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Noa, a 10-Year-old Composer: A Case Study

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ABSTRACT

The present case study aims to contribute to the knowledge of music composition as a meaningful activity in music education. An extensive amount of literature on music composition is available; however, music composition as a regular classroom activity is rarely seen in elementary schools. The effects of closely guided music composition, in which extra attention is paid to the revision of music compositions, on engagement in music education and music achievement in a single subject situation were studied using a three-step-model for music composition based on the cultural-historical activity theory. The authors conclude from this case study that executing music composition activities is possible and potentially accessible for elementary school children. The used music composition model offers classroom teachers and music specialists' possibilities to teach music composition in elementary schools and make music composition accessible for elementary school children. The current study shows that an intense collaboration between a student, as novice, and her teacher, as more knowledgeable adult, leads to more complex compositions than was seen in classroom situations. The intense collaboration offers the teacher the opportunity to adapt to ideas, needs and interests of the student. Therefore, to offer all children in a classroom situation the assistance they need, working in small groups is suggested.

Key words: Case study, cultural-historical activity theory, music composition, music notation, play.

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1.0 Introduction

Although there is an extensive amount of available literature on music composition, music composition as a regular classroom activity is rarely seen in elementary schools (Mills, 2009). Hogenes, Van Oers, Diekstra & Sklad (in press) conducted a study to the effects of music education, in particular music composition as a classroom activity. The intervention in this study was based on a model for music composition developed by the first author using the Cultural Historical Activity Theory (CHAT) as a theoretical framework (Cole, 1996; Karpov, 2005; van Oers, 2012; Vygotsky, 1978). In this six-months intervention study music composition was introduced in music tuition in fifth- and sixth-grade elementary classrooms (Dutch school system; age 9-10 years old). The intervention focused on a three-step-model for music composition (Hogenes, 2010): (1) creation of a common basis in order to start the process of music composition; (2) creating ideas and writing the composition. One important task in this stage is the task of revision in which students improve the draft version of their composition; and (3) presentation and publication or recording. This intervention was compared with a teacher-centered approach mainly based on reproduction of music (e.g. singing songs). In conclusion, this study highlighted the surplus value of music composition as a classroom activity. Although it is questionable whether music education can be validated only by its academic benefits, the study showed benefits of composition on reading comprehension, but foremost demonstrated more engagement in music education and better listening skills than in teacher-centered music education. The study showed positive outcomes described above and revealed that music composition as a regular classroom activity is possible. However, one part of the composition process, the revision of a music composition, proved to be difficult in a classroom of 22 students. It is complicated to give all students the attention and feedback they need to improve their music compositions and therewith their music skills and knowledge.

The authors decided to conduct a follow-up study to explore the effects of guided music composition in a single subject situation to explore the composition activity in greater detail, specifically the revision phase, and examine the effects of expanded music composition activities on engagement in music education and music achievements, as compared to music composition with a classroom as a whole (see Hogenes, Van Oers, Diekstra, & Sklad, in press). The main research question was: “*What are the effects of closely guided music composition in which the revision of the compositions is particularly emphasized, on engagement in music education and music achievement in a single subject situation.*” The study was set up as a case study with Noa, a ten-year-old girl. For this $N=1$ study the three-step-model developed by Hogenes (2010) was used as format for a ten-week intervention.

2.0 Theoretical framework

2.01 Cultural-historical activity theory

The foundations of the cultural-historical activity theory were formulated in the early 1920 by Vygotsky and Leont'ev in their attempt to understand human development as a primarily cultural process based on the quality of the interactions between children and adults (see Newman, Griffin & Cole, 1989; Van der Veer and Valsiner, 1991; Vygotsky, 1978; Wertsch, 1987). Children learn through interactions with more knowledgeable others in the context of cultural practices that make sense to them and that can provide them with the cultural tools (both material and symbolic) that they need for improving their participation in these cultural practices.

Tools are culturally created artefacts, which are used by humans as tools to satisfy their needs and reach their goals (Newman, Griffin & Cole, 1989). Vygotsky distinguished two types: material tools (e.g. pencil, sheet music, musical instruments) and symbolic tools (e.g. words, notes, numbers, schemes). Symbolic tools have a material vehicle like graphic expressions or material signs such as pictograms. Material tools get their meaning partly by a symbolic framework (Wardekker, 2009). Vygotsky considered language as the most important tool for human beings. Language facilitates the

construction of cultural meaning that matters in the communities in which people live, and offers a window into human minds and their communities.

