

## Music Improvisation and Composition Activities Based on Musical and Visual Stimuli in a Primary General Music Classroom

Eirini Nikolaou\*

*Senior Teaching Fellow,  
Department of Primary Education  
University of Ioannina, Greece*

Sofia Agiopetritou

*Primary School Principal and Music Teacher,  
Ioannina, Greece  
\*Corresponding Author*

---

**Abstract:** The purpose of this study was to explore fourth grade primary students' (9-year-old) ( $N=19$ ) reflections regarding music improvisation activities based on musical and visual stimuli. The activities were designed with the aim of strengthening team collaboration and interaction, as well as students' familiarization with musical concepts (chord, rondo form). Data were collected over a 4-week period, utilizing participant observation, observational notes and questionnaires with open-ended and closed-ended questions. For the analysis of the qualitative data drawn from the open-ended questionnaires, the method of content analysis was adopted. During music improvisations on musical and visual stimuli, students working in groups used their voice, their body, rhythm percussion musical instruments, boom whackers and metallophones. Moreover, visual stimuli were used as a prompt for the creation of sound stories that students wrote down and performed in the classroom. In students' compositional products, based on rondo form, students used metallophones. General findings indicated that students expressed positive attitudes regarding their team collaboration and interaction as well as they were satisfied with their group performances during the presentation of their improvisational and compositional products to the whole class. All the activities were carried out in a positive classroom atmosphere where everyone had the opportunity to freely express their ideas, strengthen their self-confidence, express their admiration for what their classmates produced as well as familiarize themselves with musical concepts (chord, rondo form).

**Keywords:** chord, creativity, music composition, music improvisation, primary general music education, rondo form, team collaboration

---

### 1. Introduction

Music improvisation concerns both beginner performers, such as students, and professional musicians (Biasutti, 2015). In an educational context during music improvisation activities more emphasis is placed on the process, rather than on the final product that primarily concerns professional musicians (Kratz, 1991). In the activities of musical improvisation, the resulting product is the final, in contrast to the composition of music, where it is a process "of generating musical ideas, modifying musical ideas, and making choices among available musical options" (Kratz, 2001, p. 294).

The use of music improvisation and composition activities in education are mainly recognized because they "improve creativity and innovation" (Larsson & Georgii-Hemming, 2019, p. 49). Even within the limited amount of time that music lessons receive in school, music improvisation and composition activities are of particular value as "in an interconnected curriculum can enable teachers in providing a comprehensive standards-based music education for their students" (Guderian, 2012, p. 6).

Music improvisation can be a powerful teaching tool (Berk & Trieber, 2009), which contributes to musical learning, encouraging creativity (Nikolaou, 2023a), the creation of original musical ideas (Whitcomb, 2010), problem solving (Stamou et al., 2018), as well as learning through right and wrong (Gerber, 2007). Moreover, music improvisation strengthens social interaction (Coulson & Burke, 2013) and cultivates critical thinking (Biasutti, 2015).

Music teachers often do not incorporate music improvisation into their music classroom for a variety of reasons. The most common are related to their lack of familiarity with improvisational practices as music performers (Hickey et al., 2016; Ng, 2023; Riveire, 2006; Whitcomb, 2013), time deficit (Whitcomb, 2013) and the fear of the prevalence of chaos in the classroom (Koutsoupidou, 2005). Moreover, the implementation of

music composition activities is also limited since for the most part “children’s involvement in music activities in schools are of the receptive kind (learning music composed by others)” (Hogenes et al., 2016, p. 35).

According to Brophy (2001) the introduction of improvisation in music education can be developed in four stages “in the musical-generative-skill sequence: imitation, consequence, variation, and origination”. The first stage includes “imitation of spoken or sung phrases and rhythmic or melodic patterns”. In the second stage, the students “create consequent phrases to given antecedent phrases”. In the third stage, children can be asked “to create musical variations to a known melody or rhythm”, while at the last stage the students are able “to generate a new, never-before-heard melody or rhythm without prompting” (p. 35) (see Azzara, 1999 for practical techniques for incorporating improvisation in classroom). Improvisation in the context of education can be carried out with all means of musical expression, that is, the voice, musical instruments, body percussion or a combination of all the above (Brophy, 2001; Kratus, 1991). Improvisations with percussion unpitched instruments are often preferred by children because they are easier to manage, compared to melodic ones (Brophy, 2001) which require more skill.

Taking into consideration the afore-mentioned points, the present study aims to provide music teachers and general teachers with several ideas for incorporating music improvisation and composition activities into their classes. The activities can also be seen within an interdisciplinary setting where other school subjects, apart from Music, like Visual arts and Language are also involved.

## 2. Research purpose and questions

Our study focuses on exploring fourth grade primary students’ (9-year-old students) ( $N=19$ ) attitudes regarding music improvisation and composition activities in a primary general music education classroom. The activities were carried out with the aim of strengthening students’ team collaboration and interaction, as well as the teaching of musical concepts (chord, rondo form). More specifically, the following research questions are the focus of this study:

RQ1: What are the students’ attitudes regarding team collaboration and interaction on the implemented music improvisation and composition activities?

RQ2: What are their perceptions about classroom atmosphere and the way they feel during their participation in the activities?

RQ3: What are the students’ impressions about their group performance during the presentation of the activities in classroom?

RQ: To what extent did the implemented activities help the students understand musical concepts (chord, rondo form)?

## 3. Method

### 3.1 Participants

The participants ( $N=19$ ) were fourth grade students (9-year-old students, nine boys and ten girls) who studied at a primary general music classroom in Ioannina in Greece. Only one student had studied guitar at a conservatory, while the rest had only received musical education within the school context. The music class in the primary school took place twice a week. The research lasted four weeks with six didactic interventions of 45 minutes each. The students were familiar with music improvisation and composition activities, as well as, more generally, with creative musical activities since the music teacher has been teaching the students for the previous three years and carried out similar activities with them in the past years.

### 3.2 Design of the project

One academic researcher who teaches in a Department of Primary Education and specializes in Music Education collaborated with a primary school music teacher –who holds a bachelor’s degree from a Department of Music Studies and a postgraduate degree in Arts in Education. The activities were designed by the academic researcher in collaboration with the music teacher (Table 1).

