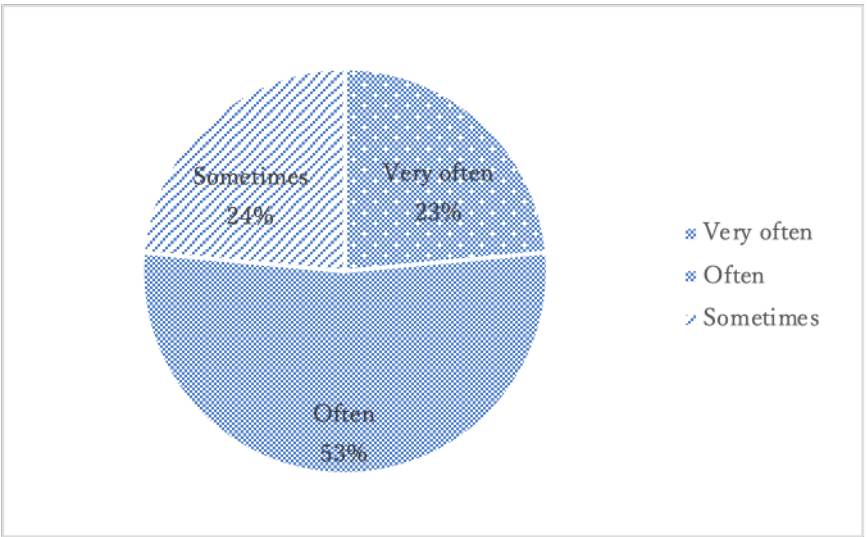
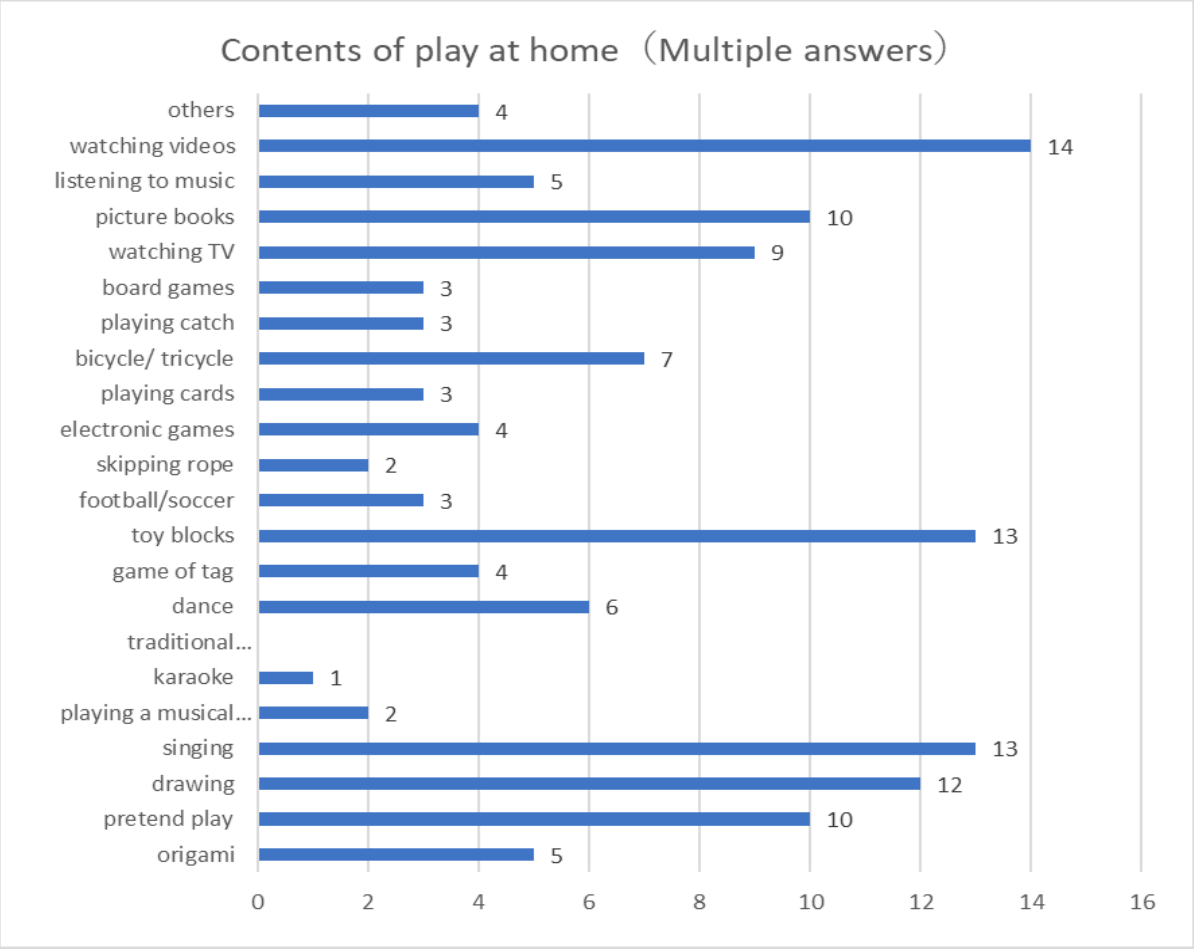


