

PRACTICAL SOLFÈGE AND
MUSIC THEORY IN VIOLIN
EDUCATION

HOW TO TEACH VIOLIN STUDENTS THE
CONNECTION BETWEEN SOUND AND
NOTATION?

ESZTER VICZIÁN

this page intentionally left blank

ACTION RESEARCH IN THE YOUNG TALENT
DEPARTMENT AT THE ROYAL CONSERVATOIRE
IN THE HAGUE

this page intentionally left blank

PRACTICAL SOLFÈGE AND MUSIC THEORY IN VIOLIN EDUCATION

HOW TO TEACH VIOLIN STUDENTS THE
CONNECTION BETWEEN SOUND AND
NOTATION?

ACTION RESEARCH IN THE YOUNG TALENT DEPARTMENT AT THE
ROYAL CONSERVATOIRE IN THE HAGUE

Eszter Viczián

A thesis submitted in partial fulfilment of the requirements for the
Master of Music Education, Royal Conservatoire, The Hague.

Supervisors:

Adri de Vugt

Koosje van Haeringen

Suzanne Konings

Abstract

Nowadays, violin students in conservatoires often learn solfège and music theory by singing and using the piano. For some instruments it is difficult to apply the acquired knowledge because it needs to be ‘translated’ into a different context. The main goal of this study is to get more information of working with an approach where violin playing is integrated into the teaching of solfège and music theory.

At the beginning of the research a literature study was done to consider music learning theories and to analyse violin methods. Then an action research was conducted to take into account the ways in which solfège and music theory can be taught in a group violin lesson context. The lessons took place in the Young Talent Department at the Royal Conservatoire in The Hague among 7- to 17-year-old students. The action research consisted of three cycles.

The findings are that students in general had no difficulty with playing by ear and singing with relative sol-fa names. Results from the analysis of the transposition, note naming and writing exercises indicated that students’ knowledge of absolute pitch letter names and the tone- semitone relationships between neighbouring notes were not at the same level. During the evaluation process of students’ answers to these exercises, some violin and theory teachers presumed that the difficulties could emerge partly from the fact that in most violin schools the first note reading exercises are not in C major but in G, D or A major. Hence students easily get confused when they become familiar with some augmented notes (e. g. f sharp, c sharp, g sharp) before they learn how to play and read their natural versions.

My conclusions are that playing by ear and singing with relative sol-fa names can be good basis for teaching the connection between sound and notation. When introducing absolute pitch names it is advisable that violin and solfège teachers compose the content of the lessons together. Transposition exercises from the very early stages using just two-note melodies give good opportunities for applying knowledge into violin playing. For illustrating the tone- semitone relations between the notes Lego models can be used. Singing with ABC or sol-fa names while playing and subsequently notating these transposed notes gives a multimodal experience for students.

Preface

In my previous teaching practice in Hungary I often thought about what approaches would make solfège classes more relevant for violin students. I felt that organising solfège classes according to instrumental families would be beneficial. Furthermore, when I taught group violin lessons I found that group setting appropriate for teaching about musical attributes. After I moved to The Hague I realized that at the Royal Conservatoire students in the pre-school program are organised into instrumental families (e.g. strings, recorders, percussion and keyboard). Later on the students have group violin lessons offering good opportunities for gaining specific instrumental knowledge. I felt fortunate that I could try out exercises with the violin students in the Young Talent Department. I saw that the opportunity of getting feedback from other teachers would assist me in the further development of my teaching practice.

I would like to thank all the violin and theory teachers who have advised me and all the students who participated in my lessons for their assistance in enabling me to carry out this research project. I am grateful for the help of my methodology and coach teachers, Koosje van Haeringen, Suzanne Konings, and Adri de Vugt. Furthermore I would like to thank my friend Katherine Hopwood who has read through some of my research at different stages and has corrected my English grammar.

Table of contents

Abstract	2
Preface	3
Table of contents	4
Chapter 1: Introduction.....	6
Chapter 2: Theoretical framework.....	11
2.1 The aims of the subjects ‘solfège’ and ‘music theory’ in music students’ progress in the context of a conservatoire	11
2.2. How and when to introduce notation to children who learn an instrument?.....	13
2.3. Examples of how to integrate the playing of the students’ own instruments into solfège teaching	18
2.4 Examples from violin methods of how to teach the connection between sound and notation	21
Chapter 3: Research methodology.....	29
3.1. Action research	29
3.2. Step by step description.....	30
Chapter 4: The context of a Conservatoire	34
4.1. First steps in my study - How did I get the opportunity to teach?.....	34
4.2. Planning my first lessons	36
Chapter 5: Action research processes – collecting data, analysing, reflecting, and planning – cycle by cycle.....	40
5.1. Orientation cycle	40
5.2. First cycle	45
5.3. Second cycle	52
Chapter 6: Analytical overview and results of the research process - answering the ‘sub’ questions.....	58

6.1.	How can I teach violin students the connection between sound and notation?	58
6.2.	How can I collaborate with teachers to improve my teaching?	61
6.3.	What issues did teachers address?.....	63
Chapter 7: Conclusions and discussions		66
7.1.	Answering the preliminary questions	66
7.2.	Answering the main question	67
7.3.	Discussion and further plans	69
7.4.	Personal learning	70
References.....		72
Figures.....		77

Chapter 1: Introduction

Solfège and music theory are basic subjects in the curriculum of conservatoires. These subjects are designed to help with understanding music. This knowledge is important especially for those who go on stage. When we draw a comparison between learning to perform music and mastering a language, we cannot perform anything in an authentic and convincing way if we are not aware of the meaning of what we say. It is as if we tried to recite a poem in a foreign language we don't understand. We might manage to say the words, but we would just imitate the music and we would not be able to convey the emotions correctly. In the words of Kodály: "It is evident from performance whether the person understands the music he/she is playing. Most people play as though they had learned a foreign text of which they do not understand a word." (Kocsár, 2002, p. 35)

Currently, students who intend to become professional musicians will study solfège and music theory at some point in their lives. For instance if a child seems to be talented at playing the violin then he/she usually enters a music school to study the violin as a main subject. But beside the individual instrumental lessons there are compulsory classes where musical skills are developed in a group context. Knowledge about music in general is taught there in order to support the instrumental study. Therefore, when the pupils learn the violin repertoire, they can apply their understanding of musical attributes. So the mandatory subjects can contribute in an indirect way to a better performance.

In the solfège and music theory lessons violin students rarely use their instruments - singing and piano playing is more common. When the exercise is reading from a score the students sing what they read in the score. Musical elements are being taught by singing as well, which is obvious since our voice is the 'instrument' we all have by nature. The ability to sing in tune is crucial for violinists. In the individual lessons violin teachers can use this ability effectively. Mastering the singing skills makes a direct connection between the mandatory and main subjects. Other activities involve the piano. When there is dictation they need to write down what they have heard when listening to a piano being played. Ear training tasks are commonly given by a teacher playing the piano. When studying harmony the teacher plays cadences on the piano. For violinists it is not a 'direct' knowledge - if they want to apply it to violin playing they need to 'translate' it into a different context.

When knowledge is given to violin students by using the piano it can be fruitful on one hand, because the structure of the notes is visualized. They

can see the distances, while on the violin it is not obvious. On the other hand the process of playing the notes which involves specific physical sensations in the body is completely different for the two instruments. Learning musical elements on the piano and then applying it to the violin can be similar to learning Latin and then speaking in Italian. Of course knowing Latin supports the study of Latin languages because of the similar grammar. Nevertheless it can effectively contribute only if a direct link is made by pointing out the similarities between the two languages.

If teachers do not refer to the knowledge and information which students have already learnt it can easily disappear in the course of time. But it can grow stronger if they can connect the new knowledge to the old. For example even little children can recognise those white keys on the keyboard which are next to each other so there is no black key between them. When learning about major and minor 'seconds' using the piano it is obvious that 'e - f' and 'b - c' are minor seconds. On the violin we don't have that visual help but violin teachers can teach the notes 'e - f' and 'b - c' by referring to the keyboard. Recalling the visual image of the keyboard can be of assistance to a violinist if they have been taught how to apply this knowledge.

At the beginning of this study I decided to examine how violin playing can be integrated into the teaching of solfège and music theory. Because the four strings of the violin are tuned in perfect fifths and there are no frets on the fingerboard, the structure of the instrument requires special understanding. My own belief was that in order to find notes on the violin we need to 'feel' the different distances in our left hand; therefore the knowledge of intervals is crucial. I thought that transposition exercises were very useful techniques to experience how notes relate to each other. I also felt that collaboration between theory and instrumental teachers would be beneficial, and the learning topic should be chosen according to the needs of each student in instrumental development. I assumed that in the violin lesson there would not be enough time for learning all the notes in a detailed way because of the technical demands of the instrument.

I intended to give here an overview about recent trends in different countries whether they teach solfège with or without instruments in music schools and conservatoires. I learnt of examples in France, Russia and Norway which integrate the playing of the students' own instruments into solfège teaching. I also heard from teachers that in Spain and in Portugal this is not the case. When I wanted to investigate to find out more about the current practice in different countries it turned out that answering this question could form the basis of another research project, because the situation is ambiguous. I got the impression for example that in Hungarian and Dutch conservatoires solfège is taught mainly in a solitary way, but looking at music schools in

these countries I also could find many examples of instrumental teachers setting up groups for violin students to teach the musical elements in practice, with direct reference to the violin.

Before undertaking this study, I had four years experience teaching violin in Hungary. I gave individual lessons and also I taught four groups of students which were arranged according to the students' level of attainment. After I moved to The Hague I realized that at the Royal Conservatoire students in the pre-school program are organised into instrumental families (eg strings, recorders, percussion and keyboard). Later on the students have group violin lessons offering good opportunities for gaining specific instrumental knowledge. As I conversed with violin and theory teachers, I received great encouragement and ideas for trying out exercises in this subject for the violin students at the young talent department.

Originally I intended to investigate both in Hungary and in the Netherlands but I needed to limit the scope and I decided to concentrate on just one country. Because of having previous discussions with teachers in the Royal Conservatoire in The Hague it became obvious to me that I should carry out my research in this institute. I wanted to collaborate with the teachers therefore I chose the action research approach. It is a sequential process where the practitioner can adjust and improve their teaching practice in accordance with the opinions of other musicians, who may be teachers, colleagues or friends. My idea was to address the issues that arise when I am teaching and ask for others' opinions. I would be able to improve my teaching and also the collaboration between the two departments at the same time.

Main question

How to teach violin students the connection between sound and notation?

I was given the opportunity to teach group lessons for violin students in the Young Talent Department at the Royal Conservatoire in The Hague. I decided to study one specific aspect of music theory and solfège and this is the connection between sound and notation. The purpose of this study was to improve my own teaching practice. I decided to experiment with several exercises in a group context to teach 7- to 17-year-old violin students the connection between sound and notation. I wanted to find a specific solution in a particular setting. I did not intend to illustrate how it should be done in all violin education, just in this particular context.

In the orientation phase of this research I studied literature and I have observed violin and solfège lessons to help compose my preliminary

questions and then to find the answers to these questions. Then I started the first cycle of planning, teaching, observing or analysing and reflecting. I carried out four cycles – concentrating on a different focus point in each. After finishing the third cycle I decided to reconsider the first cycle and define it as an orientation cycle. Another change occurred in that after the orientation cycle I limited the age group to 8- to 12-year-old students.

Preliminary questions

What are the aims of the subjects: ‘solfège’ and ‘music theory’ in a music student’s progress in the context of the Conservatoire?

How and when to introduce notation to children who learn an instrument?

Why and how to integrate the playing of the students’ own instruments into solfège teaching?

How do violin methods recommend introducing notation?

What is the current practice at the young talent department of the Royal Conservatoire in terms of introducing notation for violin students?

Structure of the thesis

In Chapter 2.1 the necessity of learning solfège and music theory in a conservatoire is discussed and also whether we can understand music better if we have knowledge of these subjects. Ideas from the research by Darrell, Gauldin, Gordon, Howard, Karpinski, Kodály, Pearsall and Almén, Smith, and Thomsen are mentioned. Chapter 2.2 presents the ideas of particular music theorists like Bamberger, Cobb, Dalcroze, Davidson and Scripp, Fine, Berry, Rosner, Gordon, Grutzmacher, Hayward, Gromko, Howard, Kodály, Kohut, Konings, Lavignac, Lora, MacKnight, Mainwaring, Mason, Naef, Pestalozzi, Trotter, McPherson and Gabrielsson, McPherson, Bailey, and Sinclair, Mills’s and McPherson, Price, Byo, Scholes, Sloboda, Smith, Suzuki, Szilvay, Thomsen, Vernon. Chapter 2.3 gives examples from previous research about how to give the opportunity for students to play their own instrument in solfège and theory lessons. (Howard, Larmier, Novik). Chapter 2.4 investigates a variety of violin methods like Colour Strings by Szilvay, Dénes-Lányi-Mező-Skultéty, Dénes-Réger-Németh, Doflein, Fisher, Hansen, Markov, Metz, Sándor-Járdányi-Szervánszki, Sassmannshaus, Schilt-Plate. The different approaches are illustrated with pictures and diagrams from students’ books. Chapter 3 explains the methodology of this study. Action research is defined by the thoughts of Cain and Koshy. Chapter 4 is a short

summary of the current teaching practice at the Young Talent Department of the Royal Conservatoire. Chapter 5 is the account of the action research. It gives an overview of the group lessons. Chapter 6 is the analysis of data and results. Chapter 7 describes the findings in a form of conclusion and discussion.

Chapter 2: Theoretical framework

This chapter is divided into four sections. The first section is about the role of solfège and music theory in a music student's progress. The second part introduces the thoughts of music educators about how and when to introduce notation to children who learn an instrument. Then research is presented where solfège and music theory are being taught with the integration of playing on the students' own instrument. In the fourth part, violin pedagogues' principles are introduced and we can look at samples from exercise books about the explanation of the notes on the violin.

2.1 The aims of the subjects 'solfège' and 'music theory' in music students' progress in the context of a conservatoire

It would be very simple to state that learning music theory or solfège is important because we can grasp the meaning of music through them. In reality this topic is more complicated. How can we get closer to the essence of music? To get the answer we might need to form a classification system by combining several criteria where 'parameter' of music like 'melody' 'harmony', 'rhythm', could be just one criterion among many others. If we discussed musical meaning by considering just one feature we would be similar to one of the three blind men in the Buddhist parable, when they come across an elephant. The first man grasps its tail and thinks that the elephant is a rope; the second believes that there is a snake by touching the elephant's trunk and the third imagines that the elephant is a tree because he grasps its foot. (Pearsall, Almén, 2006)

Studying at a conservatoire presumes a strong intention from a pupil of becoming a musician who chooses this profession as a lifetime vocation. (Gauldin, 1974) But being an artist and acting as an artist requires more than simply applying some acquired knowledge. Although training the mind and ears is as important and necessary step in a music student's progress as training the hands, it cannot be the final goal. It is not enough because a performer must never forget about the human's heart. According to Kodály (1960) being a good musician involves our well-trained ear, mind, heart and hands at the same time. Darrell (1955) also describes it in a similar way that the musician must have the ability to translate the materials of music into a 'meaningful and vital human experience, for others as well as for himself.'

(Darrell, 1955 p.48) These thoughts refer to something which is the indescribable part of music.

If we think of the transcendental nature of music it is obvious that we reach something which is hard to put into words. Still music educators try to explain in many different ways that musicians must use the knowledge of solfège and music theory in a special way. When Thomsen talks about the collaboration of cognitive and aural attention he points out that 'mind, ear and voice need to work together smoothly in an improvisation'. (Thomsen, 2011, p. 70) In the method of Dalcroze (Thomsen, 2011) one of the principles is creating conditions for special moments when something artful can come into existence. Dalcroze also believed that the best condition for the expressive performance is when the musician has an increased sensitivity to and awareness of music attributes like melodic direction and tonal harmony.

Every music teacher needs to take into account the mystery of music and teach in a way that encourages students to find their own authentic way to express themselves. It is often said that this is something which cannot be taught. Even so educators must shepherd their pupils towards the appropriate direction. Sometimes it requires the development of complex skills. For instance Karpinski (2000) reminds us of the importance of thinking 'in' music instead of thinking 'about' music. Gordon (1997) calls this as audiation which is learning through our own ears rather than learning through someone else's ear by imitating. 'Hear with the eye, and see with the ear' (Smith 1934, p.58, Kodály, 1972) expresses that musicians need to be able to imagine and hear inwardly every parameter of the sound - even its emotional meaning - just by looking at the score silently.