An important tenet of the cultural-historical activity approach is that each psychological function starts out in an interpersonal activity that gradually evolves into a personal capacity with the help of more knowledgeable others. That is why educators are seen as responsible people to a great extent for the contents and pace of children's cultural development. Educators can deliberately advance children's development by getting them involved in cultural activities and help them with the appropriation of actions and tools that they do not yet master on their own but that they can appropriate with proper help from more knowledgeable others. This area of new action potentials that can be mastered within meaningful practices with appropriate help from others is called the zone of proximal development (see for example [Vygotsky, 1978, p. 86](#)). Through promoting such new actions and assisting students to perform these actions, teachers can stimulate students' development within the practices they are collaboratively involved in.

Music composition in schools can be seen as an activity that is constituted by collaborate activities on musical materials. In these collaborate activities; children grow in comfort and security in their learning environment ([St. John, 2010](#)). They form relationships and realize a sense of belonging. [Dissanayake \(2000\)](#) suggests that belonging is fundamentally connected to our ability to find meaning, develop competence and realize elaboration. *"The unique subset of experiences that each participant brings to the learning community creates an environment rich in potential. As contributions are offered and received, the give and take of ideas evolves into a learning experience beyond individual possibilities* ([St. John, 2010](#)). This also applies to music composition activities. Students bring in diverse musical experiences with regard to music making and listening. Some children are able to play musical instruments and might be able to play more complex melodies and/ or rhythms than other students with less or no experience in playing a musical instrument. However, it is possible that students with hardly any with experience playing instruments have rich listening experiences, for example with regard to styles and kinds of music. The collaborative process of give and take can lead to music compositions that could not be made by single students. The resulting compositions are actually outcomes of their shared activity based on the amalgamation of ideas and skills of members of a group.

2.02 Music composition as playful activity

On the basis of literature study, the authors of this article define music composition as a planned, deliberate, realization of a creative process with a new piece of music as outcome ([Campbell & Scott-Kassner, 2006](#)). It is a creative activity that can be conceived as a kind of play.

Van Oers ([van Oers, 2009, 2010, 2012](#)) developed an activity theory interpretation of play that conceives of play as a way human activities are accomplished. All human activities can be realized in more strict and mechanic ways, or in more free and joyful ways. In line with the thoughts of [Vygotsky](#), [El'konin](#), [Leont'ev](#), and others, play can be characterized as a special mode of activity, characterized by its rules, degrees of freedom, and engagement.

From this activity theory approach, music composition can be considered as a playful activity, in which children are encouraged to act as composers, taking advantage of some creative freedom while making their own music in highly involved ways. Composition activities involve indeed both musical and organizational rules. However, given the complexity of composition as a cultural activity, children (as novices) cannot autonomously accomplish this activity from the beginning. Composition activities give children access to a complex cultural practice, but most children need assistance to improve their abilities for participation.

Furthermore, music composition is an activity in which most children can be, and want to be, engaged. Children are permitted to operate with a certain *degree of freedom* with regard to creative

interpretations in this process. They follow rules that belong to the music composition activity, but have the right to deploy these rules their own way. *Engagement* in music composition activities can be interpreted as intense musical experiences by creating one's own music. Similarly, Barrett (2003) described the composition process as an intensely personal process of meaning-making. "*Musical meaning-making is an accomplishment of the child who –as musician and composer– is engaged in a dialogue with self and the emerging musical work, a dialogue that is mediated by the culture. The constant dialogue –between the roles of composer, critical listener, and performer– forms the heart of musical meaning making*" (Barrett, 2003, p. 23-24). The interaction with an expert offers novices possibilities to explore new action potential that contributes to improvement in their participation in these cultural practices. From this point of view, we argue that musical learning in elementary school can be embedded in music composition as a practice of playful music making, in which children should be involved under guidance of a more knowledgeable adult (Hogenes, Van Oers & Diekstra, 2012).

In order to investigate music composition in elementary school children and deepen our understandings of composition activities in elementary school pupils, the authors decided to supplement the quasi-experimental classroom study (Hogenes, van Oers, Diekstra, and Sklad, in press) with a single-subject design. Main difference between this case study and the classroom study is the attention that is given to the participant, especially during the revision of music compositions. The classroom study showed that giving attention and feedback needed for revision of music compositions was difficult to a class with 22 students. An intense collaboration between the student and her teacher could lead to more complex compositions. In the current study, the computer is added as tool to write music (Sibelius software).

3.0 Methodology

3.01 Procedure design

This study was designed as a qualitative interpretive case study (Miles & Huberman, 1994; Stake, 1995; Yin, 2009) of Noa, a 10-year-old girl who came to a series of 10 weekly music lessons, aiming at music composition. In this single-subject case-study, we looked at the effects of closely guided music composition, in which attention is particularly paid to the revision of music compositions, on engagement in music education and music achievement.