Figure 2

The contents of play at home

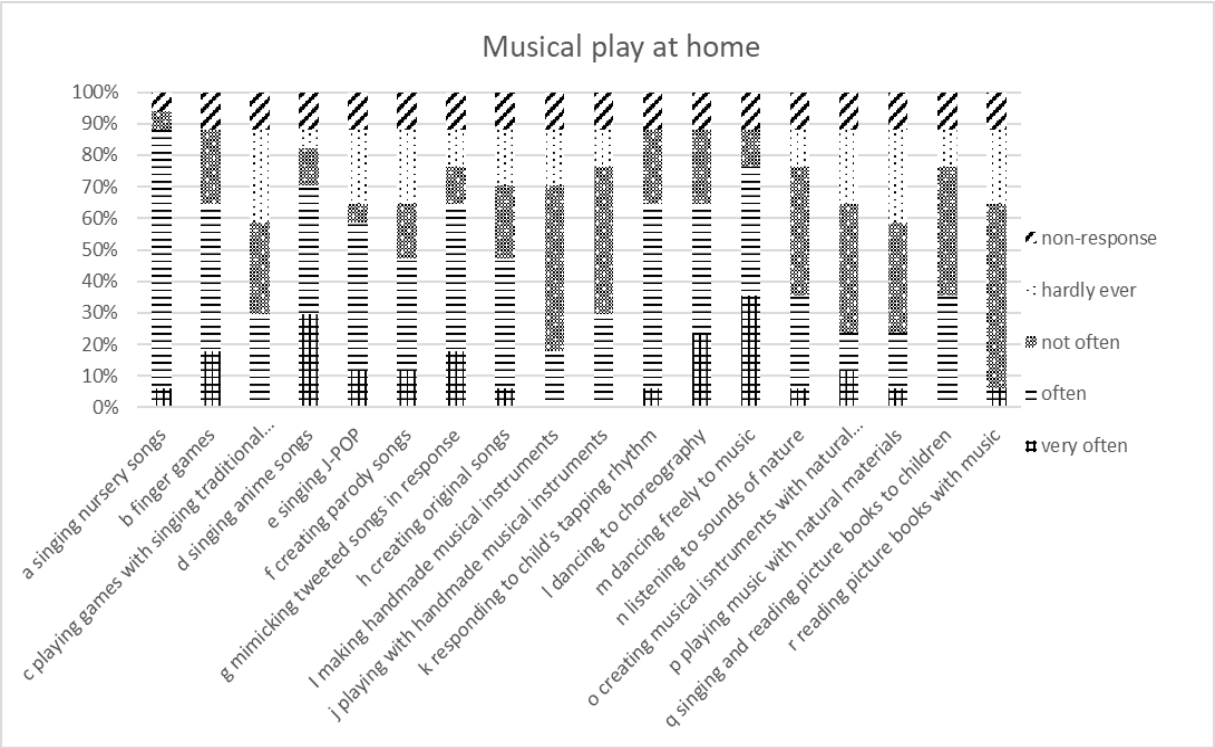


The frequency of music play at home

For the contents of play, “singing” was selected by 13 parents, indicating that singing was a daily activity in more than 70% of the households. To investigate the extent to which other music-related play activities were conducted, the frequency of music play at home was investigated. The results are shown in Figure 3.

Figure 3

The frequency of musical play at home



The musical plays that more than 60% of the respondents answered “very often” or “often” to were “a) singing nursery songs,” “b) finger games,” “d) singing anime songs,” “g) mimicking tweeted songs in response,” “k) responding to child’s tapping rhythm,” “l) dancing to choreography,” and “m) dancing freely to music.” In contrast, the musical plays that more than 60% of the respondents answered “not often” or “hardly ever” to were “c) playing games while singing traditional children’s songs,” “i) making handmade musical instruments,” “j) playing with handmade musical instruments,” “n) listening to sounds of nature,” “o) creating musical instruments with natural materials,” “p) playing music with natural materials,” “q) singing and reading picture books to children” and “r) reading picture books with music.”

Discussion

These results showed that although the frequency of parents and children playing at home was relatively high, the content was mainly activities that children could do alone, such as watching videos. This could be because "against the backdrop of the progression of nuclear families and the weakening of local ties, there is an increasing number of parents who, despite their desire to raise their children on their own, are unsure of how to interact with them and are becoming increasingly isolated and emotionally unstable" (Central Council for Education in Japan, 2005)[3)]. In addition, it could be inferred that this is the result of an increase in the number of parents who may find it difficult to relate to their children. This could also be due to women's participation in society becoming more common as the support for balancing work and childcare has progressed. There is a social environment that allows women to choose a path of self-realization through work and other activities in addition to child-rearing. Furthermore, there may be some worries about devoting oneself to childcare.