Conclusions

When teaching solfège and music theory it is worth keeping in mind that we need to deal with complex skills. The development involves the whole person including his/her emotional needs. The main goal must be to provide a type of knowledge for students which can help them to develop and show their musicality in a unique and expressive way. This is what has motivated me to do this study. In practice it means for example minding what the tone quality is even if a student is doing a solfège exercise. (Howard, 1996) Whatever we play or sing in a lesson - or practise at home - needs to be approached with a 'professional' attitude as we always need to consider each kind of music as a piece of art.

2.2. How and when to introduce notation to children who learn an instrument?

The historical overview of teaching practice, informs us about a remarkable change in the middle of the nineteenth century. By about eighteen fifty it was possible to mass-produce relatively cheap scores because high-speed printing machines were invented. So there were few books before that time and many more books after this. Knowledge was passed by musical apprenticeship before and through method books after. Instead of oral and aural tradition, repetition of exercises became more common and emphasis was not on improvisation and composition anymore, but on reproduction and technique. Fingering became associated with notation rather than with sound. Johann Heinrich Pestalozzi, a Swiss educator in the beginning of the nineteenth century professed that music should be taught through direct experience before the introduction of names or symbols. His principles were taken to North America by his colleague Joseph Naef. Lowell Mason who was America's first public school music teacher believed the same, and Yorke Trotter in England was also convinced that a student "must first have the effect in his mind before he knows the symbols". Music educators from the second half of the twentieth century also emphasized the aural traditions and tried to find a balance between oral and written instructions in their teaching practice. Henceforth I will analyse their principles in details. (McPherson, Gabrielsson, 2002)

When and how to start music education? Kodály (1964, p. 246) advised to begin nine months before the birth of the child. At first the mother is the one who sings lullabies while rocking the baby to sleep, or tells rhythmical nursery rhymes during playtime. Then children imitate their mother and sing children's game songs together in a playful way accompanied with various movements. The enjoyment of music especially in this developmental level is the most important according to both McPherson and Gabrielsson (2002). Playing an instrument should happen by developing aural awareness and an ear-to-hand coordination skill. Also they advise rote teaching up until the age of six. Bamberger (1996) found in her research that too early emphasis on notation can lead to a decreased aural sensitivity to natural patterns that children spontaneously observe when listening to music.

Often music is considered as a special language as the learning process can also be thought of as similar to the acquirement of the mother tongue (Smith, 1934). Suzuki (1983) for example developed a teaching system whereby children imitate their mother playing the violin. They learn to "speak" before they learn to read. That is they play by ear before they learn

notation and play from written music. Sloboda (1978) also believes that ‘no-one would consider teaching a normal child to read while he was at a very early stage of learning spoken language’. The process how we learn our mother tongue briefly is ‘practice before theory’ using the axiom of Lavignac (Smith, 1934). Kohut (1985) describes this in a more detailed way, that children must develop a repertoire of mental blueprints by listening to different kinds of music before they learn any theory. Moreover this vocabulary of tonal and rhythm patterns – as Gordon (1997) calls it – should contain not just major and minor but also modal music, because this can be the basis of aural skills development.

According to Mainwaring (1951) children need to play each note by ear at first and after that they will be able to relate the sound to the symbol. He illustrates this with a model of music literacy development. (Fig. 1)

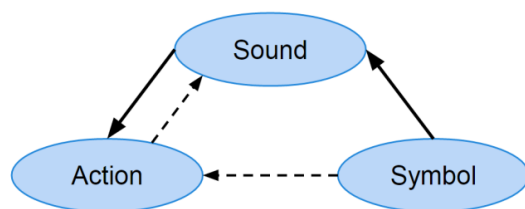


Figure 1

At the heart of his concept of musicianship is the capacity of being able to “think in sound”. He highlights the important distinction between seeing notation and responding mechanically to produce the notated sound (working from symbol to action to sound) and seeing the

musical notation and being able to hear the notation inwardly before reproducing it on an instrument (working from symbol to sound to action).

One of the proponents of the other concept is Szilvay (2007b) the founder of Colourstrings. He starts to introduce a reading process from the first violin lesson. He believes if the children only merely imitate his playing it brings results but it is more like a parrot teaching which is not sustainable. He uses the Kodály (1960) teaching philosophy which is that students should use as many senses as they can. Teaching through reading makes the message of music everlasting and deep. Without reading, the musicianship will not be real musicianship, it will be more artisanship. So therefore this reading should be introduced to the children from an early stage and age but the writing of music should be simplified.

For the question ‘How should we introduce notation?’ Szilvay (2007b) has a very detailed methodology. He emphasizes reading from the first violin lesson but without using the ‘real’ notation. Namely he visualizes every musical notion like melody, dynamics, tempo, rhythm etc. in his book with colourful drawings. Although McPherson and Gabrielsson (2002) have a similar idea to ease learning to read when they ask the children to invent their own notation for a piece, they also say that the child’s first reading activities need to happen separately from the act of playing. It seems to be in contradiction

with the Colourstrings method. But if we consider that each violin playing activity starts with singing the song first, we can conclude that in a way reading process is detached from the violin playing in the teaching practice of Szilvay too. By the time of playing the reading has already been introduced and practised together with the singing.

Singing and especially singing using the relative sol-fa names is an important characteristic of the Kodály (Szilvay, 2007b) method. The advantage of singing with relative sol-fa names is that students learn the function of the notes without really noticing it.

“It is not the name of a note in relation to its pitch notation on the staff that should be learned first, but it is the combination of sounds with stable, functional (and thus relative) note names that will eventually make aural understanding of staff notation possible.” (Konings, 2014)

Dalcroze (Thomsen, 2011) states clearly that you must teach two things about each note. One is the pitch and the other is the function. Therefore two types of names are needed. In the fixed-do system C, D, E, F, G, A, B, C as *do, re, mi, fa, sol, la, si, do* are used for pitches and numbers for function. “In moveable *do*, syllables are used for function, and letter names for pitch.” (Thomsen, 2011, p. 70) Gordon calls attention to the limitations of the number system, because children can get easily confused when asked “to skip numbers while counting backward as necessitated by a descending arpeggio in a melodic line.” (Gordon, 1997, p. 69) He advocates using the movable-do syllables with a ‘la’ based minor.

Although there is no unity among musicians in general about which system they use to begin with - it is different from country to country, and may even vary within a country - eventually every musician needs to acquire the aural awareness of harmonic context and tonal functions. It literally means to find the coherence between the parts within a piece of music, or to understand the orientation of music. Where it goes, what notes are more important than others? The inward hearing of chords is necessary for that but Gordon (1997) goes even further, when he talks about audiation. He explains that we need to have the ability to organise these inwardly heard harmonies into meaningful thoughts. According to him melodic sight-reading must be taught through the context of functional harmony. Similarly Davidson and Scripp (1988) found in their research that recognising tonal functions is important in the development of sight-singing skill. Moreover harmonic prediction is also integral to sight-singing ability. (Fine, Berry, Rosner, 2006)

Besides listening to the harmonic context and tonal functions we need to talk about tonal pattern recognition as well. In Vernon’s study listeners couldn’t identify isolated chords but were able to recognise groups of chords.

Lora's evidence shows that patterning is a general human behaviour which we have all inherited. In addition we respond to sounds called music at the same basic level of patterning that occurs in other life processes. (Lora, 1979, p.167) It means that when we perceive sounds we start to organize them immediately into temporal and pitch patterns. After our hearing mechanism receives the sounds our brain structures what it has heard by embracing some parts and rejecting others. (Cobb, 1883-1884) Because of that our recognition of the whole melody is different to the recognition of each separate note in it. The brain works in a similar way when we look at a drawing so that we tend to see a shape instead of thousands of single black dots on the paper.

The implication of the patterning behaviour of our brain is that sight-reading can be better developed through a tonal pattern approach than through a note identification approach. It means that the shape of a melody line means more to us than the individual notes which are in it. Vernon (1930) says that we tend to observe the pitch and temporal relations rather than the individual components of notes. Grutzmacher (1987) and MacKnight (1975) both found in their studies that the experimental group in which students learned through a series of tonal patterns improved significantly more than the control group where each new pitch were introduced by letter name, fingering and sound. Mills's and McPherson's (2009) opinion about the best way to learn to read music is that pupils must comprehend groups of notes rather than individual ones and they need to associate these with the sound image of well known patterns such as the three descending notes at the beginning of *Three Blind Mice*.

Another significant feature of the sight-reading process is multimodality. It simultaneously engages auditory, visual, spatial and kinaesthetic areas of the brain. The outcome of research in neuroscience is that music experiences are processed in several areas of the brain. (Hayward, Gromko, 2009). McPherson, Bailey, and Sinclair (1997) carried out research about the effect of four environmental factors (length of study, quality of study, enriching activities, and early exposure) on five music skills (sight-reading, playing by ear, playing from memory, performing rehearsed music, and improvising). The result of their path analysis shows that sight reading was improved through enriching activities, in which auditory, visual, and kinaesthetic areas were developed. (Fig. 2) Sight reading was also strongly influenced by playing by ear which integrates auditory and kinaesthetic processing too.

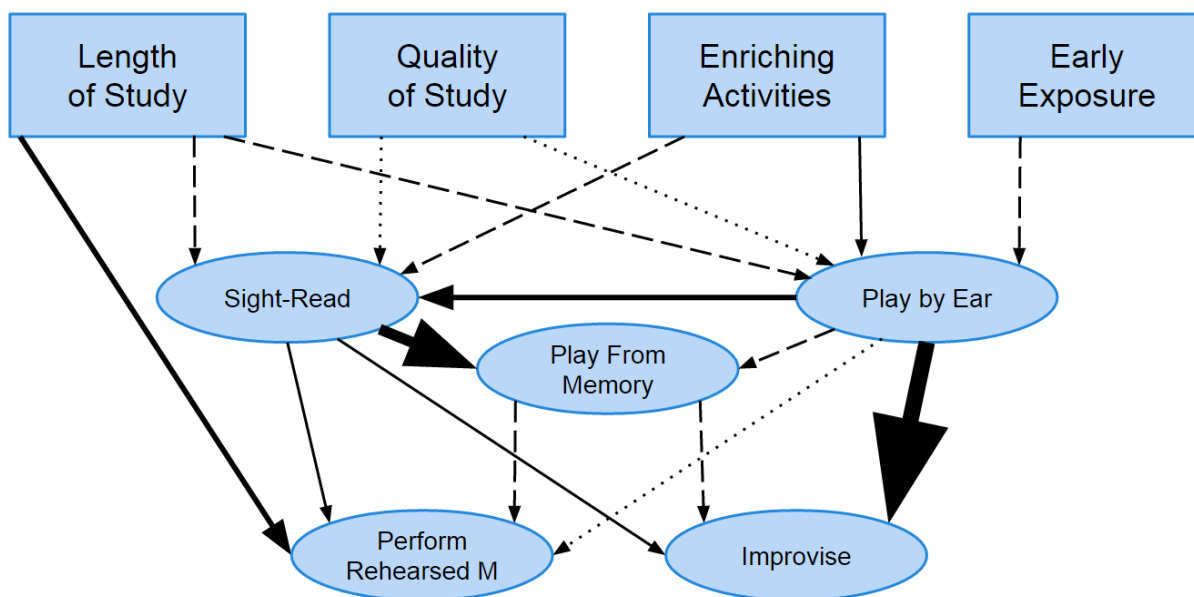


Figure 2

Because sight reading is a multimodal process as a consequence it is wise to teach through using multimodal teaching approaches. The following quotations speak for themselves. ‘Rehearsal models must be accurate and need to address all learning styles and modalities by providing visual, aural, and kinaesthetic experiences.’ (Price, Byo, 2002 p. 346) ‘The Dalcroze approach continuously connects the written, physical, aural, and cognitive aspects of music.’ (Thomsen, 2011 p. 70) ‘First, have the class learn the song. Follow the sequence: [according to Kodály] "hear the music, move to it, sing it, write it, and finally read it." Have the class sing and play the song.’ (Howard 1996, p. 30)

Conclusions

In this section we have reviewed some principles about teaching notation to instrumental students. First of all it is important that the teacher enjoys the musical activities with the children and not just plays the instrument but also sings together with them. Secondly it is advisable to follow the ‘practice before theory’ fundamental. Furthermore students can benefit from a teaching approach which builds on tonal patterns and harmonic context because pattern recognition is one of our basic brain functions. Last but not least musical experiences are processed in auditory, visual, spatial and kinaesthetic areas simultaneously; therefore multimodal teaching methods are more appropriate than simple ones

2.3. Examples of how to integrate the playing of the students' own instruments into solfège teaching

The third section gives examples from previous research about how to give the opportunity for students to play their own instrument in solfège and theory lessons.

Below is an example of a successful collaboration between instrumental, solfège and theory teachers. When Larmier describes the different types of music schools in the Soviet Union he talks about a new trend.

“The most innovative teaching is occurring in some of the more progressive music schools for children. [...] Unlike the more traditional music schools for children, the performance, solfège, theory and choral faculties work together as a team in order to interconnect these various studies. Faculty members write much of their own teaching material. [...] Many teachers in other music schools for children also have developed teaching techniques different from the traditional. The main emphasis for all these progressive teachers is to develop the musical potential of any child through a comprehensive music study plan that interconnects instrumental, solfège and theory studies.” (Larmier, 1996 p. 29-30)

Novik's study about “Mikrokosmos” describes how to use this music to teach for instance transposition to piano students.

“...it presents almost unending varieties of situations for facilitating sight-reading and transposition....To dwell for a moment on each aspect: inasmuch as most of the material in the first books lies in a five-finger span (although there are some hand-position changes) these studies lend themselves quite naturally to transposition to all twelve pitches.” (Novik, 1967-1968 p. 12)

Howard summarizes her study in this way: “The incorporation of Kodaly vocal techniques into instrumental teaching, especially string teaching, is a new frontier with potential for limitless creativity and flexibility for the teacher. For the student, it can result in increased knowledge and better musicianship.” (Howard, 1996, p. 27) Henceforth I will write a short summary of her practical suggestions about how to conduct a lesson.

She builds on a basic Kodály principle that “music belongs to everyone” and that “the most simple instrument is the voice. Everybody has a voice.” (Kocsár, 2002, p.15) Therefore singing provides a great foundation for the study of music. The first thing to learn is how to express the music in the voice. In the lesson it can happen even when tuning the instrument by singing the tuning pitch and then listening and adjusting the pitch of the open strings. After that she advises that one follows a basic sequence during

the lesson: “hear the music, move to it, sing it, write it, and finally play it.” (Howard, 1996, p. 28)

For listening she advises that the teacher collects recordings of those pieces which are in the instrumental method book. If the piece is from a standard repertoire then the teacher can play a short excerpt from a standard audio recording of the work. “If it is an exercise and not a tune, it can be played, sung, or recorded by the teacher. Always sing or play in a clear, pure tone [...] Stress clear pitch and intonation.” (Howard, 1996, p. 28)

For the first ‘sing through’ the use of sol-fa names is recommended and it is also suggested that one should follow the melody line with the appropriate hand signs. After that one can sing with the ABC names and/or with the fingering numbers.

“A long-standing debate for string players is whether a student needs to know the syllables as well as the finger numbers and letter names of the notes. In time, they need to know all three. The key element here is ‘time.’ The students must relate a letter with a finger if they are going to play quickly; however, learning the syllables will help establish pitch relationships. Some students will take longer than others to learn these skills. For each student, a teacher must decide which skill a student will start with, and how and when to add the other skills.” (Howard, 1996, p. 28)

Rhythm and phrasing can be prepared by several exercises with movements like walking, clapping or tapping.

“Listen for the accents, measures, and meter. String students can run their fingers over the stick of the bow to sense the length of bow needed for the meter and rhythm. [...] In all classes with young students, schedule at least one movement activity or game per class.” (Howard, 1996, p. 28)

Then the teacher or students write the rhythm of the song on the chalkboard and chant the rhythm. When new notes or rhythms are introduced students write them down in their music notebook. “Keep any written assignments short. After placing the rhythm on the board, have the students perform the rhythm on an open string.” (Howard, 1996, p. 29)

The last step is to show the notation of the song and sing the melody with sol-fa names or letter names or finger numbers. Then play it on the instrument. “Be sure to play the passage on the instrument very slowly at first – muscles need to be trained slowly.” (Howard, 1996, p. 29)

Later on Howard introduces how to teach advanced students for example by working on the Roumanian Folk Dances by Béla Bartók and also how to teach these students to play in two voices, when a second voice plays ostinato.

