Past and Present Intertwining When Learning is at Stake: 
Composing and Learning in a Music Theatre Project

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Abstract

This article presents a study investigating musical learning among 9th grade adolescents 
in a Swedish lower secondary school. The adolescents collaboratively composed songs 
for a self-written musical, which they taught to their peers. The purpose of the study was 
to explore the ways in which adolescents acquire musical knowledge in this specific 
setting. A sociocultural perspective was employed, and the methods used were 
observations and interviews with the adolescents. The results demonstrated that the 
adolescents’ choice of tools when learning and teaching their peers were the same as 
those used by their teacher. The written score was distinct in all their musical learning, 
suggesting the dominance of the written paradigm. In conclusion, in order to support 
musical learning, music teachers need to know how to create opportunities for peer 
teaching and leaving the students to themselves, and when to interfere and guide the 
adolescents into their Zone of Proximal Development.
Introduction

In the Swedish curriculum for the subject of music (Skolverket, 2011) playing instruments and composing music have prominent roles. Composition and playing instruments are two of the three skills that students are expected to develop throughout compulsory school. This study investigates how composing is made possible, as well as how students learn to play instruments during peer teaching. The theoretical perspective in this study consists of sociocultural theories and theories of mediating tools, peer teaching and creative thinking.

According to Wallerstedt et al. (2014), Ong (1990/2007), Rogoff (1990), and Hutchins (1995), there is reason to investigate further if literate youths use written text as a tool to remember for example a piece of music. Why and how youths use a certain tool is put into a cultural and historical perspective by Vygotsky (1978) and is also a crucial part of the current study. Furthermore, the interest in tools as a way of investigating learning and knowledge is based on Vygotsky (1986) who suggest that tools are what mediate the world around us. In other words, we understand and learn through the use of tools. With a sociocultural approach to learning, music teachers have to relate to both the curriculum and the students’ earlier knowledge when they plan and perform their teaching, and in order to create a Zone of Proximal Development (ZPD) knowledge about students’ ways of acquiring musical knowledge is needed.

In the context of this article musical theatre consist of a project where the students—with the aid of their teachers—wrote the whole manuscript, the dialogue, the music, the lyrics and furthermore sewed the clothes and made all the props. In this article the focus is solely on students in the music band who created the music within the group. They also wrote the lyrics in cooperation with the actors and the students who would perform the song.

The aim of the study was to investigate what tools for musical learning were used when students interacted in the context of a music band in a Swedish lower secondary school, as well as looking for the origin of how the tools are used and why the students used or did not use certain tools. In order to define and understand how musical learning is manifested when composing music, peer teaching and playing in a band, the learning culture also needs to be made visible. The following research question was constructed: Which tools for musical learning are used amongst peer-teaching lower secondary students in a music band within the context of a musical theatre project?

Framing of the Study

Learning, knowledge and education—together with all other concepts in the social world—are affected by and bound to culture (Lahdenperä, 2008). As culture is central to the theoretical perspective of this study, a definition of the concept is necessary. From an anthropological
point of view, culture consists of figures of thought as well as linguistic expressions shared by a group of people (Lundberg & Ternhag, 2002). According to Bruner (2002), culture acts as “a weave of meaning” through which experiences are interpreted. In a social anthropological definition of culture, people’s everyday lives include and express systems of shared ideas, systems and concepts, rules and meaning; culture in this perspective affects human beings but does not define them. By this definition, culture refers to what people learn and not what they do or create. The Swedish school as an institution offers a learning culture where written communication and abstract thinking are dominant (Säljö, 2000). The current study is inclined towards such an anthropological way of defining the concept of culture. Furthermore, one of the basic premises of the study is that both students and teachers in Swedish compulsory schools are influenced by a written learning culture.

In the following, the theoretical framework for the study will be presented with the above definition of culture as a foundation. First I will present the sociocultural perspective of the study followed by the concept of tools, as it occupies a central place in the study. The music-learning context in this study is the musical practices of 9th graders who chose to be instrumentalists in the musical theatre that was created collaboratively by all the 9th graders at this particular school. The task of the music band was not only to play music, but also to compose the music that was to be played. Furthermore, musical listening was a part of the students’ tasks in the music theatre project. Therefore research on peer teaching, creative thinking and composing will also be presented.

**Sociocultural Perspectives**

Musical learning is defined in vastly different ways, and cannot be separated from either the individual or the individual’s present or past. Seen from a sociocultural perspective, learning and how it is manifested is dependent on the earlier experiences of each individual (Vygotsky, 1978; Rogoff, 1990; Cole, 1996; Säljö, 2000). Learning is created and exists within a person, but develops through communication with others (Vygotsky, 1978). In this study musical learning processes were examined in relation to and between the students and their teacher as well as between the students. A basic starting point in this tradition is that individuals create knowledge in interaction with others. The conditions for knowledge development exist in the individual’s surroundings as well as within the person, but learning is also dependent on a person’s background and present conditions. Knowledge and how it is created is dependent on the culture where the student’s thinking and the student’s interaction with others take place (Vygotsky, 1978; Säljö, 2000). As language, culture, and social factors play important roles in thinking and learning, it is unreasonable that thinking and learning would be the same in different cultures (Säljö, 2000). Activities seen from a sociocultural perspective create cognitive development, and according to Rogoff (1995) participants in a group activity always adjust how they interact with one another, which in turn changes future interaction. The
cultural context of a person is influenced by what is considered as being important to remember, and the knowledge that is harder to achieve is given higher value within a culture by its members (Cole, 1996; Ong, 1990/2007). The learning culture affects not only the students but also their teachers, as the teachers seek to create the best way of learning for every individual student (Backman Bister, 2014). The teacher needs to be aware of students’ knowledge and what knowledge it is possible to achieve, sometimes with the help of other peers and often with the help of the teacher.