**Table 1:** The musical improvisation and composition activities

Activity A	Music improvisation as response to a musical stimulus (a traditional well-known Greek song). Teaching what a chord is.
Activity B1	Music improvisation as response to visual stimuli (two pictures).
Activity B2	Writing a sound story based on the pictures.
Activity C1	Composition of short melodies using F pentatonic.
Activity C2	Setting lyrics, the students had written themselves, to the melodies and create a rondo. Teaching what a rondo form is.

The activities were carried out in groups, as group improvisations are important since they familiarize students with the chance to “participate in immediate creation and take risks within a group” (Burnard, 2002, p. 168). According to Beegle (2010), in group improvisations, we distinguish the following stages before the final product that include “role assignments, exploration, run-throughs, and discussion and negotiation” (p. 224), which were followed in this study.

In our study improvisation activities were carried out as response to musical and visual prompts. The musical stimuli included listening to a well-known traditional Greek song (Figure1). On the occasion of this activity, the students were taught the musical concept of the chord. The visual stimuli included two pictures (a picture with fireworks and a picture of a city at night) from the 3<sup>rd</sup> and 4<sup>th</sup> Visual Arts primary schoolbook. The use of various types of stimuli as a prompt for music improvisations in education is considered beneficial as it “expands the synesthetic creativity of the improvisers: music is interpreted through inputs from different sensorial modalities” (Biasutti, 2015, p. 8). Moreover, the use of an image as a prompt for music improvisation has some advantages over a verbal or musical prompt, as the image does not impose restrictions and the participants can use their imagination regarding the means of expression and the way they will utilize them to represent it musically (Beegle, 2010). Furthermore, the pictures were used as a prompt for the creation of sound stories that students wrote down and performed in the classroom.

In the present study the students used their voice, their body, rhythm percussion instruments and from the melodic percussion instruments, the boomwhackers and the metallophone, working in groups. The music composition activities were organized with the rondo form. The goal was not to restrict the students’ creative output but rather to define a framework within which they organize their ideas and familiarize themselves with the rondo form. For the same reason, the use of the F pentatonic (F-G-A-C-D-F) was chosen, as it facilitates the students who have to choose between specific notes to create their melodic phrases.

### 3.3 Detailed presentation of the activities

#### 3.3.1 Activity A: Music improvisation as response to a traditional well-known Greek song. Teaching what a chord is.

The students in the first phase of the activity A listened to and sang a traditional song<sup>1</sup>(Figure 1) which has the binary form (AB).

The figure shows a musical score for a traditional Greek song. It is written in 2/4 time and consists of two parts, A and B. Part A is the first two measures, with lyrics "Kato sto gia lo ka to sto pe ri gia li, kato sto gia lo ka to sto pe ri gia li,". Part B starts at measure 9 and consists of four measures, with lyrics "Kato--sto gia lokon ti ne ran-tzu la funto ti, kato-- sto gia lonkonti ne ran-tzu la funtoti". Chord symbols are provided above and below the notes: Part A has chords A and C; Part B has chords G7, C, G7, C, G7, C, G7, C.

Figure 1: *Kato sto gialo* [To the seashore]. Traditional Greek song.

As the aim of the activity was also to teach the musical concept of chord, the teacher encouraged the students to play on the metallophone harmonic intervals of second (major or minor, e.g., C and D or E and F, or F and Gb, etc., simultaneously), and then harmonic intervals of third (major or minor, e.g., C and E or G and Bb or F and A, etc.). Next, the music teacher asked the students in which of the two cases, in their opinion, the intervals sounded more pleasant/consonant. Afterwards, the students represented the C major chord by playing its different notes on the metallophone (i.e., some members of the group played the note C, others the note E, others the G, simultaneously). The same procedure was carried out with the G major chord. These two chords were chosen on purpose as they would be used in the improvisation activity that followed. The music teacher did not go into details regarding the type of triad chords (major, minor, etc.), as the goal was for the students to understand the concept of a chord as a set of notes that are sounded simultaneously and have a pleasant and consonant sound.

The first main activity, music improvisation on a song, followed. The music teacher encouraged the students to improvise first with the boomwhackers and then with the metallophones; in part A of the song with the notes C-E-G and in part B only with the G note, as part B has the chords of C and G7 major as a harmonic accompaniment and their common note is G.

<sup>1</sup>In the study, lyrics are either transliterated or translated in English.

### 3.3.2 Activities B1: Music improvisations as responses to pictures

The students were asked to observe two pictures (Figure 2).



**Figure 2:** Pictures from 3<sup>rd</sup> and 4<sup>th</sup> Visual Arts Primary school book

[http://ebooks.edu.gr/ebooks/v/html/8547/2262/Eikastika\\_G-D-Dimotikou\\_html-empl/indexA1\\_2.html](http://ebooks.edu.gr/ebooks/v/html/8547/2262/Eikastika_G-D-Dimotikou_html-empl/indexA1_2.html)

A discussion followed about what the students saw in them, which led to the discovery of its three dominant elements: a) the fireworks, b) the car lights, and c) the four different buildings (Table 2). Afterwards, the teacher divided the students into three groups where each one was asked to represent these three elements with sound, using the available instruments in the class and with body percussion. Some of the students' answers were recorded by the teacher and are listed below (Table 2):

**Table 2:** Representation of pictures' elements with sound (Activity B1)

Group	Representation of pictures' elements with sound (Activity B1)	
	Visual stimulus	Rhythmpercussion instruments and body percussion
1	fireworks	cymbals and clapping hands
	car lights	wooden frog rasp and stomping
	4 different buildings	tambourine (twice) and patchen (twice)
2	fireworks	cymbals and stomping
	car lights	tambourine and snapping fingers
	4 different buildings	rain stick (twice) and clapping hands (twice)
3	fireworks	cymbals and stomping
	car lights	wooden frog rasp and clapping
	4 different buildings	rain stick, clapping hands (twice) and snapping fingers

### 3.3.3 Activity B2: Writing a sound story based on the pictures

Using the pictures (Figure 2) as a stimulus, each group wrote a short story, in which students incorporated the sounds from the activity B1 (Table 2) turning the story into a sound story (Table3). Next, the students presented their group sound stories to the class, where one student was the narrator and the other group members performed the sounds.