In this intervention, multiple data-generation methods were used, including a questionnaire, a semi-structured interview, natural observations (field notes and audio recordings), and the analysis of the composition work in order to examine Noa's experiences and perceptions of the lessons in music composition, and inquire our main research question: "*What are the effects of closely guided music composition, in which much (extra) attention is paid to the revision of music compositions, on engagement in music education and music achievement in a single subject situation.*"

3.02 Participant

Noa is a 10-year-old girl. At the start of this study Noa was 10.4 years old. She grew up in a family with her parents and a four-year younger brother. Noa's father plays guitar in a cover-band. Noa's mother doesn't actively participate in musical activities. Apart from this study Noa has voice lessons once every two weeks and taught herself to play easy pieces on soprano recorder. She started taking voice lessons at age 9. She is mainly surrounded by pop/ rock music all her life.

3.03 Intervention

The intervention for the present case study focused on music composition using Hogenes' (2010) three-step-model, adapted from a model for text composition (Pompert, 2004). This three-step-model for music composition comprises the following three steps: (1) Creation of a common base, for example by

listening to a music composition, in order to start the process of music composition; (2) Creating ideas and writing the composition; (3) Presentation and publication or recording.

Part of the second step of the composition process is a revision phase. The revision of a piece of music focuses on the goal to make students reflect on their composition and encourages them to improve the draft version of their composition. The revision takes place in three rounds: (1) Based on the ideas of the composer and the content of the piece; (2) The construction of the piece and its style; (3) The notation of the music (see Hogenes, van Oers & Diekstra, 2014). The revision can be done individually but also with a class as a whole. In this latter option, all students should have a copy of the scored music in order to give feedback on the way music is scored (round 3). To be able to hear whether a music composition is perceived as meant, it is necessary to hear a musical piece played. This can be a live performance, or a recording of the music composition.

In ten weekly sessions with an average duration of 60 minutes, compositions were created following the model described above. During the sessions, several composition techniques and instruments were used. The first-named author (Hogenes) taught the composition lessons. He has 17 years of experience in instructional practice in music education. Hogenes is Noa's uncle.

3.3.1 Learning objectives and content of the composition sessions

In all sessions, Noa was engaged in music composition activities. Table 1 shows the specific learning objectives and content of the 10-conducted music composition sessions of this study. Missing comma after introductory phrase

Table 1: Learning objectives and content of the music composition sessions

Session	Learning objectives/ content At the end of the session the student
1	<ul style="list-style-type: none"> - has explored several musical instruments. - improvised on rhythms offered by the teacher. - explored musical concepts, such as measure, rhythm, and form. - performed graphically scored compositions. - made a music composition using graphical notations. - scored her own music composition, using graphical notation.
2	<ul style="list-style-type: none"> - demonstrated awareness of the form principles: repetition, contrast and variation. - played rhythms, notated in staff notation on flashcards. - demonstrated awareness of periodicity in music. - listened to 'Clapping Music' by Steve Reich. - made a music composition for clapping and ostinato accompaniment.
3	<ul style="list-style-type: none"> - was introduced to "new" kind of music notation: graphic notation in which words show how they should be spoken. - listened to 'Stripsody' by Cathy Berberian. - explored ways to pronounce/ declaim a poem. - demonstrated awareness of aspects used for singing and speech (e.g. articulation). - created a music composition based on a poem.
4	<ul style="list-style-type: none"> - played melodies, copying these melodies from the teacher. - played melodies from melodic flashcards in G-major and g-minor. - made a music composition in an AABA-form, based on the melodies on the flashcards. - harmonized her own music composition with (I-V-I, see figure 5) - performed her own composition.
5	<ul style="list-style-type: none"> - explored the possibilities of the Apple software GarageBand. - listened to several available audio samples in GarageBand. - discussed the construction (sound and form) of pop songs. - composed a one-minute music composition. - shared her music composition with relatives by sending it to them by e-mail.
6	<ul style="list-style-type: none"> - was introduced to a musical box. - improvised in a pentatonic scale on chime bars.