Conclusions

Howard's conclusion is that instrumental classes need to stress 'inner hearing', and singing before playing or reading music. Although the inclusion of Kodály techniques in instrumental classes takes additional time, teachers will see the benefit of it because students will progress more quickly. She also says that

“instrumental teachers will need to consult with vocal teachers to coordinate terminology and ideas, so that students will not think two different systems of music are being presented. [...] However, the incorporation of these concepts in the instrumental classroom will provide better understanding between vocal and instrumental teachers and greatly enhance the musicianship of the student.” (Howard, 1996, p. 32)

2.4 Examples from violin methods of how to teach the connection between sound and notation

My goal is not to give the whole picture about every method of violin teaching. I will mention several of the particular methods which influenced my thinking during this study. This section is divided into four parts. At first we will see that most of the violin method books for beginners make use of singing skills and/or emphasize the importance of listening. This can develop inner hearing leading to a strong foundation for good intonation. After that I give examples from method books about how to explain the tone-semitone relationships between neighbouring notes. Thirdly the process of connecting the sound with name and symbol in different methods is discussed. Finally I will write about methods for advanced students, where playing in different positions and the precision of intonation are topics of great importance.

Inner hearing

First it is advisable for students to acquire the ability to recall or create an inner sound image. According to Suzuki (1983) the best way is to listen to music. His students are required to listen to the recordings of the studied piece every day. Other methods emphasize singing. Schilt-Plate's (1995) book for instance is full of songs which are accompanied by movements. Pupils sing and also play them by ear. All of the exercises in the Sassmannshaus (1976) book have lyrics making it easier to sing them before the students play them on the violin. Note heads are printed in a large format and pupils are also encouraged to follow the note images with their eyes. Szilvay (2007b) also sings with the students all the time before playing. He asks the students to write their own lyrics but they also sing with sol-fa names. Although the Sándor-Járdányi-Szervánszki (1949) method book starts with using notation from the beginning, in the introduction Sándor asks the teacher to introduce familiar nursery songs and folk songs by ear at first. Of course a lot depends on the teacher because all the books with 'normal' notation can be used by singing or listening to the tunes at first and playing them by ear in the beginning stages.

The tone-semitone relationships of the notes

When introducing notation many method books start to explain the tone-semitone relationships of the notes. Some of them use special signs to

indicate semitones. Figure 3 (Dénes-Lányi-Mező-Skultéty, 1967) and Figure 4 (Sassmannshaus, 1990).

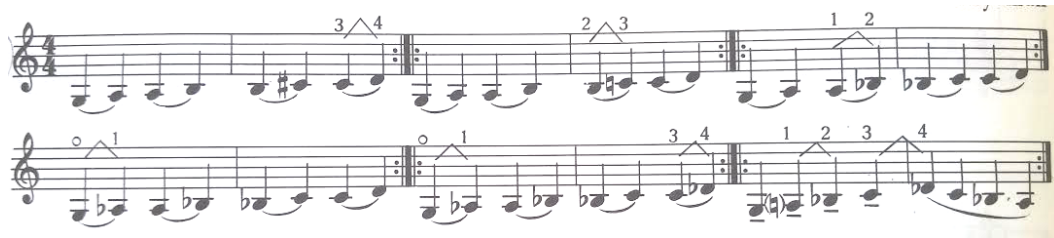


Figure 3

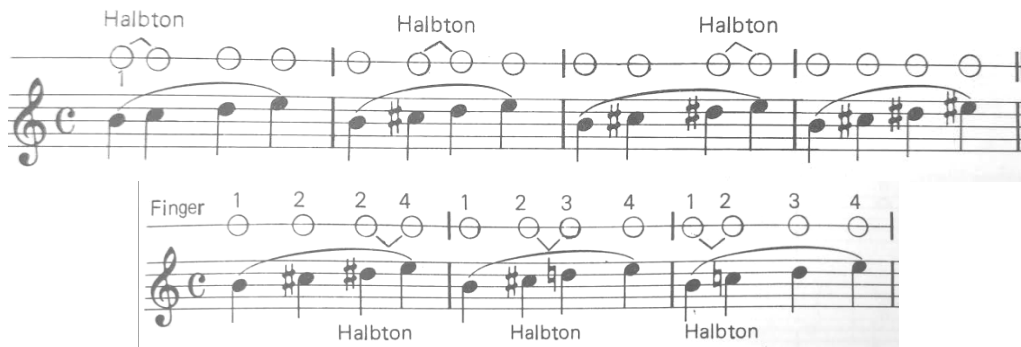


Figure 4

Some also give a picture of the hand where the distances between fingers can be observed. Figure 5 (Doflein, 1951) and Figure 6 (Dénes-Réger-Németh, 1997)

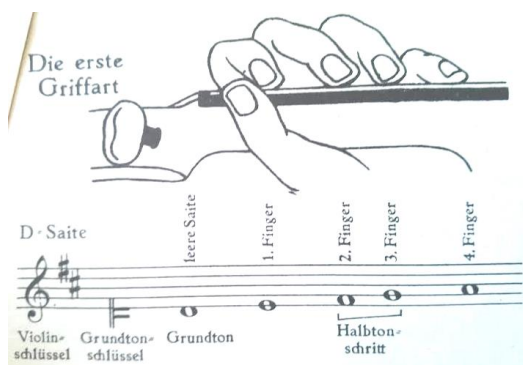


Figure 5



Figure 6

Others illustrate the distances between particular notes with a picture of the fingerboard where you can see the finger placements for these notes. Figure 7 (Sassmannshaus, 1976), Figure 8 (Metz, n. d.), Figure 9 (Szilvay, 2007a) and Figure 10 (Suzuki, 1985). This can help to develop a mental image about the notes on the fingerboard.

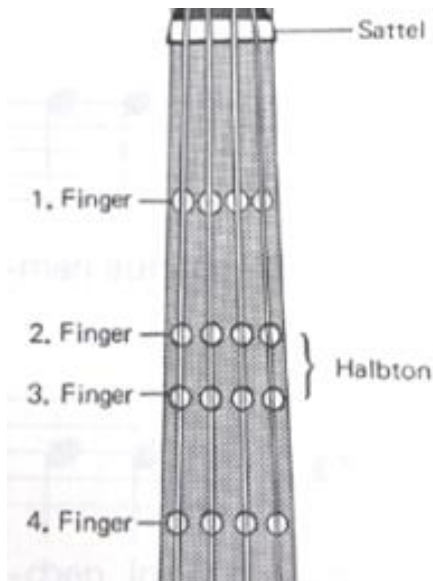


Figure 7

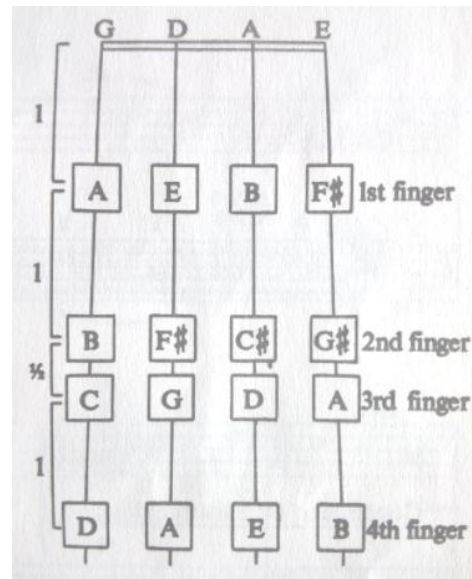


Figure 8

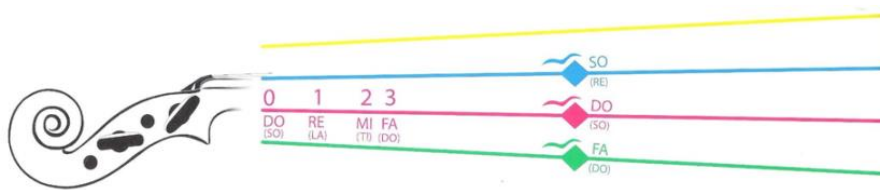


Figure 9

Viewing the violin strings from above, the black dots show where the fingers should be placed.



○ indicates the open string. 1 means the forefinger, 2 the middle finger, and 3 the ring finger. (4 is the little finger.)

Figure 10

We can find explanations of how to calculate the alteration of the positions of the notes in different scales. The ‘tone-ladder’ in the book of Dénes-Réger-Német (1997) shows all the twelve “half steps” (or semitones). Those half steps which are not used in a particular scale are each shown as a grey step. The seven black steps show the actual notes in the particular scale. Figure 11 shows ‘c’ and ‘g’ major, Figure 12 shows ‘d’ major, Figure 13 shows the notation of the ‘d’ major scale next to the ‘d’ ‘tone-ladder’. Dénes and Réger

give a very simple explanation before the first reading exercise, where ‘f’ sharp is present.

“The notes are at the distance of a small or large step from one another. Their musical designation is half tone (minor second) and whole tone (major second) respectively. Accidentals serve to change the pitch of the notes. An accidental is e. g. the sharp which raises a note by a semitone. (This is how the e-f minor second becomes an e-f sharp major second.)” (Dénes-Réger-Német, 1997, p. 36.)

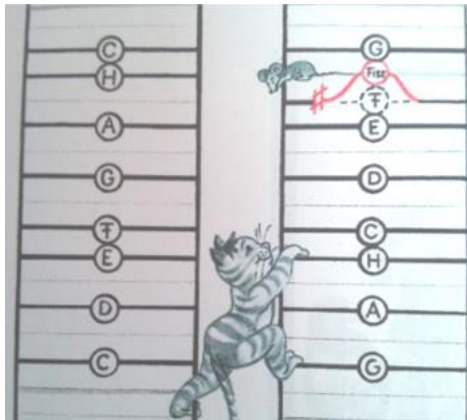


Figure 11

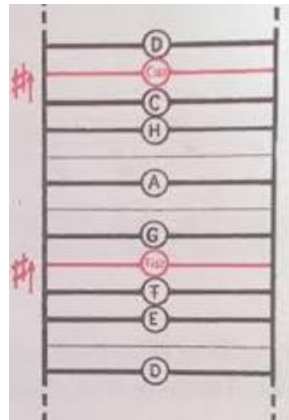


Figure 12

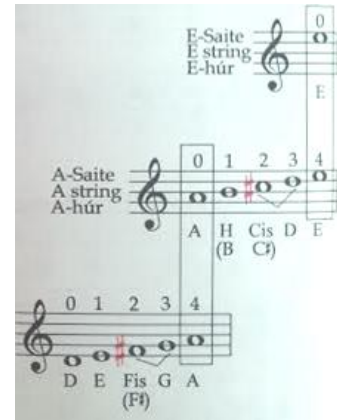


Figure 13

Another way to represent the scale is to use an example of a staircase. (Fig. 14)

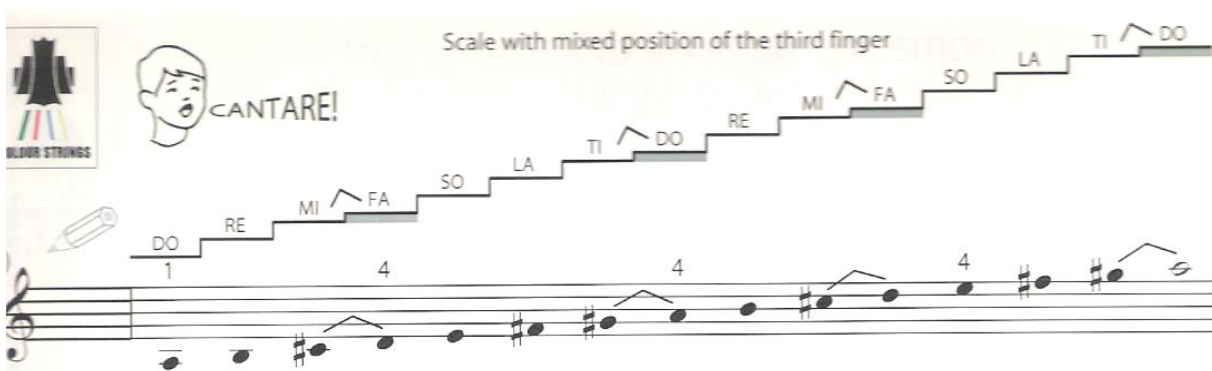


Figure 14

Sound, name and symbol

Each of the methods opens the door to teach the connection between sound and symbol, but the way it happens is the teachers’ decision in the end. The teacher decides for example which name she/he prefers to teach first:

relative pitch names, finger numbers or absolute pitch names. Although there are benefits in learning each of these - relative pitch names, finger numbers or absolute pitch names - in the end it is essential for every musician to know pitch names and their tone-semitone relationships as this is part of the common musical language. Therefore with any method where other (relative or finger) names are emphasized teachers need to be careful to teach also the letter names. This is the case with two famous methods, the Colourstrings (Szilvay, 2007b) and the Suzuki (1983).

Colourstrings books introduce the relative names first and give a clear view of the tone-semitone relationships between the notes. Furthermore Colourstrings teaches interval names before pitch names. The teacher needs to be careful because the later he/she starts with pitch names the harder it is to learn for the students. In this method the symbols of the notes in the first two books are coloured and instead of five there are just two lines forming a staff. From the third book onwards traditional notation is used. The teacher also needs to take the student's age into account and decide whether to begin with the coloured notation or the traditional one. For example when I used this method I decided to introduce traditional notation because my students were of school age, therefore I wrote the songs from the first two books down for them with normal notation.

Suzuki (1978b) advises that reading music is introduced after a student has already learned all the pieces by ear from the first three books. Suzuki advises that a student looks at the written music he or she has already learnt - from the first three books - as he or she plays it from memory. In the first three volumes every note is marked also with finger numbers. Because most of the children easily recognise the numbers, and at the same time they have little knowledge about the traditional notation system there is a danger that instead of getting familiar with the notation, they will only read the fingering numbers. I like the note reading book - where there is an explanation of the connection between fingering and notes - but maybe I would also use the books with the pieces without finger numbers. The teacher needs to be careful and make sure that children learn the names of the notes. Finger numbers can be ambiguous and do not show the tone-semitone relationships between neighbouring notes. Here are some examples about the fingering which I did not find consistent all the time. In the first example 'g sharp' is fingered with the fourth finger with a 'flat' or a third finger with a 'sharp'. I think that here the situation is clear as we can play the 'g sharp' either with a high positioned third finger or with a low positioned fourth finger. (Fig. 15) But in the second example in a similar situation 'g sharp' is fingered as a fourth finger with a 'flat' or a third finger

(without an accidental). If the concept of the fingering numbers was to be consistent then there should be a 'sharp' before number three in the second example too. (Fig. 16) In the third and fourth examples 'c natural' and 'b natural' are both fingered in the same way as a second finger with a 'natural' though these notes obviously do not use the same finger placement. (Fig. 17, 18)



Figure 15



Figure 16



Figure 17



Figure 18

Methods for advanced students

Markov (1998) provides the following diagram of the whole fingerboard with all the semitones. (Fig. 19) He marks the notes which can be played with natural harmonics. If we touch these points while drawing the bow across the string, the string reacts in a special way and gives a response. We can hear a sound which has similar colour to the sound of an open string. He calls these points 'orientation' points which can help us to find the surrounding notes. (Markov, 1998)

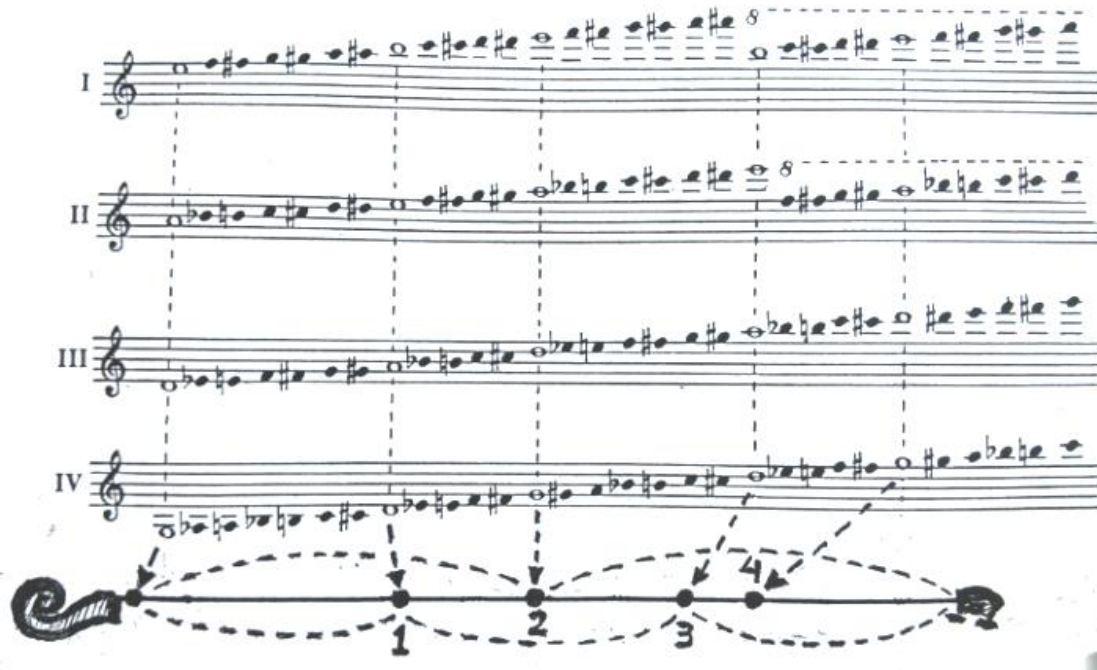


Figure 19

Fisher (2013) talks about a ‘mental picture’ which

“includes the exact place of the note on the string, the feeling of the hand and finger, the shape of the finger, the tone-semitone relationships of the fingers to each other, and the aural relationships of each note to the surrounding notes.”
 (Fisher, 2013, p. 55)

He also emphasizes the importance of ‘pre-hearing’ each note in our mind and then listening.