**Table 3.** Group's sound stories based on the pictures

<b>group 1</b>	The change of year starts in half an hour. The cars are driving fast and their lights are visible ( <i>wooden frog rasp and stomping</i> ). Between the four buildings ( <i>tambourine and patchen</i> ) people throw fireworks ( <i>cymbals and clapping hands</i> ) so that other people can see that the change of the year will happen in ten seconds.
<b>group 2</b>	When the millennium turned there was a celebration. The celebration started with fireworks ( <i>cymbals and stomping</i> ) and for that reason some people were driving in their cars like crazy ( <i>tambourine and snapping fingers</i> ). Among these people, there was the mayor who was late.





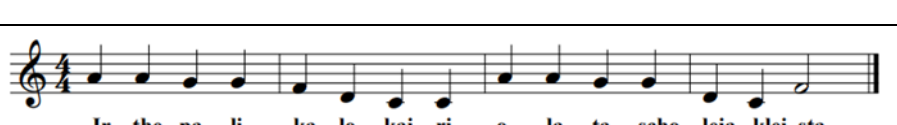
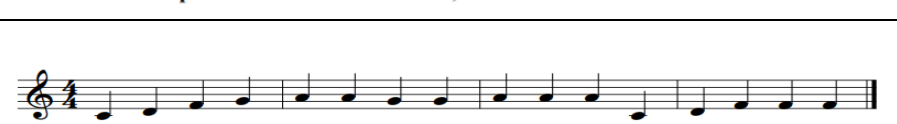
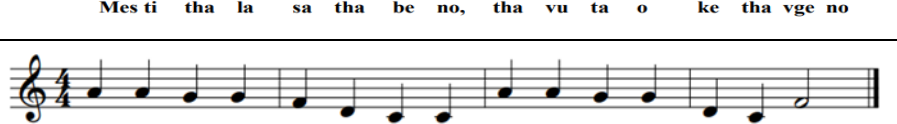
<b>group 4/ melody D</b>	
------------------------------	--

Next, in activity C2, the four groups, working together, were asked to create a rondo (ABACADA), using the above melodies, and present it to the class. Then each group was asked to set lyrics to the four melodies. The students agreed that the melody of the first group would be part A of rondo and respectively, melody B for part B, melody C for part C and melody D for part D of rondo. The groups agreed that they should choose a common topic for their lyrics, and one student's suggestion that the topic would be "the summer" found the whole class in agreement (Table 5). After each group wrote lyrics to their respective melodies (Table 5), each group rehearsed separately and then they performed their songs in the rondo form to the class (Table 6).

**Table 5:** Lyrics invented by the students to their own melodies

<b>group A</b>	Irthe pali kalokeri, ola ta scholia klista.	Summer has come again, all schools are closed.
<b>group B</b>	Pai i vrochi to chioni, ti orea ti kala.	The rain and snow are gone, how nice and good.
<b>group C</b>	Mes sti thalasa tha beno, tha vutao ke tha vgeno.	Through the sea I will enter, I will dive and I will come out.
<b>group D</b>	Troo pagota, pezo me chara, thathela olo ton chrono ta scholia klista.	I eat ice cream, I play with joy, I would like schools to be closed all the time.

**Table 6:** "The summer": Students' rondo

A	
B	
A	
C	
A	

<b>D</b>	
<b>A</b>	

#### 4. Data Collection and Analysis

The data were collected through:

- a) Participant observation, as the primary music teacher had also the role of a researcher. Participant observation aimed to capture as many elements as possible during each didactic intervention. Moreover, unstructured observation was chosen as the goal was the music-teacher entering “‘the field’ with no predetermined notions as to the discrete behaviours that they might observe” (Mulhall, 2003, p. 307).
- b) Observational notes were recorded by the music teacher for all the implemented activities. The field notes related to the content of the activities, the observations and difficulties during the implementation of the activities, the functioning of the groups in terms of cooperation and interaction, the classroom atmosphere, the students’ comments in general along with those regarding the musical concepts (chord, rondo forms), as well as anything else the music teacher found interesting to record.
- c) Four questionnaires (see the Appendix) with open-ended and closed-ended questions which were administered to the students after the implementation of each activity to record their reflections on the implemented activities.

After the implementation of each activity, a discussion was held between the music teacher and the academic researcher, who was not present during the activities but was informed by the music teacher. They discussed the music teacher’s field notes and her reflections. The academic researcher has also the role of a “critical friend”. “Critical friendship is a versatile form of external support for school colleagues carrying out leadership functions and has been shown to make valuable contributions to learning and school improvement in a range of contexts” (Swaffield, 2004, p. 268).

For the analysis of the qualitative data drawn from the open-ended questionnaires, the method of content analysis was adopted, which is considered an appropriate method “to document the attitudes, views and interests of individuals, small groups, or large and diverse cultural groups” (Drisko & Maschi, 2016, p. 2). The key themes that emerged contributed to the highlighting of the relationships among them and provided the possibility for their comparison with the field notes. To check the validity of the content analysis we incorporate another academic member to study the students’ responses and cross-examine them with the observational notes.

#### 5. Findings

Several findings that were relevant to the purpose and the research questions of this study emerged after the analysis and interpretation of the data sources based on the music teacher’s field notes and children’s answers to the questionnaires and are presented in the following themes: (a) students’ attitudes regarding team collaboration and interaction on the implemented music improvisation and composition activities, (b) students’ perceptions about classroom atmosphere and the way they felt during their participation in the activities, (c) students’ impressions about their group performance during the presentation of the activities in classroom, (d) students’ understanding about what a chord is, (e) students’ understanding about what rondo form is.