Therefore, by providing childcare support, such as making musical instruments that allow parents and children to play together, playing with the instruments they have made, and playing with natural materials through picture books, parents who do not know how to interact with their children or are anxious about focusing on childcare could experience the fun and excitement of creating together with their children. By doing so, the program could help "relieve parents' anxiety and stress about child rearing, and help them regain their joy and purpose in life and realize a better upbringing for their children" (Central Council for Education in Japan,2005).

Development of musical play based on sounds and music depicted in picture books

There is a need to develop more activities such as making musical instruments, sound play using home-made instruments, and sound play based on natural materials so that parents and children can play cooperatively. Therefore, we decided to conduct an analysis of picture books and develop several musical play examples.

Table 1

Seven examples in four categories

	Categories	Picture Book Examples	Example of music play content
(1)	Musical play focusing on body sounds	*Hahaha no gakutai* (*Hahaha Music Band*) Written by Yuji Takahashi, illustrated by Genichiro Yagyu, from "Queen of Alacra" by Shiro Hasegawa, published by Fukuinkan Shoten	Rhythmic play is developed based on body sounds, sounds that can be produced by the body.
		Himistu no Gakki (*My Secret Instrument*) Created by Taro Gomi, published by Kaiseisha	Rhythm play based on hand clapping, foot stomping, and whistling.
(2)	Musical play with physical expression	*Papipupepo Ongakukai* (*Papipupepo Concert*) Written and illustrated by Satoshi Kako, published by Kaiseisha	Parents and children create festival dances based on "Sarugaku Ohayashi" and Bon Odori with "Kitsune Uta".
(3)	Making musical instruments and playing music with the instruments made	*Obake no Concert* (*The Ghost Concert*) Written by Shigeru Tamura, published by Fukuinkan Shoten	Focusing on the spider threads depicted in the picture book, parents and children stretched the threads on a paper cup and noticed that a sound was made when they touched the threads, and developed an activity to listen to the sound.
		Kuma no Gakki Ten (*The bear's Music store*) Written by Naoko Awa, illustrated by Yura Komine, published by Shogakukan	The drum that appears in the picture book is made by stretching balloons over pudding cups, small plastic flowerpots, and buckets to create balloon drums.
(4)	Musical play based on natural materials	*Mushitachi no Ongakukai* (*Insects' Concert*) Written by Yukihisa Tokuda, illustrated by Takuya Kusumi, published by Doshinsha	Developing musical play with onomatopoeia, using onomatopoeia caused by insect noises.
		Tam Paran Written and illustrated by Yuko Yamazaki, published by Shikosha	From word play with the sound of rain, music play is developed based on the accidental sounds created by dropping nuts and twigs on the skinned drums.

Sixty picture books were listed in the special feature “Picture Books for Enjoying Music” on the Ehon Navi website[4)]. In addition, the Hokkaido Public Library ran a special feature on “Picture Books for Reading, Singing, and Enjoying Sounds” in 2019 in which 145 picture books are featured. From these lists, we obtained the picture books that were available at the library. In this study, we proposed seven examples in four categories: (1) musical play focusing on body sounds, (2) musical play with physical expression, (3) musical play by making musical instruments and playing with instruments made, and (4) musical play based on natural materials (Table1).

Conclusion

In this study, we conducted a trial session on music-creating based on picture books and clarified the conditions of musical play at the homes of participating parents and children through a questionnaire survey. The findings indicated that there is a need to develop activities that include creating musical instruments to allow parents and children to play together, along with sound play using those instruments and sound play based on natural materials. The authors also explored music play situations based on picture books for parents and children in libraries based on the current status of parent-child events held at libraries in Japan and the U.S. (Koma, Kondo, and Azechi 2021). Although reading picture books and playing finger games along with the songs has been incorporated in many of these events in Japan and the U.S., only 35.6% of the events related picture books and music (Koma et al. 2021). Focusing on picture books in childcare support could lead to picture book-based musical plays that promote communication between parents and children. In this study, through an analysis of picture books, seven examples from four categories of play are currently being developed. However, due to the spread of the COVID-19, all planned domestic and international practices were cancelled, and the effectiveness of these practices could not be verified. The development of measures for childcare support sessions that could also be implemented online could be crucial in the future. For instance, the Boston Public Library in the U.S. conducts story time sessions via Zoom, and these sessions could make it possible to deliver childcare support to parents and children who have been unable to attend childcare support sessions in the past.

Note

This study is supplemented with additions and corrections on a poster presentation given at PECERA2021.

Acknowledgments

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Annotations

1) From the Ministry of Health, Labor and Welfare in Japan website, “Child and Childcare Support” https://www.mhlw.go.jp/content/000904910.pdf (Viewed 11.02.2022)
2) From Bookstart Japan website, https://www.bookstart.or.jp/bookstart/ (Viewed 11.02.2022)
3) From Central Council for Education in the Ministry of Education, Culture, Sports, Science and Technology in Japan website, “Future of Early Childhood Education in Light of Changes in the Environment Surrounding Children (Report)” https://www.mext.go.jp/b_menu/shingi/chukyo/chukyo0/toushin/attach/1420140.htm (Viewed 22.02.2022)
4) From Ehon Navi website, https://www.ehonnavi.net/special.asp?n=2270 (Viewed 22.02.2022)

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The Pentatonic Scale Gives Everyone a Chance to Create Music:

Creating, Sharing, and Developing Music with Participants

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Abstract

Focusing on the educational value of the pentatonic scale, we conducted two workshops to clarify how participants use the pentatonic scale to “create,” “share,” and “develop” music. In the first workshop, high school students created music using various instruments, and in the second workshop, elementary school students created music using Song Maker in the Chrome Music Lab. The results of the analysis of the video data and the evaluation of the emotional aspects of students using the association method revealed the following three points: 1) Almost all the participants willingly joined the activity and created music; 2) Beginners, experienced participants, and musicians listened to each other and shared each other's sounds; and 3) Considering what they had acquired in each activity, they developed their music at each stage.