	<ul style="list-style-type: none"> - composed an eight-bar pentatonic melody on the chime bars. - transferred the eight-bar pentatonic melody to a carton strip for a musical box. - was introduced to the concept of canons/ rounds. - created a round based on the composed pentatonic melody. - scored the music composition using the notation software Sibelius.
7	<ul style="list-style-type: none"> - was introduced to a music composition in which a poem was accompanied by musical instruments. - explored possibilities to recite poems. - experimented with musical instruments that can be used to illustrate a poem, such as cabasa, flexatone and vibra slap. - made a music composition, based on a poem. - recorded her own composition.
8	<ul style="list-style-type: none"> - listened to two rondo pieces. - further explored the possibilities of the Apple software GarageBand. - experimented with form principles: repetition, contrast and variation - composed a rondo (ABACADA).
9	<ul style="list-style-type: none"> - listened to 'The Watermelon Man' by Herbie Hancock. - was introduced to eleven Orff and Latin instruments. - copied rhythms and improvised on these rhythms. - made a music composition based on ostinati. - scored her composition, using Sibelius notation software.
10	<ul style="list-style-type: none"> - listened to 'Night train' by Jimmy Smith. - played an accompaniment on metallophone (blues). - recorded the accompaniment, using Sibelius. - added and recorded several percussion parts to the music composition. - composed a melody to her blues in C.

3.4 Data generation and analysis

At the commencement of the study a short demographic questionnaire was administered. This provided an overview of the age, musical education, musical experience of the participant. A second questionnaire² was administered at the end of the study to inquire Noa's engagement in music education.

During the composition sessions field notes have been taken and audio recordings⁴ of the music compositions have been made. Semi-structured interviews were conducted as part of the composition sessions and processed in the reflections on the composition sessions. The purpose of these interviews was to gain insight in Noa's opinion about: the nature of the composition activities/ assignments; the effectiveness of the teacher's interventions and feedback, specifically with regard to the revision process; the experience of rules, degrees of freedom, and engagement (play format); the use of music listening to create a common base; and, the use of music notations, both graphic and staff notation.

4.0 Findings

4.01 Reflective descriptions on the music composition sessions

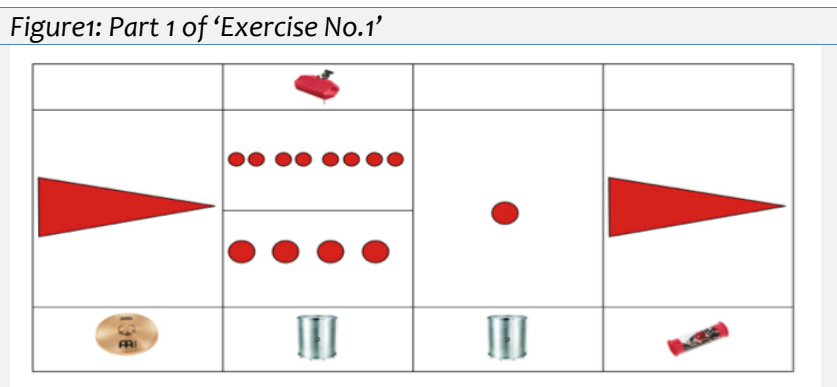
Session 1, composition: *Exercise No.1*. In this first session several musical instruments were explored. Noa tried to make sounds with the instruments that were displayed for this session and was asked to copy/ repeat rhythms played by the teacher. After copying several simple, and more and more complex rhythms, she improvised on these rhythms. Making/ playing music, musical concepts like measure, rhythm, but also form were explored by copying rhythms, musical motives and phrases, playing variations and contrasting rhythms on the music that was played by her teacher. The teacher introduced new elements during the process of making music depending on the skills and knowledge displayed by Noa. This way was tried to get Noa from the level of actual development into the zone of

⁴ Field notes and audio recordings, as well as the questionnaire can be requested from the first author.

proximal development.

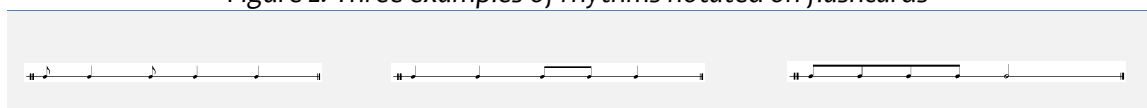
In this whole process of musical play, graphic notation was shown, discussed and inquired by performing three simple graphically scored compositions. Using the improvisation plus the inquired graphic notations as a common base, Noa started creating ideas and started writing her composition. Noa and her teacher worked together and composed a music composition that she liked and that is reproducible by others because of its clear graphical notation (see figure 1). At the end of composition session, the piece was recorded.

Initially the process of music making in this session was mainly based on the reproduction of rhythms, but during the process the music making shifted to music production. This production started with improvisations that were later used for the new music composition.



Session 2, composition: *Clapping Music*. This session started with a reflection on the first composition session in which, among others, rhythms were copied. Moreover, Noa had played with the aspects of form: repetition, contrasts and variation. In this second session, Noa was offered a number of rhythms notated in staff notation on flashcards (see figure 2). The teacher played these rhythms. Noa copied them. This activity evolved into a rhythmical question and answer game, using the provided rhythms.