The concept of the Zone of Proximal Development (ZPD) has been developed from Vygotsky (1978) where ZPD concerns the level of development and is separated from the learning process, thus development implies learning. ZPD applies to the zone of learning that an individual at a given moment is ready to embrace and eventually develop. The zone is the space between the existing and possible developments in the near future. Vygotsky argues that learning precedes development and this starts with the inter-psychological processes—communication—and continues with intra-psychological processes. ZDP in Vygotsky's definition concerns preparedness for learning in an individual—not a communicative action either with teachers or peers. "The zone of proximal development defines those functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are documents currently in an embryonic state" (Vygotsky, 1978 p. 86). ZPD is fundamental in a sociocultural perspective and has come to be characterised by a tension between what the individual already can do on his or her own and the new things that the individual can do and learn with the help of a more knowledgeable peer or teacher (as described, for example, by Wertsch, 1998).

**Tools**

In a sociocultural perspective, the concept of *tool* is used to understand how learning appears within the individual and together with others. Tools are the *intellectual* resources, such as language, and the *physical* resources that people use to understand and to act in the world. Humans use tools in everything they do. Tools are seen as important aspects in people’s thinking and actions, and in this perspective tools mediate the world around us (Vygotsky, 1986). Mediation implies that people’s actions in the world are created by using these tools. Vygotsky (1978, p. 127) illustrates this with a metaphor of the knot on a handkerchief. This knot reminds us of something, although it does not remind people of the same thing, but the act of the mediating tool is the same—it is used to remember. For a teacher, it could be useful to identify which tools for learning the students use, as well as being able to utilise the same tools in a conscious and systematic way—since a skilled user of tools could have the potential to lead others into deepened knowledge (Wertsch, 1998). Säljö (2000) states that thinking and awareness exist within the person, but the thinking is connected to the world around the individual through the use of various physical and intellectual tools. In a sociocultural
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perspective, it would be fundamental that tools could mediate the world to people in concrete situations. It is through such tools that knowledge is acquired, first by borrowing the tool of someone else, and when using the tool the knowledge becomes internalised. A child imitates the adult’s use of tools, and as the child grows up it achieves more learning models to solve a problem (Vygotsky, 1978).

Mediating tools in interaction with thought processes are, in other words, used to understand and to learn. To do, and to process this doing by thinking and communicating—both within oneself and with others—creates knowledge (Säljö, 2000). Thought processes in turn are affected by the surrounding culture and by past experiences (Ong, 1990/2007). A great deal of Western music education has its origins in written sheet music (Rostvall & West, 2008). This written paradigm seems to be prevalent in Swedish compulsory schools (Säljö, 2000). Consequently, one could assume that music is also taught to music students in music schools and compulsory schools using some form of notation. In a written culture, the student does not need the same kind of intellectual thought process carried out mentally as in, for example, an oral culture (Ong, 1990/2007; Hutchins, 1995); instead, the written sheet note acts as a mediating tool (Säljö, 2000). The thought effort necessary to remember, for example, a song is connected to the written (Wallerstedt et al., 2014) and the written text work as a memory aid for literate youths (Rogoff, 1990).

By studying the use of tools in learning situations, it becomes possible to understand human learning and thinking. Mars et al. (2014) state that a learning culture strongly influences the adolescent’s choice of tools for music learning. In a perspective where the past constitutes the preconditions for the present learning, it is important to study how these preconditions appear amongst adolescents today. By mapping the past, researchers can create knowledge about how to address the future regarding musical learning. In a sociocultural perspective, learning is directly influenced by the individual’s previous experience and knowledge, and it is also influenced by the context in which the learning processes take place.

Peer Teaching

What children do together with others is more stimulating for intellectual development than something they do on their own (Vygotsky, 1978). This way of viewing learning manifests itself in the way teachers fairly often organise their teaching and the activities they prepare for their students with, for example, peer teaching. But using peer teaching as a way of organising teaching offers several challenges. Time is of great importance when teachers enable peer teaching among students (Darrow et al., 2005). This way of teaching is not only time-consuming for teachers; it can also be stressful, and even frightening, for students to be evaluated by a peer (Powell, 2013). In a study of peer teaching, Brand (2002) aimed to identify what strategies children used when they taught another peer a song and found that the
students did not practise small parts where mistakes were made in favour of playing the whole piece of music. Brand argues that the strategies in learning and teaching are largely spontaneous, and that they are an immediate response to a situation that occurs between the peer acting as a teacher and the peer with the role of the student. When children get the chance to express themselves creatively together, they use a wide repertoire of resources, as well as making use of each other’s perspectives and ideas (Kullenberg, 2014). Children use gestures when they lack verbal vocabulary and these gestures function as a tool to obtain knowledge. Teachers need the ability to use gestures and music in addition to words when communicating in and about music, and this use of different tools points to the complexity of teaching (Pramling & Wallerstedt, 2009). Peer teaching demands two conditions: there has to be a difference in the level of knowledge of the student acting as teacher and that of the student in the role of student, and there must be an intention to teach (Brand, 2002). The responsibility for musical learning cannot be left entirely to the students, as this would involve a risk of betraying the students, the music and the importance music plays in peoples’ lives. According to Georgii-Hemming (2005), teachers have both an ethical and a democratic responsibility to provide students with both social and cultural understanding.

**Creative Thinking**

Music teachers face the complexity of teaching students how to think creatively and how to apply such creative thinking to playing instruments, and to listening to, analysing and composing music. Students face the complexity of being the subjects of this teaching. Creative thinking in music requires musical skills and factual information (Webster, 1990). Webster uses the concept of creative thinking instead of creativity as this places the emphasis on the process instead of the product, and he suggests that in music educational research, this way of viewing creativity could be fruitful. Creative thinking can be viewed as a dynamic and mental process that is affected by time, facility, musical knowledge and skills—although creativity is not the same as talent, general intelligence or musical skills (Webster, 1990; Balkin, 1990). In a sociocultural perspective, the surrounding context influences creative activities.