Key words: pentatonic scale, music-making, evaluation of emotional aspects, association method, emotional vector

Introduction

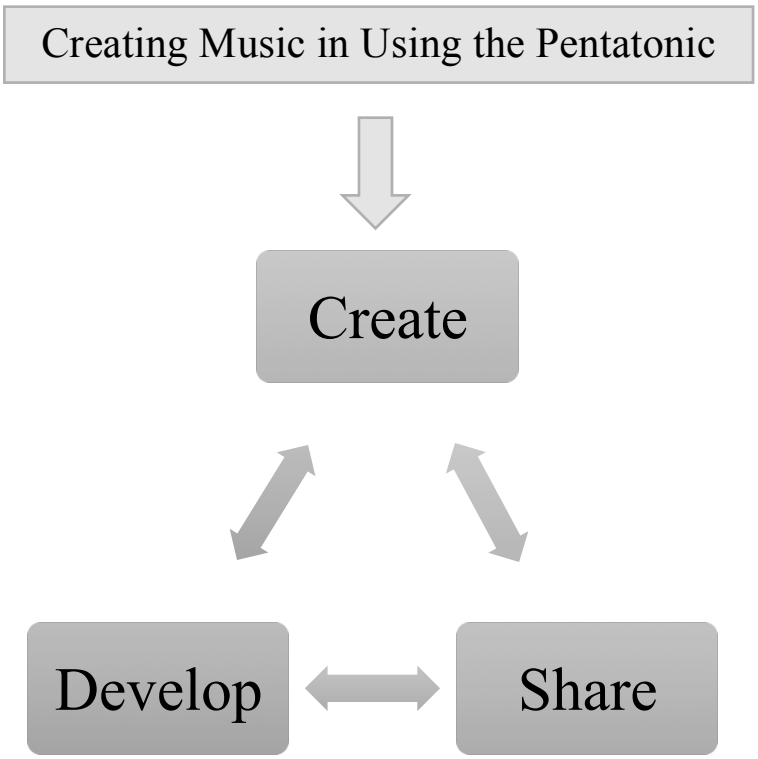
When we are involved in a music creation activity, we can enjoy it even if we do not have the skills to read music or play instruments. We can use all the sounds around us as materials and the elements included in all musical styles. In other words, the idea of "no one left behind," which the SDGs advocate, is exactly what creating music has been aiming at. For example, Tsubono, a collaborator of this paper and a leading researcher on music-making in Japan, has conducted many workshops on music creation, often titled "Everyone Can Create Music." This research focuses on the pentatonic scale consisting of do re mi sol la, which is easy to play and improvise upon even for young children. Additionally, it is possible to ensemble with others without dissonance using this scale. Therefore, we call it an "error-free scale."

The authors conducted music-making workshops at various schools. Through the process, we have come to think that the process of "creating," "sharing," and "developing" may be useful for a major change in the methodology of music-making and creation activities. For this process, we use the pentatonic scale in the "creation" stage. During the "sharing" stage, we share activities within and among groups. During the "developing" stage, the students deepen their awareness of music and develop an interest in various musical cultures.

The purpose of this study is to clarify how participants "create," "share," and "develop" music using the pentatonic scale. Two workshops were conducted and analyzed using video data and affective evaluation for which the association method was used.

Figure 1

Conceptual diagram of "Creating", "Sharing", and "Developing"



Method

Workshop 1 "Everyone Can Create Music!"

This workshop was held on December 5, 2020, with five high school students in Tokyo. The workshop was supported by three musicians who were the authors of this study. At first, the musicians (a pianist, violinist, and bassist) gave the students short examples of do re mi sol la pentatonic music, including folk songs from Asian and Western cultures, classical music, and Japanese pop music. After listening to them, the students improvised with the musicians using various instruments and then created short pieces with their friends and the musicians using the pentatonic scale. An analysis was conducted based on the video data recorded during this workshop.