Figure 2: Three examples of rhythms notated on flashcards



At the beginning of this second session, Noa had very limited knowledge of traditional music (staff) notation. By playing the rhythms from the flashcards, her understanding of rhythmic notation increased what could be perceived from the tempo in which Noa was able to play rhythms, and the decrease of the number of errors she made. By performing rhythms, Noa demonstrated awareness of periodicity in music. Her teacher played a musical phrase of four bars. Noa was able to add a musical phrase complementary to this phrase, getting more and more feeling for appropriate rhythms, taking into account the musical tension of a phrase. Based on this experience of music making and also listening to the composition 'Clapping Music' by the composer Steve Reich, Noa made a composition for clapping and an ostinato accompaniment for Surdo (Brazilian drum). For this music composition, Noa used the flashcards offered at the beginning of the session. However, she also used some rhythms she "invented" herself. Her teacher wrote these rhythms down for her in staff notation. She created a composition of 16 bars. At the end of the session Noa and her teacher proudly performed Noa's 'Clapping music' for a family member.

Session 3, composition: *I am Rose*. Exploring several kinds of musical notation, Noa was shown a new kind of notation, namely a form a graphic notation in which words show how they should be spoken with regard to pitch, duration and expression. The composition 'Stripsody' of Cathy Berberian (1966) was listened while Noa had to put the loose pages of the score in the right order. Both this kind of

musical notation as this kind of “contemporary” music was new to Noa. In order to create ideas and write the music composition, Noa was offered three books with poetry for children. She chose an English poem written by Gertrude Stein: ‘I am Rose’. After discussing the content of the poem, Noa explored ways to pronounce/ declaim words and sentences. In this process of creative reproduction she became more aware of aspects used for singing and speech, such as posture, breathing, articulation, resonance, voice range, use of vowels, et cetera. This could be heard from the way she used her voice and the quality of the sound. Besides, Noa also asked for feedback to improve her performance.

Different from most of Noa’s other compositions; ‘I am Rose’ was first created without any form of music notation. After Noa was satisfied about the auditory result of the composition, attention was paid to write down the music (see figure 3). At the end of the session, Noa was satisfied about both music and the way it was written down.

Figure 3: First sentence of the poem/ composition ‘I am Rose’, text: Gertrude Stein (2007).

Session 4, composition: *Exercise No.2*. Noa brought her recorder to the fourth composition session. She announced during session 3 that she wanted to bring this instrument to the next session. In session number two Noa and her teacher worked with rhythm flashcards. The teacher had prepared melodic flashcards for session 4 (see figure 4). These flashcards contained melodic phrases that were only possible to play for Noa after little practicing. The melodies were first practiced in an auditory way. Then the music notation was introduced. Just like in sessions before, music improvisation was part of this session.

Figure 4: Six examples of melodies notated on flashcards, three in G-major, three in g-minor.

When Noa was able to play the first series of melodies in G-major, a new series of melodies was introduced. This series was not quite new: the series of first melodies was now introduced in g-minor. Although Noa had some trouble to master the latter series in the beginning, finally she was able to play all melodies in both major and minor. Noa was asked to compose a piece in an AABA-form. Based on prior experiences with flashcards and the aspects learned in session 2, Noa composed a piece in the form that was asked. She, however, was not satisfied with the B-part, so she experimented (much longer than for the A-part) with several options before making her final choice. In the end her teacher played a simple accompaniment on chimes. Noa was asked which harmony (in her opinion) suited best to the melody. In fact she not only composed the melody, she also added the right chord progressions (I-V-I in major and minor, see figure 5).

Session 5, composition: *GarageBand1*. Being surrounded by popular music and living in a world in which information and communication technology no longer can be ignored, the introduction of the Apple software GarageBand was well received by Noa. This computer software offers people the opportunity to make a music composition based on audio samples that are available in the program. Noa and her teacher explored the basic possibilities of the program together. They listened to the available audio

samples and discussed how a pop song is constructed. The focus of this discussion was on the texture of music compositions (drums, bass, chords played on keyboards and/ or guitar, brass instruments, synthesizers, melody). Also several musical forms were discussed, like a pop song, and classical form such as rondo, and canon. Based on the music Noa listened to during the beginning of the current session, she started composing a one-minute piece of music. The many possibilities offered by GarageBand made it impossible to make a complete composition that satisfied Noa. Looking back on the process of this session the teacher concluded that he should have given more clear cues in the composition process. The session was successful with regard to objectives learned (see table 1), but not with regard to being able to create a complete satisfying composition in one hour.