This view on discerning—or imagining—the affordances of the situational context implies a definition of creativity, or rather creative action, as the ability to perceive new affordances, or old affordances anew, and to elaborate these affordances in each situation. Thus, the meaning of creativity involves a relation to the surrounding context in which the human being continuously seeks new angles of approach, and practises the ability to perceive new affordances. (Folkestad, 2012: p. 196)
Music teachers can have a big impact on music students’ musical learning; they serve as musical models (Mars, 2014; Whitcombe, 2013). Balking (1990) states that creativity is to do, and to create; further, that creativity involves action. Sociocultural activities do not only involve creative processes – they are a creative process (Rogoff, 1995). When seeking meaning in social interaction, the past plays a significant role in the interaction, and the current interaction is also part of the foundation for future interactions. One of many components in creative thinking is imagination, which is also strongly affected by earlier experiences (Vygotsky, 2006). Such earlier experiences constitute the foundation for the creations made in the present (Vygotsky, 2006). Vygotsky argues that imagination differs between the child, the adolescent and the adult, as the adult’s imagination is more evolved—due to having had more life experience. In music making, Folkestad (2012) describes musical experiences as the “personal inner musical library” and he claims that this library is present, consciously or unconsciously, and can thereby be used in a creative process.

**Composing in a School Context**

Enabling composing in schools can be challenging in several ways. For example, as mentioned above, teaching students how to be creative can be a complex task. It can also be challenging for music teachers to design the composing tasks and to encourage an open mind, while also having to evaluate and assess students. In a study of teaching composition in secondary schools, Bolden (2009) points out that the design of the task affects how engaged the students will be. The framing of the task is also one of the keys for the teacher who enables composition amongst students in grades six to nine in Mars’ (2014) study. The design and implementation of a creative task should include meaningful activity for both those who are skilled in playing an instrument and those who are not (Leung, 2008). Leung’s study concerned a three-month composition project with 582 students from five different primary schools, where the students were asked to fill in a post-activity questionnaire after the project was completed. Leung suggests that peer teaching should be initiated with students who have different knowledge of music, as the peers with more knowledge can apply what they have learned and the peers with less knowledge can learn from their more knowledgeable peers. One way to involve students in the process of composing is to create a task that is what Bolden (2009) calls a “real world commission”, or at least to mimic such a task. Furthermore, the task benefits from involving the students’ sociocultural milieu and personal experiences. Another way to involve students is through dialogue, where mutual trust creates a dynamic atmosphere which Ferm Thorgersen (2014) found in her study of grade nine students interacting with composition and instrumental students at folk high school level¹, a

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¹ Folk High School is a Nordic type of school for adult education, sometimes with boarding. The school’s courses are usually divided into three categories: general courses, special courses and vocational courses. Music at a high
composition teacher, professional musicians and one composer. The project’s aim was that the students and the composer would guide the ninth grade students, with the composition teacher managing the pedagogical issues, and the musical ideas would be developed together and result in a new music composition. Ferm Thorgersen (2014) argues that the person in charge of a project, in the present study ultimately the teacher, can be seen as a “possibility-maker” (p. 56), and the possibility-making lies within the framing of the task. A clear structure with defined rules and roles, a common language, mutual communication and trust between individuals can create an atmosphere where students can be, and dare to be, creative.

The outcome of the compositions can be affected by several different components such as the knowledge the students carry with them (Folkestad, 2012; Bolden, 2009; Leung, 2008), and the communication and dialogue between peers (Ferm Thorgersen, 2014). Ferm Thorgersen (2014) also suggests that common shared imagination and experiences can create limitations for the composition when the students revise the sounding music, but on the other hand the common language and the symbols used encouraged the students to overcome these limitations. Listening to the music that one has composed oneself is a critical and subjective process where the earlier experiences create a context (Evan, 2013). Musical knowledge can be achieved through teaching music theory (Mars, 2014) and through listening to music (Bolden, 2009). Although students are inclined to revise their compositions (Folkestad et al., 1997; Bolden, 2009), they need help and encouragement to do so (Bolden, 2009). The teacher can lead and guide the students with a firm hand towards their goal – the composition – and can help the students to be successful in the task of composing (Mars, 2014; Bolden, 2009), but when guiding the students in this process teachers need to be aware of the impact they have, and they can teach by suggesting instead of prescribing, which leads to the composition still being the student’s own (Bolden, 2009).

**Methodology and Design**

Taking a sociocultural perspective as a starting point and with a music ethnological approach, the current study was design as a field study, based on observation of and interviews with seven students playing in a band and their music teacher. Nettl (2005) argues that music ethnological researchers generally have a passion for both the sounding music as a phenomenon and music as an aspect of human culture. This interest helps music ethnological researchers to analyse different cultural interactions that occur through the music as well as

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level as a special course is common and students attend these courses in order to prepare themselves before seeking a music academy. More information can be found at: https://www.folkhogskola.nu/globalassets/documents/folkhogskola_eng_engelska.pdf
the sounding music, highlighting various aspects of these. By studying musical activities in different cultures, it can be possible to develop teaching in music (Schippers, 2010). In this study learning culture is analysed through a musical activity.

In this study I oscillated as a researcher between two positions in the fieldwork: the participant as a teacher (insider) and the observer as a researcher (outsider). An oscillation between these two gives a deeper understanding of the phenomenon itself (Lundberg, 1994). When the practical knowledge of a culture is being categorised and understood at a cognitive level, this knowledge offers the researcher new skills. Such important interaction between the practice field and in-depth understanding of the methodology develops the understanding of the phenomenon being studied (Sæther, 2003; Lundberg, 1994).

The field study was conducted in close relation to a musical theatre project in the students’ schedule. I, the researcher, was well known to both the students and the teacher. I also have many years of practice in teaching and supervising creative projects such as the musical in the current school. During data collection, I was part of the musical theatre process, teaching and advising the vocalists and the actors in the musical theatre project. The students I taught were not included in this study.