Figure 2

Photo of students listening to the musicians' performance

Workshop 2 "Let's Create Our Own Japanese Pop Music: Using Chrome Music Lab's Song Maker"

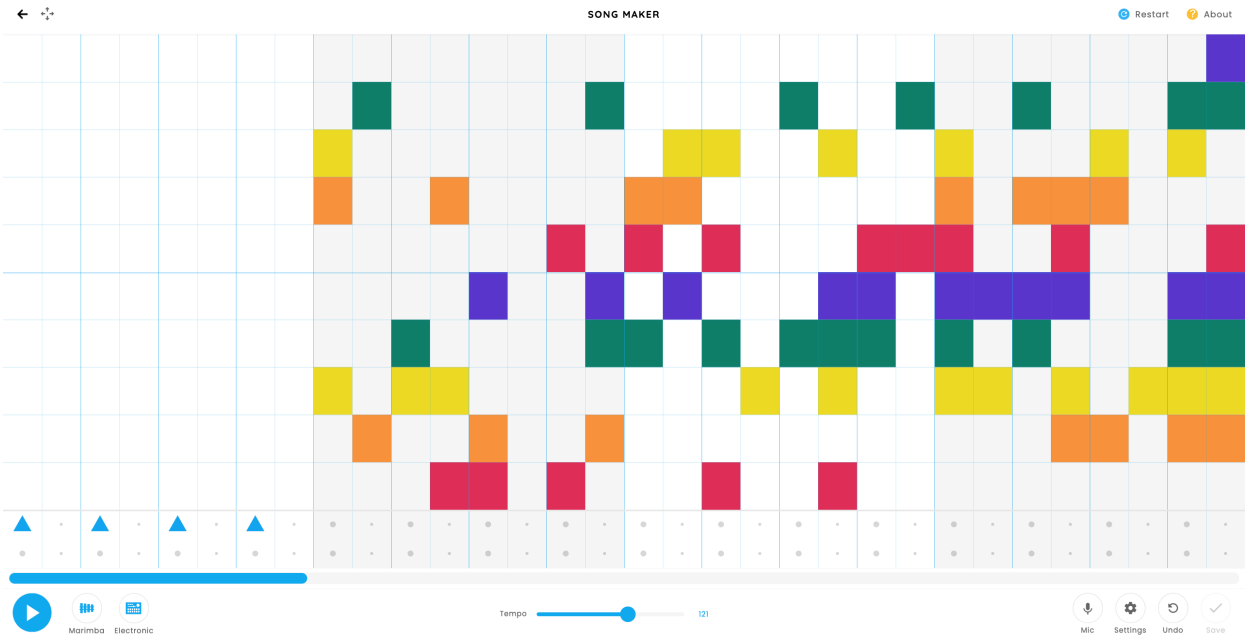
This workshop was held on February 26, 2021, with 67 fifth-grade elementary school students. The workshop was conducted using the TAS model. TAS here refers to the collaboration of T (Teacher), A (Adviser), and S (Supporter) in the music lesson. The supporter musicians (pianists, violinists, and assistants), who were the authors of this study, introduced and performed songs from Japanese pop music based on the do re mi sol la pentatonic scale. After listening to the performance, the students used a xylophone to create music on the pentatonic scale while being accompanied by musicians.

Finally, the students created music using Song Maker in Chrome Music Lab[1]. The scale setting in Song Maker was set to the pentatonic scale. Again, the students created music while being accompanied by the musicians. The accompaniment used the same chord progression as that in "Yoru ni Kakeru" by the famous Japanese musician Yoasobi. The

analysis conducted was based on video data recorded at the workshop and an evaluation of the emotional aspects of students for which the association method was used.

Figure 3

Examples of Song Maker works



Evaluation of Emotional Aspects of Students by Association Method

The evaluation of emotional aspects of students was assessed only in the workshop "Let's Create Our Own Japanese Pop Music." This is a class evaluation method proposed by Kagehiro Itoyama and Kohtaro Kamizono. This evaluation was used to clarify what students find difficult, interesting, useful, and emotionally engaging. To evaluate the emotional aspects in the workshop, at first, the researcher distributed a questionnaire to the students covering their activities, as shown in Figure 4. The questionnaire includes five stimulus words—"Difficult," "Easy," "Interesting," "Uninteresting," and "Useful"—and asks students to offer response words as free descriptions. In the evaluation of the emotional aspects, the response words obtained were classified as follows:

C: Response words for definitions, knowledge, and concepts

M: Response words about work, actions, and specific cases

A: Response words for specific activities of learners

I: Response words related to teaching and lectures

E: Response words related to the learning environment

O: Other**,** Z: No reaction (Itoyama, 2011, p.73)

A previous study on the evaluation of emotional aspects of students using the association method analyzed classes for living environment studies, home economics, technology, and sociology but not music. Nakamura (2020) was the first to evaluate the emotional aspects of students using the association method to analyze music classes. In Nakamura's study (2020), the response words were categorized as follows:

A: Response words for specific learner activities (e.g., music-making, appreciation, and performance)

C: Response words for definitions, knowledge, and concepts (e.g., blues, whole tone scale, classical renditions of Koto, etc.)

I: Response words for instruction

In: Response words for instruments

Based on these results, the emotional vectors shown in Figures 5 and 6 were created.

