From Aural Teaching to Musical Literacy in the Elementary Horn Class

First steps to a Kodály inspired horn method.

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Thesis
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Preface

This paper has been a beginning for me to develop a new horn method based on aural horn teaching. With passion I started this process and after 2 years of research, many steps are clearer to me. I also know what further steps to take to finally develop the new method.
I would like to thank a few people for their involvement and support during this process. First of all, my colleagues from BASIS: Mieke van Dael, Martine Belderok, Irma Kort and Karin de Jong for the opportunities I get at BASIS to shape my research. I enjoy every week that we can work together as a team at BASIS.
My super visors; Herman Jeurissen and Suzanne Konings for the many interesting conversations and the guidance of this challenging process. Dolores Fleminks for translating those many words I have written. Sanne Hille for her support in research. And last but not least my husband Maarten without his support I couldn't do this and my children Marijn and Sanne for whom I have had too little time lately. Thank you all!

Klaske de Haan
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Table of Contents

Chapter 1: Introduction

1.1 Motivation

"There is a Musical Language, and then there is Music. Important is what we express and how we communicate through this language of musical sounds. What kind of story are we telling, and how are we telling it? In what way can we help enriching the lives of somebody out there?"[1]

Most elementary schools in the Netherlands have no structural music lessons in the curriculum. So for many children that start instrumental music lessons it is their first experience to consciously experience making music. The instrumental music lesson is mainly based on reproducing: a certain image matches a fitting fingering thus producing the matching sound. When the sound is not matching the image than the teacher corrects this sound.

Many instrumental teachers complain that many pupils quickly stop the instrumental lessons. It lacks the fun and there are too many skills that need to be mastered at the same time. These days there are less and less horn pupils that start music class. This year has been proclaimed the year of the horn in which this specific problem is addressed.
Children learn in different ways: kinesthetic, aural or visual. [2] The traditional instrumental education does not take all these learning styles into consideration but is mainly focused on the visual learning style. Technical aspects, like posture, breathing, embouchure and articulation are mostly learned from reading exercises. The main objective is the correction of the "mistakes" of the motoric, technique and reading skills. The learning process is not positively approached in this manner.

Neuro scientist Robert Harris (Hanze Hogeschool – Groningen) researched the ability to convert sound into movement necessary to make music and what it does to the brain. In an article in the Leeuwarder Courant he writes that if the music education would emphasize less on the written notes more people would start making music. He states that nearly all people can sing, almost everybody is musical. The written notes is an obstacle for many, which is why it is important to teach music in different ways.[3]
The famous tuba player Arnold Jacobs spoke about the fact that while learning to play a wind instrument the focus should be the sound. When the sound is in the mind the mind automatically produces the right actions (lip tension, breath support etc.) to realize this sound image. One voice sings in your head and the other voice sings from the instrument. Jacobs compares making music with an actor using his body to express himself. *"A musician is a storyteller of sound."* So the instrument becomes an extension of your own body.[4]

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[1] Wekre Ree, Froydis (May 1999) President's Corner. The Horn Call.

[2] KAV learningstyles, further discription see also chapter 4.3
International Primary Curriculum LTd (2001) Hersenvriendelijk leren
http://www.ipc-nederland.nl/docs/uploads/doc_repository/H8_map_0.8_-_Hersenvriendelijk_leren.pdf.
Accessed: 4-1-2017

[3] Harris, Robert (4 febr. 2017) : Iedereen is muzikaal. Leeuwarder Courant
Harris, Robert (2017) Moved by Music-PhD onderzoek Website: www.hanze.nl Accessed: 2-5-2017

[4] Frederiksen, Brian, (2012) Arnold Jacobs; Song and Wind. Illinois; Windsong Press Limited.
Loubriel, Luis E. (2013) Brass Singers: The Teaching of Arnold Jacobs.- Chicago: Scholar publications.

My bassoon colleague Mieke van Dael did research on: How can aspects of the Kodály Philosophy and Methodology be integrated into Instrumental Education?
She wrote:

"If self-expression is an important part of the new learning, then I think that it is essential I develop musical expression with my pupils in order to speak a living musical language."[5]

If we want to communicate with a language of musical sounds we have to make sure that pupils can fully understand these sounds. In order to realize that the instrumental music lessons have to be structured differently. This means that different tools are necessary to design the instrumental music lesson. This raises the question of how to do that. The traditional way of educating with the instrumental methodology is mainly focused on reproduction of notation. Aspects as creativity, ownership, improvisation and composition are in general still underexposed in the instrumental lesson. Most classical teachers themselves are educated in the traditional way. In the world of conservatoires improvisation and creativity are often the domain of the jazz department.

According to the Hungarian composer and music pedagogue Zoltán Kodály (1882-1967) we have to develop the inner hearing in order to be able to understand music and follow the path of musical literacy. We do this by singing. In order to learn to play an instrument it is not enough to just learn the technique. The music has to be understood. By singing and using relative solmization (do-re-mi-fa-sol) with hand signs and rhythm language we develop these skills. [6]

After a search through many horn methods it appears that only few of them are based on the B flat horn and its natural harmonics. This in spite that the B flat horn in the Netherlands is the most used instrument for the beginning horn player especially in wind bands. Many methods come from abroad and are based on the natural harmonics of the F horn. A beginning horn player on the B flat horn is faced with sometimes difficult valve positions. Even the popular methods with a sing along CD are not based on natural harmonics but start with do-re-mi songs. Often they are just adaptations of methods for other wind instruments.

Inspired by the Kodály method I have been researching the past years the possibilities of developing a horn method for the B flat horn in which singing is a central component and where a relation is formed between the inner hearing and the playing of the horn.
It became apparent very quickly that the starting point should be from the natural harmonics of the B flat horn in order to be able to build a good inner sound. From the development of an inner sound follows a process to work towards musical literacy through aural learning.
In this research I have tried to map how aural teaching and developing inner hearing can be made possible for my horn pupils. After that I have expanded my research by finding the

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[5] Van Dael, Mieke (2016) : How can aspects of the Kodály Philosophy and methodology be integrated into instrumental education? https://www.researchcatalogue.net/view/135074/278685

[6] Choksy, Lois (2000): The Kodály Method. Volume 1. Comprehensive Music Education, Third Edition New Jersey: Prentice Hall

necessary steps for developing musical literacy with musical education in order to be able to put that into practice. By doing that I realized the research had become rather extensive but nevertheless I felt the need and necessity to make a start. In the end the purpose of the aural process and developing of inner hearing is to work towards musical literacy. It is a topic that keeps me busy more and more and also a topic that keeps coming back from colleagues during workshops for teachers. Eventually as instrumentalists we all will have to play from sheet music whether we want it or not. Our surroundings and culture (orchestras, brothers, sisters that do have traditional music lessons) demand it. It would be wonderful if we can do that from a real understanding of the notation.[7]

1.2 Problem definition

The horn is an instrument based on harmonic overtone series. Finding the logical steps on the valves of the horn is very difficult. Woodwind players have a logical system on the instrument playing diatonic scales. For the horn, with 3 valves, there is not a logical sequence playing scales. This made me realize that some changes in the methodology are necessary for the horn to make the aural approach more logical for the beginning horn player. It also did me realize how extremely important it is for the young horn player to develop a good inner hearing and make the logical steps into musical literacy.

1.3 Research Questions.

We can express the following research question:

How to develop a methodology for the beginning horn player, from an aural approach to musical literacy?

In order to be able to answer the research question the following sub questions emerge.

1. How can we develop the inner hearing in relation to the French Horn?
2. How can we combine the aural approach of horn teaching with the technical aspects of horn playing?
3. How to work from sound to symbol in the instrumental music lesson?

1.4 Objectives

The objective of this research is to determine if aural teaching in the elementary horn class is feasible. Which steps are necessary to develop a method for the young horn player with an aural approach and still give enough attention to the technical aspects of horn playing? What is necessary for developing musical literacy in the instrumental lesson when we assume an organic unity.

[7] De Haan, Klaske (febr 2017) Artikel Auditief lesgeven in de elementaire hoornklas. Published on the website from Nederlands Hoornisten Genootschap in response to the Masterclassweekend Muziek als Vak.

Chapter 2 Research Process

2.1 Introduction

In 2013 I started as a horn teacher at the Royal Conservatoire in The Hague. Together with a team of colleagues I started to develop the music program for wind instruments called BASIS. As a traditional trained musician I noticed that there are a lot of developments in the instrumental methodology available that were interesting to me. I also realized however that I needed more knowledge in order to be able to successfully teach in this manner. So I started to develop myself by taking the course "Muziek als vak" at the Royal Conservatoire in The Hague. During the development of the horn lessons at the program BASIS my research questions automatically surfaced. That is why it seemed logical to choose the Master study Music Education According to the Kodály Concept.

2.2 Research Process

This research consists of two parts:
- Literature research
- Practice based research

Literature Research:
Chapters 3 to 5 are based on literature research. I read a number of publications:
Mieke van Dael (2016) How can aspects of the Kodály Philosophy and Methodology be integrated into Instrumental Education
Suzanne Konings (2014) To understand staff notation Aurally.
Suzanne Konings (2015) What's in a name.

Chapter 3: The Horn, the history of the horn and the consequential developments are addressed. In this chapter I analyze the existing methods and explain the technical aspects of horn playing.
Chapter 4: Aural music lessons, music lessons based on learning by ear. My research is focused on why aural teaching is important for instrumental education. What learning styles are there and how can these be implemented in instrumental education?
I am trying to find answers to the question what inner hearing and musical expression is and how we can develop inner hearing in relation to instrumental education.
Chapter 5: Musical Literacy, I try to find out how we can reach musical literacy through aural teaching and subsequently which steps are necessary in order to achieve that.

Practice-based Research:
In my practice-based research I try to translate the Kodály principles of teaching and learning music, to the horn education. First there is the aural phase that, contrary to woodwind instruments, is very specific for the horn because the horn is based on natural harmonics. The first steps to musical literacy are equal for all instruments of the wind quintet.
My practice-based research covers the elementary horn education during the first two years of my horn pupils.
The practical research for the most part is done at BASIS at the Royal Conservatoire in The Hague and is partly applied at Scholen in de Kunst where I teach individual horn classes and teach classes for the winds; Blazers plus klas.
In order to be able to answer my research questions I have differentiated three lines.

Line A: This line is about BASIS 1 and 2 (First and second year) in the BMO A lessons. Which elements are necessary to include in the singing activities in the BMO A lesson to develop inner hearing and polyphonic skills on your instrument?

Line B: This part of the practice based research takes place in the horn lessons at BASIS but also the horn lessons at Scholen in de Kunst. I try to find answers for the following questions: What will the horn method look like when we want to develop inner hearing in relation to the horn? How can we apply these elements into the individual lessons like at Scholen in de Kunst? This line is mostly about the aural phase and tries to connect the literature in practice.

Line C: This line takes place at BASIS 2 in the BMO a lesson. I try to translate the steps from musical literacy (chapter 5.3) into the MBO A lesson of BASIS 2. I also try to make a connection in musical literacy between the BMO A lesson and the MBO B lesson with all the transposing instruments together. In this process I try to map out which steps are necessary for all wind instruments of BASIS together.

The practice based research from line B, developing a method for the horn, started 4 years ago when the BASIS program began. I started over two years ago collecting film material from the lessons. This is mainly for own analysis of the process.
The practice based research from lines A and C started 2 years ago together with my master. Mapping the musical skills needed to develop musical literacy. In this process film material of the classes has been made on a regular base in order to follow the process.
All the film material is on my own server. There is too much material to put in the research catalogue. The movies shown in the catalogue show an impression of the BASIS method

2.3 Target groups

BASIS:
BASIS is a music program for young children age 7 to 10 years who are learning to play a wind instrument (flute, oboe, clarinet, horn, bassoon). The wind instruments of a classical wind quintet. In this program the children make music in a group lesson for two hours a week.

The children learn the music by singing and moving and developing inner hearing and polyphonic skills. The tools Solmization, hand signs and Takadimi language make it possible to work towards developing musical literacy in small steps. Through traditional songs (folk music) this leads to Art Music.
The learning process is through discovery-based-learning according tot he PPP principle (Prepare, Present and Practice). More information about the PPP principle is included in chapter 5.
The singing repertoire is aurally translated to the instruments. This also covers the technical aspects of the instruments like posture, breathing, embouchure, articulation and motor skills. The children become owner of the learning process and learn to make musical choices themselves. [8]

By now there are four years of BASIS. This season 2016/2017 is the first fourth year class which is called Young KC Junior. As mentioned before, for this research I will limit myself to

[8] Van Dael, Mieke (2016) : How can aspects of the Kodály Philosophy and methodology be integrated into instrumental education? https://www.researchcatalogue.net/view/135074/278685

BASIS 1 and 2. The BASIS BMO group lessons are taught together with my colleagues, a team effort. For the instrumental lessons every teacher teaches his or her own instrument. This season I also teach the BMO A lessons of BASIS 1 and 2.
See appendix 1 for the complete elaboration of BASIS 1 and 2.

Scholen in de Kunst
At the school of music " Scholen in de Kunst " in Amersfoort I teach horn lessons and I also teach the blazers plus klas. " This is a group lesson for beginning wind players. The horn lessons are mainly individual and take 25 minutes a week. With the beginning individual pupils I try out the new methodology and see what is necessary to realize this in the individual lesson. The "blazers plus klas" exists of a group of three pupils: clarinet, bassoon and trumpet. They are taught for 45 minutes a week together apart from their individual lesson with their own teacher. In this lesson I combine BMO A and BMO B as we apply in Basis.

Chapter 3: The Horn

3.1:Introduction

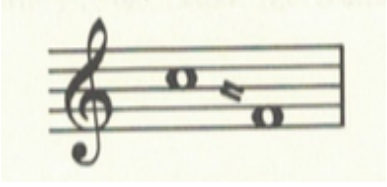
In order to develop an accurate method based on natural harmonics it is important to know something about the history and development of the horn. Which horns are available these days and which horn do I use in my own teaching practice? Furthermore I have done research of existing methods and analyzed a number of them. This chapter also describes the technical aspects that are involved in playing the horn.

3.2 The Horn and Mouthpiece.

The modern valve horn originates from the natural horn, an improved version of the hunting horn. In order to understand the notation of the modern horn we have to go back to the beginning.
The hunting horn has only natural harmonics and was used during the hunt. Around the time the horn was introduced to the orchestra around 1700 the evolution of the horn started. Different "crooks" were added in order to be able to play in different keys; two or three smaller windings were added in order to better fit in the orchestra.
Composers often wrote the horn piece in the key of the composition to become an optimal use of the natural harmonics. All crooks have a different character. The F crook has a warm sound in the middle and lower register; shorter crooks sounded more brilliant, longer crooks darker. Around 1750 the stop technique with the right hand was invented by Hampel, which made it possible to play chromatic sequences. The invention of the valves by Blühmel and Stölzel around 1815 made a quick change of tunes and evenly chromatic playing possible.
Rimsky Korsakov advocates in his instrumentation treatise in 1873 to notate all horn music in F. At the same time the horn players in the high register tended to play the somewhat lighter B flat horn. Frits Kruspe builds the first double horn in B flat/F in 1897 in Erfurt, the modern horn. [9]

We can now distinguish three standard horns: F Horn, B flat horn and double horn. All these horns are transposing instruments, which means that the pitch is noted differently than the actual sound. A noted C ''sounds a fifth lower as F'.

From: M. Hoeltzel: Hornschule Band 1

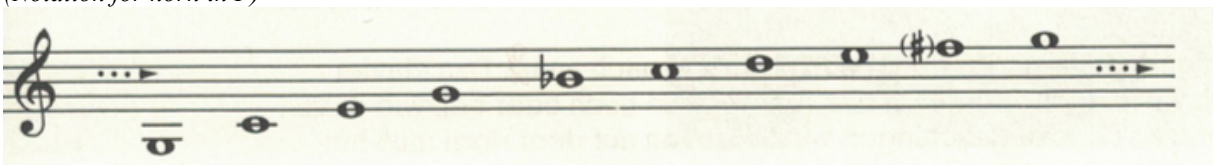


[9] - Hoeltzel, Michael. (1981) Hornshule, Band 1. Mainz: Scott Music International.
- Farkas, Philip. (1962) The art of Brass playing. Rochester: Wind Music Inc
- Farkas, Philip. (1956) The art of French Horn Playing. USA: Summy-Birchard Music.
- Rimsky-Korsakov, Nikolay. (Composition Year 1873, unfinished) Principles of Orchestration Editor: Maksimilian Steinberg (1883–1946) Moscow: Muzgiz, 1946.
- Franz, Oscar. (1962) Walhornschule – French Horn Method. Wiesbaden: Rud. Erdmann, Musikverlag.

The F horn is longer than the B flat horn and therefore heavier. The sound has a beautiful and round tone in the middle and lower register. The natural harmonics are close together which makes it harder to play. The first natural harmonic played on the F horn is the triad do-mi-sol or C-E-G played on the natural F horn without using valves. [10]

From: M. Hoeltzel: Hornschule Band 1

(Notation for horn in F)

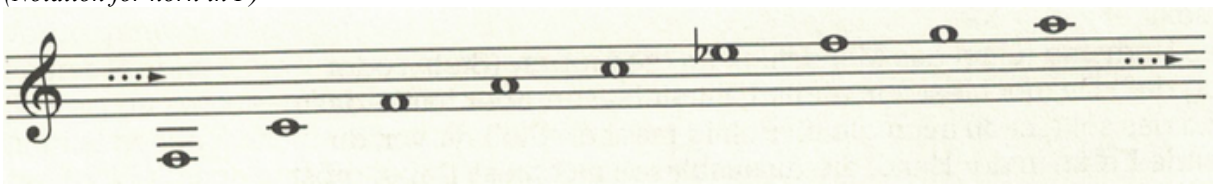


(section from natural harmonic for F-Horn)

In the Netherlands the B flat horn is the most common used horn because of the rich culture of wind bands. This horn is better in tune with the other B flat instruments primarily used in these orchestras.
The B flat horn is shorter than the F Horn and therefore lighter to play. The natural harmonics are further apart, which makes the instrument easier to play. This is also the register of the beginning horn player. The natural harmonics to start with are the tones C-F on the B flat horn without using valves. This interval is a perfect fourth sol-do. (NB: we use the relative do system therefore not do-fa) The B flat horn uses different valves for the same tones than the F horn. The sheet music for a B flat horn is still written for the F horn. [11]

From: M. Hoeltzel: Hornschule Band 1

(Notation for horn in F)



(section from natural harmonic for B-flat horn)

When we transpose the natural harmonic from the B flat horn downwards we use the following valve combinations: valve 2, valve 1, valve 12, valve 23, valve 13 and valve 123. With this combination we can still play the whole series natural harmonics. In order to play the diatonic series whe have to use the valves in different combinations. In the schedule (Appendix 2) can we see that the horn has several tones with the same name, but with different valves.