Hansen (1997) encourages with his method the practise of every possible combination of intervals on the whole fingerboard. He talks about a ‘panoramic view’ which we can develop by playing his exercises. In this way we can organize, visualize and memorize the ‘map of the fingerboard’. Here is an example from his book: “The Geometric All Interval System” (Fig. 20)

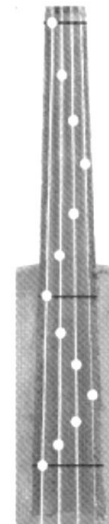


Figure 20

Conclusions

I don't want to imply that any particular method is incorrect in itself, and I appreciate the effort of teachers who have written excellent teaching materials. I would like to mention though that a lot depends on the teachers who decide to teach according to a particular method. The same method can be used in completely different ways. I think that violin teachers need to have principles upon which they base their teaching process and which they can adjust according to the different needs of their students. The principles we have seen about "teaching the connection between sound and notation" are the importance of inner hearing, the knowledge of tone-semitone relationships of neighbouring notes, and the development of a 'panoramic view' or 'mental picture' of the notes on the fingerboard.

Chapter 3: Research methodology

We have been introduced so far to the necessity of the subjects 'solfège' and 'music theory' at a music school like the conservatoire. We have seen the advisable teaching process of continuously preparing the 'sound' first. After this we have looked at what solutions research and violin methods offer for students to learn about the connection of sound and notation. Previously mentioned explanations provided a framework for my action research. I will demonstrate this approach in the first section of this chapter. Section two illustrates the relevance of using action research. In the third section a step by step description of the research can be found.

3.1. Action research

According to Tomal "action research is different from quantitative and qualitative research but has characteristics of both". (Tomal, 2010, p.10) He describes quantitative as a "scientific approach", qualitative research as a "naturalistic and emergent approach to enquiry" while action research is a process of "solving problems" and "making improvements". (Tomal, 2010, p.11)

Action research is a frequently and expansively used approach in the field of education as a practitioner research. It is a highly recommended process of reflection and self-evaluation by many educators. One of them is Koshy (2005) who believes that the quality of education is dependent on each teacher's ability to "stand back, question and reflect" on his or her own teaching. At the same time willingness to make necessary changes is also crucial. She defines action research "as an enquiry, undertaken with rigour and understanding so as to constantly refine practice; the emerging evidence-based outcomes will then contribute to the researching practitioner's continuing professional development." (Koshy, 2005, p.1)

Cain's definition is very similar to Koshy's (2005) definition: "teacher-researchers plan and carry out teaching interventions, evaluating their impact in order to plan and carry out further interventions." (Cain, 2014, p. 91) The chance of improvement is certain in this approach because it is organized in cycles. Each of the cycles has four different stages and also has a main focus regarding the aim of the development. The cycles are repeated using a specific focus (which changes each cycle) until the main goal is reached.

Why did I undertake action research?

Being a violin teacher I had a lot of opportunities to give lessons but I had only limited opportunities to discuss particular issues about my teaching with other teachers. I was always thinking of a better approach to teach the connection between sound and notation. I prepared many exercises and I also tried out some but I did not have the chance of getting proper feedback about them. As I got the opportunity to test these exercises in practice I wanted to get comments from other teachers and improve the exercises.

The benefit of doing it in cycles is that I have the opportunity to step back and observe my lessons from a distance. Carrying out research about our own teaching practice is hard because the role of teacher and researcher is different. Being subjective and objective at the same time is impossible. The strict structure of this approach helps to solve this problem and serves as the most appropriate way to improve my own teaching practice.

3.2. Step by step description

The first step in this research process was to find the answers to each preliminary question. This orientation phase was approached from two different angles. On one hand I studied written sources from literature about related topics and researches to find the answers for the first four preliminary questions. On the other hand; because the fifth question is about the current practice at the Royal Conservatoire, I collected data by observing the lessons of five violin and five theory teachers. I started to write a research diary where I noticed my personal comments but also the comments of the teachers. I observed altogether forty violin lessons and twenty-eight solfège or music theory lessons. The next step was to start with the first cycle. I also formulated four 'sub' questions for conducting the action research:

How can I teach the connection between sound and notation?

How can I collaborate with teachers to improve my teaching?

What issues did solfege teachers address?

1. Planning

I started each 'planning' to find the focus point. I always had different focus points according to the particular cycle. It helped me to clarify the exact content of my upcoming group lessons. I also formed the content to become appropriate for the different age groups. At the orientation cycle I used the observations of the solfège and violin lessons to get the right focus point. At the following cycles I formulated the new focus points according to the reflection of the teachers in the previous cycle. I made a detailed lesson plans before every lesson, which I wrote just for myself in Hungarian, in a form of a step by step description.

2. Teaching

There are eight group violin lessons scheduled each week at the young talent department. In the orientation cycle I got the opportunity to take over some of these lessons so that this can be part of my research project. Students are grouped according to their age and the level of their violin playing skills. In later cycles I also got opportunity to teach solfège group lessons.

3. Observing

During the orientation and first cycle different teachers were present at my lesson. The last two cycles were recorded or filmed and this was the source for the other teacher when observing the lesson. I asked him/her to criticize the lessons in terms of how successfully have I reach my focus point. For lessons where a video recording had been made I found it useful to watch the video again, as well as re reading my transcriptions, and would then sometimes add to the comments I had already made. Because of ethical considerations I did not attach the videos in my appendix.

4. Reflecting

After each of the lessons I made a transcription. The structure of the transcription is a dialogue between teacher and students. To make it easier to read I used pictures of what I showed during the lesson. I inserted the music samples using staff notation. (Fig. 21)

T	“From now you need to write the notes down.” Playing:	→ R: sound (violin) → action + name (singing + sol-fa) → symbol (writing)
S	singing: (mi-fa- so) Writing:	
T	„This is what you have written.” Playing:	→ R: sound (violin) → symbol (correcting the writing)
S	Correcting: c - des - es	

Figure 21

In the right column I indicated the presence of the ‘sound - action - name - symbol’ process. My critical friend also observed the lesson in the same way and then we compared our observations. This was the source of the diagram about the path analysis of my lessons. (Fig. 22)

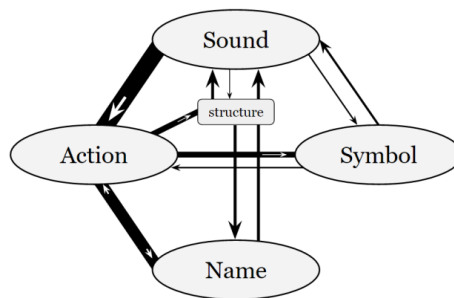


Figure 22

I asked the ten teachers to make comments on my lessons. I made an appointment with each of them and I asked them to read the detailed descriptions of the lessons. Some teachers observed and analysed my lessons very critically, they acted like critical friends while others gave very interesting suggestions. I was going to get answers to the following questions:

- What do you think about the lesson in general?
- Which exercise you think is useful?
- Could you recommend other exercises, for developing the same knowledge?
- What could be the reason behind the mistakes of the students?

I was also open to get any other comments they came up with during the meeting. After I've considered their comments I formed a new focus point for the following cycle.

Timing of the cycles

I carried out three cycles. The timeline of my two year study was the following:

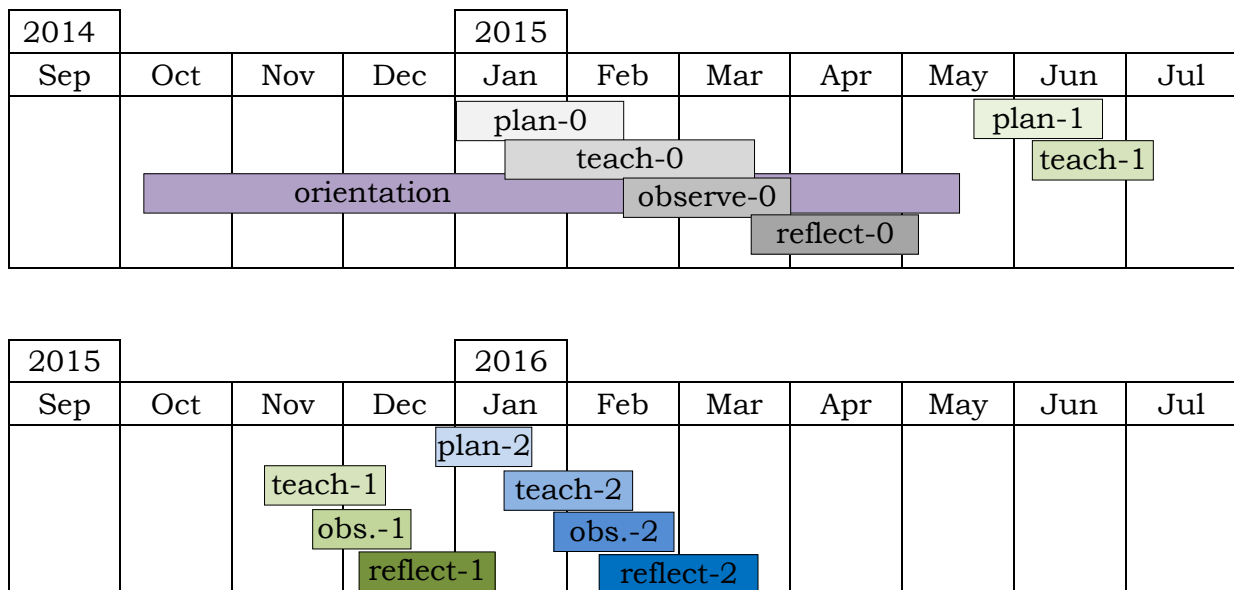


Figure 23

Although describing the context of the research could be part of the methodology chapter I prefer to describe it in a more detailed way in the next chapter.

Chapter 4: The context of a Conservatoire

In this chapter I will describe my personal point of view about the beginning of this study and I will relate my experiences to the context which is the Young Talent Department. In the second section I will write about my observations of the theory, solfège and violin lessons which were the sources of planning my first lessons.

4.1. First steps in my study - How did I get the opportunity to teach?

At first I decided to get an insight into the structure of the courses/content of the syllabuses of the institute, so I started to observe violin and solfège lessons. We can see in the chart how many hours of individual violin, group violin and solfège or theory lessons students currently get. The numbers in italics show the maximum number of students in the year groups and also in the lessons. (Fig. 24)

2014 - 2015			
individual violin	group violin	Broad Musical Development (BMO) solfège & theory	<i>number of students</i>
PI pre-school children (4 - 5 year)			
45 min	group violin	6	
1 x 30 min	BMO	30	
young talent junior (6 - 7 year)			
45 min	individual violin	6	
45 min	group violin	6	
45 min	BMO	8	
- - - - - E N T R A N C E E X A M - - - - -			
young talent (8 - 18 year)			
60 min	individual violin	8	
60 min	group violin	8	
3 x 45 min	solfège & music theory	9	

2015-2016			
young talent (8 – 18 year)			
1 x 30 min, 1 x 50 min	individual violin		
60 min	group violin	6	
3 x 45 min			9
young talent extra (8 – 18 year)			
1 x 30 min, 1 x 50 min, 1 x 60 min	individual violin		
60 min	group violin	4	
3 x 45 min			9

Figure 24

The Royal Conservatoire is the only conservatoire in The Netherlands where they offer a pre-school preparation program for the Young Talent Department. It has been of great benefit to my research to be able to observe such a pre-school program. All the string players have a large group lesson where they sing, improvise and compose together. They also play games in which singing is combined with dance and other movements. During the small group lessons the children play by ear but the parents are listening and writing down everything so they can appropriately practise with their children at home.

About 75 percent of the students who are accepted into the Young Talent Junior Department – and later to the Young Talent Department – have previously attended the PI program, where they were taught by ear for at least one year. Thanks to this the majority of the students have a well-developed aural awareness and an ear-to-hand coordination skill. When I gave group lessons at the Young Talent Department I could recognise those students who had previously attended PI lessons. It was good that I could see the benefit of the ‘playing by ear’ approach but I also wanted to know more about the method of violin teaching used by the teachers.

Until this point in my research I intended to compare the opinions and ideas of violin teachers in Hungary and in The Netherlands. But I gave up my plan to make this comparison as I got more and more information about the Royal Conservatoire. With the help of my tutors I chose five theory and five violin teachers - eight of them have pupils from the Young Talent Department - and I started to observe their lessons. I also had informal meetings with them where I talked about my research project and where we discussed their teaching practises in general as well as particular situations in connection with their lessons. I kept a record of their comments in my research diary.

In the meantime my methodology teacher showed me two books by Hansen (1997). I became enthusiastic about the way in which he let violinists explore the whole fingerboard. I felt that I would like to create a diagram which

visualised the structure of the violin. I wanted to represent the distances between notes, which I calculated using mathematical formulas. (Fig. 25) When I showed the diagram to my methodology teacher she advised me to try this out with the oldest students, (in the Young Talent Department) because they need to know all the notes. Hence I started teaching group violin lessons. I write about these lessons later, in the “Orientation cycle” section.



Figure 25

4.2. Planning my first lessons

The students in my first group lesson were about seventeen years old. It was not easy for me to plan a lesson for that age group, because during their solfège lessons they were given exercises which they completed correctly, so I did not have an insight into what their missing knowledge would be. Their violin technique was at a high level, so during the violin lesson it was also hard to ascertain any difficulty in connection with reading music. They all play by ear well which means if they might have had any missing knowledge of notation, they could correct it by ear. During the group lessons though,

where they were asked to play certain notes not by ear but just by naming the note with its letter name I could see some struggles. I thought that I would address this issue in my teaching.

The students in the majority of my group lessons were between the age of eight and thirteen. I already knew much more about this younger age group because most of my former students were within this age range. I had my teaching experience and I knew their repertoire better than that of the older ones. I had already been working for some years on solving the problems in connection with this particular period of learning. Observing their lessons was most effective because I could recognise certain issues which had arisen in a similar way in my previous teaching practice in Hungary. I had a clear idea about what I wanted to check while observing their lessons and also what information I would like from their teachers.

I have noticed in general that the solfège lessons are very enjoyable. There is no fixed curriculum and also the students don't need to take any exam during or at the end of the year. Most of the teachers use the 'takadimi' language for teaching rhythm, but everyone uses the relative solmisation system which is obviously one way towards developing awareness of functions and scale degrees. I had the impression that solfège teachers tend to wait too long before they introduce letter names. I wanted to know the personal opinions of each teacher about it, and then compare this with the comments of violin teachers. Here is a list of their thoughts about singing with sol-fa or letter names and using transposition exercises.

Solfège teachers' comments:

"I connect the sound with the solmisation first, but after a while I introduce letter names too. Then I use transposition exercises."

"In the beginning I teach all the songs with sol-fa names by ear. When they sing it well, I teach them to write the sol-fa names down. I don't use the ABC-names before they can do that."

"I teach advanced pupils, they already know letter names, but usually they don't know sol-fa names, so I teach solmisation to them. I feel that it helps them to listen to the function of notes and harmonies."

"My students sing from written music by using sol-fa names. When I found out that some of them don't know pitch names at all, I started to

practise that through transposition exercises.”

“I think that the relative system is very important. I have older students; they already know letter names. I teach them to listen through the understanding of the relationships between notes.”

Violin teachers’ comments:

“I have never learned relative solmisation; therefore I never use it in my teaching. I think it can be useful though to help to understand tonal relationships like tonic, dominant, subdominant.”

“I know that they use it in the solfège lesson, but I don’t use it in my lesson. I call the notes by their letter names.”

“I like when beginners learn every new note by singing at first with sol-fa. It makes the tonal hierarchy clear for students. If I had beginners I would use this teaching. I don’t use solmisation in my lessons, because my students are all at an advanced level.”

“I think that the awareness of the harmonic concept is very important, but I never use the sol-fa names for that. I think in ABC-names.”

“I think that for violinists pitch names are more important.”