Emotional Vector

The classified response words are summarized in Table 2 for each of the five stimulus words "Difficult," "Easy," "Interesting," "Uninteresting," and "Useful." Based on these tables, the emotional vectors shown in Figures 5 and 6 were created. In these vector diagrams, the x-axis represents a range from "Difficult" to "Easy," and the y-axis indicates a range from "Interesting" to "Uninteresting" or "Useful." "(Di)" to "(E)" in Table 2 denotes the number of response words for "Difficult" minus the number of response words for

"Easy," and "(I)" to "(UI)" denotes the number of response words for "Interesting" minus the number of response words for "Uninteresting." The values are given in a percentage on the x-axis which is "(D)" to "(E)" divided by the number of responses. The values are given in a percentage on the y-axis which is "(I)" to "(UI)" or "(Us)" divided by the number of responses. Drawing an arrow from the origin to the coordinates created by each evaluation generate the emotional vectors. The emotional aspects of the students were revealed based on this vector diagram.

Figure 4

Questionnaire used in association method

If you say "It was difficult" in today's workshop, What do you think of? _____ _____ _____	If you say "It was easy" in today's workshop, What do you think of? _____ _____ _____
If you say "It was interesting" in today's workshop, What do you think of? _____ _____ _____	If you say "It was uninteresting" in today's workshop, What do you think of? _____ _____ _____
If you say "It was useful" in today's workshop, What do you think of? _____ _____ _____	

Note. After the end of the class, the students wrote freely in response to each stimulus word.

Result

Workshop 1 “Everyone Can Create Music!”

Table 1 presents the video data obtained from the workshop. Video 1 shows the performance of the three musicians, and Videos 2 and 3 show the work of the participating students. The group in Video 2 consists of two musicians (a violinist and a bassist), a piano student, and a xylophone student. The group in Video 3 consists of a musician (pianist), a cello student, a xylophone student, and a cajon student. The faces of the students were blurred to protect their privacy. For more details, please refer to the video data.

Table 1

Video data

Video1	https://youtu.be/F2q-T6uTLJ8
Video 2	https://youtu.be/3coOeHonjxM
Video 3	https://youtu.be/XHuYnHUm5HU

Workshop 2 “Let’s Create Our Own Japanese Pop Music: Using Chrome Music Lab -Song Maker-”

Based on the results of the questionnaire survey, the response words for each stimulus word were classified and tabulated, as shown in Table 3. Based on the results in Table 3, an affective vector diagram was created, as shown in Figures 5 and 6. Table 4 shows some of the works of the Chrome Music Lab’s Song Maker performed by the students.

Table 2

Total number of response words in the workshop “Let’s Create Our Own Japanese Pop Music; Using Chrome Music Lab -Song Maker-” (67 people)

	Difficult (Di)	Easy (E)	(Di)-(E)	(%)	Interesting (I)	Uninteresting (UI)	(I)-(UI)	(%)	Useful (Us)	(%)
A 1	31	11	20	29.9	56	1	55	82.1	23	34.3
A 2	3	0	3	4.5	6	1	5	7.5	4	6.0
A 3	1	1	0	0	27	1	26	38.8	2	3.0
A(other)	0	0	0	0	1	0	1	1.5	0	0
A(Total)	35	12	23	34.3	90	3	87	129.9	29	43.3
C	2	7	-5	-7.5	4	0	4	6.0	5	7.5
C(other)	2	2	0	0	2	0	2	3.0	2	3.0
C(Total)	4	9	-5	-7.5	6	0	6	9.0	7	10.4
I	0	35	-35	-52.2	0	1	-1	-1.5	0	0
In	2	0	2	3.0	7	0	7	10.4	1	1.5
S	1	6	-5	-7.5	9	0	9	13.4	0	0
O	2	3	-1	-1.5	0	5	-5	-7.5	12	17.9
Z	29	14	15	22.4	1	59	-58	-86.6	21	31.3

Note. A1: “Music-making”, A2: “Performance”, A3: “Appreciation”, C: “Pentatonic scale”, I: “Instruction”, In: “Instruments”, S: “Smart device” O: Other, Z: No reaction

Table 3

Examples of students’ work

Student A	https://musiclab.chromeexperiments.com/Song-Maker/song/6688370860752896
Student B	https://musiclab.chromeexperiments.com/Song-Maker/song/6432056490328064
Student C	https://musiclab.chromeexperiments.com/Song-Maker/song/5306156583485440
Student D	https://musiclab.chromeexperiments.com/Song-Maker/song/5528616209743872

Figure 5

Emotional vector in "Let's Create Our Own Japanese Pop Music; Using Chrome Music Lab - Song Maker-" "Interesting" – "Uninteresting", "Difficult" – "Easy"