The double horn is a combination of the lower F horn and the B flat horn. Through a thumb valve the switch is made from one horn to another. This horn has the advantages of the F horn and the B flat horn combined. A disadvantage is that it makes the instrument extra heavy.[12]

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[10] Farkas, Philip. (1956) The art of French Horn Playing. USA: Summy-Birchard Music.

[11] Idem

[12] Idem

Over the years there have been more horns developed like the high F horn, the B flat/high F horn and the triple horn (F/B flat and high F horn combined). I will not describe these because these horns are mainly used only professionally.

In the meantime there have been smaller horns developed, the so-called kinder horns.
These horns can be tuned in F as well as in B flat. The main advantage of these horns is that they are smaller in size and therefore give a better balance of the posture of the student during playing. The kinder horn is smaller in size and therefore lighter in weight. It also has a smaller bell for a better position of the hand. Thus the total posture of the beginning horn player is better balanced.

In my own classroom practice the pupils start playing on a B flat kinder horn.
The best age to start playing the horn is from 7 years of age because usually then the front teeth have been shed which is convenient for the continuity of the lessons. It is important to monitor the posture of the child, whether the child is big enough to be able to hold the instrument properly and whether the fingers are long enough to reach the valves.
Currently I also have younger children in my practice. As long as they are big enough for the kinder horn it does not present a problem. In case the teeth have not been shed it is better not to play too many pieces with a large range in order to limit the pressure on the lips.

For children that have difficulty with the posture/balance there are several tools to make it easier. For instance a hand support can be mounted on the horn to relieve the pressure on the little finger.
Also available is a horn stick, a support that can be placed on the leg on which the horn can be rested. This way the pupil does not have to constantly carry the weight of the instrument.
From the age of 10 years the child can usually change to a standard single B flat horn. Not until about 15 years of age the option of a double horn can be considered.

The Mouthpiece

"Das beste Horn kan nicht schön klingen wenn das Mundstuck schlecht ist"[13]

The mouthpiece is the first contact of the lips with the instrument and therefore very important. For the beginning horn player it is important to start with a mediate mouthpiece so all-difficult aspects of horn playing are covered. A mediate mouthpiece has a diameter of approximately 17 to 18 mm, which is equal to the diameter of an old fashioned cent. A mediate boring is between 4.2 and 4.6 mm, good enough to play the high as well as the low tones properly. A cup not too deep and with an edge that is not too small or too sharp but lightly rounded and with a right and natural feel to it. A horn player with strong, thicker lips can choose a wider diameter.
After playing the horn a number of years it might be advisable to look for another mouthpiece that can make playing easier when certain technical difficulties appear.

3.3 Methods for the B flat Horn

There are few methods for the beginning horn player based on the tradition and possibilities of the instrument, the natural harmonics. Often these natural harmonics are addressed in the later stage of the methodology. It does not teach the pupil to understand the instrument from

13 Hoeltzel, Michael. (1981) Hornshule, Band 1. Mainz: Scott Music International.

the beginning. After an extensive search among the existing horn methods it is clear that there are only a few methods based on the B flat horn and it's natural harmonics. Strange because the B flat horn in the Netherlands is the most played instrument for the beginning horn player, especially in wind bands. Many methods are foreign and based on the natural harmonics of the F Horn. A beginner on the B flat horn with this method for F horn is faced from the start with sometimes-difficult valve handles. Even the popular methods with a play along CD are not based on natural harmonics but start with do-re-mi songs. Often they are just adaptations of methods for other wind instruments.
In my search for methods I encountered a number of interesting methods that use natural harmonics for the B flat horn and methods that use sound to symbol. Of some of these methods I made an analysis to see which elements that I use for my own method are also used in existing horn methods.
The criteria I used for that analysis are:

- Natural harmonics B flat horn
- Singing
- Inner hearing
- Notation

The result is included in appendix 3.

3.4 Basic principles for horn playing.

There are different technical aspects involved with playing the horn. We call them the basic principles of horn playing. The most important basic principles are:

1. The posture
2. The breathing
3. The embouchure
4. The articulation (use of the tongue)

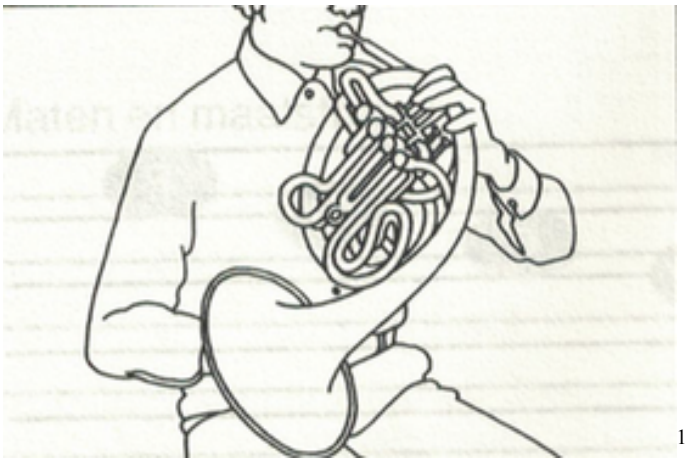
The basic techniques require a close cooperation, one cannot without the other, and they complete and reinforce each other. [14]

1. The posture
To develop a good posture is very important when playing the horn. With a good posture it is possible to breath relaxed and prevent tensed muscles. There are two kinds of postures:
The standing posture
The sitting posture

With the standing posture we start from the bottom up. First the feet are placed slightly apart to create a balance point in the middle of the feet. The knees should be slightly bent and the pelvis slightly tilted forward. The back straight and the shoulder blades a little toward each other. The crown of the head is the highest point.
With the sitting posture it is important to use a straight chair. With children it is customary to start with the sitting posture using a stool that can be adjusted to the right height so the feet

[14] Farkas, Philip. (1962) The art of Brass playing. Rochester: Wind Music Inc

can be placed firmly on the ground. It is important to sit straight on the chair with both feet on the ground. The back straight and the shoulder blades slightly toward each other. We call this an active posture so we can make enough room for the air flow.
Because with children the horn often is not quite in balance they often tend to bend their head. This is an important point of attention.



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Holding the horn has to be as relaxed as possible. The little finger of the left hand behind the pink support, the fingertips right above the valves and the thumb on the thumb valve or by lack of that just under the tube. The pink support usually can be adjusted to the size of the childs hand. It is also possible to have a hand support at the top for more support and a relaxed position of the left hand. Young children often do not have strong finger bones, therefore the extra attention for the position of the fingertips.
In te beginning we learn the children a different position of the right hand so they can get used to the weight of the horn. The right hand may be positioned to the inner side against the edge of the bell. When the pupil plays a little longer we change that position to the right one, in the bell with the thumb on top and the fingers relaxed falling beneath in the curve of the bell. [16]
Young children may place the bell on the leg so they do not have to carry all the weight. In that case it is important to make sure that the torso is straight. If that is not the case the horn should be held without support. If necessary a horn stick can be used for support if the pupil cannot carry the weight or is out of balance. Because the children grow over time it is important to always focus on the posture and correct it when necessary.

2. The breathing
For a good breathing it is important to find the natural breathing that every small child has by nature. By blowing the letter F slowly out, the stomach pulls inwards. By simultaneously opening the mouth and releasing the stomach the tension releases. This way the air flows into the longs naturally.[17]

The breathing exists of inhalation and exhalation.
It is important to inhale through the corners of the mouth. The mouthpiece remains on the lips. The throat must be open and the tongue in the lower part of the mouth. The diaphragm has an important function in this process. It contracts and pushes out the stomach when

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15 Wastall, Peter (1981) Learn as you play horn. Nederlandse uitgave Best: Buffet Crampon benelux BV Boosey & Hawkes

16 Farkas, Philip. (1956) The art of French Horn Playing. USA: Summy-Birchard Music.

17 Hoeltzel, Michael. (1981) Hornshule, Band 1. Mainz: Scott Music International.

breathing in in order to make room for the air. During breathing out the diaphragm relaxes again. We call that breath support. This breath support is necessary to measure the right amount of air for every tone. So breath support is basically the tension control of the airflow that we blow through the instrument. [18]

Herman Jeurissen (Solo horn player of the Residentie Orchestra) uses different ways to learn to use a right air pressure. According to Herman you can compare the air pressure with wind blowing through a chimney.

1. Just with the lips: the mouth in playing position like the embouchure should be then " half whistle" the song. If necessary two fingers can be placed along the lips for help.
2. Place the mouthpiece reversed in the mouth and blow the song through the mouthpiece.

By using these two ways the pupil feels exactly how much air pressure is necessary to play the song.

3. The embouchure
The word embouchure comes from the French word "bouche" and means mouth.
Philip Farkas describes the embouchure as follows:

" The mouth, lip, chin and cheek muscles, tensed and shaped in a precise and cooperative manner, and then blown through for the purpose of setting the air-column into vibration when these lips are placed upon the mouthpiece of a brass instrument." [19]

The lips of the horn player have the same function as the reet of the woodwind player. The sound originates because air is blown through the lips that causes them to vibrate and are converted into a sound through the instrument.
Important fort he embouchure is that the air and the embouchure closely cooperate.
This results in:
- A beautiful sound on the horn
- Flexibility by playing large intervals
- Good control by playing dynamics
- Easily playing different notes
- Good playing pitch and tuning.[20]

Farkas describes two kinds of embouchure:

1. The smiling embouchure whereby the lips get tension by pulling the corners of the mouth backwards;
2. The whistling embouchure whereby the lips are somewhat puckered (like whistling).

A combination of both is for Farkas the best option: a "puckered smile" embouchure.
The best starting point for a good embouchure is a beautiful tone and a flexible range.

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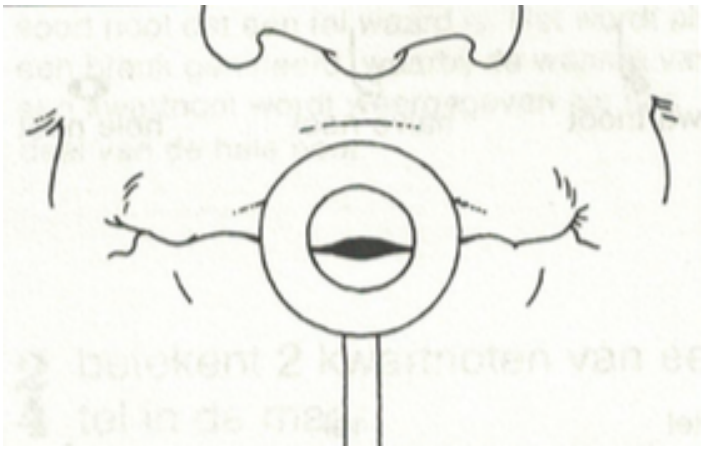
[18] Farkas, Philip. (1956) The art of French Horn Playing. USA: Summy-Birchard Music.

[19] Farkas, Philip. (1962) The art of Brass playing. Rochester: Wind Music Inc

[20] Idem.
Farkas, Philip. (1956) The art of French Horn Playing. USA: Summy-Birchard Music.

The placement of the mouthpiece is in principal for 2/3 on the upper lip and for 1/3 on the lower lip. That way the mouthpiece is the most stable.
The opening of the lips changes in able to play more range and dynamics. For the high tones a smaller opening of the lips is necessary than for the lower tones and for playing softly a smaller opening of the lips is necessary than for playing loudly.

The embouchure has many more factors. Also the position of the teeth and face structure influences the embouchure. With young children that are still growing one has to constantly pay attention to the development of the embouchure.
At first it is important to focus on the natural capacity of the embouchure to keep the tone as beautiful as possible as central focus point. [21]


[22]

4.The articulation
Articulation is the movement of the mouth- and throat cavity for the speech production. This happens mainly with the tongue, the lips, the jaw and the roof of the mouth. In order to play the horn, articulation is also very important.

By tonguing the tongue gets out of the way of the blocking airstream. With these attack we can determine exactly when the tone starts.
This happens by the tip of the tongue that is placed behind the front teeth and so closes the gap of the embouchure. By blowing out the air flow the tongue retracts flat in the mouth. The air then reaches the instrument through the vibrating lips thus creating the tone. The actual attack is the retracting of the tongue. Spitting out a grape pit for instance can compare this movement. This must be done in a flowing movement. The airflow cannot be discontinued. In speech this is comparable with saying “ta”.

There are different forms of articulation. In the elementary horn class we mainly use: staccato, legato and portato. These different articulations need a different use of the tongue.
Staccato means to play the notes apart from each other. Usually it is said to play short but this often produces a wrong movement of the tongue because the tongue interrupts the airflow

[21] Farkas, Philip. (1956) The art of French Horn Playing. USA: Summy-Birchard Music.

[22] Wastall, Peter (1981) Learn as you play horn. Nederlandse uitgave Best: Buffet Crampon benelux BV Boosey & Hawkes

after the attack. The tongue produces the sound “tat”. Better to try and avoid this with the attack “tff”. The throat stays open and the airflow is not interrupted.[23]

By legato the notes are played or sung flowing into each other. Two or more tones are bound together, the first tone always starting with the tongue so the lips vibrate. The other tones are played without the tongue but because the lips will remain to vibrate there is a constant support of the airflow, which together with the embouchure can make the sound of the consecutive tones.
By binding larger intervals it becomes more difficult. That is why we use the vocals in order to make use of the change in the mouth. This is particularly useful with an up going binding. The vocals change from “ta” to “uu”. It is important to make sure that no “w” is used and that the tongue stays in the lower part of the mouth. The horn has as characteristic that it can sing beautiful by legato playing.[24]

Playing portato the characteristic of the horn that sings is revealed. The tongue is used but les abrupt than with playing staccato. The vocals change to “dah” which requires a wider piece of the tongue to be used and it takes a little longer for the tongue to move as well. Again the constant flow of air is very important. [25]

The following aspects are also important in the elementary horn class. Like, tone setting, range and dynamics. It is important to always start with a beautiful tone setting. This indicates the technical proper way of playing. The range of what can be played with a horn is enormous. That is why it is important to deal with this very carefully with the beginning horn player. First of all the middle register is played with a neutral embouchure as possible. From there it can be extended to a higher register what requires more lip tension and a looser lip tension for a lower register.
Dynamic differences can be addressed relatively quickly in the elementary horn class by going for the extremes. The pupil learns to feel and hear how to play these.[26]

3.5: Summary

From the traditional natural horn the modern horn is still a complicated instrument based on natural harmonics. In order to play the modern horn well it is important to play from these natural harmonics. When the natural harmonics are learned the other tones fall easily in its place through transposing. The development of inner hearing is a crucial factor in this process. There are many technical aspects involved in playing the horn, which are crucial in becoming a good horn player. In the existing horn methods some technical aspects are automatically handled through by exercises or song material but the teacher has to have a lot of knowledge of the technical aspects of playing the horn in order to be able to apply these techniques. The question is how we can teach these technical aspects in aural lessons.

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[23] Farkas, Philip. (1956) The art of French Horn Playing. USA: Summy-Birchard Music.

[24] Idem.

[25] Idem

[26] Idem.

Chapter 4 Aural Music lessons

4.1 Introduction

In order to be able to answer my research questions I start with the question what inner hearing is and how we can develop it. Furthermore I try to find answers to the questions:

- How do children learn in general and how is the learning process in the present-day instrumental education?
- Why is aural learning in instrumental education important?
- How can we connect inner hearing to instrumental education?

4.2 Inner hearing

" Zoals een jong kind dat met blokken speelt
de wereld ontdekt
En deze vorm
geluid kleur gewicht smaak geeft en zich innerlijke beelden vormt
van een eigen minder of meer creatieve werkelijkheid,
zo ontdekken en vormen wij tijdens het instuderen van muziek een innerlijke klank/
visuele/motorische /emotionele voorstelling van een eigen
minder of meer creatieve muzikale werkelijkheid.
Zoveel rijker, dieper, betekenisvoller, expressiever en zoveel meer dan
Alleen het spelen van de juiste noten en ritmes…. "[27]

Translation:
"Like a young child that plays with blocks
discovers the world
And gives this form
sound color weight taste and develops inner images
of a less or more personal creative reality,
thus we discover and form during studying an inner sound/
visual/motoric/emotional conception of a personal
less or more creative musical reality.
Much richer, deeper, meaning fuller, expressive and so much more than
Just the playing of the right notes and rhythms…."

Zoltán Kodály, Hungarian composer and music pedagogue (1882 – 1967) believed that music belongs to everyone and that everybody has the right to learn the basic principles of music so heart and ears can be opened for good art music. He felt that music education should start as early as possible (nine months before birth) and should be a regular part of the curriculum on the schools in Hungary.[28]
Singing is the basis of the Kodály concept; everybody has a voice and can learn to sing in tune.