As the aim was to investigate the use of tools amongst lower secondary students, the chosen methods were observation and interviews using field notes and filming to document the data collection. By using these methods, several different types of data became available. In the data collection it was the students’ actions and their expressions that were the centre of attention. The data collection site chosen was well known to the researcher, and the participants also knew the researcher as an able teacher, coach and musician. Thus the data collection site was Swedish 9th-grade students and their music teacher in a musical theatre project, including playing music, creating music and lyrics, and peer teaching music in cooperation with the teacher. The lessons were filmed on five different occasions during the school year, i) second of October 2013; length of video; 28 minutes 18 seconds, ii) twenty-seventh of November 2013; length of video 55 minutes and 47 seconds, iii) twenty-second of January 2014; length of video 49 minutes and 38 seconds, iiiii) fifth of February 2014; length of video 1 hour, 7 minutes and 7 seconds, iiiii) nineteenth of Mars 2014; length of video 43 minutes and 17 seconds. The students had access to the video camera when I was present, and they could always choose when to be filmed. In addition, they also sometimes operated the video camera themselves. After the completion of the musical theatre project, an interview with stimulated recall was conducted with three of the participating students. During this interview, which was filmed, the students were shown short pieces from the collected material and they were encouraged to discuss and comment freely within the group. The 28 sequences shown (30 to 90 seconds each) were selected from the themes found in the first two out of
four rounds of analysis. In addition to the stimulated recall interview, the students were once again allowed to reflect and elaborate on their previous comments through an informal interview. The teacher was interviewed in connection with the music lessons. In addition, Facebook chat and email were used for communication regarding the project, from and to both the researcher and the participants throughout the duration of the field studies and the analysing process. The films were transcribed using the software program Transana. When transcribing the films, both the conversation and the actions of the students were written down.

The participating students were Alicia, Billie, Blerim, Emelie, Isabell, Ivan, and Stella. They were all very interested in music and all of them, except Ivan, played one or more instruments in their spare time outside of school. When playing instruments in school, Alicia, Billie, and Emelie preferred to play the guitar, while Blerim and Isabell preferred the piano. Stella plays both guitar and drums. All the students participated in composing the musical theatre project. However, in the current study only Isabell’s and Billie’s compositions are included. Cornelis, the participating teacher, had worked as a music teacher for seven years when the study started; his main instruments were singing and guitar. He also played piano, bass and drums at a level that far exceeded the students’ musical skills. All of the names are fictitious and were chosen by the participants themselves. The participants in the study were informed that participation was optional and that they could, at any time, withdraw their participation, in line with the Swedish Research Council’s ethical guidelines (Vetenskapsrådet, 2004; Vetenskapsrådet, 2011). The students and teacher included in the current study chose to participate and the parents of the students as well as the students gave their written permission to participate in the study.

**Analysis**

A music ethnological approach puts the researcher in a position where closeness and distance must be addressed and dealt with. In this study the concept of *emic* and *etic* (Headland, Pike & Harris, 1990; Herndon, 1993; Lundberg & Ternhag, 2002; Sæther, 2003) has been helpful. Shifting between the roles of insider and outsider during the field studies and the perspective of emic and etic during the analysis creates challenges, and the researcher needs to adapt to a reflexive course of action. Using emic and etic in the process of analysing gives the researcher the opportunity to go beyond the spoken words and develop knowledge about the culture. The way the empirical data were organised is in line with Denscombe (2009).

The first round of analysis consisted of watching the films several times and taking notes in form of a diary of experiences, where the emic and etic view were mixed together and categorised as the former or the latter, marking them with different fonts, while reading the diary. Thus the first round of analysis showed the researcher’s precognitions and the etic view
that was maintained throughout the rest of the analysis. In the transcripts marked as etic—actions concerning the research questions where described and the words spoken in these parts were written down word by word. In the second round, the transcripts were read and two themes were created based on the students’ actions. The themes were the written score and listening. Round three consisted of reading and comparing the transcripts from the field studies, the stimulated recall group interview with the students, and the interview with the teacher. In the fourth and final round the themes were broken down into pieces and reconstructed according to the following themes: the written score, the sounding music, lack of vocabulary, mimicking the music teacher and finally progress and time. The last two themes were inconvenient at first, mainly due to the fact that the present study had a focus on the students not the teacher, although it became apparent that the themes including the music teacher were essential for the students’ musical learning and development. The purpose of carrying out four rounds of analysis was to become aware once again of the researcher’s preconceptions and prejudices, to enable shifts between proximity and distance, and to attempt to disregard the chronology of the empirical material and instead focus on how musical learning appears amongst the students.

Results

In this section of the article, the themes that emerged from the analysis are presented. The first two themes show how the students used the written score and sounding music as tools for learning. The theme showing and gesturing shows how the students’ lack of adequate vocabulary was compensated for with this as mediating tools for learning. The last two themes highlight how the students were influenced by their music teacher. The impact the teacher had on the students’ learning process is seen in the theme progress and time. The last theme, mimicking the teacher, shows how the teacher’s actions appeared through the students’ actions.

The Written Score

The written score in this setting is constituted of charts of chords and sometimes the lyrics as well. This kind of score seemed to play an important role in the students’ learning, especially at the beginning of the process. When the students created music, and in particular when they carried out peer teaching and taught others their own composed song, the written score was seen to be dominant throughout this study. The students were aware of the importance ascribed to the written score. This was evident when Isabell taught the other students her composition; she started by writing the chords on the whiteboard—all 40 bars, or 66 including repetitions. “I hope everybody can see [the chords on the whiteboard]?” she asked, thereby emphasizing the importance of the written score.
When Billie taught his composition to the others, the written was important to him as well, even though he starts his session by showing Ivan how to play some of the chords on the bass. After only a few minutes, Billie—encouraged by the other students—goes to the whiteboard to write down the chords.