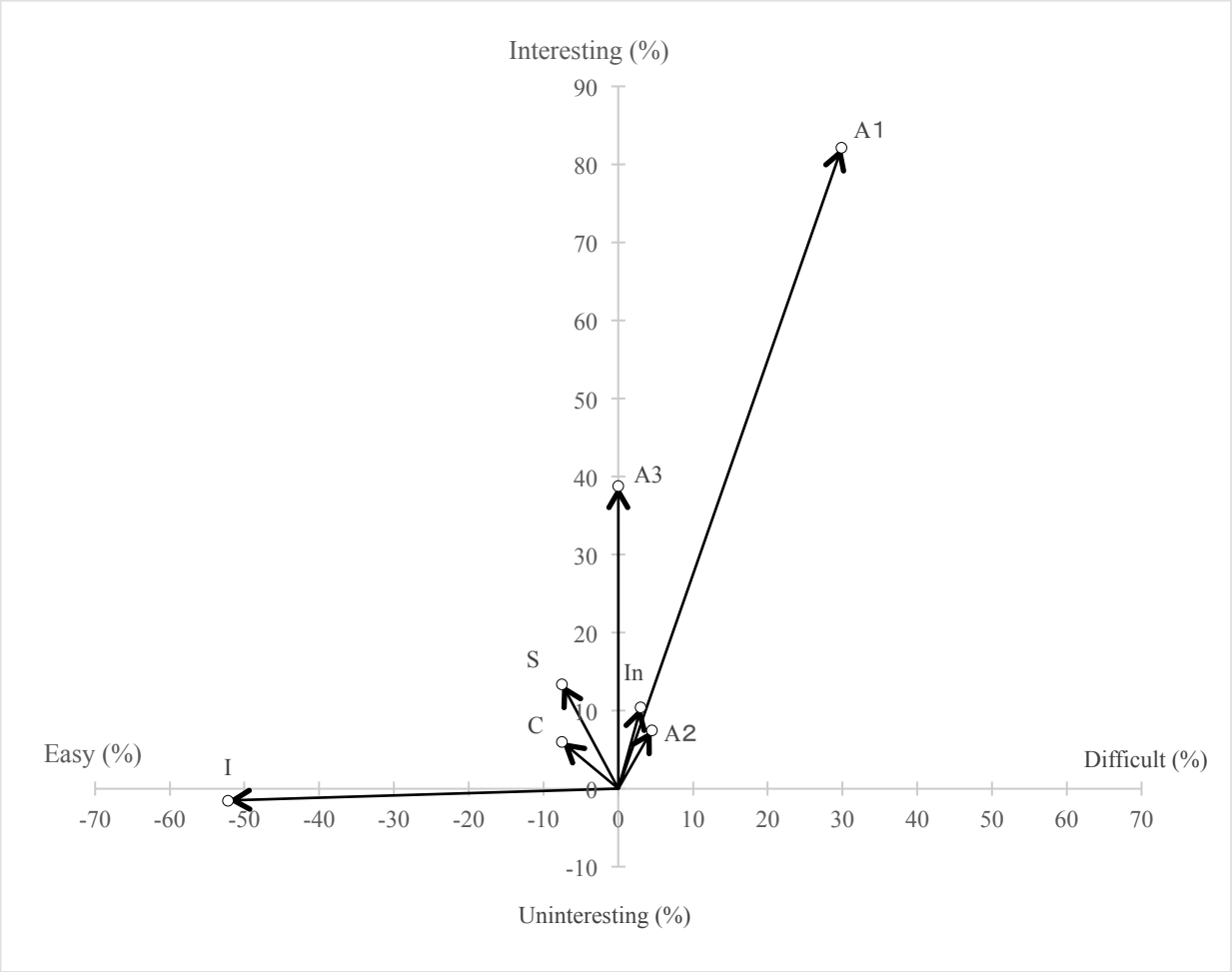
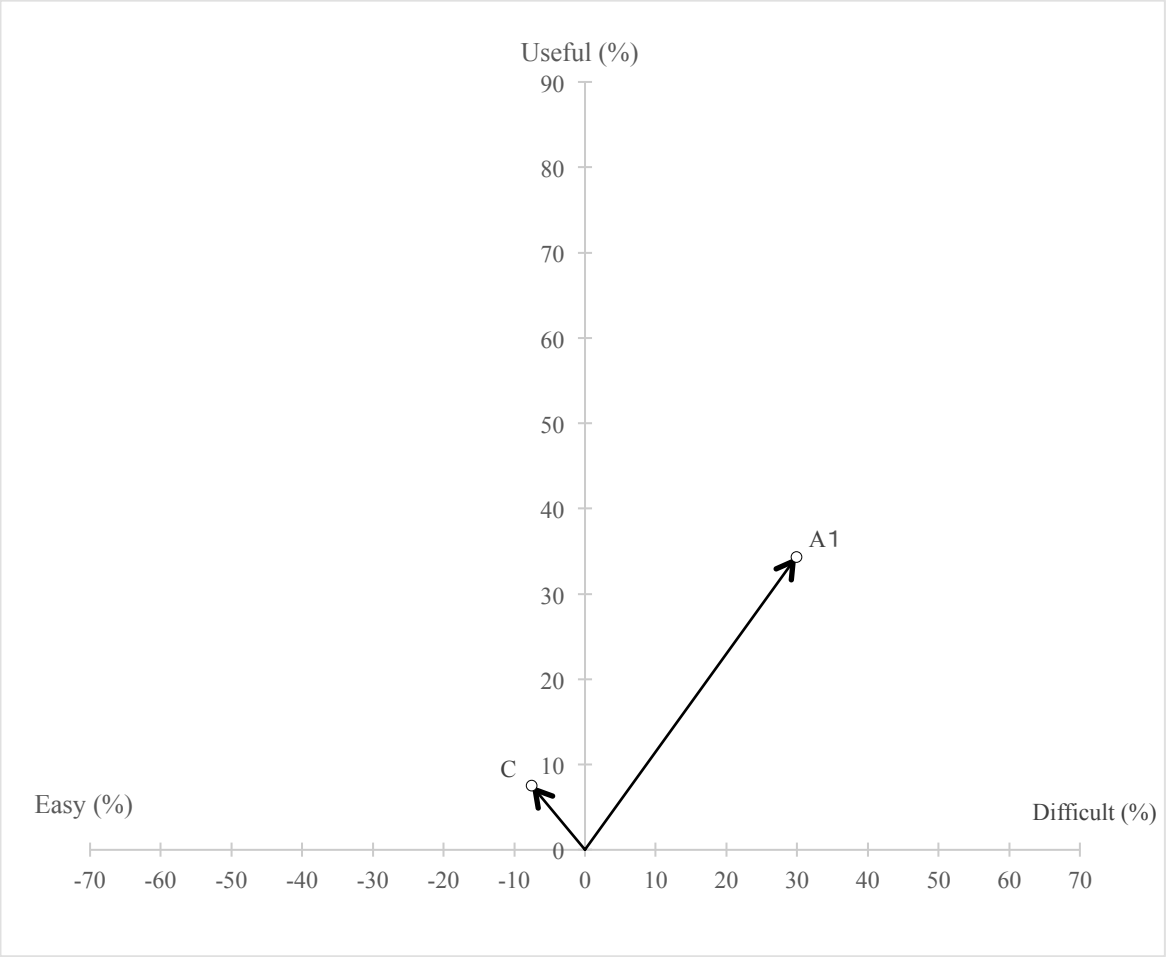