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[27] Blog: Karsten, Wieke (6 juni 2016) Innerlijke Voorstelling. www.aandachtvoordemusicus.nl Accessed;1-5-2017

[28] Choksy, Lois. (2000) The Kodály Method 1; Comprehensive Music Education, Third Edition. New Jersey: Prentice Hall

"He who was taught vocal music first and then instrumental playing will be more ready to grasp the melos of any kind of music. Through singing the student acquires a reading ability which makes it easier for him to get close to the work of great spirits." [29]

"Place the instrument into the child's hand only after he has learnt how to sing. His inner hearing abilities can be developed only if the first images of sound are shaped from his own singing and are not connected to either visual or kinesthetic experiences. The child, who studies a musical instrument before studying singing usually, remains unmusical for his entire life. This is why one can hear (e.g.) so many skilled pianists, who have no idea about the essence of music." [30]

By singing a basis for developing a sound image is made. From that sound image music is better understood and one can work towards musical literacy, learning to read and write music with a sound image. I will elaborate on this in Chapter 5.
In order to develop inner hearing 3 tools are used: solmization (do re mi), hand signs and rhythm language.
Solmization, movable do system, originally by Guido d'Arezzo (11th century), is based on sound relations between tones, which are automated in sound images. The major scale with do and the minor scale with la. The position and distances of the scales are determined but the sound is connected. This applies equally to every key. [31]
Hand signs, originally from John Curwen, give a visual image in space by using the hand to indicate up and down during the singing of the notes. [32]

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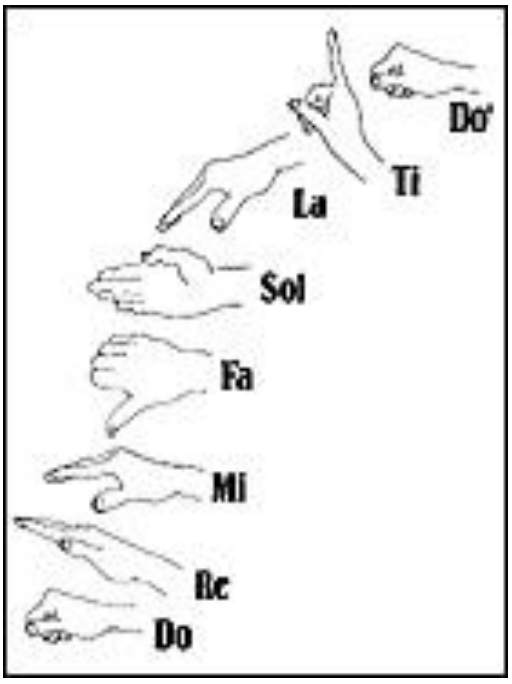
[29] Quote from Kodály, Vocal music first, then instrumental from websiste: www.kodaly.hu. Accessed; 6-5- 2017.

[30] Kodály, Zoltán: Előszó Vass Lajos furulyaiskolájához in Visszatekintés ed. Ferenc Bónis P 206.) (Translation by Lászlò Norbert Nemes.)

[31] Choksy, Lois. (2000) The Kodály Method 1; Comprehensive Music Education, Third Edition. New Jersey: Prentice Hall
Konings, Suzanne (2009) Solmiseren- over methodiek in het theorieonderwijs: interview met Jaap Zwart. Dutch journal of music theory, volume 14, number 3 (2009)

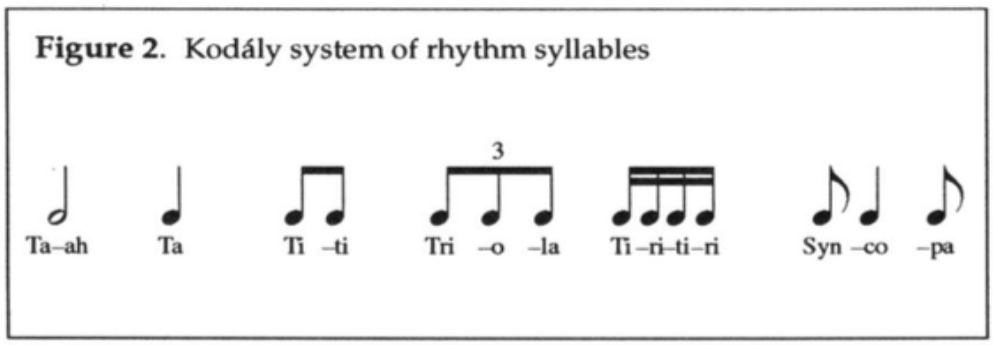
[32] Choksy, Lois. (2000) The Kodály Method 1; Comprehensive Music Education, Third Edition. New Jersey: Prentice Hall

From: Curwen/Kodaly Hand Signs. Published by Jenson Publications Inc.



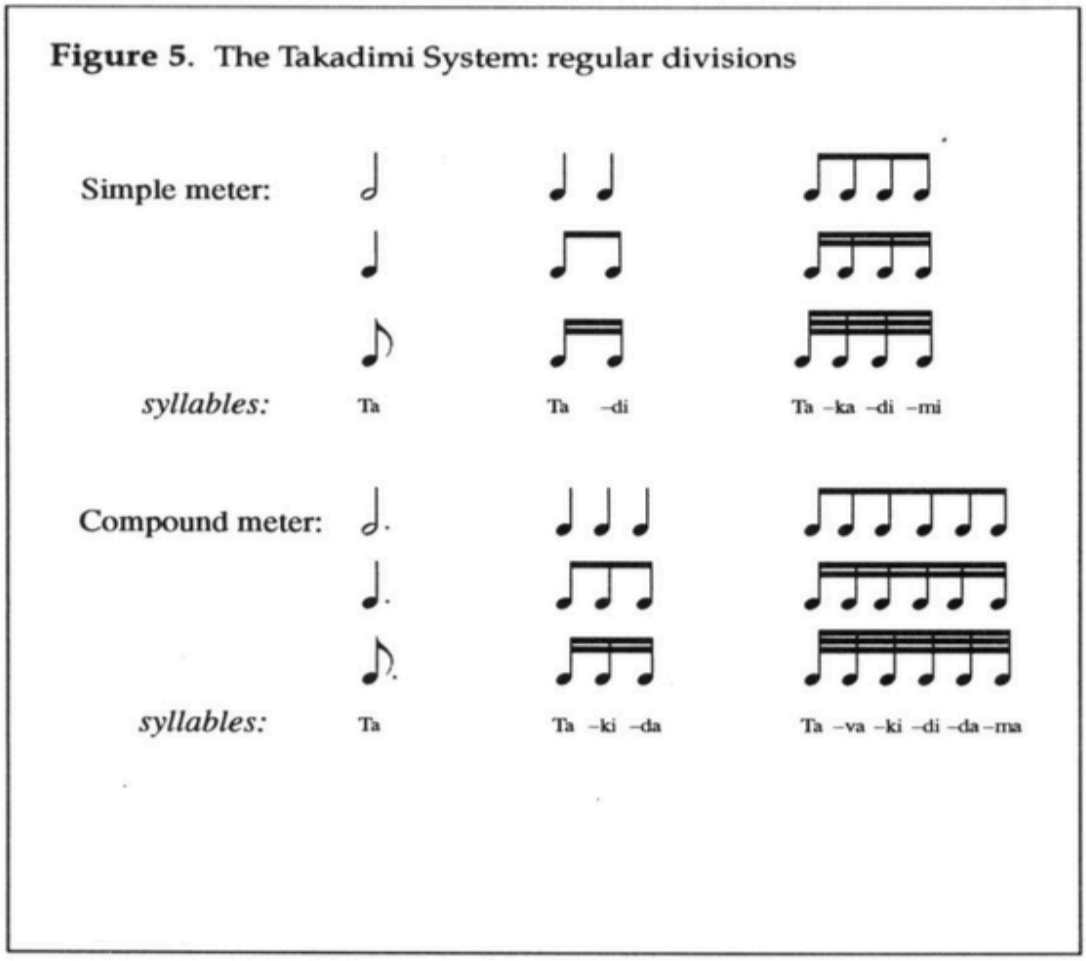
Takadimi is a relative rhythm system that develops inner hearing the way solmization develops inner hearing for pitch relations. Kodály did not use the takadimi system, but in the Kodály method "ta" and "titi" is used, which only indicates rhythm duration. The difference is that the Takadimi system is beat oriented, it assigns syllables based on the position of the note within the beat. The Takadimi system is based on reading and recognizing patterns. I use this system too in my lessons. [33]

From: Hoffman, Richard, Pelto, William, White, John.W: A beat oriented system of Rhythm pedagogy.



[33] Hoffman, Richard, Pelto, William, White, John.W (1996) Takadimi: A Beat oriented system of Rythm Pedagogy. Journal of Music Theory Pedagogy, vol 10 (1996) Oklahoma

From: Hoffman, Richard, Pelto, William, White, John.W: A beat oriented system of Rhythm pedagogy.



According to Kodály it is not just about the technique when we learn to play an instrument but the music has to be understood. In his opinion learning to play an instrument can only be successful when the solfeggio is developed first. And this starts by singing. Solmization has to be developed further to a higher level, singing as well as instrumentally, so we learn to read music as a book. Reading in silence with an inner sound image.[34]

4.3: Inner hearing as a basis for instrumental teaching

Making music expressively and understanding music are connected and aural insight is very important. That is why it would be good if aural learning were implemented at the start of instrumental education. The technique is connected to expression by collaboration of perception, body, mimics, movement and sound and keeping that the center of attention so the technique does not become the main objective. [35]

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[34] Szőnyi, Erzsébet, (1974) Musical Reading and Writing. Volume 1. Budapest: Editio Musica Budapest.

[35] Strobbe, Lieven en Van regenmortel, Hans. (2010) Klanksporen Breinvriendelijk musiceren. Antwerpen-Apeldoorn: Garant.

That way expression is always placed before motoric. An actor uses his body to be expressive a musician uses his beautiful tone. *"* [36]

Neuroscientist Robert Harris (Hanze School – Groningen) researched the ability to convert sound to movement necessary to make music and what impact that has on the brain. When we hear music we often automatically start to sing or move. This is because hearing music leads to activity in the brain that controls the motor skills. According to Harris the ability to convert sound to movement is based on the fact that perception and motoric in the brain are integrated.[37]

The tuba player Arnold Jacobs (1915 - 1998) did also research about how the motor skills works in the brain and used it in his lessons. He says that when playing an instrument the singing comes first. He does not mean singing as a singer but like he says: *"One voice is in your head and one comes out of the bell.".* [38]
It is important to start to teach in elementary instrumental education how the instrument should sound instead of focusing on how to play the instrument technically. During learning the sound, the technical aspects of the instrument as embouchure and breathing support are learned automatically. The muscles of the lips react automatically on what sounds in the head so the form of the embouchure takes shape through the pitch that sounds from within.

Adolph Herseth (former trumpet player of the Chicago Symphony Orchestra) says:
"*You have to start with a very precise sense to how something should sound. Then instinctively you modify your lip and your breathing and the pressure of the horn to obtain that sound."* [39]

Kodály also mentioned that the technique should not be a priority: *"it is not the technique that is the essence of art, but the soul. As soon as the souls can communicate freely, without obstacles, a complete musical effect is created."*[40]

In the traditional instrumental music lesson children mainly learn to play their instrument by reproducing. A certain image belongs to a specific fingering producing the corresponding sound. From the written notes the technical aspects are addressed, these way children mainly learn visual. Brain research showed that children by nature learn in different ways: kinesthetic, aural and visual, the so-called KAV learning styles.

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[36] Frederiksen, Brian, edited by taylor, John. Kindle version (2012) Arnold Jacobs; Song and Wind. Illinois: Windsong Press Limited.

[37] Harris, Robert (2017) Moved by Music-PhD onderzoek Website: www.hanze.nl Accessed: 2-5-2017

[38] Loubriel, Luis E. (2013) Brass Singers: The Teaching of Arnold Jacobs. Chicago :Scholar Publications.

[39] Loubriel, Luis E. (2013) Brass Singers: The Teaching of Arnold Jacobs. Chicago :Scholar Publications.

[40] Choksy, Lois. (2000) The Kodály Method 1; Comprehensive Music Education, Third Edition. New Jersey: Prentice Hall

Kinesthetic is learning by doing, feeling for movement.
Aural is learning by listening.
Visual is learning by watching.

Most children have their own preferences for a specific learning style. In the regular education nowadays it is preferred to accommodate learning within the preferred learning style of the child but researchers point out the importance of using different learning styles.[41]

Learning to play an instrument at a young age increases the chance that the instrument is considered as an extension of the body. This early kinesthetic approach is very important in order to connect the technique to inner hearing. Because our ear by nature is connected to the motor skills we can easily imagine what we feel with our body. Thinking music is close to thinking in movements. Singing is therefore the most obvious choice. Through rhythmic and melodic kinesthetic we can learn to think music at a very young age. That is why singing and moving should be the basis of every music lesson. Our brain is capable to develop a sound to fingering. Besides that the sound – fingering has to be connected to the musical syntax. This is possible because the fingers unconsciously aurally find their way. In this manner musical insight is connected to technique just as how we learn to speak. [42]

Arnold Jacob says that if one concentrates well on the imagination of sound, the body automatically does the right thing to produce that sound
Jacobs does not just talk about the fingering but also about the other techniques necessary to play a wind instrument like embouchure, breathe support etc.[43]

To develop inner hearing for instrumentalists singing should be part of the instrumental lesson. Instrumentalists can develop inner hearing in two ways. Inner hearing in relation to singing and inner hearing in relation to the sound of the instrument. With the horn this is an important point of focus because the horn has no absolute pitch but is a transposing instrument. The horn sounds below the reach of the children's voice and therefore the inner hearing is developed in two ways. With the second way (inner hearing in relation to the instrument) we can distinguish inner hearing from sound to fingering, you feel the fingering when you hear the sound.
But it can also be reversed, from fingering to sound; you do the right fingering and hear the sound inside. [44]

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[41] International Primary Curriculum LTd (2001) Hersenvriendelijk leren http://www.ipc-nederland.nl/docs/uploads/doc_repository/H8_map_0.8_-_Hersenvriendelijk_leren.pdf. Accessed: 4-1-2017

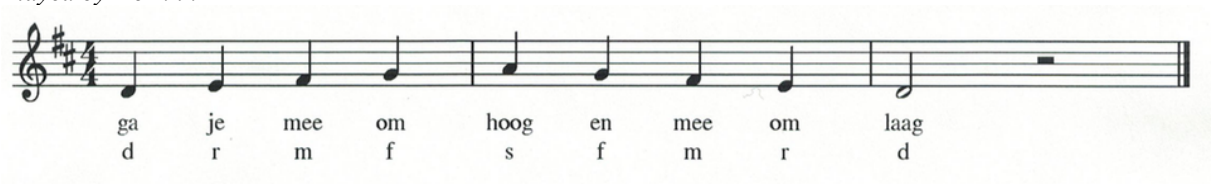
[42] Strobbe, Lieven en Van regenmortel, Hans. (2010) Klanksporen Breinvriendelijk musiceren. Antwerpen-Apeldoorn: Garant.

[43] Frederiksen, Brian, edited by taylor, John. Kindle version (2012) Arnold Jacobs; Song and Wind. Illinois: Windsong Press Limited.

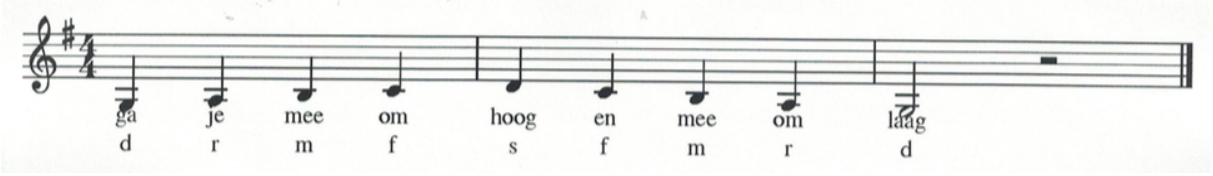
[44] Idem

It is very important not to sing at the same pitch as the horn, the register is too low for a child's voice. By using the relative solmization (singing names) the connections of sound and singing name are always the same in both ways and therefore present no problem.
For example:

Played by Horn in F



Sounds like this, which is too low for the children's voice.



As soon as the songs are aurally mastered they can be played on the instrument. From the sound the right tones will be found on the instrument. The tones will be connected to note names and fingerings on the instrument (playing names on the instrument, not absolute pitch) or the other way around, but always from the sound of the song. Singing on the playing names together with the right fingering helps to automate the song well. It makes a connection between the motor skills of the body and the brain. In this way the instrument becomes an extension of you. [45]

4.4: Summary

There is little to almost no music education in schools in the Netherlands, which makes no musical basis from singing. The traditional music lesson is based on reproducing, first the image followed by a fingering to produce the sound. If we want to communicate with a language of musical sounds we have to make sure that pupils can fully understand these sounds. This means that instrumental music lessons need to be organized differently. By making singing a natural element of the instrumental lesson we can develop inner hearing, hearing the music in our head without having to actually play it. Just like reading a book in silence. According to Kodály the singing voice is the first instrument and everybody has a voice and can learn to sing in tune and use his "thinking voice". By singing, the music is experienced and creates a musical experience from which inner hearing can be developed. Children do not only learn visual but also aurally and kinesthetic, the so-called KAV learning styles. These styles should also be integrated in the instrumental education.
From the kinesthetic and aural learning the motor skills can be connected to the inner hearing and the instrument becomes a part of you. It is being worked out to the development of musical literacy, reading and writing of music with an inner sound, which connects visual and aural.

[45] Mc Pherson, Gary & Gabrielsson, Alf (2011) From Sound to Sign
The Science & Psychology of Music Performance -Oxford university Press

Chapter 5: Musical Literacy

5.1 Introduction

In this chapter I research musical literacy. How can we get to musical literacy through aural education? What is meant by "from sound to symbol" and how can we apply this in the horn lesson? Which steps are necessary to develop musical literacy within instrumental education? What does notation mean in relation to transposing instruments?

5.2 From sound to symbol in instrumental education.

The traditional instrumental music lesson is mainly based on reproducing: a certain image matches a fitting fingering thus producing the matching sound. When the sound is not matching the image the teacher will correct this. Originally this procedure was not common. Up until the middle of the 19th century the main objective was to educate the musician as widely as possible by combining the technical skills on the instrument with developing musicianship skills. For beginners this was done mostly aurally.
The introduction of lithography in the early 19th century made it possible to cheaply produce sheet music. Because of this lots of sheet music was printed. This changed the way of making music; the focus was shifted to technique and interpretation. [48]

Music is not a language but the process of how we learn music is actually the same. We learn a language by listening first and then speaking, reading and writing it. Gordon calls this audiation, the translating of sound in our head and giving it meaning and so becoming music. We can only audiate sound when we have perceived it aurally first. Audiation of music is the same as language when we read a book in silence. We audiate music and we read and write notation. When children can perform music as a result of well-structured music lessons they develop a feeling of ownership because they have been taught to understand the music. This process equals learning to think words and communicate by speaking. So if we cannot audiate what we read and write we cannot give musical meaning to notation [46]
James Mainwaring says that music and language are both forms of expression. Both these forms can be transposed in writing so we can read the thoughts of others. The basic principle here is that learning begins with experiencing something then consciously perceiving it and so recognizing it when repeated. If what we recognize is connected to a symbol, the symbol gets meaning.[47]

The Swiss pedagogue Johann Heinrich Pestalozzi (1746-1827) already noted that concepts should be learned through experiencing before introduces names or symbols.[48]

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[46] Feldman, Evan and Contzius, Ari. (2016) Instrumental Music Education; Teaching with the Musical and Practical in Harmony, Second Edition. New York and London: Routledge.
Gordon, Edwin E. (2012) Learning sequenses in Music. A contemporary Music Learning Theory. Chicago: GIA Publications,Inc.