##### 5.1 Students’ attitudes regarding team collaboration and interaction on the implemented music improvisation and composition activities

The students showed a positive attitude regarding their collaboration and interaction with their team members and with the whole class during the implementation of the activities. Students had the opportunity to



collaborate in an effective and enjoyable way with their group members, to share roles and create with their classmates something beautiful, which they would like to do again in the future. In Activity A, where the students improvised with specific notes on a well-known song, it seemed that they liked not only the team interaction and the result that came from the different versions of music improvisations played by each one separately, but also the overall result played by the whole class. They even asked to repeat the activity and add the rain stick as an accompanying instrument as they thought it matched the song and its lyrics. In Activity B1 (music improvisation on pictures), where the students had to work together to perform the elements of the pictures musically and then assign roles to present the activity to the whole class, the students seemed to participate equally. In Activity B2 (writing of the sound story based on the pictures), some students, who were more fluent in the written language, contributed to the creation of the story to a greater extent. In Activities C1 (composition of melodies in F pentatonic) and C2 (setting lyrics to the melodies to create a rondo), the collaboration of the participants was equally good. The students listened to each other's ideas trying to reach a good group result so that they could successfully move to the next stage, which was its presentation to the whole class.

The students' positive attitudes regarding team collaboration and interaction are confirmed by their answers in the closed-ended questions 1 of questionnaires 2, 3, 4 (Table 7) and the students' comments in the open-ended questions pertaining to their reflections on each implemented activity.

**Table 7:** Students' responses on team collaboration and interaction

<b>How well do you think you cooperated with your team during:</b>	<b>Question 1 of questionnaires 2, 3, 4</b>	
The music improvisation on pictures (activity B1).	38,9%	Extremely
	38,9%	A lot
	11.1 %	Moderately
	11.1%	A little
	0%	Not at all
The writing of the sound story based on pictures (activity B2).	44.4%	Extremely
	33,3%	A lot
	22.2 %	Moderately
	0%	A little
	0%	Not at all
The composition of the melodies (activity C1).	62.5%	Extremely
	18.8%	A lot
	18.7 %	Moderately
	0%	A little
	0%	Not at all
Setting lyrics to the melodies to create a rondo (activity C2).	50%	Extremely
	37.5%	A lot
	6.3 %	Moderately
	6.2 %	A little
	0%	Not at all

The above percentages show that the students' perceptions about their collaboration with their team members in the activities were extremely good (77.8%, 77.7%, 81.3%, 87.5%). The questionnaire does not include the first activity, where group improvisation on a song was carried out, as it did not require the cooperation of the group for its implementation. However, as the first activity was carried out in groups, there was team interaction, for which students' perceptions are recorded, taking into account their comments (open-ended question 4, questionnaire 1) and are presented in the following:



**Activity A**

*"It felt really good, because we all worked together. I think I played my role very well, as the note G, and I think everyone played their instruments very well."*

*"I liked improvising on a song because we were all playing together, and I enjoyed the melodic improvisation."*

*"I really liked the song and the interaction of the whole team."*

**Activity B1**

*"This activity was really nice, and we worked very well together."*

*"I really enjoyed working with my classmates and I would like to do many more activities like this."*

*"I liked it when my team and I did things."*

*"I enjoyed working very well with my team and it was really fun."*

**Activity B2**

*"I think we worked well as a team and shared roles with everyone."*

*"I really enjoyed our collaboration and remembered the holidays."*

*"In my group we cooperated very well, and the activity seemed very nice to me."*

*"I really enjoyed participating in this activity because I collaborated with my classmates and together we created something beautiful."*

**Activity C**

*"I really enjoyed it because I worked with my team and had a great time."*

*"The activity seemed very easy to me, and we worked very well together."*

*"I felt joy. We worked well with the group, played with the metallophone and made-up lyrics."*

*"The activity was extremely good. I had a good cooperation with my classmates and had a great time."*

**5.2 Students' perceptions about classroom atmosphere and the way they felt during their participation in the activities**

The activities were carried out in a pleasant classroom atmosphere where the students showed enthusiasm and joy during their participation, without being stressed, except for a few cases, even asking the teacher for help without hesitation. The students' comments also confirm the positive classroom atmosphere as they stated that during their participation in the activities they felt joy, happiness, excitement, pleasure, they had a good time, they participated in something fun, they felt free due to the opportunities given by the activities to express their thoughts without strict rules, increased their self-confidence, admired and rewarded the efforts of their classmates, by asking the teacher to repeat similar activities. Indicatives are students' comments from each activity:

**Activity A**

*"When I did this activity I felt happy, I really liked it, I was excited, and it was very beautiful, and I liked the instrument I had."*

*"My thoughts were really good because we did something really fun. I had the G note, it was played too many times and I had no complaints."*

*"I liked the activity very much; I was interested in what I was doing and happy because I liked it a lot. I would like to do it again and have different instruments each time."*

*"I liked it very much. Especially when we started singing the song I was very happy and I would like to do it again."*

*"The lesson was very nice because the children in the class were very good at music and every time the lesson was perfect."*

*"I was excited to play the metallophone and I liked even more that I was doing great."*

*"I found it difficult at first but then I started to get better."*

*"As an activity I really liked it and I want to do it again with the boom whackers and then again with the metallophones."*

**Activity B1**

*"It was a very nice activity; I had a lot of fun and I want to do more activities like this again. Yes, I am very pleased."*

*"The activity we did was very nice. I think my classmates and I got along very well."*

*"All the teams were excellent and mine was very good. I really liked it."*

*"I liked the activity because you don't follow strict rules."*

**Activity B2**

*"I liked the activity because you do whatever you want without a particular program and you create."*

*"I found the activity very easy because it was stress-free."*

**Activities C1, C2**

*"I thought the activity was perfect. I'd love to do it again."*

*"I liked it. I admired the others and would like to do something like this or something similar again."*

*"I am happy with my participation and I want to do a similar activity again."*

The fact that the activities in the class were carried out in a positive atmosphere, where most of the students were not stressed is also confirmed by their answers as the vast majority in all activities stated that they felt stress "A little" and "Not at all" (83.3%, 88,9%, 88,9%, 81.3%) (Table8).