Billie: But maybe I should write it up?
Blerim: On the white board.
Billie: On the whiteboard. (Video transcription, January 2014)

The written score functioned as security when practicing how to play a new piece of music on the guitar. During this session the students constantly looked at the sheet throughout the repetition. Even though they made errors playing, they could follow their peers playing by looking at the sheet of music. Hence, they could read the entire score before being able to play it on the guitar.

The students look at their sheet notes to see what they are supposed to play.
....
One student can follow the chords through the sheet notes and play them, but when she misses striking a chord she is not lost; she follows the sheet notes and can jump in to play the next chord. (Video transcription, October 2013)

In the above, the student first constructed music knowledge by reading, before gaining access to the musical skill—how to play the instrument. The written—the interpretation of chords, sheet notes—appeared to be the first step when learning how to play. It was after coding the chords and sheet notes that the sounding music was given greater priority.

The Sounding Music

The sounding music as a tool consists in the material of music from both CDs and YouTube, as well as the music sounding when the students played their instruments to explain something to their peers. When composing, Billie needed a musical model in order to be creative within a given frame in the musical context. In order to understand how to compose, the students expressed a need to listen to music.

Billie: In order to write music in a certain style of music I have to listen and also play songs in that style of music. I have to learn some different songs and analyse how it is constructed and so on. I also have a copy of part to understand it better. (Conversation, August 2014)
Another aspect concerning the sounding music comes from the teacher, Cornelis, who used listening to music as a tool to frame the task of composing.

Cornelis: Turn around, now we are going to listen a lot, and maybe we will compose next week. (Video transcription, September 2013)

When enabling musical learning through sounding music, Cornelis also framed the task by sharing his concept of quality through commenting on some of the music in a positive way.

Cornelis: Nice. Beautiful, is it not? It’s well made, and I am a little bit moved. (Video transcription, September 2013)

The students and the teacher used sounding music in several different ways, with the purpose that the students would gain more musical knowledge. When peer teaching, the students also encouraged their peers to listen to the sounding music as they played on their instrument instead of explaining with words. This will be exemplified in the next section.

**Showing and Gesturing**

During the year of observation, it became clear that the students lacked a vocabulary to express musical thoughts and progression. This was shown in the peer teaching process, as the students lacked the words to define the problem and to solve it. It was also apparent when the students were involved in a creative processes, like composing or arranging music, as they chose to play their instrument to express what they want to create or to show how to play a piece of music. Finally, it was also apparent when there was need to critique a peer, as the students avoided doing this.

When showing his composition to the other students, Billy taught the students how to play it on piano, guitar and bass:

Billie: Does anybody else have a question?
Ivan: How fast should the piano play? (Video transcription, January 2014)

Billie did not answer this question verbally. Instead, he played at the same tempo and with the same rhythm as before. The conversation between Ivan and Billie continued.

Billie: Do you mean how many times?
Ivan: Is it two times?
Billie: It depends on how fast you are playing (Video transcription, January 2014)
Again, Billie answers by playing the music, but now he plays the rhythm on the guitar at the same time as he emphasises the first and third quarter in each bar. The lack of words was compensated for with the sounding music.

The students’ lack of words was evident not only when peer teaching, but also when arranging music together. When arranging the piece of music that Isabell had composed, Billie and Isabell sat down and played the piece over and over again. After some time there was a new rhythm to the song. When they were asked how they came up with the rhythm, they looked quite surprised and smiled.

Interviewer: How did you make up that rhythm that you play together? Because you play it together. What did you do to come up with the rhythmical idea and play it together?
Isabell and Billie: I don’t know.
Billie: We just played.
Interviewer: Who started with it [the rhythm]?
Isabell: I have no idea. (Video transcription, February 2014)

In the video it was clear that Isabell adapted to a rhythm that Billie started, but neither of them were aware of this.

Once again, Billie used his instrument instead of using words to explain.

The students start from the beginning of the piece of music with the intro, and they play it correctly. Billie marks the transition from intro to verse by playing the same bass line again and the students continue with the verse. (Video transcription, January 2014)

When peer teaching this way the other students were able to follow Billie’s lead, but the students were more interested in their own playing than that of the whole group. Therefore, the students’ focus was individual, not on playing the same rhythm and the same chords all the time. But when Billie gave a verbal instruction, it had a unifying effect and everybody took it as a starting point and played together as a group.

Billie does not take any notice of what they said; instead he starts to play without counting in. Everybody is once again playing different bars in the piece of music, they seem to just practise how to place their fingers to play the different chords.
Now Billie takes another initiative.
Billie: Should we play the intro?
One of the students is saying mmmm. Everybody is preparing. Billie strikes the first chord, D-sharp, and he looks at the others to see if they are also playing a D-sharp on their guitars.

Billie: One, two, three, four.
Everybody starts to play from the beginning, with the rhythm of four beats to a bar. (Video transcription, October 2013)

The lack of vocabulary became evident when the students needed to correct one of their peers. The students would never give critical comments; instead, they repeated the same (whole) piece over and over again.

At the end of the intro where the verse starts, two students have difficulties playing; they then skip some of the chords and are able to keep up with the other students and start to play when they know the chords. Stella can play the whole tune. Now none of the students are playing the same bar of the piece of music.
Billie looks up, but continues to play. (Video transcription, October 2013)

Stella explained that verbal communication was not essential when teaching a song; whether or not words were needed depended on the musical knowledge of the student learning.

Stella: For me, the difference in teaching music to others depends on how well they can play their instruments. In the film I show Amanda how the chord and melody are played by simply tapping on the fret where she should put her fingers. This is because I know she really knows the chord, but needs to be reminded. Then it is usually sufficient to simply point or show without using words. (Conversation, August 2014)

Stella is really keen on meeting her peers, and she adjusts her way of teaching according to her understanding of her peers’ earlier knowledge. Even so it seems as if the students do not know how to address each other with verbal forward-looking critique, as they avoid giving critique at all. When making musical sense together they lack a musical vocabulary, and therefore use both gestures and sounding music to bridge this gap, which the students mastered impressively well. But when, for example, the teacher used words to explain, this had an immediate impact on how the learning continued.