[47] Mainwaring, James. (1959) A creative Approach of the study of Music. Great Brittain: University of London Press LTD.

[48] Mc Pherson, Gary & Gabrielsson, Alf (2011) From Sound to Sign
The Science & Psychology of Music Performance -Oxford university Press

In the current traditional music education this way of learning is not yet used a lot. Like mentioned before, learning to play an instrument is taught by reproducing and the pupils get to see notes without content. This way no understanding of living music is developed. Theory and solfeggio are covered but are developed separately from the instrument by reasoning what has been dealt with in the music lesson. In the traditional class always the rule is given and then it is applied in practice.[49]
Nowadays we call the system of first experiencing and then naming discovery-based-learning. Kodály said about this:
"Children are guided to understand the concept behind the sounds before a symbol is presented". [50]

We call this the PPP principle, which stands for prepare, present and practice. This principle is not from Kodály himself but is used as a general pedagogical principle these days.

The preparation phase is of great importance. The children learn new musical elements and get familiar with it. Within the preparation phase the 3 learning styles kinesthetic, aural and visual are addressed. (See also chapter 4.3 about learning styles)
The purpose is to prepare the children to learn how to sing and recognize musical patterns within the context of the new to learn part. It is important that the new part is first learned aurally before it is made visual.

The present phase consists of two parts:
1. Checking the kinesthetic, aural and visual steps from the preparation phase.
2. Making aware of the new to learn musical part by giving it a name, sign and sound.

The practice phase is where new elements are practiced for a longer period until it has settled. This PPP principle can be applied any time when learning symbols to develop musical literacy.[51]
According to Mainwaring the most musical way to learn to play an instrument is connecting from sound to action. For the beginning musician this means first of all to aurally learn the songs followed by notation.[52] This creates first a sound-fingering association, which enables the pupil to translate to the instrument what is heard internally. In the traditional instrumental education it is often the other way around, first the symbol, then the action and then the sound. This is an image-fingering association, which makes it possible to imagine the fingering for the image but without a sound image.

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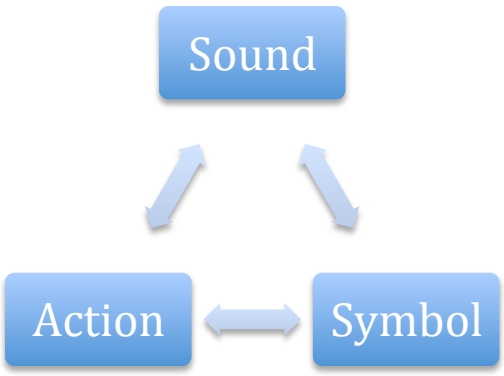
[49] Gehrels, Willem (1956) Algemeen Vormend muziekonderwijs. Zevende druk.Purmerend: J Muusses.

[50] Houlahan, Micheál & Tacka, Philip. (2015) second edition. Kodály Today- A cognitive approach to elementary music education. New York; Oxford University press.

[51] Houlahan, Micheál & Tacka, Philip. (1995) Sound Thinking. Developing Musical literacy. Volume 1. USA; Boosey & Hawkes

[52] Mc Pherson, Gary & Gabrielsson, Alf (2011) From Sound to Sign
The Science & Psychology of Music Performance -Oxford university Press

This can be illustrated in the diagram below.
Sound means the sound that is heard.
Action means not just the fingering but also all technical actions like embouchure, breath etc.
Symbol means notation. [53]



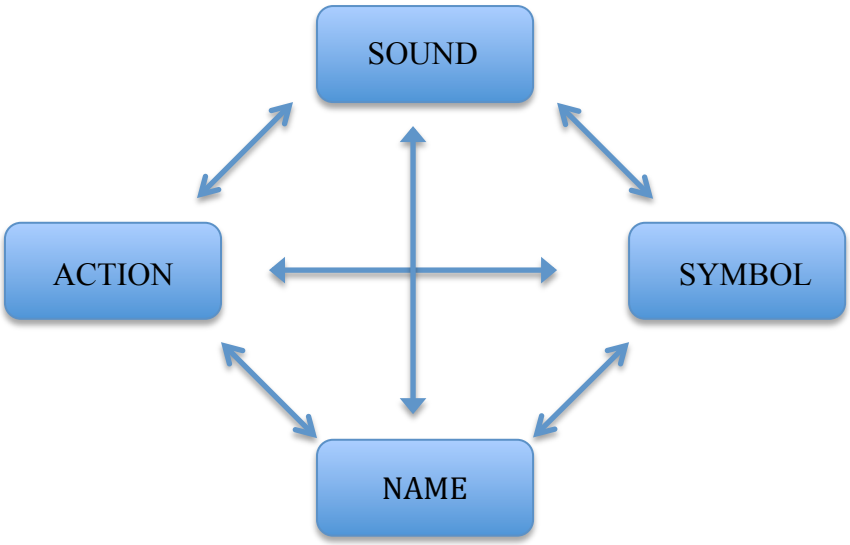
Tom de Vree uses a similar diagram but mentioned that there might possibly be added a fourth point, the name. According to him that does not seem to be necessary because the name says nothing about how the tone sounds. He speaks in this case about absolute note names. [54] But, if we know that the name can be a relative name (solmization name) as well as an absolute name (ABC) on the instrument or the natural harmonic, we know that this fourth point is important as well and does belong in the diagram. In the horn lesson the name is mentioned in 3 ways: singing name (solmization name), playing name (absolute note name on the horn) and natural harmonic (absolute note name as natural harmonic) For singing we use absolute pitch names, but we just name it singing on letter names.

The horn is based on natural harmonics with different fingerings for the same note. The children have to learn the right fingering together with the name of the tone in order to prevent automating the wrong fingering while hearing. There is not only a sound-action association but also an action-name association.

[53] Mc Pherson, Gary & Gabrielsson, Alf (2011) From Sound to Sign
The Science & Psychology of Music Performance -Oxford university Press

[54] De Vree, Tom. (1988) De didaktiek van de instrumentale en vocale muziekles. Best: Uitgeverij Damon.

The diagram is as follows.



For the beginning horn education there are different possibilities. For the elementary horn lesson the most relevant are:
Sound-action-name, Sing the song (sound) Play the song on the horn (action) and the names of the notes can be named, singing names as well as playing names.
Sound-name-action, Sing the songs (sound) Sing the song on singing names (name) playing the song on the instrument (action)
Symbol-name-action-sound, Show the song from the hand signs (symbol) Children sing in singing names (name) and then played on the instrument (action) thus producing a sound (sound).
Symbol-action-sound-name, the song is made visual by hand signs (symbol) then played directly on the instrument (action), the song sounds (sound) and then the playing names can be given (name).

L. Choksy describes in The Kodály method that a good music lesson should have the following components: singing, playing, listening, moving, reading, writing and creating. The learner learns about: melody, harmony, beat, meter, rhythm, dynamics, tempo, timbre, texture and form. (See also appendix 4 : Musical skills)
Using the following tools: solmization, hand signs, absolute note names and rhythm language. It is important that the music lesson always is a pleasure for the children with a good balance between learning the skills and fun. [55]

It is often said that children that learn to play an instrument aurally are often slower in reading later on. Many teachers work aurally for a while and then as yet without any preparation put a method on the music stand and continue the lessons from the reproducing principle.

[55] Choksy, Lois. (2000) The Kodály Method 1; Comprehensive Music Education, Third Edition. New Jersey: Prentice Hall
Choksy, Lois (1999) The Kodály Method 2; Folksong to Masterwork. New Jersey: Prentice Hall

The music is not understood. It is important to learn the notation in small steps. Even when the notation is learned it is important to apply the diagram in different ways. So even then not just start from a symbol but continue to work from the sound so children can continually develop musically from multiple layers.

5.3: Musical Literacy

From a long aural preparation the ears can understand the musical context. And the brain is capable to translate this to reading and writing the notation. A condition for learning to understand music notation therefore is that the musical context of the music is learned aurally before the notation is introduced. That is a long process with many steps but eventually this will lead to being able to read and write music notation whereby the written music becomes meaningful.[56]

We can distinguish 2 lines in the development of musical literacy:

1. Rhythmic notation.
2. Melodic notation.

For my research I will limit myself to the melodic notation. For now this needs the most attention because for this there has been little development for the transposing instruments
The steps for learning rhythmic notation are clearly described in various methods based on the Kodály method. [57]
These steps can simply be translated to instrumental education. It has to be noted that when the children can clap and sing according to Takadimi language they cannot automatically perform the translation on their instrument correctly. A connection from reading to the instrument and the own body needs many more steps in between. When this is considered the development is well.

For the development of melodic notation from transposing instruments we first have to understand what transposing instruments mean in relation to the notation. Like earlier mentioned in chapter 3, the horn has no absolute pitch. For the horn player that reads in F that means that a noted C sounds a fifth lower. (Chapter 3.2) This image is connected to a note name and the matching fingering. This principle also applies for other transposing instruments.

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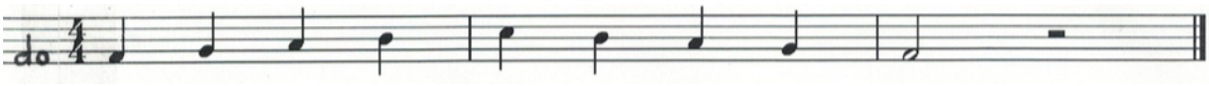
[56] Konings, Suzanne (2014) To understand staff notation aurally.

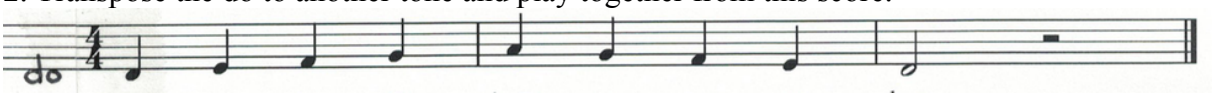
[57] For example the following methods;
Vaijda, Cecilia. (2008) The Kodály Way To Music. Book 1. Amersham, Bucks: England: Halstan & Co. Ltd.
Choksy, Lois. (2000) The Kodály Method 1; Comprehensive Music Education, Third Edition. New Jersey: Prentice Hall
Choksy, Lois (1999) The Kodály Method 2; Folksong to Masterwork. New Jersey: Prentice Hall

This is only the case when we work with absolute pitch notation where the note names are absolute and connected to a fingering on the instrument. As long as we work with relative pitch notation the notes are connected to the sound relation between the notes and are not connected to a absolute name or fingering. This means that the same sound in relation to a name can occur on different positions on the staff [58]
For the transposing instruments this means that within the relative pitch notation we can still read from the same notation in order to produce the same sound.

All instruments are reading number 1, because there is no Key we can sing and play the do on any tone.
1.



2. Transpose the do to another tone and play together from this score.



A number of steps are necessary for developing musical literacy. It is important to connect these steps to the instrument from singing, so reading can be developed through multiple layers. From kinesthetic and aural learning we can work towards visual learning according to the PPP principle.

The steps in melodic notation can be described as follows:

1. Sound-Visual

The first step is to connect a sound to a visual image. This starts by translating the sound of a song to a high and low movement on the body. Starting with large movements on the body so the children really feel what is high and low and then making the movement smaller. We have to consider the age of the child and the associated motor skills. Young children first develop the gross motor skills and when they get older they develop the finer motor skills To learn to feel high and low on the body is very important for instrumentalists especially for horn players. Because when aurally playing an instrument it is important to feel high and low on the instrument in order to make the connection with the music. For woodwind players this is easier because it is more logic to play high and low on those instruments. High means less fingers on the valves and low means many fingers on the valves. For the horn playing high and low is not only a matter of fingering but also the tension of the embouchure, which is rather inconceivable for a beginning horn player. By singing in combination with feeling high and low on the body through singing and feeling, automatically a connection is made with the right motor skills.

2. Melody contour

With a song the melodic contour is drawn in the air. Children feel where the melody is heading. Together with the known song this should be enough information to aurally figure out the song on the instrument. Learning the song and translating it to the instrument therefore happens through the big picture. From that the children learn later

[58] Konings, Suzanne (2014) To understand staff notation aurally.

on to read the music in patterns and not as separate tones that are translated from an image to a fingering.

3. Graphic notation

Translating a sound to a graphical notation. This can be done by having the pupil read a graphical notation and while playing translating it to the instrument. It is also very interesting to have the pupil make a graphical notation of a familiar song himself. Or by letting the pupil putting a familiar melody on the floor with spots and then having it sing and play.
This way of teaching gives the teacher a lot of information about how that specific pupil learns: kinesthetic, aural or visual. It gives information about how he pupil translates image to sound (high and low).

4. Hand signs and solmization

When the sounds are learned from the song, the movements high and low on the body can be replaced by solmization with hand signs (so called singing names). Songs can be sung on text and singing names. The pupils can now also read the hand signs of the teacher and then sing relative tones or try to play it on their instruments


do
ti
la
sol
fa
mi
re
do

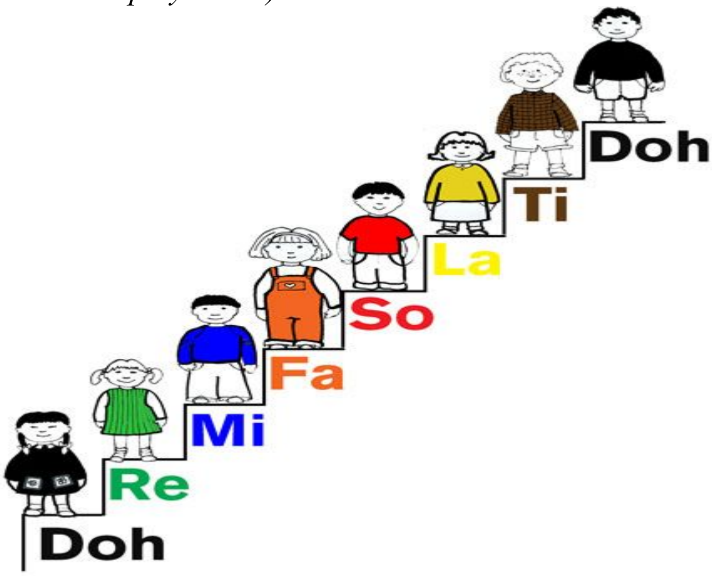
5. Visual spots

By putting spots on the floor from low to high the singing names become visible in a different way and become already connected to the staff. This step can only be successful if the sounds are heard from within. Start with do-re-mi-fa-sol (major key), which can be expanded to la-ti-do-re-mi later on. Do not forget to make the half steps between mi-fa and ti-do visual, even if at this point it is not used yet. With the spots various musical games can be done singing and playing on the instrument.

6. Stair

From the spots on the floor steps on the board can be drawn.

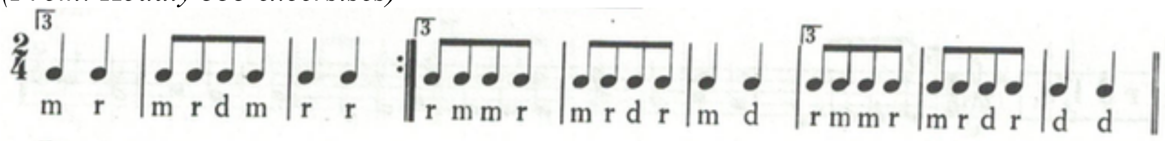
(from: Let's play music)



7. Rhythmic sol-fa symbols

From this point on the rhythmic and melodic notation come together by connecting the stick notation to the singing names (solmization letters). It is advisable from here on to use also part-singing and part playing. [59] These skills are necessary for all instrumentalists when playing together because the children already hear the relation between the sounds of the singing names they can now sing and play from this notation. It is important to always sing and play in a different key. Because transposing instruments do not sound in absolute pitch this is a way to get used to different pitches. The singing names always stays the same.

(From: Kodály 333 excersises)



8. d-m-s visual

From a familiar do-mi-sol song this can be drawn visually on the board in height. The teacher points out while the children sing or play.

s s s s s s

m m m m m m m

d d d d d d d

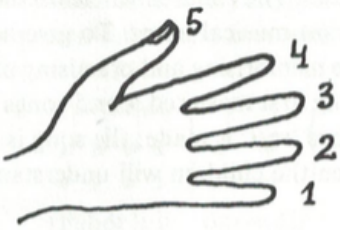
9. Hand Staff

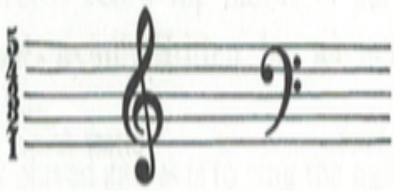
Introducing of the hand staff by singing of a familiar song on singing names and pointing on the hand staff. The do has to be put on different positions on the hand

[59] Vaijda, Cecilia. (2008) The Kodály Way To Music. Book 1. Amersham, Bucks: England: Halstan & Co. Ltd.

staff. Taking into account the image for the G and F clef and for the transposing instruments that get a different image than the sound

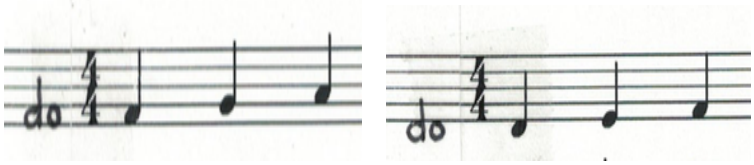
The numbers indicate the lines on the staff. [60]





10. d-m-s on the staff (do clef)

Introducing the staff without clef also named do-clef. Write sol-mi-do in the staff and transpose over the staff. Starting with the same visual image as the hand staff in step 9. Here again is worked from a familiar to an unfamiliar song. The relative names of the notes stay the same for singing and all instruments. They are also connected to the sound relations of the tones and not connected to the fingerings of the instrument. Because we keep moving the do it can be played together with all instruments without adjusting the notation.[61]



11. d-r-m-f-s on the staff (do clef)

Staff without clef: write diatonic series in the staff. Discover from the steps where re and fa are supposed to be on the staff. This again can be prepared with the hand staff. Because we still read with the do clef no key signatures are used.

12. Melody and rhythm on the staff (do clef)

Staff without clef: now the relative pitch in the staff can be connected to a metrum and rhythm.