Figure 5: 'Exercise No.2'

The image shows a musical score titled "Exercise No.2" by Noa R. 2011. The score is for Recorder and Chimes. It is in 4/4 time with a tempo marking of MM=100. The key signature has one sharp (F#). The Recorder part is written in a single treble clef staff, and the Chimes part is written in a single treble clef staff. The score consists of four systems of music. The first system has a measure number of 5. The second system has a measure number of 10. The third system has a measure number of 14. The fourth system has a measure number of 17. The Recorder part features a melody of eighth and quarter notes, while the Chimes part provides a harmonic accompaniment with chords and single notes.

Session 6, composition: *Pentatonic Vocalize*. This session started with showing Noa a small musical box. Such boxes intrigue many children. The teacher also showed Noa a mechanism of a musical box for which one can make a composition by making holes in a strip of carton. Complicating part is how to compose a melody for this musical box. Once a hole is made in the strip of carton the chosen tone is final. Working by trial and error is no option.

Figure 6: 'Pentatonic Vocalise', first 8 bars.

The image shows a musical score titled "Pentatonic Vocalise" by Noa Rouminger. The score is for Soprano, Alto, Tenor, and Bass. It is in 4/4 time. The key signature has one sharp (F#). The Soprano, Alto, and Tenor parts are written in treble clef staves, and the Bass part is written in a bass clef staff. The score consists of two systems of music. The first system has a measure number of 1. The second system has a measure number of 5. The vocal parts feature a melody of eighth and quarter notes, while the Bass part provides a harmonic accompaniment with chords and single notes. The Soprano, Alto, and Tenor parts have a vocal line with "Oo" markings below the notes.

The teacher offered Noa a set of chime bars in a pentatonic scale. Noa and the teacher both improvised on these chime bars. Noa experienced how to create a musically logical melody, taking into account the tension of a melody. Improvising pentatonic melodies, Noa created an eight-bar melody

she was satisfied with. Subsequently, she constructed the carton strip for the musical box. Noa was excited about the result. The teacher introduced the idea of creating a canon/ round. It is difficult to make such a piece for a musical box, but can be executed by scoring the music with notation software like *Sibelius*. Still playing with the musical box and scoring the notes in the computer, Noa asked her teacher what would happen if she would put the strip backwards in the musical box. The teacher encouraged her to listen what would happen. The result was surprising for her, but according to Noa, not as nice as the original melody. Noa repeated this experiment four times. The experiment offered the teacher the possibility to tell Noa about several canon techniques used, like inverse, retrograde, et cetera, used from the fourteenth century till now. Something the teacher would not have done if Noa would not have taken the initiative to experiment with the musical box. The teacher also introduced the phenomenon of a vocalise. Noa and the teacher listened to a 'Vocalise' written by Rachmaninoff, Opus 34 (last song of the Fourteen Songs, 1912). The teacher assisted Noa to compose the end of the four-part (canon) vocalise (see figure 6). Instead of the regular length of a music composition session of one hour, the current session lasted 90 minutes. The composition of this pentatonic vocalise was quite a challenge for Noa and her teacher.

Session 7, composition: *Jarig [Birthday]*. Intrigued by books and musical notations, Noa came up with the idea to make a new composition based on a poem like she made during the third session, but wondered if she could add instruments. The teacher showed Noa an example of composition like this in a textbook for secondary schools: 'Stemming voor de basisvorming' [Mood⁵ for the lower grades of secondary education] (de Boer, 1994). Noa and her teacher first performed the composition 'De Grijze Poema' ['The Gray Puma'] from the above-mentioned book. Inspired by this composition, Noa chose a Dutch poem to make her own music composition. First, she explored possibilities to declaim the poem. Second, she experimented with several instruments. Some of them, like the cabasa and the flexatone, Noa never saw before, therefore the use of these instruments was explored in order to get the most beautiful and/ or useful tones out of them. The next steps were to combine the poem and the use of the instruments, and to write down the music composition. For this composition, Noa chose a combination of graphic and pictorial notation (figure 7). Noa searched and found the appropriate graphics herself on the internet.

Figure 7: Fragment of 'Jarig', text by Hans and Monique Hagen (2006)

Cabasa		
		
Ik ben bijna jarig [It's almost my birthday] 'Luid en hoog' ['Loud and high']		
Triangel		
		
Dan 'Spannend'	heb ik een partij [Then 'Blij' ['Exiting	I have a party] 'happy']
Flexatone		

⁵ The Dutch word 'stemming' can be translated as 'mood', but also as 'tuning'.