**Progress and Time**

During the final stage of the musical theatre project, time proved to be one of the most critical components in terms of the quality and completion of the compositions and musical arrangements. Peer teaching and peer composing proved to be fairly time consuming, and
although the teacher Cornelis gave the students a lot of scope to carry out peer teaching and to
be creative, he sometimes had to engage in a more active role as a teacher by using his
knowledge and pedagogical skills to improve the students’ instrumental skills and their
compositions.

When the students were practising and peer teaching, the progression was quite time
consuming. It was only when the teacher entered the room and gave instruction that the ability
to play the piece of music leaped forward:

Cornelis: Does anybody have a suggestion for what rhythm can be used for this
song?
Billie is playing the chords of the piece of music and creating rhythms. The
students do not say anything.
Cornelis: No?
Billie: It can be fingerpicked.
Billie looks at the teacher
Billie: At least in the beginning.
The teacher plays part of the tune with fingerpicking.
Cornelis: Absolutely. The risk is if you have five people doing fingerpicking,
that someone does [Cornelis shows on the guitar], that someone does something
a little bit off beat, and that will show.
Billie: Mmmm. (Video transcription, October 2013)

Cornelis started all his critique with using encouraging words, then continued with comments
directed forwards, to improve their musical skill and composition.

Before leaving the students he gives them a framed task:

Cornelis: I challenge you to try to make something up, just try a little. You can
work on your own and see if you can find a good way to play. And it can be [to
Billie] fingerpicking. From the beginning: three to four. [With Billie
fingerpicking and the teacher strumming, they play part of the song.] They
[meaning fingerpicking and strumming] do not exclude each other; you can do
several things at the same time. Practise a little on your own. (Video
transcription, October 2013)

The above transcript demonstrates that the teacher had the ability to address the crucial parts
of the piece of music. He had the vocabulary to define and describe what was in need of
improvement, and he had the skill to show the students how to do it.
As the premiere of the musical theatre was getting closer, the teacher intervened more in the students’ composing. When I confronted the teacher and asked him why he guided the students more firmly as the opening night approached, he did not agree at first.

Cornelis: Because the composing was done. But I do not agree. We did the arranging of the music together. I do not really know where their own work comes in to rehearse the songs they already finished composing. What do you mean? (Interview with teacher, June 2014)

At first the teacher reacted as if it is critique that he was more involved in the students’ composing and learning processes, and he had a clear pedagogical idea of why he made this pedagogical choice.

It is a pedagogical necessity. The time aspect is important because there is not enough time for each song. While being more precise in my control, I also invite students and ask them how they want it in different parts of the music. Those who are more skilled musicians in this group are not as outgoing and they are no conductor types at the moment. A good student in an ensemble is not necessarily a good leader in a band. So they need more of my help in that aspect. There is no crystallised leader of the band. Together with the students, we solve the problems as they come. The students and I make songs together; it’s important not to underestimate the students and pretend that I have not guided them all. Therefore I say that we have composed together in the cases where I have gone in and come up with constructive criticism of their work. I do not interfere with their compositions when there is that opportunity; it is not an end that certain rules or my tastes are to be followed. But it should be consistent that it is the students’ ideas that are the basis of their compositions. (Interview with teacher, June 2014)

When time was a crucial factor, the teacher intervened more but at the same time he was careful to keep the students’ own ideas. The students’ progress was quite time-consuming when carrying out peer teaching, due to the lack of a common musical vocabulary and the lack of forward-looking critique. Furthermore, the students could not identify what was the next step in developing the piece of music. It was when the teacher came into the room addressing these issues that the students were able to take a big leap forward in playing or composing the piece of music.
Mimicking the Music Teacher

During the whole year of observing and filming the composing processes, peer teaching and playing together, the students’ teacher appeared frequently – not in person, but in the actions of the students. This became especially apparent in the students’ choice of the written score as a tool. All students wrote the chords of their composition on the whiteboard as one of the first actions when teaching the others how to play the piece of music.

It seemed that the students’ and the teacher’s purpose in using a certain tool differed in a pedagogical sense. For example, the teacher preferred to start all musical learning with a simple rhythm (four beats to a bar), thereby aiming to focus on shifting the chords correctly. The teacher demonstrated a deep understanding and a clear goal in choosing this approach when teaching how to play a piece of music. He expressed that it was comfortable for the students to start with four beats to a bar and that this approach gave the student a safe start where everybody could participate. Starting with a simple rhythm had other pedagogical implications; he could follow how the students create an arrangement.

Cornelis: I feel that there is a lot of value in arranging together with the students. Because if you think with a rhythm I actually know how it goes. If I decide the arrangement beforehand, then the moment when I can ask the student “What does the guitar do here?” is lost.

A progression concerning the rhythm of the song was obvious to Cornelis, he used this approach as a pedagogical tool to make the students aware of how to arrange music.

In an ideal class you’ll go through the song, and then you’ll listen, and then say that now we’re going to make this into music and less mechanics. You listen together and arrange the music together with the students to make them aware. Playing four beats to a bar is almost a necessary evil to teach them the chords, and then, to spice up the song, you go to the next step, to play a rhythm and create more of an arrangement. Often you’ll have to know the song before you know the finer points. [By “the song,” the teacher means the chords.]

Then there is very often a question of how to play a song. When you’ve written down a song and you have not shown how it goes, the student will very often ask how many beats there are in each bar.