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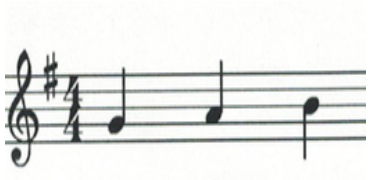
[60] Pictures from: Szönyi Erzsébet (2013) Kodály's Principles in practice. An approach to Music Education through the Kodály Method. Budapest: Editio Musica.

[61] Vaijda, Cecilia. (2008) The Kodály Way To Music. Book 1. Amersham, Bucks: England: Halstan & Co. Ltd.

13. Absolute note names on the staff

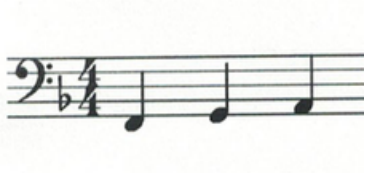
The staff with clef, this is the step in which we convert from relative note names (singing names) to absolute pitch note names on the staff (letter names when singing and playing names when playing the instrument). From this step there will have to be made different notations for the transposing instruments in order to match what is written with the sound. The code of keys is cracked whereby the notes are given an absolute note name. For the group lesson with transposing instruments it is important to make the G and F clef visible because both clefs are read within the wind quintet. We can however not always sing at the right clef for the children's voice. The F clef is too low to sing for a child's voice.
Ideally would be to start in F major for the C instruments (flute, oboe), G major for the clarinet in Bes and C major for the horn in F. The bassoon also plays in F major but reads in the F clef.
With this notation there are less key signatures for all of the instruments. With a do-re-mi song nobody needs the key signatures.

Flute, Oboe in C



Clarinet in B flat

Horn in F



Bassoon in C

When we assume the learning of this step by singing and then translating it to the instrument it can all be sung in absolute pitch. In the meantime the children learn the correct visual note and the correct note names. This can be done in the following sequence:

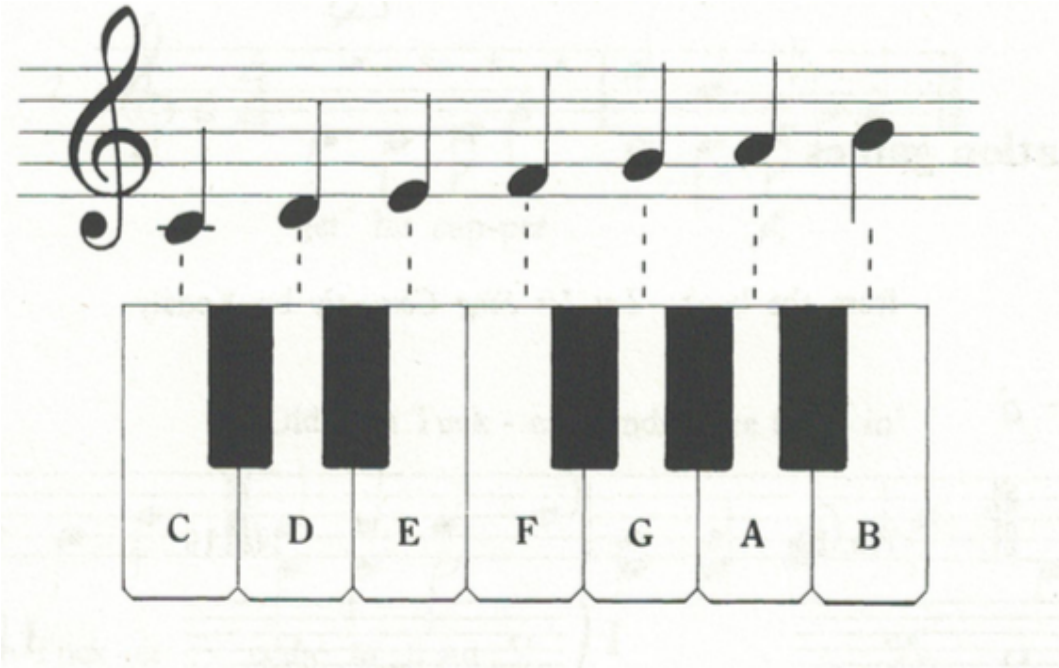
1. Singing do-re-mi from hand sign, teacher gives the right sounding key
2. Singing from the staff with clef on singing names of board (solmization)
3. Singing from the hand staff on absolute note names (letter names)
4. Singing from the staff with clef on absolute note names [62]

The F clef is also read immediately but sounds one octave higher than noted. Translate this step to the instrument; the children discover themselves that every instrument has its own visual note while the sound stays the same (octave is actually the same sound as well).

[62] Vaijda, Cecilia. (2008) The Kodály Way To Music. Book 1. Amersham, Bucks: England: Halstan & Co. Ltd.

14. Learning the key signatures.

Because the children aurally learn the right key signatures belonging to the key, we have to think of something different for this step. It would be interesting to learn this step with an imaginary piano and sing along so the children discover themselves that signatures are necessary. So we can now move the do to different positions and come across the signatures. The children have learned at step 5 that there are whole steps and half steps and these become visible on the imaginary piano. [63]



5.4: Summary

When we learn music as we do learn our language by listening, speaking, reading and writing, an inner sound is developed which enables us to give meaning to the music. This begins with aural learning through singing and aurally learning how to play the instrument. Then activities based on discovery-based-learning are introduced. Thus slowly working towards musical literacy according to the PPP principle. This is a long process but when that time is invested the pupils eventually can read and write music with musical understanding. They can hear in their head the sound that should be produced. Learning to read music from notation on transposing instruments is a difficult process because the pitch is notated differently than the actual sound with an actual pitch. With singing all this is no problem so that forms the basis for learning. From the start reading in different pitches so the image that matches the notation of transposing instruments is apparent. With the discovery-based-learning principle while translating to the instruments children themselves discover that the notation is different for every instrument for the same sound.

[63] Vaijda, Cecilia. (2008) The Kodály Way To Music. Book 1. Amersham, Bucks: England: Halstan & Co. Ltd.

Chapter 6 Practice-Based Research

6.1 Introduction

My practice-based research is based on the literature research from chapters 3, 4 and 5. From the literature research I try to make the connections with practice and hope to be able to answer my questions. From the literature I started in practice with 3 lines at BASIS.

Ad A
Paragraph 6.2: From the literature of paragraph 5.3 the skills are brought into practice by developing teaching plans, frameworks and song lists at BASIS 1 en 2 in the BMO A lesson. This shows what musical skills have to be addressed from singing and moving in order to develop inner hearing and work towards musical literacy. Then this can be translates to the instrument.

Ad B
Paragraph 6.3: This paragraph is based on the theory of chapter 4. Together with the skills from line A (paragraph 6.2) the translation is made to the horn lesson. The main objective is the aural phase in the first year.
Paragraph 6.4: In this paragraph a connection is made from the theory from chapter 3. How teaching aurally and technical aspects of horn playing come together.

Ad C
Paragraph 6.5: This is about developing the steps from sound to symbol from the theory of paragraph 5.3 translated to the practice at BASIS 2. First the steps are made for the BMO A lesson and then use this into the BMO B lesson.
I try to map out which steps are necessary for all wind instruments of BASIS together. Can we make these steps in group lessons with different transposing instruments together?

6.2 Process: Skills for developing musical literacy in the instrumental lesson.

Line A:
For developing a method that is organic in form with all steps naturally fitting together, it is necessary to start by making a good repertoire list. For BASIS my colleagues and I have collected repertoire over the past years that cover the skills for the technique of the different instruments as well as the competence to develop musical literacy. I have analyzed this repertoire the past year and used this to make a song list for BASIS1 and BASIS 2 (appendix 5: song lists BASIS 1 and 2).
From the literature of chapter 5.3 the following musical skills through musical activity should be covered in the lesson.: beat, rhythm, meter, melody, key, listening, harmony, form, inner hearing, memory, polyphony, singing, (pre) notation, breath, posture, motoric, creativity, improvisation, articulation, tempo, timbre and dynamics. From this point musical literacy can be developed. I have integrated these skills in a framework for the BMO A lessons of BASIS 1 and 2. This gives insight in the necessary steps for the BMO A lessons in order to make a translation to the instrumental lessons. (Appendix 6: Frameworks BASIS 1 and 2).
The song lists, frameworks and lesson plans together form a basis from which the methodology can be developed further.

Reflection: At the beginning of this season I have made the song lists and during the season further developed them together with the lesson plans. These song lists quickly gave insight in what elements had not yet been covered in BASIS 2 on the basis of the song material. Meaning for instance certain rhythmic patterns, keys or meter that is not yet experienced through the song material.
At BASIS 1, for the new children a new song list was kept from the beginning and during the year the framework was filled in. From these frameworks it became clear in which order all elements can be learned. This meant for BASIS 1 that there was more insight and knowledge in what order the steps should follow each other. It was also beautiful to see that the children themselves indicated the follow up steps because the teacher could clearly see what material was mastered and which steps needed more attention. This could form the basis for the next lesson and so creating an organic entirety.
For BASIS 2 this was more difficult because they did not work with this framework the previous year. That is how I discovered that certain steps had not been addressed. By mapping this however it became clear which steps were missing and which steps had to be taken. In my opinion this framework is a first draft and a new framework could be made every year, which can be adjusted to the level of the group during the year. The song lists need to be updated every year too.

6.3 Process: Developing new horn method.

Line B:
At BASIS we started the lessons by singing do-re-mi songs connected to movement and translating it to the instruments. Translating from do-re-mi songs to the instruments proved to be difficult for the horn players, aurally they had no reference on the instrument. Do-re-mi is a diatonic series and for woodwind players a logical sequence of fingerings. They could quickly find the right tones from hearing the sound. There is a logical connection between playing high and low on the instrument and the corresponding motoric. The lower the tones the more valves need to be closed. For the horn with its natural harmonics this is not the case. High and low are motorically achieved through the tension of the embouchure, which is very unconceivable for children.
There are several notes with the same fingerings and no logic in sub sequential sequence of series from high to low or vice versa in combination with the fingerings. The children therefore had no reference to figure out the songs on their instrument.
For this problem I developed a playing names sheet. A sheet with every new note name with matching fingering pictured visually from low to high in order to make a connection from low to high on the horn. Every note with the same fingering is given the same color (appendix 7). We speak about singing names (relative solmization names), playing names (note names on the horn, horn pitch) and the natural harmonics (just the notes of the games of natural harmonics not absolute).
From the season 2016/2017 the method is started this way right from the beginning from the natural harmonics working towards the diatonic series, using the sheets. (Appendix 8 examples of some lesson plans).

Reflection: Through aural learning the children develop an inner sound image from the start. They learn to listen en make music together. There is no thought about technical difficulties. They very much want to be able to play the song that they know on their instrument. In steps is worked towards musical literacy, learning to sing and play from notation with an inner

sound image. In the songs and games many skills are addressed while playing in the process of learning to make music. The children have much fun in this way of learning and each can work on their own level.
The children are capable to correct their own mistakes and can learn how to make their own musical choices. They become owner of their own learning process.
Working from natural harmonics in combination with the playing names sheet and the natural harmonic sheet clearly gives support to the pupils while playing the horn. The various games with natural harmonics like cat and mouse game echo game and air drawing contribute to the development of their hearing and horn playing.
A difficult part is how to cope with assigning homework when we work aurally. Aural is after all working from a sound and not from an image. First I wrote the singing names on the homework sheet. But this is actually a disguised reading practice and there is no connection from the sound. This year I have given my pupils sound recordings of the new songs. Songs on lyrics or on singing names as well as played on the horn. On the homework sheet is written which tone to start, what is do in major or la in minor. This works well for the children, at home they can more easily recall what to play.
Some pupils think in singing names while playing the horn. The playing names have to be automated well to avoid making too many mistakes playing the right fingerings with the songs. After all the horn has several fingerings for one tone. They always correct these mistakes immediately themselves by the way. For the automation we sing on the playing names together with the right fingering. It is still not clear for me whether this step, singing on playing names with the right fingering, should be done on the absolute pitch or on the pitch the horn pitch. Personally I prefer to sing on the horn pitch because then my inner hearing matches my fingerings. But is this because of my traditional education and because I play horn for so long and originally not have learned to play the horn from singing?
At BASIS we see the pupils for two hours a week with a combination of group lessons and instrumental lessons. At Scholen in de Kunst I teach the horn pupils individually for 25 minutes a week. Here too I work from singing with movement and then translating the songs to the horn. This works well but 25 minutes is too short for all skills to be covered.

6.4 Process: Aural teaching in relation to horn technique

The technical skills are covered as much as possible from practice-based learning. Below I describe how this works in practice for the different technical skills of the horn in the elementary horn class.

The posture
In the BMO lesson at BASIS we pay a lot of attention to the posture without holding the instrument. Be aware of your body, feeling balance in the body etc.
In the first horn lesson the posture is named “the most beautiful horn player posture”. How does the pupil think this posture looks like? Then pupil and teacher sit together in the correct posture: feet flat on the floor, sitting up straight, head straight. This step is mainly visual, not naming but doing by watching. This is repeated every lesson before playing.

The breathing
Breathing is covered through breathing games, breath canon. From unconsciously learning to feel where the breath is in the body. For instance deflating a bike tire or copying a “sss” like the sound of a snake. For the horn air pressure is very important for producing different tones, extra attention is required. The “whistle exercise” works well (Herman Jeurissen). A known

song is whistled with a “half whistle” while the tension line of the air pressure is indicated with the hand, the musical phrase. The song has to be known internally.

The Embouchure
Initially, it is based on a natural embouchure that the student himself naturally forms. In the first lesson, the student tries to learn by himself how to blow a sound out of the horn. Should this be difficult, then giving tips that fit the pupil's experience. For example by following the lips with the noise of a mop fly. If the first attack is very difficult, it can help to imaginary spit out a grapevine in the mouthpiece. Placement of mouthpiece and lip tension allows the first couple of lessons to take place without to many corrections. Humming the song is a good exercise for making the connection to embouchure. From embouchure thought, we designate that in the horn lesson as "mmm" lips. Playing the song with these "mmm" lips.
For the development of the embouchure always look at the steps the student needs. That is different for each student. Transposing the songs and playing songs with larger range build up the lip tension. The low register is also discussed, initially from the natural harmonics to transpose games. This should not be too fast because the pupil develops too loose embouchure and the lip tension is more difficult to build.

Buzzing on the mouthpiece is a good exercise for the embouchure. This can only be used when the song is already aurally known. The right tones can only be produced with the right air pressure and the right lip tension. This will happen automatically when the pupil hears the song internally.
Singing and playing the different kind of songs in which these competences have extra attention cover the articulation. The use of the tongue is here automatically addressed.
If the pupil has trouble with a certain attack certain song can be chosen which addresses this skill extra.

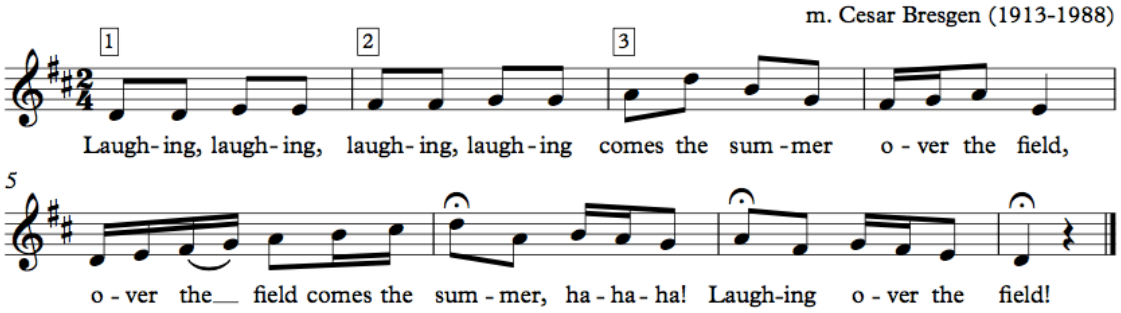
Motor skills are covered extensively. It begins by recognizing the left and right side of the body using songs and games. Gross and fine motor skills are discussed. Horn pupils that start at a young age often don’t have enough strength in the fingers of the left hand. That is why it is better to start from natural harmonics without using valves. Through transposing downwards half step fingers are used. Best not use the 3th valve too much in the beginning because this is the weakest finger of the child.
Coordination games as well are an important part of the lesson. It is a preparation for part singing and playing on the instrument because the pupil has to be aware constantly of what happens with the other voices. Players of wind instruments need this skill when playing together. [64]
Important focus is the posture during aurally playing the horn. Children often play in the “thinking mode” when sorting out the songs and forget to pay attention to the technical skills like posture, breathing and embouchure. At this point these skills are not yet automated. Once the song is figured out on the instrument then the focus has to be on posture, breathing and embouchure. This can be done by playing the song again with attention for the most beautiful tone, the softest tone, the full tone, the most beautiful horn player posture. It often helps to let the children play with their eyes closed. They can then focus better and are really listening.