**Table 8:** Students' responses on feeling stressed during the presentation of the activities to the whole class

Did you feel stressed during the presentation to the class of:	Question 2 of questionnaires 1-4	
Music improvisation based on a song (activity A).	0%	Extremely
	5.6%	A lot
	11.1%	Moderately
	38.9%	A little
	44,4%	Not at all
Music improvisation based on pictures (activity B).	0%	Extremely
	5.5%	A lot
	5.6%	Moderately
	33.3%	A little
	55,6%	Not at all
Sound story written on pictures (activity B2).	0%	Extremely
	0%	A lot
	11.1 %	Moderately
	11.1 %	A little
	77,8%	Not at all
The rondo form created from your own melodies and lyrics. (activities C1, C2).	12.4 %	Extremely
	0%	A lot
	6.3%	Moderately
	43.8%	A little
	37.5%	Not at all

However, the music teacher observed that some students were stressed during the activities when, for example, it was their turn to play or because sometimes they didn't know what was going to happen next. Music teacher's observations is confirmed by five students' since they stated that sometimes during group improvisations they felt a little anxiety along with joy and excitement because they wanted the teacher to be impressed by what they were going to play or because they didn't feel very coordinated with the group and this made them stressed. The following statements are indicative:

**Activity A**

*"I liked it a lot but when we did it I got a little nervous."*

*"My thoughts at the time were that I was not going to do well, as to whether I'd play the C note on the boom whackers or forget and hit another note."*

*"I felt both joy and anxiety when the time came to play."  
 "When we started, I felt nervous but then I really liked it."  
 "I was feeling a little anxious because I wanted to do well, because I like this course, but I didn't know what was going to happen next."*

**Activity B1**

*"I found it easy even though I was nervous. I would like to do more such activities."  
 "In the activities, all groups coordinated with joy and a little anxiety."*

**Activity B2**

*"My thoughts were to get along and if it will look good to the music teacher."*

**Activities C1, C2**

*"I liked it very much. Even though I was a little nervous I would do it again."*

Moreover, a negative comment was made by Participant 5 about the recording stage. She considered her classmate responsible for being teased during the recording of Activity A. As she reported:

*"We started recording but S. spoiled my mood because I didn't play the end faster and he said: "P. was heard" and then everyone made fun of me."*

**5.3 Students' impressions about their group performance during the presentation of the activities in classroom**

According to the music teacher's field notes, the group performance of the students depended on the type of activity. Activity A (music improvisation on a song), as already mentioned, did not require team collaboration, but only comprised of team interaction. In activity B1 (music improvisation on pictures), the performance of the several groups differed in terms of the extent to which they managed to provide a flow from one musical idea to the next during the presentation of the visual elements of the pictures with musical improvisation. In activity B2 (writing of a sound story based on pictures), the participants responded equally well and seemed satisfied with their group performance. Although some students contributed more to writing the story and turning it into a sound story, during the presentation of the sound story to the whole class, the roles were equally distributed, with some students taking on the role of narrators and others performing the sounds. Finally, for the performance of the activities C1 (the composition of the melodies in F pentatonic) and C2 (setting lyrics to the melodies to create a rondo), which were also the most demanding activities for their presentation in classroom, several rehearsals were needed from each team separately so that a good result occurred. However, students showed great enthusiasm and willingness to repeat the activities as many times as needed.

Students' positive impressions about their group performance are also confirmed by their answers to the closed-ended questions regarding the extent to which they felt satisfied with their group performance in each implemented activity (Table 9).

Table 9: Students' impressions of their group performance

How satisfied are you with your group performance to the whole class during the:	Question 3 of questionnaire 2-4	
Representation of the three elements of the pictures with sound/music (activity B1).	61.1%	Extremely
	33.3%	A lot
	5.6%	Moderately
	0%	A little
	0%	Not at all
Presentation of the sound story (activity B2).	55.6 %	Extremely
	22.2%	A lot
	22.2%	Moderately
	0%	A little
	0%	Not at all
Presentation of the rondo created from your		

own melodies and lyrics (activities C1, C2).	56.3%	Extremely
	25%	A lot
	18.7%	Moderately
	0%	A little
	0%	Not at all

The above percentages show that the students' impressions regarding their satisfaction for their group performance to the whole class were extremely good in all the activities (94.4%, 77.8%, 81.3%). Their satisfaction is also confirmed by their answers to the open-ended questions regarding their reflections. In their comments, they expressed their satisfaction for their group performance, a fact that made them particularly happy, stating in the majority that they would like to do similar activities again. The following student responses are indicative:

**Activity A**

“At first, I felt that I wasn't synchronised but then we coordinated with my team. I would like to do it every day.”

**Activity B1**

“I really liked it because it reminded me of the Easter and summer holidays and because we coordinated very well with my classmates.”

“I liked it. I think we are in coordination and I want to do more activities like this because I like them a lot.”

**Activity B2**

*“I really enjoyed it, the presentation and coordination with the team went very well and I hope we will do more such activities again.”*

**Activities C1, C2**

*“I felt happy because I liked the activity and I also liked the coordination with my team and I would like to do it again.”*

However, there were also less positive impressions about students' group performance as two of the participants commented regarding the activity B2:

**Activity B2**

*“Although I think we didn't sync that well, it went well.”*

*“My thoughts are beautiful, but I didn't coordinate well with my team.”*

**5.4 Students' understanding about what a chord is**

The preliminary activity where students encouraged to play on the metallophone harmonic intervals of second and third and then discussed the quality of their sound (i.e., in which case the intervals sounded more pleasant/consonant) helped them to understand what a chord is. Then, in the first main activity that followed, where the participants had to improvise with the notes of the C major chord, they seemed to have understood the reason they can use 3 different notes, i.e., the notes of a chord. As Participant 10 characteristically mentioned *“we are all playing on the same chord and that is why there is no dissonance.”*

The understanding of the musical concept of chords is also confirmed by students' responses to question 1 of questionnaire (Table 10). Students stated that they understood what a chord is, since the vast majority (88.9%) stated “A great deal” and “A lot”, while only 5.6% of the students stated that they understood the chord “A moderate amount” and the same percentage (5.6%) “A little”.