We can see that violin teachers do not use the relative solmisation system. They introduce pitch names to junior students in individual violin lessons and teach them how to connect sound with symbols by playing the instrument. They also use transposition exercises and students need to write down note patterns which they have already played by ear. I used to make the assumption that violin teachers do not have enough time in individual violin lesson to explain all the notes. It proved to be a false assumption when considering those students who started their study in the Royal Conservatoire at a young age. When, however, a student arrives from elsewhere with less knowledge then it is hard to teach the notes and to make progress in the acquisition of violin technique at the same time.

During the observations of the violin and theory lessons I learned about different teaching approaches in which sound and listening play a paramount role. Students can easily play by ear and they are good at in singing with using relative sol-fa names. I felt that collaboration between the two departments could be even better. We have seen that in the teaching

approach of solfège teachers the relative sol-fa system play an important role while in the teaching approach of violin teachers using the absolute pitch names is more important. I still have a strong belief in the importance of applying the knowledge of the relative sol-fa to the absolute system by using transposition exercises from the moment that children start to play from written music.

Chapter 5: Action research processes – collecting data, analysing, reflecting, and planning – cycle by cycle

In this chapter I am going to describe the different cycles. First I will write about the three lessons in the orientation cycle. Then I will give a summary about the first cycle which contained four lessons. Finally I will introduce the second cycle where I taught two lessons.

5.1. Orientation cycle

In the orientation cycle I taught three different age groups. I will represent my teaching in this cycle describing only one lesson per age group.

Older age group (13 to 17 years) – Lesson 0/1

My focus point was that students would acquire an overview of the positions of natural harmonics on the fingerboard. We have seen how Markov (1998) described these whole numbered fractions of the strings. If we touch these points while drawing the bow across the string, the string reacts in a special way and gives a response. We can hear a sound which has similar colour to the sound of an open string. This can become a reference point – in a similar way to the open strings – when a musician plays in a high position.

In the lesson I used the diagram below (Fig. 26); to illustrate this in what seemed to be an appropriate way, because students gave feedback after the



Figure 26

lesson that it gave them a new perspective. I used a sound-action-symbol approach, where ‘sound’ was my violin playing, ‘action’ was that students played the same pitch on their instrument, and the ‘symbol’ was the note image which they needed to imagine at first and then recognise and read from an A3 format of the diagram. Red lines represent the end and quarter points while yellow lines shows the one-third points of the string. A good opportunity presented itself for doing shifting exercises. Pupils were exploring the fingerboard when they found the presented five harmonics in each of the 4 strings by ear.

Another exercise using the 'sound-action-symbol' approach was that I played a short motif (Fig. 27). "They repeated the melody. Some of them were not



Figure 27

familiar with the idea of a 3 bar (rather

than a 4 bar) phrase in 4/4 time, and wanted to continue playing." "I did not expect that phrasing would be a problem. I was afraid that it would distract students and they would not be able to



Figure 28

concentrate on the pitch of the notes which was the aim of the lesson." (app. p. 17) I asked them to play this melody in every possible place on the violin including also the higher octaves.

They needed to follow the note images on the diagram (Fig. 28), so they connected the sound with the symbol playing in different places on

the fingerboard. I also ask them to think about the notes which can also be played with natural harmonics. We did not transpose the motif into other keys in this lesson just into other registers. (See Appendix page 14 for the transcription of Lesson 0/1.)

The violin teacher who observed the lesson advised me to find exercises with similar content for younger students where I would teach the natural harmonics at the quarter points of the string, but not the natural harmonics at the third point of the strings. She explained some cultural differences in connection with the reaction of the students. She told me that I should not worry about speaking English instead of Dutch in the lessons, because the students would not be shy to tell me if they did not understand something. These instructions helped my further teaching.

Younger age group (10 to 12 years) – Lesson 0/2

My focus point - in addition to exploring the natural harmonics at the quarter points of the string - was that students should understand the physics of a resonating string. Furthermore I wanted them to experience the spatial and melodic difference between the major and minor seconds and also to review how the alteration of a note changes its ABC name.

In the lesson I used a website to demonstrate the wave pattern of a string

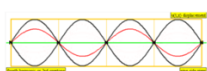


Figure 29

(Fig. 29) and I let the pupils experience the resonance of the violin. In this exercise I played an open string which was the 'sound'. The 'action' for them was touching the

body of the instrument. After we had measured out the quarter points of the

string with a paper strip (Fig. 30) they explored the fingerboard and found the three harmonics in each of the strings by ear. During this exercise they



Figure 30

used their inward ‘sound’ image of the first and second octave of each of the strings. They played the violin (‘action’) and they saw the note images (‘symbols’) by reading from the diagram.

Then I used a transposition exercise where they needed to play (‘action’) the beginning of the song “Vader Jacob” in different keys. They already knew this motif so they had the inward sound image in their head. (‘sound’) I also asked them to sing (‘action’) before they played with letter names. When it was possible I asked them to play the harmonics at the halfway point of the string instead of in the first position.

The last activity in the lesson was a variation of a Dalcroze exercise: “students take partners and stand close together for half steps and farther apart for whole steps.” (Thomsen, 2011, p. 70) I asked a student to play the note ‘c’ with pizzicato and sit on a chair. Then I asked another student to be note ‘d’. He needed to decide where to sit. If he choose to sit on the chair which is next to ‘c’ it means that the interval between ‘c’ and ‘d’ is a minor second. But if he leaves one chair out this would represent that the interval is a major second. He chose to leave one chair out and then I asked them to play their notes and listen to the major second. We continued the exercises in this way so I always expected the students to know if the interval was a minor or major second prior to listening to the sound of the notes. The description of the process is from ‘action’ to ‘sound’ because I did not ask them to sing the notes before they played.

This activity did not go as fluently as I expected. For instant I realised that I did not follow the ‘sound - action’ order. I should have asked them to listen to the interval first and then decide the name of it. In addition I found the setting of the exercise too complicated which meant that I needed to explain many things with words. Because of that I wanted to find some other way to represent the spatial meaning of interval. (See Appendix page 20 for the transcription of Lesson 0/2).

Junior group (7 to 10 years) – Lesson 0/3

My focus point was that students should become familiar with minor and major seconds in a scale and in five- and four-note patterns. In the first lesson they learned about natural harmonics in the same way as the ‘younger age group’ had done. I changed the last activity of the lesson and

instead of chairs I used Lego bricks to demonstrate major and minor seconds. We repeated that exercise at the beginning of the second lesson.

I sang 'do-re' then 're-mi'.... to them and asked them to sing the notes back.

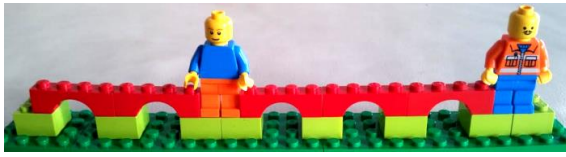


Figure 31

We found out the intervals between the neighbouring notes step by step. We put Lego bricks in a row according to the distances between notes. Red bricks mean major

seconds, figures mean minor seconds (Fig. 31). We also counted them and noticed that there are five major and two minor seconds in a major scale. In this exercise the process was: from 'sound' (teacher's voice) to 'action' (students singing) and we decided about the seconds after we have listened to them as a melodic interval.

I played major and minor pentachord scales ('sound') and they built the interval patterns from Lego bricks. We sang ('action') these notes according to the interval patterns. Then I asked the pupils to play ('action') the notes – copying the appropriate interval pattern – on each string.

I played four-note patterns from a major scale starting from the first finger in the first position. I asked the students to repeat the notes. Then we sang with sol-fa names at first and with ABC names after. I asked them to fill in a worksheet, where they always needed to write four ascending notes according to the pattern on the top of the page. They needed to use sharps and flats if it was necessary, to get the right distance from the previous note. The process was: 'sound' (violin) → 'action' (playing + singing) → 'symbol' (writing).

Although the writing exercise was far too difficult for the pupils because I focused on too many different note patterns, after the lesson I noticed for myself that using Lego bricks made the learning context more understandable. They continued to complete the worksheet in the following lesson and they managed to decide when they need to use sharps or flats by following the pattern which was illustrated by the Lego model. I felt that I could use this way of representing note patterns effectively. Students' reactions were obviously positive. One student made this comment: "Finally I learned all the minor and major seconds because of the help of the Lego." (See Appendix page 29 for the transcription of Lesson 0/3).

In Figure 32 we can see the path analysis of the lessons in the orientation cycle according to the 'sound - action - symbol' process. I followed the advised order except on the second lesson. I realised that if I ask them to sing first, then I will follow the 'right' order I also can check their inward sound image.

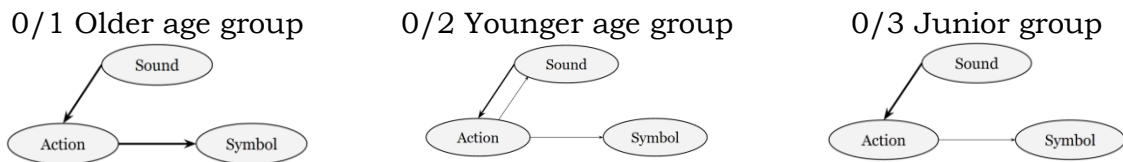


Figure 32

Reflections from teachers

- Whatever I am going to teach I should find a melody or a musical fragment which can help the students to understand the goal of the lesson. A good example can do half of the teaching for me. Later on this melody can always remind them of some particular knowledge.
- I should keep in mind that learning is a long-term process where repetition is a key element.
- When I teach about intervals it is important that students need to experiment not just with the sound of the two notes played one after the other as a melodic interval, but with the sound of the two notes played at the same time as a harmonic interval. It is a different sensation to the sound of the two notes after each other.

Conclusions

When I looked at all the data and I analysed them I got the conclusion, that in the next cycle I would play more attention to practising the tone- semitone relationships between neighbouring notes. I decided to continue with using the Lego for illustration. I was going to try to give them aural instructions instead of oral instructions. I mean that instead of singing or playing for example a major pentachord to them and then ask them to copy the sound I would ask them to play according to a major pentachord tonal pattern so that they need to invent their own sound image for themselves. I also intended to add the factor 'structure' to the 'sound - action - symbol' analysis.



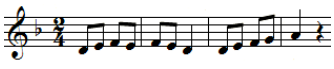
5.2. First cycle

In this section I will write about the four lessons I taught for 10- to 12-year-old students. In this cycle I also taught older students but I stopped reporting about those lessons because the research would have become too extended.

In the first cycle I planned my lessons according to the comments of teachers and my own experiences. The most important message was that I should always teach through music. I used well known songs in my early lessons such as “Vader Jacob”. I started to collect pieces which might be suitable for my teaching. I decided to experiment with the Duos from Bartók. I did not use the diagram in the lessons anymore but only to demonstrate something to solfège teachers. I still used Lego to show the distances between notes within a tonal pattern. In this section I will give some examples from some of my lessons followed by the main conclusion I drew from the first cycle.

Lesson 1/1

I wanted to focus on fewer note patterns than in the “0/3 Junior” lesson. I initially chose the minor pentachord scale but then I decided to also use the major pentachord. The aim of the lesson was to teach the students how to analyse and use a tonal pattern as a help for transposition. I used the melody from Duo no. 22 by Bartók. The students copied my singing and we discussed that there are five different pitches in the melody. We sang the minor pentachord scale note by note and listened to the tone- semitone relationships between the neighbouring notes. We built the tonal pattern from Lego. One student named ‘g - a’ as a minor second. I asked him to check his answer by playing these notes on the violin (Fig. 33, app. p. 40)

Teacher	“What is the interval between  ‘g’ ‘a?’” (singing)
Student 1	“ minor second”
Teacher	“Well please take the violin and try this out! Play ‘g’ and ‘a!’”  (singing)
Student 1	playing:  “major second”
Teacher	“Right, play it with a minor second!”


Student 1	
Teacher	„Such a difference!”

Figure 33

It was good that he was able to play the notes by ear and because he could feel the shape of his hand he could identify the interval. But at the same time I think that being able to sing the two notes with their ABC names should be enough information for recognise an interval. A conscious knowledge of seconds could also lead the ear and the fingers. “Cognitive and aural attention collaborate from moment to moment; sometimes the ear leads without conceptual support, and at other times, the mind understands the structure first and leads the ear into the music.” (Thomsen, 2011, p. 70)

At the end of the lesson I asked the students to build five-note patterns for each other. They surprised me because I did not expect that any of the students would build an augmented second. (Fig. 34, app. p. 45)



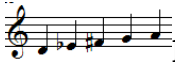
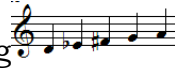
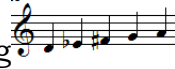
Teacher	“Please ‘Student1’ build a pattern from Lego for ‘Student2’”
Student 1	
Teacher	„Can you sing it yourself? Do you have the sound of it in your head?”
Student 1	„Yes I can.”
Student 2	He sings:  (la-la) but then stops.
Teacher	„Can you (Student1) help?”
Student 1	singing  la-la-la
Teacher	„Please (Student2) try again!”
Student 2	singing  la-la-la
Teacher	„Sing with ABC-names!”
Students	singing  ‘d’ ‘es’ ‘fis’ ‘g’ ‘a’

Figure 34

It was interesting that Student 1 was able to build the model according to the sound image in her head, but Student 2 was not able to decode the pattern. Later in the lesson the reverse happened when Student 2 built

according to his sound image and Student 1 was not able to sing it back. (See Appendix page 33 for the transcription of Lesson 1/1).

After the lesson I was satisfied because I had used Bartók's music and discussed tones and semitones with the students just as I had intended to do. Teachers who observed this lesson advised me to use sol-fa names because that can be a link between the structure of the notes and the knowledge of absolute pitch names. They told me to consider starting the lesson with a preparatory exercise. They liked how students challenged each other and that they also learned about things which were not in my lesson plan. One of my method teachers recommended to use the 'write down after you have played' approach. This coincides with Howard's study: "When new notes or rhythms are introduced, encourage students to write them down." (Howard, 1996, p. 29)

The path analysis diagram indicates one 'symbol - sound' path. (Fig. 35) This represents the exercise when I asked the students to play from written music. I made the assumption that the students had inward sound image, because they played the melody before by ear several times. The arrow from 'action' to 'symbol' represents the writing exercise. Only in a single case did I observe a student use particular fingering without having the inward sound image. On the path diagram this can be seen as the arrow from 'action' to 'sound'.

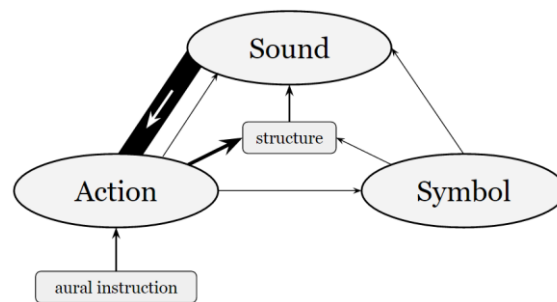


Figure 35

Lesson 1/2, Lesson 1/3 and Lesson 1/4

In the following three lessons I had the same students and we based our exercises on the first duo by Bartók. I started the first lesson (Lesson 1/2) with a preparatory example of the rhythm and the tone setting. We built the Lego model but now I used the sol-fa names. During the transposition exercises I asked them to sing the major pentachord scale (with a major third in it) from a note which would have been the sixth scale degree in the

previous major tonality (where the third is obviously minor). (playing in g major after b flat major) (Fig. 36, app. p. 56)


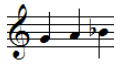



Student 2	playing:  singing: 'bes-c-d-es-f'.
Teacher	"Start from the third finger on the D string 'g!'"
Student 3	playing:  singing: 'g-a-bes'.
Teacher	Stops him. "Please everyone sing with 'do-re-mi', from this pitch!"
Students	They sing:  'do-re-mi' as they sing it they immediately correct the pitch of 'mi': 
Student 3	playing:  singing: 'g-a-b-c-d'.

Figure 36

Initially the students would stay in the previous tonal concept and would sing the tonal pattern with a minor third. Singing with sol-fa names reminded them of the expected sound image and they were able to correct themselves. (See Appendix page 52 for the transcription of Lesson 1/2).