Many technical skills of the horn can be learned by using the PPP principle. For example learning the scales. For this we can use a song: Laughing singing for preparation. First sing

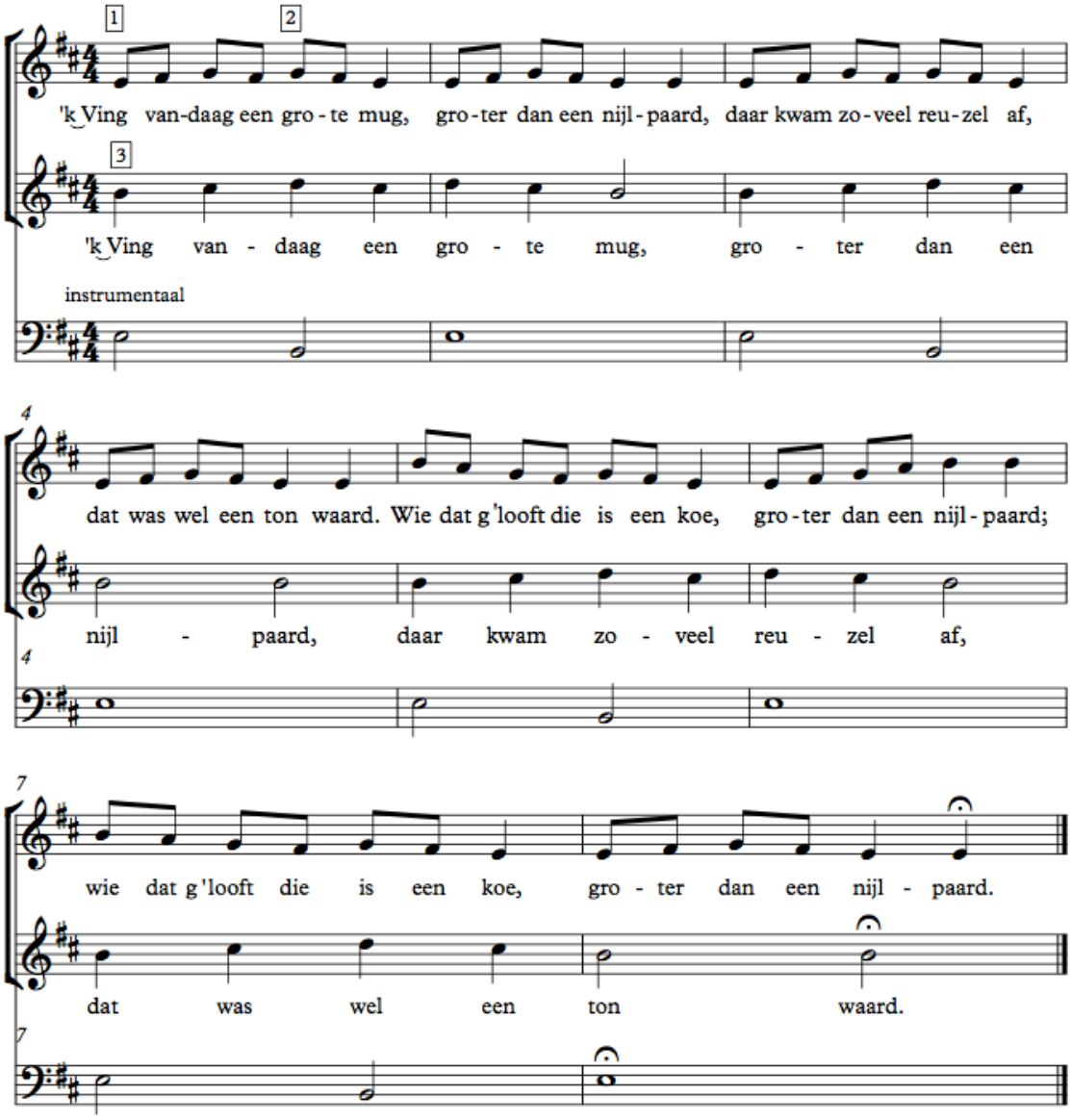
[64]Vaijda, Cecilia. (2008) The Kodály Way To Music. Book 1. Amersham, Bucks: England: Halstan & Co. Ltd.

the song with a game and then translate the song to the instrument followed by transposing the song to different keys. The pupil is unconsciously playing scales because for the pupil it feels like playing the song in different keys. After that you can isolate the scale and make it aware and think of all kind of exercises with it for the instrument.

From: vrije schoolliederen.nl



The automation of fast changing fingerings is a technical skill that has to be addressed too. The song: “k ving vandaag een grote mug” is very suitable for this purpose.



Sing the song aurally, transpose to different keys. Unconsciously the pupil is playing the song from a sound and does not think of the technical difficulty. The pupil plays the song as beautiful as possible.

Reflection: In the BMO B class of BASIS it is important that attention is needed for the technical aspects of the own instrument. Some steps are pedagogical all right but not applicable because they work against the technical capabilities of the instrument. With this in mind the pieces that are played together are chosen carefully and a corresponding key will be chosen. For example a certain song cannot be played in a certain key because it is too low for a bassoon pupil. The fingers do not fit the lower valves necessary for those low tones. Or the register changes for the clarinet are presenting problems. The horn player cannot play in a key too low because of the development of the embouchure. Or a song with a returning highest note can better be played one tone lower. Every instrument needs different song material in order to properly develop the specific technical skills. That is why not all sung songs have to be played by all instruments together but everybody can sing the songs for the general musical development. For the BMO B lesson a song or piece is chosen that is suitable for all

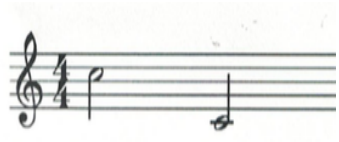
instruments together or where it is easy to play with an ostinato, a base line or second voice. This makes a good differentiation in the group lesson possible. The children are also asked to make a simple base, ostinato or second voice to the song.

6.5 Process: Musical literacy in instrumental education

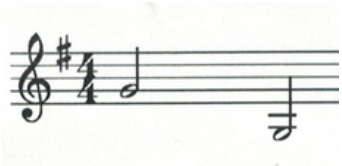
Line C:
In this paragraph I describe how the steps to musical literacy from the literature in paragraph 5.3 are applied in the lessons at BASIS. First the steps from singing are covered in the BMO A lessons of BASIS 2 .Then it is sorted out how to translate these steps to the BMO B lesson playing with the transposing instruments together. Workout of the steps in practice is included in appendix 9

Reflection:
BASIS 2 has worked this year for the first time following these steps. It gave clarity, which steps are necessary to develop musical literacy by singing and moreover which steps are necessary to translate these steps to the instruments. The steps were clear for most of the pupils but in some instances there was not enough time for the practice phase. Steps 7 and 8 are switched because BASIS 2 did not develop all steps for inner hearing yet. In the aural phase it helped to have a visual image with high and low on the board. In my opinion it would be advisable to remain longer in the practice phase of step 7; Rhythmic, sol-fa symbols, so that it settles better. Step 10 to 12 with de do key can be practiced longer too.
Basically you can say that steps 1 to 5 in future can all be covered in BASIS 1 and from step 6 on in BASIS 2. That way there is more time for the practice phase. At BASIS 1 in the previous aural period the skills from the framework have to be covered structurally.

1. For the transposing instrument in relation to the notation a number of aspects became clear during practice.
The flutes often play in the higher octave (aural phase) without note image (C″) but as soon as the notation comes into the picture this does not match the note image anymore (C′).



2.The clarinets are faced with their register change. Without a note image (aural phase) they play some keys in the low octave. Therefore they do not have a problem playing in the same key with the other instruments and the register change. But from the notation that should be noted with help bars to make it matching. That is not a good note image to start reading. For a logical start in notation it should be G′ but it is in the aural phase G in small octave.



From the literature we see that notation should best be started from the key F major because then few signatures are necessary (see chapter 5.3).
Flute, Oboe, Bassoon F major
Horn C major
Clarinet G major

But because the clarinet in G major can only play in a lower octave this means that help bars are needed for reading. That is why in practice I have chosen to start in C major instead of F major.
Flute, Oboe, Bassoon C major
Horn G major
Clarinet D major
For learning do-re-mi songs this step can be made in this way.

This step in musical literacy was only learning to read a pitch in a certain key.
But we have to consider how to make the follow up steps with all instruments together.

Chapter 7 Conclusions and Recommendations.

7.1 Sub Questions:

Before reaching a final conclusion it is important to evaluate the results of the different chapters.

Research of the question “How can we develop inner hearing in relation to the French Horn?” the literature shows that the best way to develop inner hearing is by singing and moving as basis for the music lesson. Only after that the instrument can be played. Singing brings a musical experience from where a sound image is developed. Very important for this process is the use of tools like solmization, hand signs and rhythm language. Eventually the solmization has to be developed to a high level singing as well as instrumentally so we can hear the music in our head without having to play it.
Practice research shows that for developing inner hearing in the horn lesson singing and moving are important starting points. Aural learning is possible by singing songs and translating them from hearing tot the instrument. This has to be from the natural harmonics of the horn, in the Netherlands this is the B flat horn. The sound of the natural harmonics has to be known before the right fingerings can be automated. The tools solmization, hand sings and rhythm language are very important for learning aurally for the horn. By choosing the right song to the natural harmonics a logical connection to the instrument is made.

The second question is “How can we combine the aural approach of horn teaching with the technical aspects of horn playing? “ The theoretical research shows that the brain is capable to control the technical aspects like embouchure and breath support automatically from the inner sound. From the kinesthetic and aural learning the motor skills can be connected to the inner hearing and the instrument becomes an extension of the pupil. Because in the horn lesson the songs are aurally selected from singing on the instrument there is no barrier from the note image. Achieving the right sounds on the instrument is the main objective. Often the techniques like embouchure and breathing are achieved automatically. Important in this process is to make sure the right fingerings are automated.

Finally the question is explored “How to work from sound to symbol in the instrumental music lesson?” Theoretical research shows that music is not a language but the process how we learn music is comparable. We learn a language by listening first, then speak, read and write. Learning starts by experiencing something then consciously observe and recognizing through repetition.
When what is recognized is connected to a symbol the symbol becomes meaningful. This way musical literacy is developed, learning to read and write music with an inner sound image. In the traditional Kodály method instruments are used only when the absolute pitch notation is addressed. This is contrary to the practice whereby instruments are used from the beginning. For the transposed instruments where the written note sounds different on the instrument the moment of making the step to absolute pitch notation has to be chosen carefully.

7.2 Research Question

Based upon these partial conclusions combined with the experience that I have gained over the past years I will try to answer my research question.
How to make a logical methodology for the beginning horn player, from an aural approach to musical literacy?

For developing a method for the B flat horn it is important to start with the natural harmonics of the B flat horn. These natural harmonics first have to be heard internally in order to understand the next steps to play diatonic series. Inner hearing can be developed in the horn lessons by starting singing and moving followed by finding out the song aurally on the instrument. Through singing the children develop inner hearing, which enables them to understand the sounds and thus develop musical literacy, the reading and writing of music with an inner sound image. This eventually leads to communicating with a language of musical sounds. My research shows that aurally learn to play the horn is very important for developing inner hearing in relation to the horn. This eventually leads to understand the horn. By working aurally and integrating all aspects of making music the pupil becomes more independent. They will be able to correct their own mistakes and a creative process is started with the pupil being owner of his own learning process.

7.3 Discussion

From this research a number of questions surfaced.
For developing inner hearing we take singing and moving as a starting point of the horn lesson. From there the translation is made tot he horn by finding out the songs on the instrument. In order to really develop inner hearing in relation to the horn we must learn aurally and kinesthetic for a longer period. So starting with singing and moving of the songs and then finding them out on the instrument by hearing. But how can the children at home remember the songs when we don't want them to have a visual image like staff notation in the starting phase? For this the pupils need sound recordings to be able to recall the songs at home. The own made drawings from the songs could also be helpful for remembering the songs. This would be interesting to try out the coming time.

In practice it became clear to me that two kinds of inner hearing are developed when learning to play the horn aurally. Inner hearing in relation to the singing voice (absolute pitch) and inner hearing in relation to the sound of the horn (horn pitch, a fifth lower). Not clear to me is whether traditionally educated horn players like myself only experience this difference. At this point the process is still too short to draw any conclusion how that works for the newly educated pupils. The process has to be developed longer and more research is needed.

The horn is based on natural harmonics whereby playing of diatonic series does not have a logical fingering sequence. Different tones are possible with the same fingerings making it aurally difficult to find the right fingering. Playing high and low on the horn is achieved by tightening the embouchure in combination with breath support and for a beginning pupil this does not give a lot of support. The use of solmization and hand signs in combination with the playing names sheet and the natural harmonic sheet give the pupils the necessary tools to make the translation from low to high on their instrument. This in combination with automating the right fingerings. Very important is developing to play in several keys to understand those keys very well. That's why the children learn from the beginning to play the songs in as much keys as possible.

Developing musical literacy is a long process where the aural phase is very important. In the instrumental lesson there are several skills that have to be addressed from singing before they can be translated tot he instruments. From the aural phase is worked towards notation (from sound to symbol). The steps to melodic notation are clear in theory but the translation to the transposing instruments is not easily done. Theory shows that you could take any sound when using relative pitch notation (do clef). Still the sound is leading that later becomes the absolute pitch notation. This way the pupil gets used to a certain image and matching sound. In the violin clef the image stays the same in absolute pitch. In that case non-transposing instruments as piano or recorder are used. Practice shows that steps to absolute pitch notation for transposing instruments are different. Using relative pitch notation all instruments can read and play the same sheet music. Everybody has the same image; only the do is named different for every instrument. Because of the aural learning the solmization is connected to sound relations and not to note names this presents no problem.

This research shows that we can use several names: singing names (relative solmization) letter names (absolute pitch names), playing names (letter names on the instrument, horn pitch) and natural harmonics (natural harmonics on the horn, horn pitch). The letter names are used only when the staff notation with absolute pitch is addressed. The difference in sound between playing names and letter names are not yet made consciously. That means that when the children sing from the staff in the absolute system they sing on letter names. However for them they could be playing names at the same time because the names (ABC) are already connected to the instrument in the aural phase. To make the distinction in sound between letter names and playing names is at this point still too confusing for the children. It would be interesting to further investigate this in follow-up research.

As soon as the absolute pitch notation is addressed every instrument gets a different sound with the image. From singing the image matches the sound, for non-transposing instruments as well. For the transposing instruments the image does not match the sound anymore. The note names and sound relations match in both cases. In the group lesson the children get to read different notations of the same song, for example F, G en C major, and they sing on absolute pitch. After that the songs are played on the instruments. The sound of the transposing instruments does not match the image anymore. Because the inner hearing to the instrument is already developed for a while this presents no problem. It is questionable whether this step should be taken this way. Can it be developed in the group lesson with all transposing instruments together? The problem arises of course already from singing together with one transposing instrument.
This research has mapped out these issues for me. In order to solve these issues however longer practice based research is necessary.

7.4 Recommendations

Through this new method the pupils have different tools available. But it appears that this does not connect anymore with the parts the pupils play in the orchestras. Often the arranged horn parts in youth orchestras consist of long tones, simple parts, not based on a melody. Clearly meant from reproducing, the vision of symbol-action. For the pupil trained to play from inner hearing second parts and bass parts with meaning this part is not very interesting and therefore not understood as such. An interesting follow-up step would be to explore this together with youth orchestras.

For now is important to make this method known to other colleagues the right way. BASIS is the ideal situation to develop this new method. Even though it still has specific problems for the transposing instruments. It would be interesting to see how this method can be integrated in the regular instrumental music education.
The many cutbacks on music education often have resulted in shorter classes and mandatory group lessons. Teachers often find this a negative development. This new method is very suitable to work with instrumental groups. Because of a low registration number for some instruments it is not possible to form a group. With this method however it is possible to play together with mixed instruments alongside the individual lesson. It would be interesting for music schools to develop the method for different mixed groups.

It would be interesting as well to find out how a connection from this method can be made from BASIS to the School for young Talent at the Royal Conservatoire. For developing this step more practice-based research is needed.

This new method requires different skills of the teacher. Presently I give workshops throughout the country together with my colleague Mieke van Dael. It would be recommendable to find out how this can be further developed in the form of workshops, training and education for teachers. Because the method is relatively new for instrumental education and there is no literature existing about the researched principles in this paper it is important to address education for teachers.

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Appendix 1: Process description BASIS Royal Conservatoire The Hague
Academic Year 2016/2017

30 lessons a year

BASIS 1
7 students: 1 flute, 1 oboe, 3 clarinets, 1 horn, 1 bassoon

BMO A (Broadly-based Musical Development, level A) 30 minutes lesson, training inner hearing by means of singing, musical games involving motor skills, polyphonic skills, pre notation by using solmization, hand-signs rhythm language.

Instrumental lesson 50 minutes lesson, training instrumental skills using the familiar repertoire/inner hearing from BMO A.
Attention is given to posture, breathing technique, embouchure, inner hearing, and motor skills. These lessons also involve singing, playing musical instrument games, training polyphonic skills, using solmization, hand signs and rhythm language. The students take charge of their own learning path and apply creative skills and improvisation, as well as developing self-expression

BMO B 30 minutes lesson, playing in ensembles, using the familiar BMO A repertoire. Attention is given to learning together, group process, quality of playing in ensembles, improvisation, and being able to communicate with each other musically.

BASIS 2
9 students: 2 flutes , 1 oboe, 3 clarinets, 1horn, 2 bassoons

BMO A 30 minutes lesson, training the inner hearing by means of singing, musical games involving motor skills, polyphonic skills, pre-notation by using solmization, hand-signs and rhythm language. In this year the step in notation to the staff has been made.

Instrumental lesson 50 minutes lesson, training instrumental skills using the familiar repertoire/inner hearing from BMO A.
Attention is given to posture, breathing technique, embouchure, inner hearing, motor skills. These lessons also involve singing, playing musical instrument games, training polyphonic skills, using solmization, hand signs and rhythm language. The students take charge of their own learning path and apply creative skills and improvisation, as well as developing self-expression. They compose their own music and they improvise.