**Table 10:** Students' responses on chord understanding

<b>In your opinion, to what extent did you understand what a chord is? (question 1 of questionnaire 1)</b>	50%	A great deal
	38.9%	A lot
	5.6%	A moderate amount
	5.6%	A little
	0%	Not at all

The understanding of the musical concept of chord is also confirmed by students' answers to the open-ended question 2 of questionnaire 1 (See Appendix). In their definitions, a common point is that the chord presupposes the simultaneous sound of at least three pitches. However, in these responses we should note that only one student commented that the simultaneous sound of the notes should also be pleasant/consonant, and one more student mentioned the fact that the intervals of the notes that comprise a chord should be in thirds. Indicatively, we cite the students' definitions:

- "A chord is a set of at least three pitches that sound simultaneously."*
- "The chord is used to describe the set of three at least notes that sound at the same time".*
- "Chord is a term used in music to describe the set of at least 3 notes that sound together and sound good."*
- "A chord is a sound made when several notes are played together. A chord may have 3 or more notes in thirds."*

Finally, there was a student who, while he described his participation in the activity positively, stated that he did not understand what a chord is:

*"I personally enjoyed the activity very much and I was not stressed at all because I understood very well what I had to do. But I couldn't really understand what the chord is."*

### 5.5 Students' understanding about what a rondo form is

The students understood the concept of rondo form from the initial examples given to them and, mainly, through the experiential nature of activity C2, where children set lyrics to their group melodies in order to create a rondo. After some discussion, the students agreed that the melody of the first group would be part A of rondo, since, as they mentioned, "It's nicer" or "Sounds better as basic than the others" or "Makes more sense" and respectively, melody B for part B, melody C for part C and melody D for part D of rondo.

Moreover, according to students' answers to the question 4 of questionnaire 4 (Table 11), it appeared that most of them understood what a rondo is, as 93.8% stated "A great deal" and "A lot", while only 6.2% of students stated that they understood the rondo form "A moderate amount".

**Table 11.** Students' responses on understanding of the rondo form

<b>In your opinion, to what extent did you understand the rondo form? (question 4 of questionnaire 4)</b>		
	62.5%	A great deal
	31.3%	A lot
	6.2%	A moderate amount
	0%	A little
	0%	Not at all

The understanding of the rondo form is also confirmed by students' answers to question 5 of questionnaire 4. Their responses indicated that they recalled the example they created in class which had the structure ABACADA. Indicatively, we cite the students' definitions:

- "Rondo is a song in which the refrain is repeated several times."*
- "Rondo is a musical form that has the structure A-B-A-C-A-D-A."*
- "It is an orchestral form in which the refrain is repeated continuously."*
- "A piece of music is in rondo form when there are three or more different parts A, B, C, D, etc. and the first part (A) is repeated consistently after each different part. It can be rendered as: ABACADA."*
- "Rondo is a musical form with the structure ABACADA, etc. In this form it seems to us that the music goes in circles and comes back to our ears."*

## 6. Limitations

The sample of participants was not large, which limits the generalizability of the results. However, all students, except for one who took guitar lessons at a conservatory, had previous musical experience only at school, which gives our sample homogeneity and allows us to draw safe conclusions.

### 7. Discussion—Concluding Remarks

The value and usefulness of creative activities in education is important as music teachers could achieve both objectives related to the curriculum, and the development of students' collaborative skills, as well as the “development of creative thinking in music” (Guderian, 2012, p. 6). Moreover, the absence of standard notation encourages exploration and music creation, offering satisfaction as well as freedom of expression (Riveire, 2006). However, in order to implement such creative activities, it is necessary for teachers to create a safe environment where students can express themselves freely.

Moreover, apart from the music teachers, in an interdisciplinary setting, primary general teachers can also integrate improvisation and composition activities into their classroom to teach other school disciplines. For example, the presentation of the elements of a picture with sound and words through the creation of a sound story or through music composition activities where students write their own lyrics and set music to them to create chants or songs, they can develop their language skills in a more creative and alternative way (see Nikolaou et al., 2024; Nikolaou & Galani, 2024, for similar activities).

Furthermore, music improvisation and composition activities which are implemented through collaborative techniques can further cultivate students' social-emotional skills. Through creation and co-creation with their peers, through being exposed to an audience –when they present their work to the class and interact “with their peers and the teacher” (Nikolaou, 2023b, p. 404) – students do not only learn to accept criticism and to share but they also boost their self-confidence (Varner, 2020) and self-awareness (Edgar & Morrison, 2021). Teachers, who should also demonstrate a positive attitude towards activities with a social-emotional content (Campayo-Muñoz & Cabedo-Mas, 2017), are advised to set – from the very beginning– the objectives they want to achieve in terms of the aforementioned skills. This can be done once the needs of their students are identified and the appropriate activities are selected.

This study focuses on exploring ( $N=19$ ) fourth grade primary students' perceptions regarding group music improvisation activities on musical and visual stimuli and composition activities, which were carried out with the aim of stimulating students' team collaboration and interaction, as well as teaching and familiarizing them with the musical concepts (chord, rondo form), in the context of a primary general music education classroom. The findings of the present study indicate that students expressed positive attitudes regarding team collaboration and interaction as they were given the opportunity to collaborate effectively and pleasantly with their team members. All the activities were carried out in a positive classroom where students had the opportunity to co-create something beautiful with their classmates, to express their admiration for what their peers produced, stating they would like to do similar activities in the future. They enjoyed improvising based on a song with the boom whackers and the metallophone, on pictures representing their elements musically, writing sound stories and finally composing their own melodies and lyrics in a rondo form. It was also important for them, apart from the joy and excitement they felt during the implemented activities that they had the opportunity to freely express their ideas, a freedom that, as they stated, was given to them by the absence of strict rules. Moreover, students stated satisfaction for their group performance during the presentation of their music improvisations and compositional products to the class, with some exceptions. However, we should notice that the students, although they felt happy participating in the activities, sometimes felt stressed when it was their turn to play, or when they did not know what was going to happen next, or when they did not feel very coordinated with the group, or when they worried about whether the music teacher will like their group's result. Regarding the understanding of the musical concepts (chord, rondo form) the majority understood them.