The path analysis diagram indicates that 'aural instruction' and 'structure' is connected in the majority of the exercises. (Fig. 37) This represents the transposition exercises such as in the chart above. (Fig. 36)

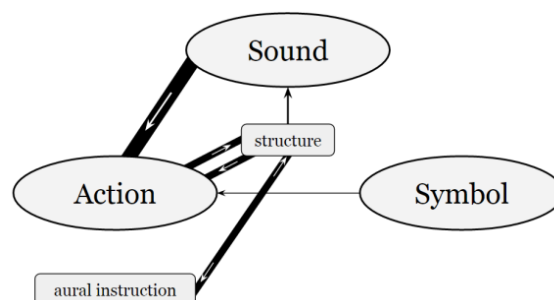


Figure 37

During the second lesson (Lesson 1/3) I concentrated on writing. Originally I wanted the students to write out both parts of the first line of the duo but then I realised that this would be far too difficult for them. Therefore I taught them how to write the upper part step by step. When reviewing the lesson I

realised that it had not been the best use of time with the students – other exercises might have been more relevant to my research. (See Appendix page 62 for the transcription of Lesson 1/3). The path analysis diagram indicates the ‘action - symbol’ path. this represents the writing exercise. (Fig. 38)

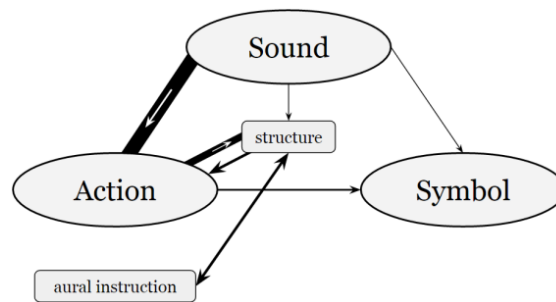


Figure 38

In the third lesson (Lesson 1/4) I asked the students to play together in two voices from written music and listen to the harmonic intervals. Because of that there were several ‘symbol (reading) → action (playing) → sound (violin) →structure (interval)’ exercises in the beginning of the lesson (Fig. 40). Later I asked them to play “dictation” for each other. The process was: ‘sound (students play for each other) → structure (interval)’ (Fig. 39)


Teacher	“Girls, choose one of the four lines, play that, boys need to recognise the first and the last intervals!”
Girls	playing: 
Boys	“first: second, last: third”

Figure 39

We repeated this exercise in a similar way when a second student would be required to play back the interval: ‘sound (a student plays for another student) → action (the other student plays back this interval) → structure (naming the interval)’. At the end of the lesson I asked them to write some thirds and seconds on the blackboard which we can see in the analysis diagram (from ‘structure’ to ‘symbol’) (Fig. 40). (See Appendix page 71 for the transcription of Lesson 1/4).

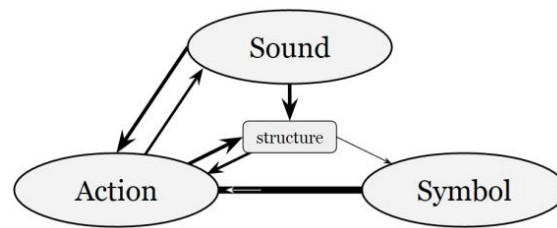


Figure 40

During the evaluation process I raised the question of how one could decide if there was an inward sound image before the action when a student played from written music or not. I think that one cannot definitely ascertain this, so I decided not to mention inward sound in this evaluation process. When the action is singing, however, I consider that it is appropriate to mention inward sound because otherwise a person cannot sing in tune.

Reflections from the teachers

I received the following reflections from teachers:

- After the first lesson I was advised to use sol-fa names so I incorporated this advice straight away into this cycle.
- I should challenge the students more and let them challenge each other.
- I could start the lesson with a preparation exercise and I needed to consider the approach according to the aim of the exercise. I needed to be conscious about the type of the exercise I was doing: 'prepare', 'present' or 'practise'.
- I needed to find a good way of writing exercises.
- Lego patterns, in the way that I am using them do not show the string crossings.
- I should start to use a fourth category 'name' when I analyse my lessons to replace the sub-category 'aural instruction'. So the process could be then: 'sound - action - name - symbol'.

Conclusions

I found that singing with relative note names is a useful preparation before singing with ABC names. I decided to use this in the next cycle too. In this cycle it became obvious that playing or singing according to a particular concept was not a usual routine for the students. They were familiar with the idea of copying a sound image or creating one and singing or playing it or

even describing the structure of their image, but when I asked them to create a sound image by knowing some parameters of the notes it was not obvious how to do this for each of them. I decided to pay attention to challenge them in this. I was struggling with finding the most appropriate way for writing exercises. In 'Lesson 1/3' it was too detailed and in 'Lesson 1/4' it was too weak. I decided to find a solution for that in the second cycle.

5.3. Second cycle

My focus point for the second cycle was that when I taught a new musical element I would practice with the students in at least these ways: singing, playing, naming with sol-fa and with ABC-names, reading, and writing. Also I would evaluate the lessons according to the presence of the ‘sound - action - name - symbol’ process. I would try to find the best way to write exercises.

Lesson 2/1

In the beginning of this lesson I asked the students to sing according to a concept and not a sound image. I represented a major second with the Lego model so they needed to sing a major second from a note that I sang to them. Then I asked them to sing with sol-fa and then with ABC names. They also needed to recognise and name the interval. Then we sang the interval both in the melodic and the harmonic way. We built up a major third and then I asked them to play and then to transpose the three-note pattern. They notated the three notes which they had played. Later on we built up the major pentachord and they played the first line of Duo no. 5 by Bartók.

The path analysis of the lesson (Fig. 41) shows that the students did written exercises after playing on the violin, ‘action (playing) → symbol (writing)’.

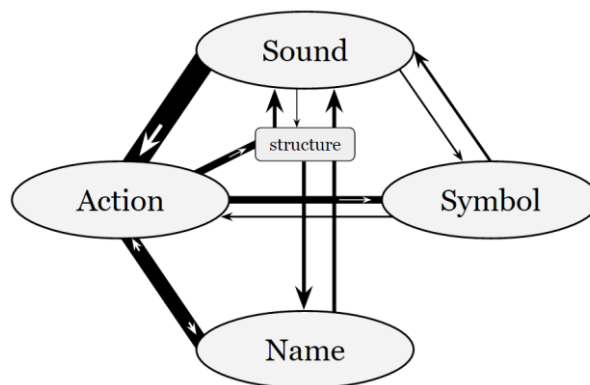


Figure 41

Furthermore it is clearly illustrated that ‘action’ and ‘name’ are connected almost all the time. This occurred when we sang with sol-fa or ABC names, or I asked them to sing and play at the same time. The dynamic of the playing and the singing was better balanced when they played pizzicato. In addition to that with one object in the hand – the violin without the bow – it

was also easier for them to take the pencil and swap to the writing exercise. When they sang from written music the path was ‘symbol (reading) - sound (inward) - action + name (singing + sol-fa name)’. There is a thin arrow from ‘sound’ to ‘symbol’ because when the notation was not correct I played the notes which they had notated and they corrected themselves by listening to the sound. One of these situations was the following: (Fig. 42, app. p. 101)

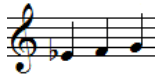

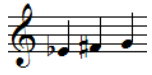

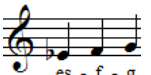
Teacher	playing: 
Students	singing:  with sol-fa and writing: 
Teacher	playing: 
Students	correcting:  es - f - g

Figure 42

I had an interesting discussion with a solfège and theory teacher in connection with this situation.

Researcher: Here I played ‘e flat - f - g’ and they sang the notes at the correct pitches but some of them notated: ‘e flat - f sharp - g’.

S&T teacher: Why? I am trying to understand why any of them would do that?

Researcher: Well, I have tried to figure this out as well. I have a feeling that they need a lot of practice here. But somehow they also need to understand the tone-semitone relationship.

[...]

S&T teacher: When you teach them in the beginning, what notes do you teach them first on the D string?

Researcher: I teach ‘d - e - f sharp - g’

S&T teacher: It means that f sharp is somehow the norm for them. So the question is how you get them to understand that between e-f there

is naturally a minor second and not a major second? Because they have not come across the e-f yet. Now I understand much more your problem. Because the e-f is not yet there. They haven't learned e-f yet in the fingering. So it is not that you teach them e-f-d first and then you shift the f up. This is the problem, because you go backwards. Now I understand it.

There was a similar situation when students named 'c' as a 'c sharp' (Fig. 43, app. p. 99) – 'f' and 'c' are a perfect fifth apart and we play them in the same way just one is on the 'd' string and the other is on the 'a' string.




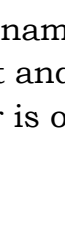

Teacher	playing: 
Students	Singing and building: 
Teacher	"What is the name of the interval?"
Students	"Minor third."
Teacher	"Sing it with ABC-names!"
Students	They sing:  naming the notes: 'a-bes-cis'
Teacher	"Listen to what you've named!" playing on the violin: 
Students	They then sing with the correct names: 

Figure 43

I watched the video of the lesson and I wrote this comment: "They sing the right pitch but some of them name the notes as 'a - b' and some of them 'a - bes' (a - b flat). Student 3 who named the notes 'a-bes' (a - b flat) tells the others that it is 'bes' (b flat). They go on and sing the three notes (a - bes - c) but name them as 'a - bes - cis' (a - b flat - c sharp). Student 3 says that the third note name is 'c', but all the others calling the note 'cis' (c sharp) as they sing, so he seems to feel that he is wrong."

I had a discussion about this with another solfège and theory teacher:

S&T teacher: “This is interesting that they say ‘b flat - c sharp’ while it is a major second.”

Researcher: “Yes, but this can be because on the violin for practical reasons we teach them to play ‘c sharp’ before we teach ‘c natural’. So when it is a second finger it can be more natural to them to call it ‘c sharp’ and not ‘c’.”

S&T teacher: “And also to say ‘b flat - c sharp’ is a little bit more difficult than to say ‘b flat - c’. So this must be very well engraved in their head.”

(See Appendix page 82 for the transcription of Lesson 2/1).

Lesson 2/2

This lesson was the following week after ‘Lesson 2/1’. Two students were there out of the four children from the previous week. At the beginning of the lesson we repeated major and minor thirds and then they built major



Figure 44

pentachord scales from Lego starting from ‘g’ (Fig. 44) and then from ‘c’. I asked them to transpose this tonal pattern starting from ‘f’, ‘b flat’, ‘e flat’, ‘a flat’, then to sing with ABC

names and also to write them down. We also played the five-note melody from the previous lesson, with different base lines. One student played the upper part on the violin while the other was singing according to the hand signs I showed him (Fig. 45). After this they needed to recognise the dissonant minor second (which is literally an augmented unison) at the beginning of the second and fourth bars.

Figure 45

The path analysis (Fig. 46) shows that 'sound' and 'name' are sometimes connected because I was singing to them with sol-fa names.

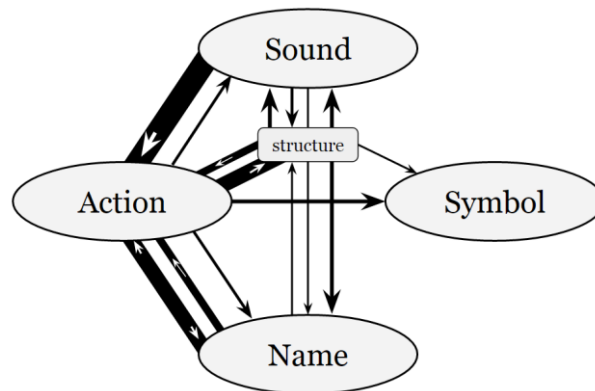


Figure 46

There was an exercise which shows an interesting path in the analysis diagram. I asked one student to choose one of four intervals - minor second, major second, minor third and major third - and play it. Then the other student played it back and he also needed to name the notes and then the interval. 'structure (student 1 is choosing an interval) → action (student 1 is playing the violin) → sound (violin of student 1) → action (student 2 is playing the violin) → name (they are naming the two notes with ABC names) → structure (student 2 is naming the interval). (See Appendix page 103 for the transcription of Lesson 2/2).

Reflections of the teachers

I received the following reflections from the teachers:

- This lesson is perfect for this age group. It makes them think and connect the sound with the symbol. I guess that they enjoyed the lesson very much.
- Why do you use the Lego in a horizontal way? If you would use in a vertical way, it could also represent if a pitch is higher or lower.
- I think that this kind of writing exercise is suitable.

Conclusions

In the second cycle I found the optimum way for the students to notate the music. The students did not have to write down all the details of the melody, just the notes in it. I didn't have to spend time with them notating the rhythm, and I could let them concentrate on pitch.

Chapter 6: Analytical overview and results of the research process - answering the 'sub' questions

In this chapter I would like to show an analytical overview of the research process. I am going to go through all the key themes which have emerged during the action research. I have organised the themes in the order they came up in when I was finding the answers to my sub questions. The following chart shows the process of the action research (Fig. 47).

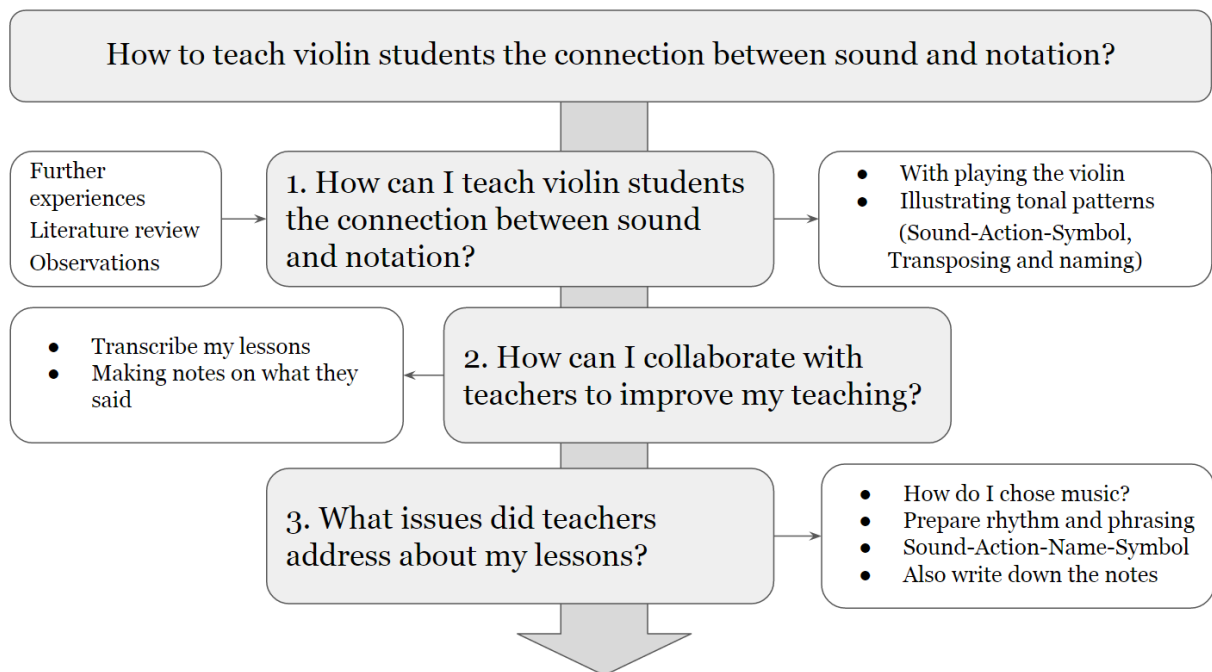


Figure 47

6.1. How can I teach violin students the connection between sound and notation?

At first I will describe the processes of those exercises when I asked the students to play the violin. Then I will summarize my experiences of using different tools for illustrating the tone-semitone relationships between neighbouring notes.