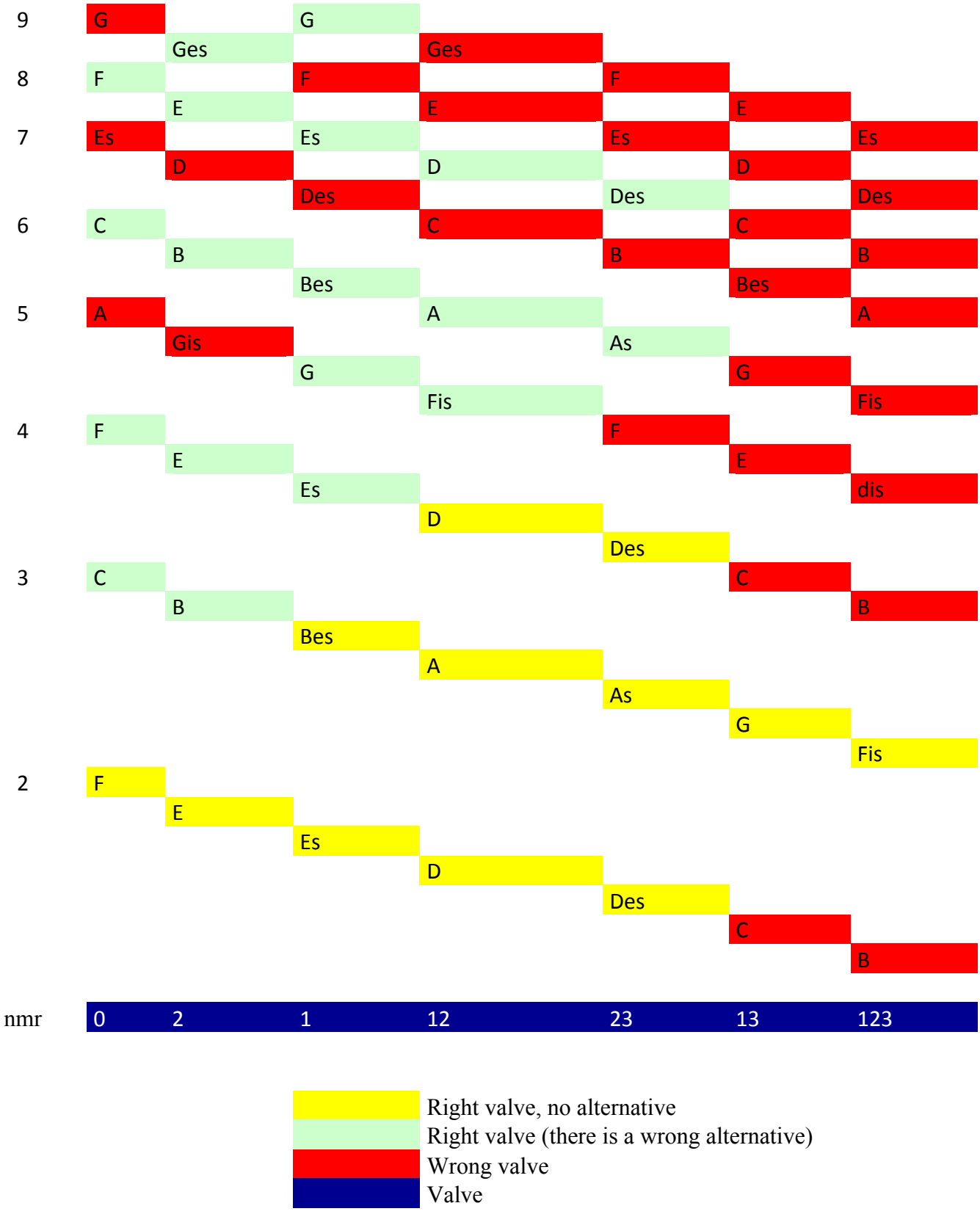
BMO B 30 minutes lesson, playing in ensembles, using the familiar BMO A repertoire. Attention is given to learning together, group process, quality of playing in ensembles, improvisation, and being able to communicate with each other musically. [66]

[66] Dael van, Mieke (2016) : How can aspects of the Kodály Philosophy and methodology be integrated into instrumental education? https://www.researchcatalogue.net/view/135074/278685

Appendix 2: Schedule natural harmonics for B flat horn

Vertically: Natural harmonics each row transposed a half step lower

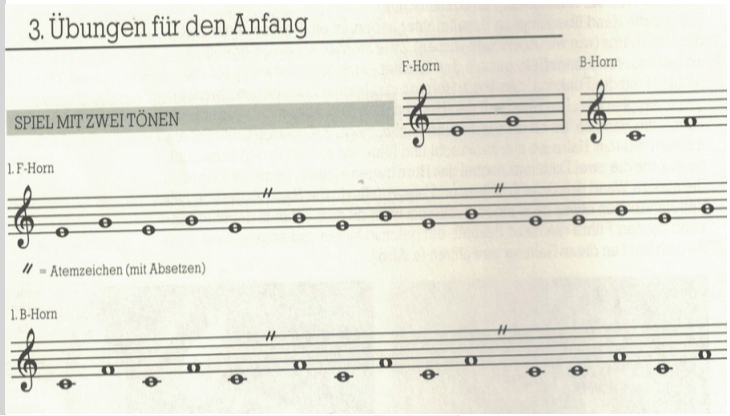
Horizontally: The colors stand for the position of the right valves when playing a melody.

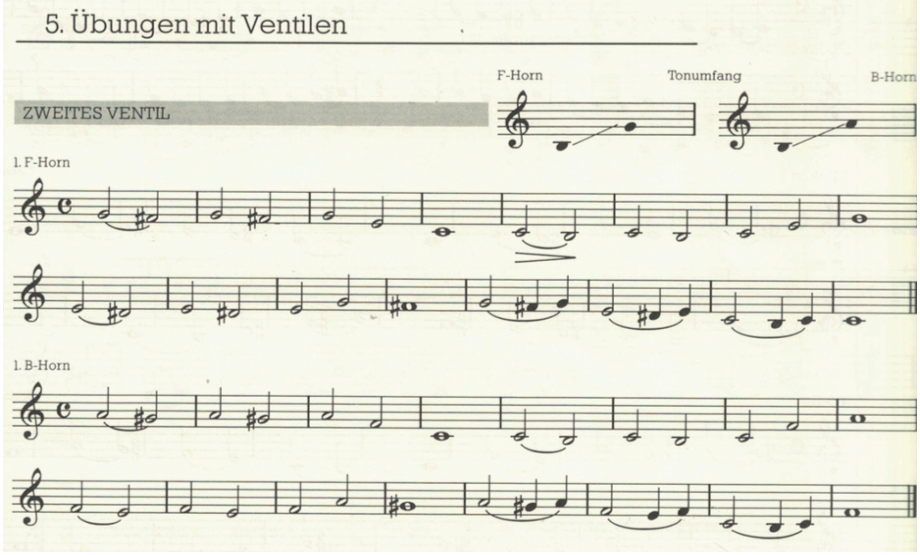


Appendix 3: Analyzing Methods

Horn-Schule - Michael Hoeltzel

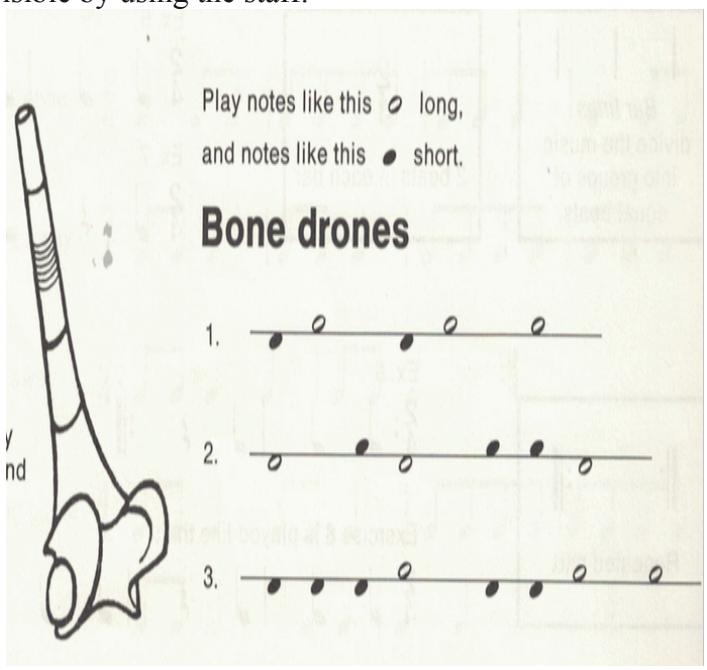
This is the only method I found that assumes the natural harmonics for both F and B flat horn, probably from the idea that the student immediately starts on a double horn B flat / F. For the B flat Horn is the first harmonic interval C-F in the book. The method is mainly built with exercises. There are polyphonic exercises from the beginning by using the inversions of the natural harmonics. Space has been left to create own improvisations with these natural harmonics and wright it down. As soon as the valves are dealt with, transposing downwards a half step with using the valves. Starting to automate the 2nd valve from the tone A. This is a natural harmonic without valves, and from this tone, the use of 2nd valve reduces the tone a half step. And this the same for all natural harmonics without using a valve. Then the 1st finger and so on. This means that all the natural harmonics and names are learned first and not the playing names. Later in the method, multiple fingerings are treated for the same notes
The method is not based on singing and developing inner hearing.
In terms of notation, the book is traditionally composed, first full and half notes, then the quarter notes and eighth notes.

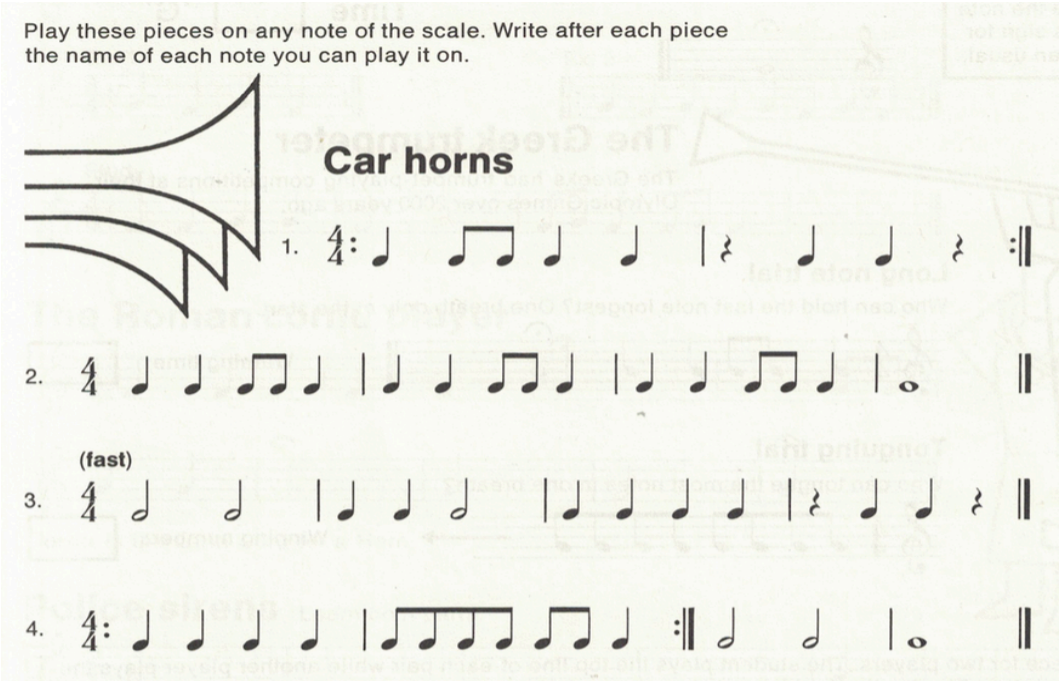




Summary;
This is the only book that uses the natural harmonics for the B flat horn. Immediate polyphonic skills are discussed. The structure was thought of by exercises and not from song material. Later, when the technique is known, the song material is discussed. As soon as the valves are treated, it is confusing what should be the right fingering for the B flat horn. What are the natural harmonics and what the playing names. There is no singing and development of inner hearing.

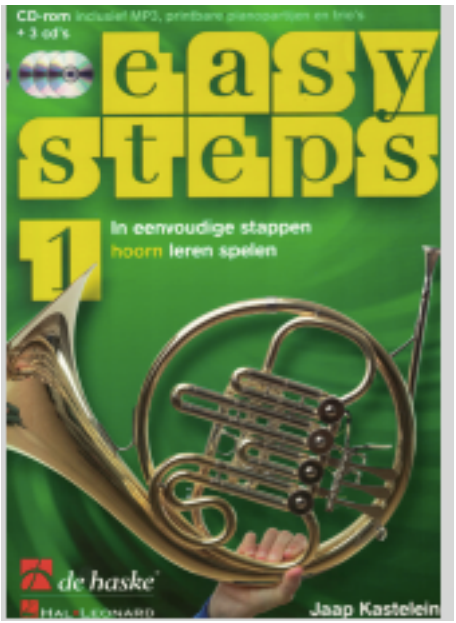
Enjoy playing the Horn - Christopher Williams
This method is based on the history of the horn by presenting the natural harmonics. The book can be used for both the F and the b flat horn. You can see a clear preference for the F horn. The beginning is based on different sirens from the horn. It is describing how to create a higher and lower tone with lip tension and blowing harder. The method does not go out of singing, but tries to start with the natural harmonics so that they are well settled. Because the natural harmonics are learned from notation it is not really based on inner hearing. The exercises are not listed in a staff, but only indicate high and low. Therefore it can be used for both horns. In terms of notation, the book is traditionally composed, first full and half notes, then the quarter notes and eighth notes. Many different rhythms are coming soon. From Lesson 4, the actual pitch will be visible by using the staff.

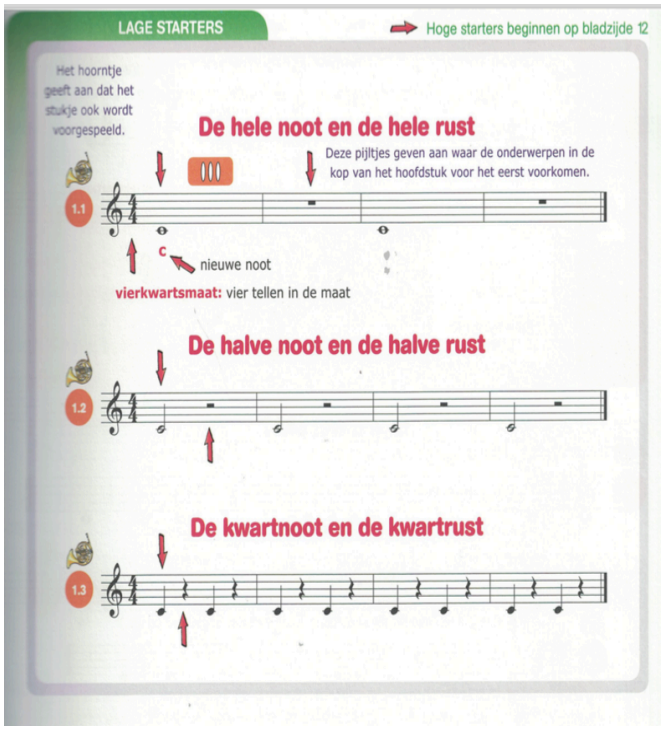




Summary: You see at the beginning of the method that there is a build up of the sound using high and low natural harmonics. This can be for both horns B flat and F horn. These are then made visual by placing the note above and below a line. It is ultimately intended that the pieces be played on all the tones of the scale, which is not technically feasible for the embouchure of the beginning horn player. From the point where the clef comes, high tones are promptly requested.

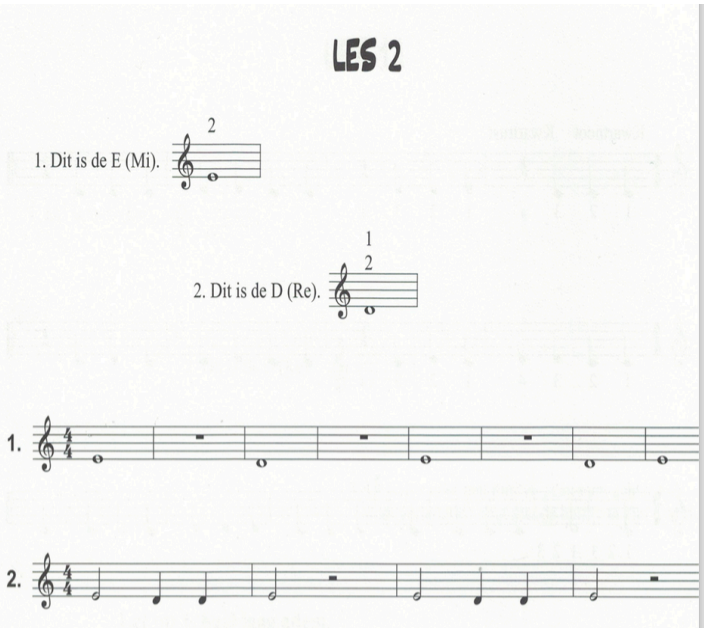
Easy Steps (in eenvoudige stappen hoorn leren spelen) – Jaap Kastelein
I have used this method for several years with students before I started teaching in my current way. This method is written for the B flat horn, but it is a translation from the same book for other wind instruments. The structure of the book is in two ways in terms of embouchure building. On page 7 you start with the book if you easily play the low natural harmonic (C) called low starters. On page 12 you can start when you first play the high natural harmonic (F) calles high starters. The low starters always play up (C D E F) and the high starters do the other way round (F E D C). From lesson 4, both lines come together again.
The book does not go out of singing, but because the book contains a play along CD you can listen to the melodies first before playing them.
The method is traditionally structured in terms of notation, first the whole note, the half note and the quarter note. From lesson 1, songs are also discussed next to exercises, but they are thought from the traditional notation and therefore not well notated musically.





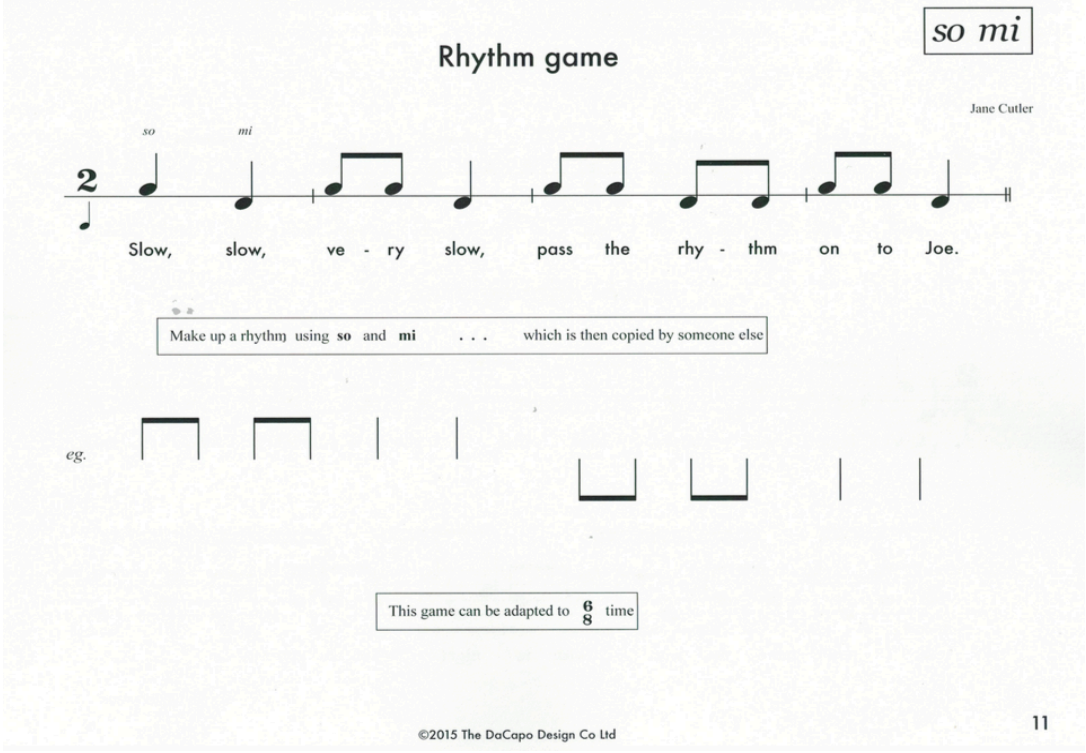
Summary: This book takes into account the embouchure development from the beginning horn player. You can always advance in this book, whether you start playing high or low at the beginning. That's already a thought from the first 2 natural harmonics of the B flat horn C and F. You do not start singing, but you can listen to the melodies on the CD. The songs are traditionally noted, which is musically not nice.