In reality the students are asking what kind of meter it is, but the students think they are asking how many times they have to press down the chord on the piano for example. We teachers know for example that it’s a 4/4, but the students
might only play two times per bar. The students cannot feel the difference. (Interview with the teacher, April 2014)

Isabell used the same tool as her teacher Cornelis, using the rhythm of four beats to a bar, when teaching the other students how to play her song. Her understanding only contained one implication of the pedagogical use of the tool, and in this she shares the teacher’s view.

Isabell: Yes, but it’s because it’s better that you have a song that actually works with the chords, so it’s fluent before you start with rhythms that make it like chopped up in the song. (Video transcription, February 2014)

In the same way as their teacher, the students tried to be flexible towards their peers when teaching them how to play. They recognised that students needed different ways of teaching, and framed this as a question of developing musical skills.

Stella: …When showing someone who has not mastered the instrument as much as you, you need to show both verbally and on the instrument. This is done automatically, as one unconsciously or consciously knows the musical skill of different persons. Therefore, it is taught differently, too. In addition, it may help to say something like “that chord, I also had difficulty with that in the beginning, but it’s just a matter of practice and now it’s there!”, and so on. And when lots of students practice together, everybody is practising what they all need to. To then play the same melody at the same time, all it really needed was someone to count and then you go. (Conversation, August 2014)

The students used the same tools as their teacher to a certain extent, but when it came to giving critique they avoided doing so. The students had a verbal communication that was tied to their solidarity to each other. They did not comment on each other's musicianship and musical works with musical terms, instead they confirmed each other’s starting points. The students' benevolence towards each other and the nice way they took on peer teaching was prominent in the study. Although their goodwill towards each other prominently was expressed in their verbal communication the lack of musical language was distinct. They did not use musical verbal language as a tool of communication, although their teacher gave a lot of positive feedback and also a lot relevant critique - in musical terms. The students did not adapt this tool. This, in turn, led to a somewhat limited development for the students. The music teacher was needed when it came to bringing the compositions to the next level, and when it came to learning how to play a piece of music.
Summary of Results

To sum up the results, the students were strongly influenced by their teacher, Cornelis, and they chose the same tools for musical learning as he did. But Cornelis had a deeper pedagogical understanding of which tool to use, compared to the students, although the students showed some level of consciousness when discussing why and how musical learning can take place. The teacher also strived to ensure that the students’ work remained their own, even if he lent his knowledge to them so that their compositions would be completed. It became apparent that the students did not criticise each other to the same extent as the teacher did. The time available proved to be a crucial factor concerning peer teaching, as the time available became less the more the teacher directed and steered the students. The students seemed to lack a vocabulary for expressing musical meaning, and the lack of words was compensated for through practical demonstrations, encouraging the other students to listen. The students talked about the need for an inner musical library in order to know how to compose and to be inspired to do so. The results imply that the students mediated the musical meaning mainly when interacting with each other as well as through seeing, reading and listening.

Discussion

In this study, a sociocultural theory was employed to explore what tools were used in musical learning in the context of a musical theatre project. The actions of the participants were categorised as the presence or absence of different tools for learning and teaching. A fundamental statement in a sociocultural perspective is that learning is strongly affected by earlier experiences and the present context, which will be discussed in this section, as the results of this study show that the teacher’s way of teaching affected the students’ way of peer teaching. In the following, the use of the written score and the sounding music as tools for learning will be discussed. A tool that was undeveloped amongst the students was the explanation, which was not utilised even though some of the students’ pedagogical ideas could have benefitted from a verbal explanation. In addition, composing and peer teaching as pedagogical constructs will be discussed.

The adolescents were obviously influenced by their musical past. This was evident in the way they mimicked their music teacher when teaching somebody else a piece of music. For instance, the students would use the same tools as their teacher; the way the whiteboard was used, how the chords were written, and how the fingering chart was written next to the chords closely resembled the teacher’s way of doing it. Although the students used the same tools as their music teacher, it was apparent that they did not understand why and how to use them to the same extent as their teacher. For example, when Isabell was asked to explain why she used the whiteboard as a tool to teach the other students to play the song she had written, her
pedagogical understanding only included one of her teacher’s pedagogical implications. The music teacher Cornelis’ way of starting a music lesson with the rhythm of four quarters per bar was also used by the students both when teaching and when learning how to play themselves. According to Vygotsky (1978), Rogoff (1990), Cole (1996) and Säljö (2000), learning is strongly connected to a person’s past experiences. Earlier experiences and musical knowledge will also affect the outcome of students’ compositions (Folkestad, 2012; Bolden, 2009; Leung, 2008). The fact that past experiences matter when composing is expressed by Billie, who stated that he needed earlier musical experiences in order to know how to compose in a certain genre.

The students needed written notes and/or chords and text in order to remember how the music should sound, as well as how their instruments were to be played. Additionally, the music teacher constantly referred to the written artefacts when teaching. Knowledge in a written culture is remembered and developed by written text (Wallerstedt et al., 2014; Ong, 1990/2007; Hutchin, 1995; Rogoff, 1990). In a written culture, the written text operates as the memory of information that can be used to discuss, reflect and develop knowledge. In the words of Säljö (2000), the written text is the mediating tool for knowledge. Wallerstedt et al. (2014) describe this as putting some of the effort of thinking into the written word. In the present study, the written text has proved to be of the greatest importance for the Swedish students’ musical learning and remembering.

A teacher or another carrier of knowledge who is skilled in using cultural tools (Wertsch, 1998) could create a rigorous and progressive educational idea that can lead students to further knowledge. In other words, they could form the conditions for what Vygotsky (1978) called the Zone of Proximal Development. When teachers create space for peer teaching, the time available (Darrow et al., 2005) and the teachers’ knowledge are of great importance. Furthermore, teachers have a responsibility to share their knowledge (Georgii-Hemming, 2005). The teacher in the current study was almost offended when faced with the fact that he became a more active teacher in the students’ musical learning the closer they got to the premiere of the musical. Those that teach young people need to be flexible and aware of students’ backgrounds and cultural identities, as this strongly affects how they learn music. The conclusions drawn from the theories and the results of this study suggest that his actions were necessary to place the students in a proximal zone of development.