With playing the violin

One of the main goals of this study was to find and try out exercises in which the students play their own instrument while studying the connection between sound and notation. I made a list of these exercises. A detailed chart with references to particular exercises in the lesson descriptions can be found in the appendix. (app. p. 118) When I categorised these activities I noticed that I could easily distinguish three different phases in the process. 'Phase one' is when students play according to an instruction. In 'phase two' students play again, but this time they also name the notes. 'Phase three' is about playing a transformed version of the original notes. (Fig. 48)

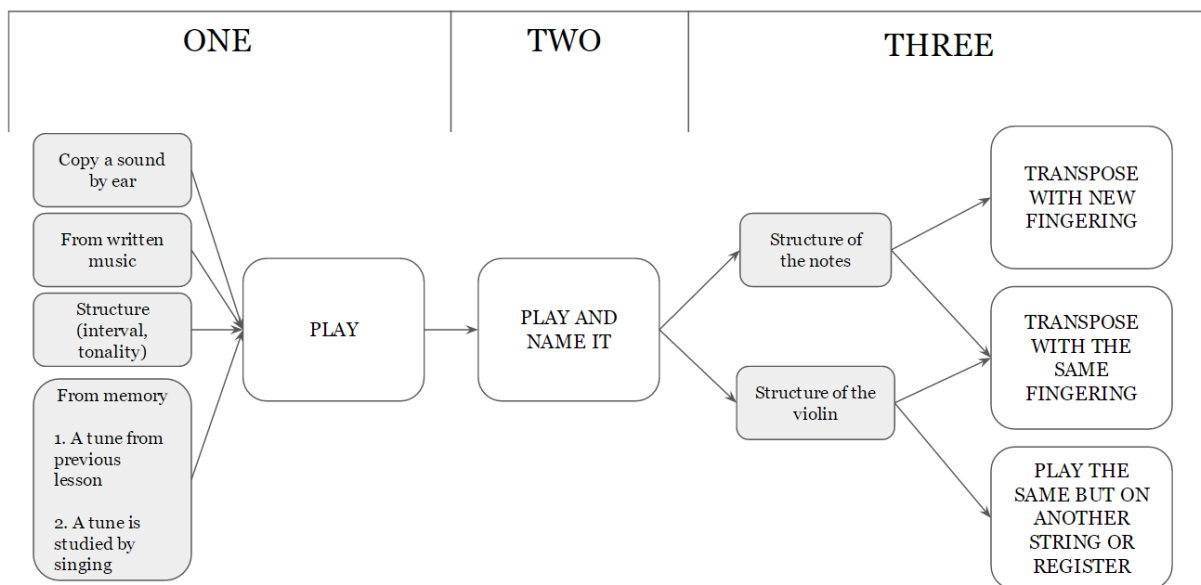


Figure 48

I looked at all the instructions I had given in the lessons in 'phase one' and I formed four different categories according to the type of instruction. The four categories are: copying the sound of a teacher's violin playing (playing by ear); playing notes which have been practised by singing (playing from memory); playing from written music; and playing according to a given structure - eg according to a tonal pattern or a certain interval or a particular tonality (playing by following a given structure). I drew a comparison between these four categories (playing by ear, playing from memory, playing from written music, playing by following a given structure) and the five categories that McPherson, Bailey, and Sinclair (1997) used in their path analysis: 'playing by ear', 'playing from memory', 'sight-reading', 'improvising' and 'performing rehearsed music'. I found that three of the five

categories - 'playing by ear', 'playing from memory' and 'sight-reading' - were the same as in my list. One of the differences was that I did not use 'performing rehearsed music'. This made me think that in the future I could add exercises when students would play a piece from their repertoire and then we analyse the piece in the lesson. The other difference was that instead of 'improvisation' I asked the students to play according to a tonal pattern or a certain interval or a particular tonality. I think that this exercise could be a good preparation for tonal improvisation.

In the second phase I tried out many ways to play and name the notes at the same time. One way was that I asked the students to sing the notes with ABC names while they were moving their fingers on the fingerboard as they would play the notes but without making sound. The disadvantage of this exercise was that we could not check whether the fingers were playing in tune or not. Other times I asked them to play with the bow while singing with letter names. It is a good way to practise but sometimes it is hard to find the right balance between the dynamic of playing and singing. Playing usually tended to be too loud and singing was not audible. The third way is playing with pizzicato while singing. This way is good especially when I also asked them to write right after the playing-singing, because they do not need to change from handling the bow to using the pencil.

The transposition exercises in the third phase can be challenging when the fingering is not the same therefore students need to stand upon the tonality rather than the memory of the fingering. When the fingering is the same and the difference is just that they play in another string or position then it is easier but still they can learn about the structure of the instrument. Furthermore this exercise can be also quite challenging if they also need to name the notes while playing. I will write about transposition exercises later.

Illustrating tone-semitone relationships between neighbouring notes

I used Lego for modelling note patterns. The critiques I got about it is that it does not show the real distances, that it does not show if a pitch is higher or lower. It does not show when there is a string crossing. Also the colour of the bricks was questioned. I had concerns that children would not listen to the knowledge which I want to develop through this and they would just concentrate on the game. But on the other hand I felt that they can remember more because of the image and because they learned it in an informal way. There were lessons when I did not use Lego and I think that the aim of any of the lesson can be taught without the Lego.

I have also found that the diagram is like a dictionary. You cannot speak when you always need to look at words in the dictionary. The words need to be the part of your knowledge and you need to be able to use at any time when it is necessary. Diagram proved to be useful when I had discussions with teachers who don't play the violin, because I could explain any problems which have emerged during our conversation.

6.2. How can I collaborate with teachers to improve my teaching?

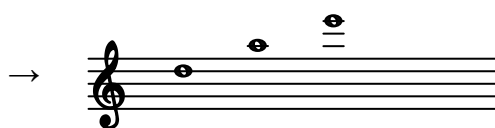
In this section I will summarize my experiences with transcribing my lessons and organising meetings with teachers.

Transcription of the lessons

Transcribing my lessons I found a good way to discuss it with teachers. This is less time consuming than watching a video. But a lot depends on the quality of the transcription. I made about ten transcriptions during my study and I always changed things when I got a critique about that it is not understandable. I also used description three times but this proved to be less appropriate than the transcriptions. Here is a list about what have I changed.

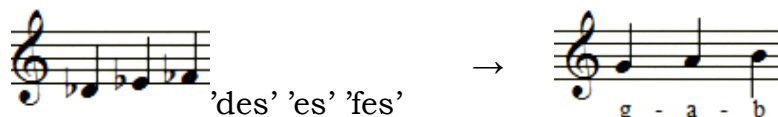
playing the violin:

d" a" e"



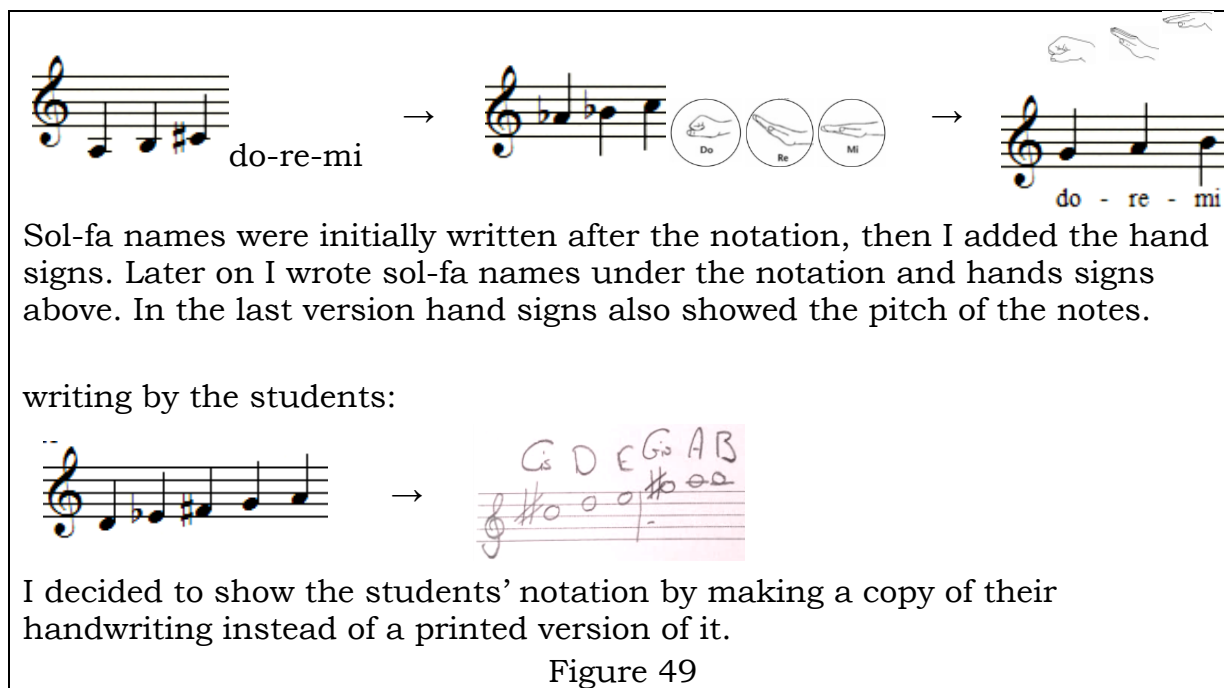
I decided to use notation instead of letters to transcribe any sound we played or sang during the lesson.

singing with ABC names:



Originally, the letter names which the students used when singing were written after the notation but later I wrote them as lyrics, under each note.

singing with sol-fa:



I used to have a portrait version of the transcriptions but then I changed it into landscape and I placed the original transcription on the left side of the page and the comments about the particular exercises on the right side of the page.

Organise the meeting and making notes of what they said

In the beginning of my study I realised that the comments of teachers would play a prominent role in my action research process. Therefore I started to make contact with many teachers. Even if I lost contact with a few of them I would still be able to meet up with the others. I was surprised that out of the initial ten teachers I managed to keep in contact with nine of them throughout the research process. Although I did not meet all of them with the same regularity, I always managed to have a talk with at least one or two of them when I needed some feedback. I recognised a certain dynamic in my relationship with the teachers. At the beginning I just talked with them and I did not even write their thoughts down during the meeting, making notes just after each meeting. It was less efficient doing this, but in subsequent meetings I felt more secure so I made contemporaneous notes. Later I also started to record the conversations. It was more effective, but of course it changed the dynamics of the conversations.

6.3. What issues did teachers address?

At first I will give an insight into how I chose music for my lessons. Then I will write about the importance of preparation exercises especially in terms of rhythm and phrasing. After that I will describe the way in which I observed the presence of the ‘sound-action-name-symbol’ process and used this as an evaluation tool. Finally I will summarize my experiences of using three types of exercises, namely transpositions, naming and writing the notes.

How I chose music?

Novik writes in her study about teaching with ‘Mikrokosmos’ that because the majority of the tunes are using a five-note tone set “these studies lend themselves quite naturally to transposition to all twelve pitches.” (Novik, 1967-1968 p. 12). I found similar possibilities in the 44 Duos for two violins. (Bartók, 1933) Before teaching them I looked thorough their harmonic concept and discussed this with my theory methodology teacher. I used the five-note melodies in my teaching for analysing the distances and for transposing the tunes. I encouraged the students to play both parts, but sometimes we played the melodies using second voices which were different to what Bartók had written. I found the genre of duos suitable because it makes a more complete listening experience than having just one voice. Bartok duos can have difficult rhythms or phrasing therefore I wanted to find duos by other composers where the rhythm would be easier. I found the following pieces were also suitable for this type of teaching.

- Hindemith: Sing- und Spielmusiken für Liebhaber und Musikfreunde op. 44¹ (Hindemith, 1927)
- Hindemith: Vierzehn leichte Stücke für zwei Violinen in der ersten Lage (Hindemith, 1932)
- Ries: Dreizehn Kleine Duette für Zwei Violinen (Ries, 1974)
- Wanhall: Eight Progressive Duos for Two Violins Op. 17 (Wanhall, 1880)

Prepare the rhythm and phrasing

Originally I did not want to address any issues in connection with rhythm and phrasing because I had a strong intention to focus only on musical attributes like pitch and harmony. Although I had a research question for

several months where I mentioned music literacy development still I concentrated only on pitch when I planned my teaching. Here is an example from the orientation cycle, where seventeen-year-old students needed to play a melody by ear. “Some of them were not familiar with the idea of a 3 bar (rather than a 4 bar) phrase in 4/4 time, and wanted to continue playing.” (Researcher’s comment) “I did not expect that phrasing would be a problem. I was afraid that it distracts students and they cannot concentrate on the pitch of the notes which was the aim of the lesson.” (app. p.17) It is interesting that they did not have any problem with the rhythm which was not conventional either, while phrasing surprised some of them. After I got advice from solfège and theory teachers about preparing the rhythm I had a positive experience in the second cycle. A student could play the melody which we had learned a week before. (Researcher): “I didn’t expect that any of the students would remember the melody that well. Rhythm was perfect [...] I hope that this is a consequence of the preparation exercises with ostinato which we practised last time at the beginning of the lesson.” (app. p. 62) Another example from the third cycle was when 9-year-old pupils played a song by heart which they had learned in the previous lesson. (Researcher) “I had a problem here, because I didn’t do any preparation about rhythm and phrasing. Instead of a conventional period there are 10 bars articulated like 2+2+3+3. In addition to this the rhythm pattern changes after the second bar. It was difficult for them to play by heart, while they did not have any problems when they played from the score in the previous lesson.” (app. p. 114) Here I was again too busy with teaching the harmonies and did not concentrate enough on the rhythm.

Sound-Action-Name-Symbol

When I observed the lessons I made a path analysis indicating the presence of the ‘sound - action - symbol’ process in each of the exercises. This proved to be a good way of evaluating and occasionally changing my concept because the direction and thickness of the arrows gave me an illustration of what had happened during a particular lesson. From the first cycle onwards I also observed the presence of any musical ‘structure’ and I added a sub-category called ‘aural instruction’, which in the second cycle I changed into a full category called ‘name’. I differentiated three types of ‘sound’ images: voice, violin and inward sound images. ‘Action’ was usually singing and/or playing the violin. Name could be relative (sol-fa) or absolute (letter). ‘Symbol’ we used when reading or writing down the music. ‘Structure’ was a certain interval or a tonal pattern which was usually illustrated by a Lego model. It was a useful tool to make a connection between the four other categories.

Transposing motifs naming and writing down the notes

In this research project I did not teach the same students for a long period on a weekly basis therefore I could not test the effectiveness of the transposition, note naming and writing exercises. Instead I am presenting the results obtained by observing students' reactions when following these exercises. I took advantage of being in contact with solfège and theory teachers when I started to analyse the answers of the students. I have already referred to some of the occasions when a student named or wrote a note incorrectly. I looked at all these situations in my lesson transcriptions and I made observations about the possible reasons for each type of mistake. For lessons where a video recording had been made I found it useful to watch the video again, as well as re reading my transcriptions, and would then sometimes add to the comments I had already made. I do not have a large sample of data therefore I cannot make general statements that will apply in all circumstances. I can tell though that solfège and theory teachers were surprised that some students had tended to name a natural note incorrectly by using its name with a sharp (e.g. 'f sharp' or 'c sharp' instead of 'c' or 'f'). Some violin and theory teachers raised the issue that this type of misunderstanding can emerge from the fact that in most violin methods the first note reading exercises are not in C major but in G, D or A major. Hence students become familiar with some augmented notes (e. g. f sharp, c sharp, g sharp) before they learn how to play and read their natural version.

Chapter 7: Conclusions and discussions

At first I will summarize my conclusions what I reached after I have been searching for the answers to the preliminary questions. Then I will set out and discuss my final conclusions which will address the possible answers to the main question.

7.1. Answering the preliminary questions

I found that an important aim of the subjects of solfège and music theory is to provide a type of knowledge for students which can help them to develop and show their musicality in a unique and expressive way. Therefore I can say that in music lessons every exercise which involves playing or singing needs to be approached with a ‘professional’ attitude as we always need to consider each piece of music as a work of art.

During the lesson it is important that the teacher enjoys the musical activities with the children and does not just play the instrument but also sings together with them. It is advisable to follow the ‘practice before theory’ fundamental and a teaching approach which builds on tonal patterns and harmonic context. Furthermore multimodal teaching methods are more appropriate than simple ones, because musical experiences are processed in auditory, visual, spatial and kinaesthetic areas simultaneously in the brain.

The conclusion of Howard’s study where vocal techniques are incorporated into instrumental teaching is that “Teachers should think of vocal and instrumental music as one discipline. Instrumental classes need to stress ‘inner hearing’. Singing, before playing or reading music, is essential to good musicianship.” (Howard, 1996, p. 32)

From the study of violin methods I reached the conclusion that the development of inner hearing, the knowledge of tone-semitone relationships of neighbouring notes, and the development of a ‘panoramic view’ or ‘mental picture’ of the notes on the fingerboard are crucial for students when learning about the connection between sound and notation.

During the observations of the violin and theory lessons in the Young Talent Department I learned that by using approaches in which sound and listening play a paramount role, students can have a well-developed skill at playing by ear. Solfège teachers emphasize the development of the relative ear. As a

consequence students can easily sing with using relative sol-fa names. Violin teachers introduce absolute pitch names to junior students in individual violin lessons and teach them how to connect sound with symbols by playing the instrument. They also use transposition exercises and students need to write down note patterns which they have already played by ear.

7.2. Answering the main question

My answers are relevant in the context of the teaching practice I undertook during this period of research. Because I reduced the age group during my study the answers are applicable for the 8- to 12-year-old violin students at the Young Talent Department. It might not be the case that these experiences would be the same if someone carried out this research at the Royal Conservatoire in The Hague in a few years time or if someone from a different background carried out the research, as they might interpret the experiences in another way.

Based on the observations of the lessons I can state that integrating the violin playing into the teaching provides a wide variety of different activities like playing by ear, playing from written music, playing from memory, playing by following a given structure, playing and singing at the same time, transposing while using the same fingering, transposing while using different fingering and playing the same melody in different registers on the violin. In connection with the examination of these activities I made the following conclusions.

In the light of the ‘sound’ to ‘symbol’ approach I observed that some of the above listed activities support this approach more than others. I noticed that singing is a type of ‘action’ when students naturally build on an inward sound image. My conclusion is that using activities which are connected with singing (e.g. singing before playing, singing while playing) can ensure that students base their activity on ‘sound’ rather than ‘symbol’.