En weet je [And do you know]
'Gewoon' ['ordinary]
Metalfoon



Wie er ook mag komen [Who also may come]
'Blij' (nadruk op ook) ['happy' (emphasize on also)]

Session 8, composition: *GarageBand 2, version 3*. During session 5 the music software GarageBand was introduced for the first time. Noa was not quite satisfied by the result of the first GarageBand session. Also the teacher came to the conclusion that he should give more impulses to the composition activity in order to make this process, in which music technology was used as a creative tool, into a success. They started this session listening to two rondos: one rondo for piano by Mozart (KV 331) and one for wind ensemble by Hindemith (Kleine Kammermusik, Opus 24, No. 2). Although both rondos were classical, Noa was asked to make a rondo in pop style. This time Noa was determined to use certain samples she explored during the fifth session. It was interesting to see her knowing exactly what she liked and didn't like. This could have to do with the fact that she is familiar with pop/ rock music, but she was also very well able to articulate her reasoning. However, compared to the first GarageBand session, her teacher had a more directive role in the ongoing music composition. Noa appreciated this because collaboration helped her to improve her composition which made her Rondo much more satisfying than the result of the first one-minute GarageBand composition. The rondo composed had an ABACADA-form and was emailed to Noa's parents. Both Noa and the teacher were enthusiastic about the result.

Session 9, composition: *Ostinati*. The ninth composition session started with listening to 'The Watermelon Man' by Herbie Hancock (1962). In this piece, several layers of sounds and rhythms were stacked upon each other. In earlier sessions the term ostinato was introduced. Although Hancock didn't use ostinati in a strict sense, it was an interesting and useful starting point for a next music composition based on ostinati. Eleven Orff and Latin percussion instruments were introduced and rhythms were modelled, copied, and improvised. The next step was the teacher scoring rhythms played by Noa. This happened as Noa was satisfied with these rhythms. Noa and her teacher used the music notation software *Sibelius* to copy and paste the scored rhythms in a, for Noa, interesting order. Although the use of *Sibelius* was difficult for Noa, with assistance of her teacher she managed to make a composition that doesn't only look interesting and maybe even difficult for a 10-year old. Noa was also satisfied about the sounding result. This could not only been seen from the fact that she told she was satisfied, but also from the fact that she wanted to listen to her own work over and over again.

Session 10, composition: *Blues*. During the final session 'Night Train' by Hammond organist Jimmy Smith was listened to. The basic blues scheme is a very clear form, containing 12 bars. Noa first played an accompaniment on metallophone while the teacher improvised a melody. This accompaniment was scored in *Sibelius*. The accompaniment was extended with percussion instruments. Playing new rhythms on new instruments, new parts were scored as Noa was satisfied about the result. Like

'Ostinati' (session 9) this composition grew by adding new parts. The tempo in which Noa was able to create new ideas, make decisions on what to use and what to exclude, and being able to write music down increased during the ten sessions she worked on her music compositions. Finally, Noa composed a simple melody (figure 8). This last composition was recorded and sent to Noa's family members.

Figure 8: Blues, melody

Blues

Noa Roumimper

The image displays three staves of musical notation for a blues melody. The first staff begins with a treble clef and a 4/4 time signature. The melody starts on G4 and follows a simple blues pattern. The second staff begins at measure 5 and includes a flat (Bb) and a sharp (F#). The third staff begins at measure 9 and continues the melody. The notation is presented in a clean, professional layout with a light gray background.

4.2 Questionnaire and outcomes of the semi-structured interviews

A questionnaire was administered at the end of the study to inquire the effect of music composition on Noa's engagement in music education. This questionnaire (see appendix) contained 16 statements and was identical to the questionnaire that was administered in a school situation (Hogenes, Van Oers, Diekstra & Sklad, in press). The reliability of the questionnaire is highly satisfactory (Cronbach's alfa $\alpha = .96$). The first statement of the questionnaire concerned working with other children. This statement was withdrawn because this study is single subject study.

The outcomes of the questionnaire, combined with the outcomes of the interviews with Noa, observations and analysis of Noa's compositions are displayed below. They are distributed in 4 parts: music notations, music listening, music composition as an activity, and model for music composition.

4.2.1 Music notations

Noa strongly agreed on a question whether the learning of notes (absolute staff notation) and graphical notations had helped her to understand music better, or not. She said: "Using the different kinds of music notation, I learned more and more about rhythms and melodies. In the beginning, I just made sounds, but after a while I started thinking about what I did and how I could write my own music down." Observations showed that activities involving language were easy to learn for Noa. The learning of staff notation or other forms of music notation were challenging for her and contributed to her understanding of music (sound, form and meaning). The difficulty of Noa's music compositions increased during the 10 weekly sessions.

4.2.2 Music listening

Noa agreed on the statement: "I became curious to how music is constructed by listening to music." Observations (described above) showed that Noa liked active music making more than listening to music. Although she liked listening to music and participated enthusiastically in listening activities, she preferred making music.