The results of the present study should be viewed in the context of encouraging music teachers and general teachers to use creative music activities, such as music improvisation and composition, in primary classroom on a regular basis aiming at stimulating students' creativity, team interaction and, additionally, offering students opportunities to be acquainted with musical concepts in a more creative and experiential way. These kinds of activities, which are based on collaborative techniques, can strengthen the feeling of being part of a group, improve the relationships between the classmates by involving them, at the same time, in activities that have a playful character, which the children enjoy.

### References

- [1]. Azzara, C. D. (1999). An Aural Approach to Improvisation: Music educators can teach improvisation even if they have not had extensive exposure to it themselves. Here are some basic strategies. *Music Educators Journal*, 86(3), 21-25. <https://doi.org/10.2307/3399555>
- [2]. Beegle, A. C. (2010). A Classroom-Based Study of Small-Group Planned Improvisation With Fifth-Grade Children. *Journal of Research in Music Education*, 58(3), 219–239. <https://doi.org/10.1177/0022429410379916>
- [3]. Berk, R. A., & Trieber, R. H. (2009). Whose classroom is it, anyway? Improvisation as a teaching tool. *Journal on Excellence in College Teaching*, 20(3), 29-60. <https://eric.ed.gov/?id=EJ883731>

- 
- [4]. Biasutti, M. (2015). Pedagogical applications of cognitive research on musical improvisation. *Frontiers in Psychology*, 6(614). <https://doi.org/10.3389/fpsyg.2015.00614>
- [5]. Brophy, T. S. (2001). Developing Improvisation in General Music Classes. *Music Educators Journal*, 88(1), 34-53. <https://www.deepdyve.com/lp/sage/developing-improvisation-in-general-music-classes-UH8K0kq0jD?key=sage>
- [6]. Burnard, P. (2002). Investigating children's meaning-making and the emergence of musical interaction in group improvisation. *British Journal of Music Education*, 19(2), 157–172. <https://doi.org/10.1017/S0265051702000244>
- [7]. Campayo-Muñoz, E. Á., & Cabedo-Mas, A. (2017). The role of emotional skills in music education. *British Journal of Music Education*, 34(3), 243-258. <https://doi.org/10.1017/S0265051717000067>
- [8]. Coulson, A.N., & Burke, B.M. (2013). Creativity in the Elementary Music Classroom: A study of students' perceptions. *International Journal of Music Education*, 31(4), 428–441. <https://doi.org/10.1177/0255761413495760>
- [9]. Gerber, E. (2007). Improvisation principles and techniques for design. *Conference on Human Factors in Computing Systems – Proceedings* (pp. 1069-1072). <https://doi.org/10.1145/1240624.1240786>
- [10]. Guderian, L. V. (2012). Music Improvisation and Composition in the General Music Curriculum. *General Music Today*, 25(3), 6-14. <https://doi.org/10.1177/1048371311415404>
- [11]. Edgar, S. N., & Morrison, B. (2021). A vision for social emotional learning and arts education policy. *Arts Education Policy Review*, 122(3), 145-150. <https://doi.org/10.1080/10632913.2020.1774830>
- [12]. Drisko, J. W., & Maschi, T. (2016). Content analysis. *Pocket Guide to Social Work Re*. Oxford University Press.
- [13]. Hickey, M., Ankney, K., Healy, D., & Gallo, D. (2016). The effects of group free improvisation instruction on improvisation achievement and improvisation confidence. *Music Education Research*, 18(2), 127-141, <https://doi.org/10.1080/14613808.2015.1016493>
- [14]. Hogenes, M., van Oers, B., Diekstra, R. F. W., & Sklad, M. (2016). The effects of music composition as a classroom activity on engagement in music education and academic and music achievement: A quasi-experimental study. *International Journal of Music Education*, 34(1), 32-48. <https://doi.org/10.1177/0255761415584296>
- [15]. Koutsoupidou, T. (2005). Improvisation in the English primary music classroom: teachers' perceptions and practices. *Music Education Research*, 7(3), 363-381. <https://doi.org/10.1080/14613800500324432>
- [16]. Kratus, J. (1991). Growing with improvisation. *Music Educators Journal*, 78(4), 36-40. <https://doi.org/10.2307/3398335>
- [17]. Kratus, J. (2001). Effect of Available Tonality and Pitch Options on Children's Compositional Processes and Products. *Journal of Research in Music Education*, 49(4), 294-306. <https://doi.org/10.2307/3345613>
- [18]. Larsson, C., & Georgii-Hemming, E. (2019). Improvisation in general music education – a literature review. *British Journal of Music Education*, 36(1), 49-67. DOI: 10.1017/S026505171800013X
- [19]. Mulhall, A. (2003). In the field: notes on observation in qualitative research. *Journal of Advanced Nursing*, 41(3), 306-313. <https://doi.org/10.1046/j.1365-2648.2003.02514.x>
- [20]. Ng, H. H. (2023). Facilitating Collective Free Improvisation Learning in Teacher Education. *Journal of Music Teacher Education*, 33(1), 15-30. <https://doi.org/10.1177/10570837231168410>
- [21]. Nikolaou, E. (2023a). Encouraging creativity through music improvisation activities: Pre-service primary general teacher-students' reflections and beliefs. *International Journal of Music Education*, 0(0). <https://doi.org/10.1177/02557614231178925>
- [22]. Nikolaou, E. (2023b). Issues concerning the integration of arts in education. In S. G. Soulis, M. Liakopoulou, & A. Galani (Eds.), *Challenges and Concerns in 21st Century Education* (pp. 398–407). Cambridge Scholars Publishing. <https://www.cambridgescholars.com/product/978-1-5275-1984-8/>
- [23]. Nikolaou, E., Galani, A., & Theodorakopoulos, D. (2024). The poetic form of haiku as a guide to poetry and music composition: Primary school students' views and attitudes. *International Journal of Education and Research*, 12(2), 49-66. <https://www.ijern.com/journal/2024/February-2024/04.pdf>
- [24]. Nikolaou, E., & Galani, A. (2024). Pre-service Primary General Teacher-Students' Attitudes Towards Written Language Activities Based on Musical Stimuli. *Theory and Practice in Language Studies*, 14(7), 1947-1959. <https://doi.org/10.17507/tpls.1407.01>
- [25]. Riveire, J. (2006). Using improvisation as a teaching strategy: improvisation can be a challenging, but exciting, activity for students and teachers. *Music Educators Journal*, 92(3), 40-45. <https://eric.ed.gov/?id=EJ727857>
- [26]. Stamou, L., Zioga, D., & Stamou, V. (2018). Creative music making and its effects on children and youth. In L. Stamou & V. Stamou (Eds.), *Handbook of best practices: Music in creative detoxification and rehabilitation* (pp. 41–62). University of Macedonia. <https://e-space.mmu.ac.uk/625449/>
-