Figure 6

Emotional vector in "Let's Create Our Own Japanese Pop Music; Using Chrome Music Lab - Song Maker-" "Useful", "Difficult" – "Easy"



Conclusion

The workshop was characterized not only by the pentatonic scale but also by the musician's support. Thus, the following three points became clear:

1) Almost all the participants willingly joined the activity and created music;

2) Beginners, experienced participants, as well as musicians listened to each other and shared each other's individual sounds;

3) Taking what they had acquired in each of the activities, they developed their music at each stage;

The results of the emotional vectors revealed that the students found music-making "Interesting" and "Difficult". This shows that the students were making music with a sense of fulfilment. The students also found music-making "Useful," indicating a possibility for developing this experience in future activities.

In this study, the idea of "no one left behind" enabled children of all ages to create creative music using the pentatonic scale. Based on the results of this study, we will focus on the pentatonic scales of various cultures in future research. For the Workshop "Everyone Can Create Music!," we would like to actively target cases where students share pentatonic scales of various cultures and develop their music-making.

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Footnotes

[1] https://musiclab.chromeexperiments.com/

The front cover of vol.9, “Improvisation Is an Adventure”

The cover of this volume features sheet music with graphic notation titled **“Improvisation Is an Adventure”**. It was created by a 5th-year secondary school student, Aoi Koshino, for an arts festival held at her school in March 2022. Several pupils of the school came together to plan and work on a musical event at the festival. It was named “Everyone Can Create Music!”

Participants including primary school children improvised on this score. The main instrument was the chime bar, and two professional musicians, a violinist and contra-bassist supported them. Despite the dissonant sound created by the use of all twelve notes of the chime bar, it turned into graceful music because of its soft tones.

The link for the performance can be viewed on YouTube at https://youtu.be/fOitslh3_YI.

The student who was the leader of Music Workshop Group has provided comments for the event below.

Yukiko Tsubonou

Institute of Creativity in Music Education, Executive Director

About the Art Festival in the Attached Secondary School of the Faculty of Education, University of Tokyo

We, the Art Festival Executive Committee, held the "Art Festival" on March 20 and 21.
The "Art Festival" is the culmination of the activities of the Art Festival Committee. We invited who we consider to be "top-notch" lecturers (a broad lineup of artists, researchers, and artists) to our school to give lectures and workshops. We have been creating opportunities for middle and high school students, both inside and outside the school, to learn together with who we consider to be "top-notch" lecturers. We have held many lectures and workshops under the title "Art Crossroads Project" in collaboration with ACUT (Arts Center of the University of Tokyo). The slogan of the project is "Crossroads of art to rethink what is a top-rated professional. Based on what we want to explore, we do everything ourselves, from selecting lecturers, meeting with lecturers (setting themes and deciding on content), creating flyers, and managing the event. In the process, I have learned to think carefully about others. An art festival is something that is created with adults and university students from various fields. How much effort is being put in by people around us in places we cannot see? I learned to think about this as we worked hard in our daily meetings and preparations. I was in charge of planning Professor Tsubonou's workshop at the festival, but on the day of the festival, my family members were considered “close-contacts” of a Covid-19 spread, so I was unable to do the workshop with Professor Tsubonou. However, I am happy to say that the festival was a success.

Haruki Miyakawa
The leader of Music Workshop Group