4.2.3 Music composition as activity

Noa strongly agreed on the statement whether her curiosity has been raised with regard to how music is constructed by composing music herself. She disagreed on the item: "During the composition activities we had to solve real musical problems." However, she regarded this item difficult. The activities offered to Noa were experienced as real music activities with increasing complexity. The activities were judged as real. Noa disagreed on the question regarding the limited space for her own ideas in activities. She said the activities were not too structured. She could be creative in solving

problems her own way. She didn't experience the composition activities as assignments. They had playful characteristics with lots of freedom within constraints. Noa judged the activities as clear, although the final result was open. Noa said: *"Sometimes I knew what we were going to do during a session. Sometimes it was a surprise. The funny thing was that often when I thought I knew what we were going to do, the session was way different from what I thought it would go. It was like we played with the music."* Although Noa experienced the music composition process as play, the teacher had set educational goals. Noa had sufficient space for own ideas. That she experienced this as such is shown in the satisfaction of her compositions.

4.2.4 Model for music composition

Noa strongly agreed on the item: "It was easier to start composing music after making or listening to music." This can also be seen in the results of the compositions, as elements of the music that was listened showed up in Noa's compositions, for example the accompaniment of the Blues Noa composed. She first added the parts she heard in the music by Jimmy Smith. After that she added complementary parts that were not in Jimmy Smith's 'Night Train'. She said she would not have preferred to start composing without music making or listening to music first. Creating a common base, or like in a single student situation creating a base from which music composition can start, is a necessary condition to create a music composition with clear goal. Noa said she needed this base in order to get started. She also agreed on the item: "Most of the time we could improve our compositions by looking at our compositions (revision) together with the teacher." Working together as student and teacher offered the teacher opportunities to give impulses to the composition process. Noa confirmed that revising her compositions had major impact on her composition and the process towards a final version.

5.0 Conclusions and recommendations

This article shows that music composition, even when it is an increasingly complex activity, is an activity accessible for children in the elementary school age. Music composition organized according to the activity format of play offers children the chance to actively produce music, instead of reproducing music, in activities characterized by determinants that form the play format: rules, degrees of freedom, and engagement.

Despite the increasingly demanding activities, Noa showed to be highly engaged in music education (see e.g. compositions 2, 3, 6 & 9), specifically in music composition activities formatted as play. In this guided process she also showed an increase in music skills and knowledge (see e.g. compositions 4, 8 & 10). This made Noa feel proud of her own work. She was highly motivated and articulated the wish to come the next week again to make a new music composition. For her teacher, it was challenging and rewarding to offer Noa assistance to make the best possible progression. Comparing the outcomes of this single-subject case study with the outcomes of the comparative classroom study (Hogenes, Van Oers, Diekstra & Sklad, in press) in which music composition in classroom situations was studied, remarkable differences could be found. The same three-step-model was used in both studies. Although, the music compositions in the classroom study were musically interesting, Noa's compositions were much more complex and, judged by her teacher, richer concerning musical ideas, structure and notation. It was more difficult to revise music compositions with a class as a whole, while in a one-on-one situation the teacher is easily able to give impulses to the process that lead to significant improvement of the music compositions. In a classroom situation it would be very difficult to make a composition like Noa's Vocalise (composition 6). Not only was the lesson plan highly influenced by Noa in her role of composer, for composing the last few bars of the Pentatonic Vocalise Noa needed a lot of feedback and help to finish her composition. It would be impossible to give the same amount of time and attention to individuals or small groups of children in a classroom situation.

Music composition in schools can be seen as an activity that takes place in a collaborate activities. Noa learned from her teacher, but also brought experiences and (present) knowledge to the music composition sessions. The teacher was the more knowledgeable partner in the teaching/ learning process. He, however, also learned from Noa, for example how to scaffold the revision process, and adjusted his lesson plans based on the creativity Noa showed during the sessions.

Based on these observations, the authors conclude that music composition can be expanded in elementary school age under appropriate guidance. The single-subject study demonstrated that complex composition activities in which the pupil is allowed to follow personal interests and receives action-focused guidance, leads to intense engagement in music education and high music achievements (in terms of musical products and skills). In this process, Noa has shown herself being a real (10-year old) composer.

They also conclude from this case study that conducting music composition activities as a regular classroom activity may be claimed. Music composition is an activity accessible for elementary school children. The used music composition model based on the cultural-historical activity theory, and implemented in a play format offers regular classroom teachers possibilities to guide music composition in elementary schools. However, to offer all children the assistance they need, working in small groups is suggested.

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