- [27]. Swaffield, S. (2004). Critical friends: supporting leadership, improving learning. *Improving Schools*, 7(3), 267-278. <https://doi.org/10.1177/1365480204049340>
- [28]. Varner, E. (2020). General music learning is also social and emotional learning. *General Music Today*, 33(2), 74-78. <https://doi.org/10.1177/10483713198914>
- [29]. Whitcomb, R. (2010). Rhythmic Characteristics of Improvisational Drumming Among Preschool Children. *Research & Issues in Music Education*, 8(1), Article 3. <https://commons.lib.jmu.edu/rime/vol8/iss1/3>
- [30]. Whitcomb, R. (2013). Teaching Improvisation in Elementary General Music: Facing Fears and Fostering Creativity. *Music Educators Journal*, 99(3), 43–51. <https://doi.org/10.1177/0027432112467648>

### Appendix

#### Questionnaire 1

Activity A: Music improvisation on a song/Learning what a chord is

Write your Pseudonym:.....				
<b>1. In your opinion, to what extent did you understand what a chord is?</b>				
A great deal	A lot	A moderate amount	A little	Not at all
<b>2. What is a chord? Write your opinion in your own words:</b> ..... .....				
<b>3. Did you feel stressed during the presentation of the activity to the class?</b>				
Extremely	A lot	Moderately	A little	Not at all
<b>4. Reflect on the activity and comment on: your personal participation, the collaboration and coordination with the team, the classroom atmosphere, how you felt about the activity or anything else you would like to mention:</b> .....				

#### Questionnaire 2

Activity B1: Music improvisation on pictures

Write your Pseudonym:.....				
<b>1. How well do you think you cooperated with your team during the music improvisation on a picture?</b>				
A great deal	A lot	A moderate amount	A little	Not at all
<b>2. Did you feel stressed during the presentation of the activity to the class?</b>				
Extremely	A lot	Moderately	A little	Not at all
<b>3. How satisfied are you with your group performance to the whole class during the representation of the tree elements of the pictures with sound/music:</b>				
A great deal	A lot	A moderate amount	A little	Not at all
<b>4. Reflect on the activity and comment on: your personal participation, the collaboration and coordination with the team, the classroom atmosphere, how you felt about the activity or anything else you would like to mention:</b> .....				

#### Questionnaire 3

Activity B2: Writing a sound story based on the pictures.

Write your Pseudonym:.....				
<b>1. How well do you think you cooperated with the team during the writing of the sound story?</b>				
A great deal	A lot	A moderate amount	A little	Not at all
<b>2. Did you feel stressed during the presentation of the activity to the whole class?</b>				
Extremely	A lot	Moderately	A little	Not at all
<b>3. How satisfied are you with your group performance to the whole class during the presentation of the sound story?</b>				

A great deal	A lot	A moderate amount	A little	Not at all
<b>4. Reflect on the activity and comment on: your personal participation, the collaboration and coordination with the team, the classroom atmosphere, how you felt about the activity or anything else you would like to mention.</b>				
.....				

**Questionnaire 4**

Activities C1, C2: Composition of short melodies using F pentatonic/Set your own lyrics to the melodies to create a rondo/Learning what a rondo form is.

Write your Pseudonym:.....				
<b>1a. How well do you think you cooperated with your team during the composition of the melodies to create a rondo?</b>				
A great deal	A lot	A moderate amount	A little	Not at all
<b>1b. How well do you think you cooperated with the team during setting lyrics to the melodies to create a rondo?</b>				
A great deal	A lot	A moderate amount	A little	ot at all
<b>2. Did you feel stressed during the presentation of the activity to the whole class?</b>				
Extremely	A lot	Moderately	A little	Not at all
<b>3. How satisfied are you with your group performance to the whole class during the presentation of the rondo created from your own melodies and lyrics?</b>				
Extremely	A lot	Moderately	A little	Not at all
<b>4. In your opinion, to what extent did you understand the rondo form?"</b>				
A great deal	A lot	A moderate amount	A little	Not at all
<b>5. What is a rondo? Write your opinion in your own words:</b>				
.....				
<b>6. Reflect on the activity and comment on: your personal participation, the collaboration and coordination with the team, the classroom atmosphere, how you felt about the activity or anything else you would like to mention:</b>				
.....				

**Dr. Eirini Nikolaou** graduated as a musicologist from the Department of Music Studies (National and Kapodistrian University of Athens). She received the Msc degree and PhD degree from the Department of Philosophy-Pedagogy-Psychology of Ioannina University (Greece). Furthermore, she has a Diploma as a Piano soloist and Composer, where she took the first and second awards as well. She is a Senior Teaching Fellow in the Department of Primary Education in Ioannina University, teaching *Music Education* and conducting the *Choir* of the Department. Her special interests include music education in early childhood and primary education, philosophy of music education, music in ancient Greece, arts Integration, ICT in music learning and song composition. She is the author of two books in Greek, in the field of music education, of papers in Greek and International Journals and International Conferences.

**Sofia Agiopetritou** graduated as a musicologist from the Department of Music Studies (National and Kapodistrian University of Athens). Furthermore, she holds a postgraduate degree in Arts in Education from the Department of Early Childhood Education of Ioannina University (Greece). She is a Primary School Principal and Music Teacher (Ministry of Education). Her special interests include music education, creativity in education, arts in education and music ensembles in class. She is the author of papers in Journals and International Conferences.