I found that the category ‘performing rehearsed music’ in the path analysis of McPherson, Bailey, and Sinclair (1997) does not correspond with any of the activities used during my lessons. Future research opportunity could be to experiment with teaching the connection between sound and notation through performing rehearsed music namely the repertoire pieces of the students.

The path analysis of each exercise in the second cycle – which illustrated the presence of the ‘sound - action - name - symbol’ process – indicated that

singing with sol-fa or ABC names while playing the same notes on the violin is a type of activity which incorporates 'sound' 'action' and 'name' at the same time. The multimodal feature of the approach can be broadened by giving a visual image using a model of the structure of the notes and then with writing down the notes played.

My study is an example of how a violin teacher can initiate collaboration between violin and theory teachers which results in better understanding of each other's teaching practice. We have seen in Larmier's study that this understanding is a "necessary prerequisite for developing a comprehensive music study-plan that interconnects instrumental, solfège and theory studies." (Larmier, 1996 p. 29-30) Based on my experience in collaborating with teachers I conclude the following. Making a detailed lesson transcription which is set out in the form of a dialogue is useful when seeking feedback from other teachers even during a short period of time (e.g. a lunch break). The 'violin diagram' is an appropriate tool for violin teachers to explain notes and to discuss instrumental specific knowledge with solfège and theory teachers.

During the analysis of the exercises it became obvious that the connection between sound and notation was not unambiguous for every student especially when they were asked to name the notes 'c' and 'f'. We have seen that these difficulties can emerge partly from the fact that most violin methods introduce 'c' sharp and 'f' sharp before their natural versions. I decided to examine this fact together with two additional facts. One is that the distances between note heads on the staff do not correlate to the distances between the pitch of the notes. The second is that in contrast with other instruments the pitches of the notes on the violin are not determined by keys, wholes or frets. Pulling these three facts together I concluded that the absolute note names and their notation would not be clear for the students without the knowledge of tone-semitone relationships between the neighbouring notes. For this reason I would advise solfège and theory teachers to pay attention to the teaching of tone-semitone relationships between neighbouring notes especially in a major pentachord starting from the notes of the open strings (G, D, A, E).

I discovered students' uncertainty in naming notes when teaching transposition exercises. Tones and semitones can be taught by transposing tonal patterns. I found during this study that transposition exercises provide useful experiences about how ABC notes relate to each other. My conclusion is that teachers could think of the relative solmisation system as a sort of mathematical 'formula'. Asking the students to swap from sol-fa to absolute pitch names is equivalent to using a particular 'formula' and examining how ABC notes need to be adjusted to fit into that.

Based on the reactions of the students and the discussions with teachers I concluded that using Lego models for illustrating the tone-semitone relationships between the neighbouring notes results in more enjoyable lessons. Although any of the lessons can be taught without the Lego, their use can make the learning context more memorable. Using the 'violin diagram' is a good way for illustrating the positions of natural harmonics on the fingerboard.

Some duos by Bartók offer good possibilities for teaching the connection between sound and notation. The following statements summarize the main characteristics of a piece of music that can be used effectively for this purpose. The genre of duos is advisable because playing two parts together gives opportunities of listening-to and observing both harmonic and melodic intervals. The five-note tone set is suitable for transposing exercises. Music with simple rhythm patterns makes it easier for the students to concentrate on the pitch of the notes within the music.

How to teach violin students the connection between sound and notation?

- *Teach with singing as this can ensure that the activity is based on 'sound' rather than 'symbol'.*
- *Sing with sol-fa or ABC names while playing the same notes which are illustrated with a model as that provides a multimodal approach which can be enhanced by writing the played notes down.*
- *Develop a study plan which interconnects practical and theoretical subjects.*
- *Teach the major pentachord scales from GDAE.*
- *Teach the tone-semitone relationships between the neighbouring notes.*
- *Use duos or the repertoire of the students.*

7.3. Discussion and further plans

In this section I will reflect on my research in light of lessons excluded from this report due to space limitation. The lessons covered in this report represent my starting points. In the meanwhile I have developed the exercises and my concept much further. I have modified lessons for use with older students. I have had experiences with teaching in a workshop where the participants did not use the relative sol-fa system. If I pull all my experiences together I see that my ambition was always directed at modelling the structure of the relationship of musical sounds and to create sound images according to a model or a verbal definition of the structure of the

musical sounds. When I refer to structure I always think of some kind of model, illustration, explanation or definition which I choose according to the students' age and knowledge. I was also considering replacing the word 'structure' with the word 'sample' referring to a small part of the whole that I observe and analyse with the students in order to find out something about the whole musical piece.

I found that I always tend concentrate on modelling the structure of musical sounds in my lessons. Students enjoy when we invent atonal structures and unusual scales together to use as ear-opener exercises. I developed many tools for explaining the changes of the pitches or the harmonies. For example on one lesson we played all the twelve keys in the circle of fifth with the modulating melody from the beginning of the middle movement of Winter by Vivaldi. Experimenting with modulation when the alteration of the fourth degree becomes the leading tone of the dominant is a memorable experience.

I assert that illustrating the structure of the relationship of musical sounds can be a way to teach the connection between sound and notation. It can also be a preceding step for introducing notation. As an example, when a child is able to play or sing an easy melody, we can sing that melody with changing a note. If we see that the child is reacting emotionally and shows that he/she experienced the difference we can talk about what has changed or just show similar formations in other keys or with using other melodies and let the child enjoy the new experience again and again. Interestingly this is also what Mozart did when he was about three years old: "Mozart spent endless hours at the keyboard, particularly delighting in 'picking out thirds and sounding them'". (Maynard, 2007, p. 61). Mozart had the sound image and he could see the structure of the notes on the piano and as we read he was delighted. I said in the beginning that the main goal must be to provide a type of knowledge for students which can help them to develop and show their musicality in a unique and expressive way. I believe that noticing and expressing the changes in the music is one of the ways we can express our personality through music.

7.4. Personal learning

If someone would like to find out about the same situation years later, then I would advise to work with a similar approach. I learned from the discussions with the teachers and I was satisfied to see that we have found solutions together. It happened according to my plan.

Concentrating on more musical attributes at the same time was the biggest challenge during my research. For example when I wanted to find a good way about teaching pitch I was so focussed on this one thing that I almost forgot to take care about rhythm or phrasing. I learned that if I ask the student to play for example a Bartók duo, some preparation exercise for the rhythm and the phrasing can be useful.

I was struggling to find a solution for illustrating the 'sound - action - symbol' process in my exercises. The path analysis of the lessons was a good way of evaluating and occasionally changing my concept because the direction and thickness of the arrows gave me a means to model what had happened during a particular lesson.

The most significant change in my thinking is that though structure is important the listening and ear to hand coordination deserves absolute priority. I learned multimodal teaching techniques and the 'prepare - present - practice' approach. I have experienced the utility of informal teaching and the benefit of those situations in the lessons when the students give elaborative help to each other. I have improved my teaching practice by applying these new more efficient approaches.

References

- Bamberger, J. (1996). Turning music theory on its ear. *International Journal of Computers for Mathematical Learning*, 1(1), 33-55.
- Bartók, B. (1933). *44 Duos 2 Violini*. Vienna: Universal Edition.
- Cain, T. (2014). Self Study, Action research and other approaches to teachers' practitioner research in music education. In: T. D. Beats & T. Buchborn (eds), *European perspectives on music education. The reflective music teacher*. (pp. 87-99). Innsbruck: Helbling.
- Cobb, G. F. (1883-884). On certain principles of musical exposition considered educationally and with special reference to current systems of musical theory. Part I. *Proceedings of the Musical Association, 10th Session*, 125-151.
- Davidson, L., Scripp, L. & Welsh, P. (1988). "Happy Birthday": Evidence of conflicts of perceptual knowledge and conceptual understanding. *Journal of Aesthetic Education*, 22(1), 65-74.
- Darrell, P. (1955, June - July). Are we teaching music or theory? *Music Educators Journal*, Vol. 41, No. 6, 46-49.
- Dénes, L., Lányi, M., Mező I. & Skultéty, A. (1967). *Violinschule*. Budapest: Editio Musica Budapest.
- Dénes, L., Szászné Réger, J. & Németh, R. (1997). *Violin abc*. Budapest: Editio Musica Budapest.
- Doflein E. & Doflein E. (1951). *Das geigen - schulwerk*. London: Schott & Co. Ltd.
- Fine, P., Berry, A. & Rosner, B. (2006). The effect of pattern recognition and tonal predictability on sight-singing ability. *Psychology of Music*, 34, 431-477.
- Fisher, S. (2013). *The violin lesson. The intonation lesson*. London: Peters Edition Limited.
- Gauldin, R. (1974, Spring). The Conservatory. *Journal of Music Theory*, Vol. 18, No. 1, 75-90.
- Gordon, E. (1997). *Learning sequences in music*. Chicago, IL: GIA Publications.

- Grutzmacher, P. A. (1987). The effect of tonal pattern training on the aural perception, reading recognition, and melodic sight-reading achievement of first-year instrumental music students. *Journal of Research in Music Education*, 35(3), 171-181.
- Hansen T. M. (1997). *A modern approach to violin virtuosity*. Norway A/S: Warner/Chappell Music.
- Hansen T. M. (n.d.) *The geometric all interval system – violin*. Novato Music Press.
- Hayward, M. & Gromko, J. E. (2009, Apr). Relationships among Music Sight-Reading and Technical Proficiency, Spatial Visualization, and Aural Discrimination. *Journal of Research in Music Education*, Vol. 57, No. 1, 26-36.
- Hindemith, P. (1927). *Sing- und Spielmusiken für Liebhaber und Musikfreunde op. 44¹*. Mainz: B. Schott's Schöne.
- Hindemith, P. (1932). *Vierzehn leichte Stücke für zwei Violinen in der ersten Lage*. Mainz: B. Schott's Schöne.
- Howard, P. M. (1996, Mar.). Kodály Strategies for Instrumental Teachers. *Music Educators Journal*, Vol. 82, No. 5, 27-33.
- Karpinski, G. S. (2000). *Aural Skills Acquisition*. New York: Oxford University Press.
- Kocsár H. I. (2002). *Zoltán Kodály: Music should belong to everyone. 120 quotations from his writings and speeches*. Budapest: Executive Office of the IKS.
- Kodály, Z. (1960). *Ki a jó zenész?* Eösze L. (ed) Budapest: Zeneműkiadó Vállalat
- Kodály, Z. (1964). *Visszatekintés I*. Bónis F. (ed) Budapest: Zeneműkiadó Vállalat
- Kodály, Z. (1972) *Choral Method – Revised Edition*. London: Boosey & Hawkes.
- Kohut, D. L. (1985). *Musical performance: Learning theory and pedagogy*. Englewood Cliffs, NJ: Prentice-Hall.
- Konings, S. (31/12/2014) 'What's in a name? - The relation between pitch notation, note names and sight singing in different forms of pitch notation and in different ways of approaching pitch notation', *Research Catalogue*

<https://www.researchcatalogue.net/view/114437/154016/0/0>

- Koshy, V. (2005). *Action research for improving practice*. London: Paul Chapman Publishing.
- Larimer, F. (1991/92, December - January). Music study in the Soviet Union: old traditions, new trends. *American Music Teacher*, Vol. 41, No. 3), 26-31.
- Lora, D. (1979, Spring). Musical pattern perception. *College Music Symposium*, Vol. 19, No. 1, 166-182.
- MacKnight, C. (1975). Music reading ability of beginning wind instrumentalists after melodic instruction. *Journal of Research in Music Education*, 21(1), 23-34.
- Mainwaring, J. (1951). Psychological factors in the teaching of music: Part II: Applied musicianship. *British Journal of Educational Psychology*, 21(3), 199- 213.
- Markov, A. (1998). *System of violin playing*. Introduction. Liverpool: Rondo.
- Maynard, S. (2007). *Mozart a life*. London: HarperCollins Publisher Ltd.
- McPherson, G. E. & Gabrielsson, A. (2002). From sound to sign. In R. Parnacutt & G. E. McPherson (eds), *The science and psychology of musical performance. Creative strategies for music teaching and learning*. (pp. 99-115). Oxford: Oxford University Press.
- Metz, L. (n.d.) *Violinmethod. Volume 1*. Amstetrdam: Broekmans & v. Poppel.
- Mills, J. & McPherson, G. E. (2009). Musical literacy. In G. McPherson (ed), *The child as musician*. (pp. 155-171). Oxford: Oxford University Press.
- Novik, Y. (1967-1968, Winter). Teaching with 'Mikrokosmos'. *Tempo*, No. 83, 12-13+15.
- Pearsall, E. & Almén, B. (2006). *Approaches to meaning in music. The Divining Rod: On Imagination, Interpretation and Analysis*. Bloomington: Indiana University Press.
- Price, H. E. & Byo, J. L. (2002). Rehearsing and conducting. In R. Parnacutt & G. E. McPherson (eds), *The Science & Psychology of Music Performance: Creative Strategies for Teaching and Learning*. (pp. 335-351) New York: Oxford University Press.

- Ries, H. (1974). *Dreizehn Kleine Duette für Zwei Violinen*. Adliswil-Zürich: Edition Eulenburg GmbH.
- Sándor F., Járdányi P. & Szervánszky E. (1949). *Violinschule*. Budapest: Editio Musica Budapest.
- Sassmannshaus, E. (1976) *Früher Anfang auf der Geige. Band 1*. Kassel: Barenreiter - Verlag.
- Sassmannshaus, E. (1990) *Früher Anfang auf der Geige. Band 4*. Kassel: Barenreiter - Verlag.
- Schilt-Plate, A. (1995). Aanloopje. Voorbereidend viool voor (zeer) jonge kinderen. Dagelijkse oefeningen. Amsterdam: Broekmans & Van Poppel.
- Scholes, P. A. (1970). Tonic sol-fa. In: *The Oxford Companion to Music. tenth edition*. (pp. 1029-1035) London: Oxford University Press.
- Sloboda, J. A. (1978). The psychology of music reading. *Psychology of Music*, 6(2), 3-20.
- Smith, M. (1934, May). Solfège: An Essential in Musicianship. *Music Supervisors' Journal*, Vol. 20, No. 5 16-17+58+60-61.
- Suzuki, S. (1978a). *Suzuki violin school. Volume 2*, Miami, Florida: Summy-Birchard Inc.
- Suzuki, S. (1978b). *Suzuki violin school. Volume 4*, Miami, Florida: Summy-Birchard Inc.
- Suzuki, S. (1983). *Nurtured by love* (2nd ed.). New York: Smithtown.
- Suzuki, S. (1985). *Note reading for violin*, California: Alfred Music Publishing Co. Inc.
- Szilvay, G. (2007a). *Colour Strings violin abc. Book b*. Helsinki: Fennica Gehrman.
- Szilvay, G. (2007b). *Colour Strings violin abc. Teacher's handbook*. Helsinki: Fennica Gehrman.
- Szilvay, G. (2013). *Colour Strings violin abc. Book e*. Helsinki: Fennica Gehrman.
- Thomsen, K. M. (2011, December). Hearing Is Believing: Dalcroze Solfège and Musical Understanding *Music Educators Journal*, Vol. 98, No. 2, 69-76.

Tomal, D. R. (2010). *Action research for educators*. The nature of education research. Lanham: Rowman & Littlefield Education.

Vernon, P. E. (1930, January). Method in musical psychology. *American Journal of Psychology*, 42, 128.

Wanhall, J., (1880). *Eight Progressive Duos for Two Violins Op. 17*. Boston: Edition André.

Figures

Figure 3: Dénes-Lányi-Mező-Skultéty, 1967, p 50.

Figure 4: Sassmannshaus, 1990, p. 27.

Figure 5: Doflein, 1951, p. 3.

Figure 6: Dénes-Réger-Németh, 1997, p. 44.

Figure 7: Sassmannshaus, 1976, p. 35.

Figure 8: Metz, n. d., p. 35.

Figure 9: Szilvay, 2007a, p. 44.

Figure 10: Suzuki 1985, p. 6

Figure 11: Dénes-Réger-Németh, 1997, p. 36.

Figure 12: Dénes-Réger-Németh, 1997, p. 44.

Figure 13: Dénes-Réger-Németh, 1997, p. 44.

Figure 14: Szilvay, 2013 p. 64.

Figure 15: Suzuki, 1978b, p. 15.

Figure: 16: Suzuki, 1978a, p. 15.

Figure 17: Suzuki, 1978b, p. 10.

Figure 18: Suzuki, 1978b, p. 21.

Figure 19: Markov, 1998, p. 4.

Figure 20: Hansen, n. d., p. 4.

Figure 29: <http://en.wikipedia.org/wiki/Harmonic>