Adolescents need musical experiences in order to understand how to compose, as Billie showed in this study. Listening to music creates knowledge that is needed to create music (Bolden, 2009). This knowledge can be seen as the personal inner musical library that is always available, even when it is not the main focus (Folkestad, 2012). The earlier experiences thus create the possibilities in the present when composing. Drawing on this and
on Vygotsky (2006), it is possible to claim that experience gives a greater outlet for imagination, and thereby opportunities of expression. In a creative context, therefore, the adults need to lend their own imagination and knowledge so that the students can develop new skills and further develop their imagination. Consequently, it seems necessary in order to broaden and deepen the students’ knowledge to allow for more creative activity. The sounding music as a tool is not only a way of broadening the imagination and freeing creative capabilities, it is also part of the process of composing, which is a critical and subjective process (Evan, 2013). Furthermore, the students encouraged their peers to listen to the sounding music when they were peer teaching; instead of verbal communication, they used for example the guitar and made a sounding instruction as a way to explain. The sounding music is a diverse tool when students gain musical knowledge: it is involved in different parts of the process of composing and is used as a tool for making a common and shared musical sense.

When peers learn music together the spoken word can be an obstacle, which suggests that the sounding music could be utilised in creating meaning. It became apparent in the present study that the students lacked a musical vocabulary when communicating with their peers. As Pramling and Wallerstedt (2009) point out, there is a complexity in teaching music and this study suggests that teachers need to be aware of how and when to use various tools in order to communicate both in and about music. It is not surprising that the students have not yet mastered this complex ability that requires both time and experience to develop.

The confidence to be exposed to critique from other peers demands a safe environment where mutual trust and curiosity is characteristic (Ferm Thorgersen, 2014). Revising not only one’s own composition but also one’s peers’ musical performance is a critical and difficult task for the adolescents in the current study. They seem to avoid critiquing one another and they do not address the parts where errors are made. Children who teach each other a song are focused on playing the whole song through instead of repeating the sections that are difficult to play correctly (Brand, 2002). In the current study the same phenomenon occurs; the students do not seem to register that not all of them are playing the music correctly, and they continue to play the whole piece of music from the beginning instead of repeating the sections where the difficulties appear. According to Powell (2013), the feeling of being judged by their peers is a problem in peer teaching. A similar process may be involved in this study; the students may be afraid to expose themselves by criticising their peers.

In this study the teacher’s pedagogical idea was to encourage peer teaching, and the groups of students consisted of peers with different instrumental skills. This way of organising peer teaching has the advantage that skilled and knowledgeable students can apply their knowledge to teach less skilled peers (Leugen, 2008). For example, when Stella talks about her teaching, she emphasises that she adjusts her ways according to the peer’s needs. Although children and
adolescents are open towards each other when interacting in a creative musical activity (Kullenberg, 2014; Mars et al., 2014), the results of this study show that the students are highly affected by their music teacher in their learning and when peer teaching; the students mimic their teacher, but they lack the depth pedagogical understanding of why they should use a certain tool when teaching their peers'. In a sociocultural perspective, we could say that the students have borrowed the teacher’s tool for teaching (Vygotsky, 1978). The teacher’s knowledge is broader and deeper compared to that of the students. The teacher also has the ability to see all the students in the classroom; an ability that the students lack. Furthermore, the teacher is able to articulate the tools that are being used. The teacher can switch between tools according to the students’ needs; another ability the students lack, even though they are aware of the different needs of their peers, and they try hard to meet their peers at their level. A teacher needs to have several pedagogical aspects in mind when initiating peer teaching as well as being careful when planning and organising such activities at school.

Rogoff (1995) states that participants in a social activity adjust their actions towards each other in order to bridge different ways of understanding. This way of interacting creates development. In this study of young people’s musical learning in peer teaching, it appears that the adolescents used several mediating tools, both consciously and unconsciously. Furthermore, they strived to adjust to their peers, but lacked the knowledge of how, when and where to use a specific tool in order to create the right conditions for a zone of proximal development. The result shows that the zone of proximal development was easier achieved when the teacher was involved in the students’ musical learning.

**Concluding Remarks: The Teacher’s View**

When initiating projects at school such as composing, where creativity is involved, a clear structure is needed as well as defined roles and rules (Ferm Thorgersen, 2014). Furthermore, a common language can encourage the students to overcome the limitations that can occur in a creative process. The musical inner library (Folkestad, 2012) can, in the light of this study and the earlier research presented, be seen as a precondition for imagination used in creative processes. But if the students share the same inner musical library, there is a risk that this common ground of musical experience will create limitations instead. Here, the teacher’s inner musical library can play a vital role, as the teacher can show how to solve or develop a musical problem or idea. By using one’s own knowledge and putting it in the students’ context and in their creation, the teacher gives the students the opportunity to acquire more musical knowledge and also teaches them ways to be creative. If we strive for creative students and creative members of society, one of the goals of music education should be to give students in-depth musical knowledge as the more knowledgeable or rather the more experienced seem to have access to a wider spectrum of imagination which in turn is likely to enhance a creative process.
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**About the Author**

Annette Mars graduates as PhD in Music Pedagogy in September 2016 at Luleå Technical University in Sweden. Annette researches youths’ musical learning in a cultural context both within and outside the school as an institution. Oral and written culture of learning is another field of Annette’s research and this interest has led to twelve years of field studies in Gambia with a music project of interaction between Gambian and Swedish youths. Annette is a lecturer at Malmö Högskola in Sweden where she works with both general and music teachers’ education. She also gives lectures about aesthetic processes and the art of teaching composing to young students. Annette has worked as a music teacher in compulsory school for more than 20 years where creativity and composing played a central role in her classroom curriculum.
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