Tune Up (De complete methode voor hoorn) - Jo Brouwers en Michel Hendriks
This method has been made for the B flat horn. The natural harmonic F is started, it is immediately increased with the first valve to G. From the second page, the natural harmonic C is taken and it is immediately increased in CDE. The notes are indicated with absolute note names, but also in the absolute do system. This means that the method could be for the Belgium market, where they use absolute do-system. But in Belgium the students are starting to play on the F horn, so that is not clear.
The preface states that the method uses Rhythm language and singing (sound-fingering association). In the book itself, I can not find the song by lyrics with the songs, but I think it's meant to sing on note names with pressing the right fingering. A play along cd is included so that the student could sing and play with the cd. The rhythm language can be seen in figures by counting. For example: 4 quarter notes you count as 1 2 3 4 and eighth as 1st 2nd 3rd 4th It is based on traditional notation (see earlier description), which does not always connect to the music in the correct metre



Summary:
Although the book says going out of singing (sound-fingering association) and rhythm language an image-fingering association is created because it is still from the notation. The CD does not hear the sound of the horn, which makes it difficult to recognize the warm horn sound. Natural harmonics are not really made aware of in the method. The notation is traditional.

Da Capo (The compleet Instrumentalist) book 1 and 2. – Jane Cutler
This instrumental method works from singing. "Singing is the foundation of all musical skills." The book focuses on the building of musicianship. The book is written without key in the clef (do key), which is making it suitable for each instrument playing together. Relative solmization and rhythm language are used. Because the book is for all instruments, there is no starting point from the natural harmonics. Each lesson has a lesson instruction that starts with singing and movement, after which the song can be played. Then there are more difficult assignments to develop the musicianship. In this way, the inner hearing is learned. Sol-mi songs is the starting point. As far as the notation is concerned, the songs are initially listed on one line, after which it extends to 2 and 3 lines during progress in the book.
This means that the student can read the songs on text, melody and rhythm immediately and therefore it is not completely an aural method.
In book 2 all songs are recorded in stick notation. The student or teacher is supposed to write the songs in the notebook himself fitting to their own instrument.



Summary:
This book assumes that the instrumental lesson begins with singing and movement to develop musicianship. The tools solmization and rhythm language are discussed. Because the method can be used for various instruments, it is not based on natural harmonics. From the singing the inner hearing develops. Notation will be discussed immediately, first from 1 line and expanding further. Book 2 is written in stick notation to further develop the inner hearing according to the book. In the literature, this step is always before you go to the clef. chapter It is not entirely clear how to use the book for home, to learn more about it, it would be interesting to follow a class at Da Capo in London.

Appendix 4: **Musical skills.**

The following skills should be developed through singing and moving in order to build up a good methodology for the instrumental lesson. Using the PPP principle and work from Folk Music to Art music. The children learn kinesthetically aural and visual. In the beginning the learning is mostly aural and kinesthetic. When the children have learned a lot of songs and have developed a steady beat, the symbols are added and the step to musical literacy can be made.

1. **Beat:** Beat is the pulse of the music. Through movement the children can experience this.
2. **Rhythm:** The movement of the music. Rhythm can come in patterns or motives. The Rhythm can be experienced through movement. Then takadimi language can be introduced.
3. **Meter:** Beats are subdivided into groups; 2, 3 or a combination. Various species are experienced by movement.
4. **Melody / key:** Tones higher, lower or repeated are organized into a melody. The melody can be experienced and made aware by drawing the melody contour in the sky. Major, minor, pentatonic and different modes are discussed.
5. **Listening:** Comes back in all parts, listening to songs, inner hearing, memory, art music with games, polyphonic skills, etc ..
6. **Harmony:** Two or more sounds sound at the same time. This is immediately reflected in instrumental playing together.
7. **Form:** The architecture of the music. The music is divided into different phrases. Phrases that are equal or different, phrases that end up sounding or not. Simple phrases or just more complex. The various variations are discussed by experiencing movement.
8. **Inner Hearing;** Singing is developing inner sound. For example by leaving games: sing and sing with the "thinking voice" you can develop the inner hearing.
9. **Memory:** Remember the songs, text, melody, rhythm etc..
10. **Polyphony:** Do multiple things at once and make it sound. This can be singing together with movement on the beat or clapping the rhythm. Or clapping an ostinato with a song, an organ point with the melody.
11. **Singing quality**: Discovering your own voice and learning how to sing. Also singing in tune and singing tutti-solo.
12. **(Pre) notation:** This begins by making a movement with a song for high and low. Singing in solmization with hand sign and using rhythm language are also steps to notation. (See also chapter 5.3)
13. **Breath, Posture, Motoric:** Make conscious and free up the posture, balancing the body. Training motor skills by finger games or breathing games with the songs.
14. **Creativity / Improvisation:** Making your own musical sentences can already be done. For example: question-answer games, complete games etc..
15. **Articulation, tempo, timbre, dynamic:** Based on the song repertoire, the various articulations (legato, staccato, portato and tenuto) are experienced. By making use of a movement we indicate the way we play the song then we give it the name. Equally with tempo and dynamics and timbre, first experienced and then named.[65]

[65] Choksy, Lois. (2000) The Kodály Method 1; Comprehensive Music Education, Third Edition. New Jersey: Prentice Hall

Appendix 5:Song list BASIS 1 and 2.

	Liedlijst Basis 1 2017/2017											
	Titel	Min / Maj	omvang	Vorm	opmaat	2 / 3	solo vs tutti	ritmes	soort	alleen zang	zang en instr	dans/Spel
1	De stoker en de machinist	maj	sltd	AA'	x	2			S-D sprong			
2	Hi Lo Chickalo	pentatonisch	s-l-d	AA'		2			pentatonic partners		x	klap spel
3	Hot cross buns	maj	m r d	AABA		2					x	cirkel game
4	Ijsbeer	maj	drmfs	ABA		2	x				x	cirkel game
5												
6	PROTECTED CONTENT											
7												
8												
9												
10												
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15												
16												
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20												
21												
22												
23												
24												
25												
26										x		
27												
28												
29												
30												
31												
32												

		Liedlijst Basis 2: 2016/2017											
		Titel	Min / Maj	omvang	Vorm	opmaat	2 / 3	solo vs tutti	ritmes	soort	alleen zang	zang en instr.	Dans/spel
	1												
	2	Attakattamoeva	Maj	drmfs	ABA		2					x	dans
	3	Bells in the Steeple	Maj	d-m-s	AB		3			drieklank		x	stick game
	4	De stoker en de machinist	maj	sltd	AA'	x	2			s-d		x	
	5	Hi lo chickalo	pentatonisch	s,l,d	AA'		2			d-s		x	clapping game
	6												
	7												
	8	PROTECTED CONTENT											
	9												
	10												
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Appendix 6: Framework BASIS 1 and 2

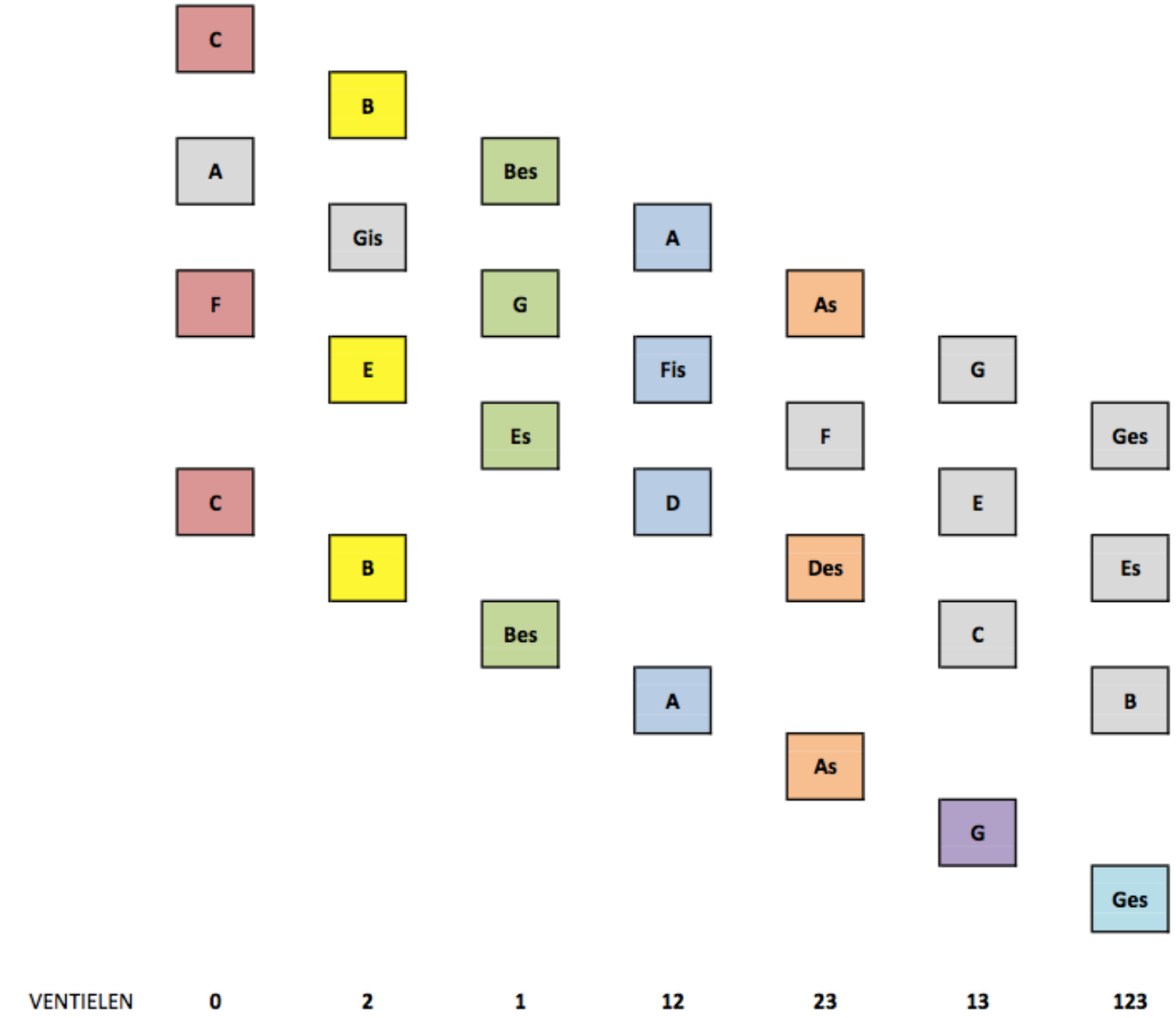
BASIS 1: Season 2016/2017

Les	Beat	Ritme	Metrum	Melodie/Toonsoort	Luisteren	Harmonie	Vorm	Inner hearing	Memory	polyfonie	Zang kwaliteit	(Pre) notatie	Solmisatie	Adem/Houding/Motoriek	Improvisatie	Articulatie/ tempo/dynamiek
		in de liedjes												adem: FF SSS spel		
1 t/m 7	lopen op de beat	♩ ♩ ♩ ♩	2	Hoog/Laag (S–M)	herkennen instrumenten	s-d basstem	ping pongen	woorden weg	vanuit inner	Orgelpunt zingen	samen zingen	Hoog-laag	op lijf: hoog/laag	Houding: middelpunt, balans		ervaren kort-lang
	beweging beat	♩ ♩ ♫ ♩	4	Do Re Mi /Mi Re Do	Maas Stet- spel		beweging/dans	laten	hearing	begin 2 groepen	vertrouwen	op lijf		bewust worden van		
		♫ ♫ ♩ ♩		Sol-Do	liedjes			denkstem	lied herinneren	beat en ritme	met en zonder piano					
		♫ ♫ ♫ ♩		Majeur/ Mineur ervaren	melodie			radioknop	melodie	beweging bij lied		melodie contour tekenen				
		♫ ♩ ♫ ♩						ping pongen	copy game			grafishe notatie door kinderen				
8 t/m 15	PROTECTED CONTENT															
15 t/m 20																
21 t/m 25																
26 t/m 29																
30 = presentatie																

BASIS 2: Season 2016/2017

Les	Beat	Ritme	Metrum	Melodie/Toonsoort	Luisteren	Harmonie	Vorm	Inner hearing	Memory	polyfonie	Zang kwaliteit	(Pre) notatie	Adem/houding/Motoriek	Improvisatie
	bewust maken													
1 t/m 7	loop/wiegmuziek	coderspel		Maj/ Min	dans op muziek	meerstemmig zingen	dmv dans, spel zichtbaar	handsigns vertalen	liedjes	canon	Tutti-solo	takadimi taal	spelletjes hiervoor	op ostinaat eigen melodie
	beweging bij muziek		zie ook beat		liedjes, melodie	bastem, middenstem		denk stem	handsigns vertalen	Ostinaat ritmisch	steeds hoger	Notatie ritmische patronen	Balans	zingen
					coderspel vertalen			radio knop		Ostinaat melodisch			bewust maken houding	vraag - antwoord
	PROTECTED CONTENT											en alle varianten		
												Flashkaarten en gekend lied.		
												hartslagen bij patronen		
8 t/m 13														
15 t/m 20														
21 t/m 25														
26 t/m 29														
30 + preventie														

Appendix 7: Sheet Natural harmonics and Playing names

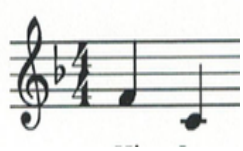


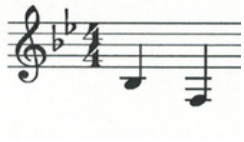
SPEELNAMEN BLAD

Appendix 8: Lesson Plans Horn

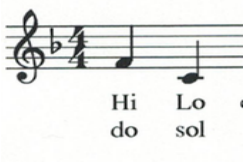
The horn lesson starts with natural harmonics C-F on the B flat horn, which is sol-do in solmization names. (NB: we use the relative do system therefore not do-fa)
Student starts to play the tone, which he can blow the best C or F, for starting.

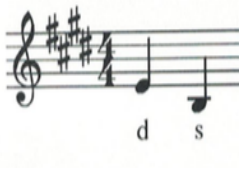
For Horn in F (playing names) Sounding on absolute pitch. (absolute note names)

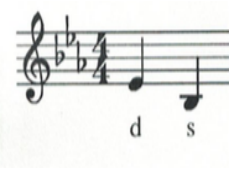


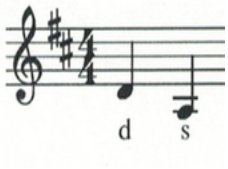


From this point on we talk in the horn lesson only in singing names (solmization) playing names (absolute note names on the horn, no absolute pitch) and natural harmonics.
First we name them all playing names because these tones are the same fingering then the natural harmonics. (see schedule natural harmonics appendix 2) After several lessons the playing names and natural harmonics become separate. This is when the same tone has different fingerings in playing names and natural harmonics.
When the C-F interval is well known, transpose down a half tone by using valves. Then play B-E and B flat- E flat, A-D.







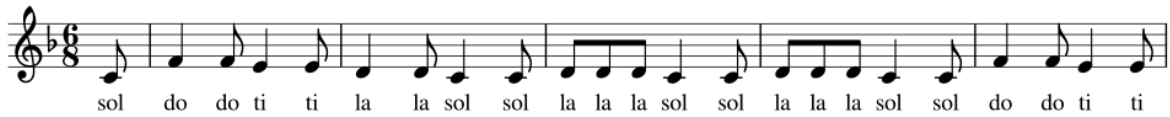


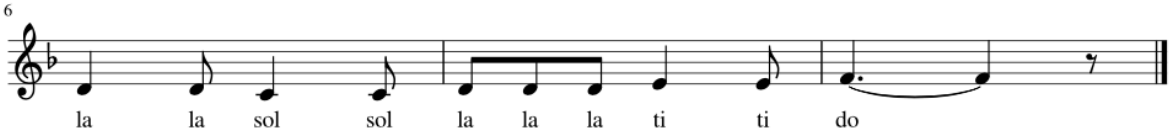
Valve 0 Valve 2 Valve 1 Valve 12

Transposing is not only for learning the different natural harmonics but also to learn that the do can be on different tones. We have to avoid too low transpositions because of the development of the embouchure. Different listening games with the natural harmonics will help to develop the inner hearing. When the sound sol-do is well known the singing names are learned. Then the sol-do interval can become a diatonic series sol-la-ti-do. The following Dutch song is based on these singing names.

From: Alle liedjes met een hoepeltje erom

De stoker en de machinist, die hebben de trein, die hebben de trein.
De stoker en de machinist, die hebben de trein gemist.





Meanwhile do re mi songs can be learned. Do-sol can be played in the same time as a baseline with the natural harmonic C-F. Also transpose to another key, like E flat major then the E flat

becomes do. The students don't have any obstructions transposing the songs, because they don't see the difficulties from notation. They just learn the same song with new notes. Buzzing on the mouthpiece is a good manner training inner hearing. Students hear the sound of the song inside and automatically the right lip tension comes.
The students can make their own songs with the notes they have learned and play some question-answer games. When the song is performed well by singing and the students have a good inner hearing of the song they will learn the singing names, hand signs and takadimi language. These are the first steps towards musical literacy, so named; pre-notation.

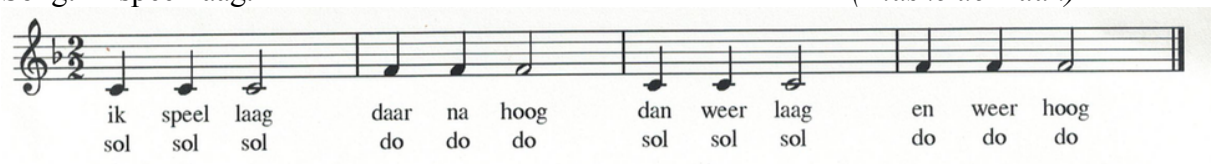
Next I will show several lesson plans from the first year BASIS season 2016/2017. (lesson 1-4 and lesson 26) NB: Al notes are named as playing names, so in the horn lesson we don't talk about absolute pitch names.

Basis 2016/2017: lesson plans

Lesson 1:	**Learning about:**
Make the sound of a busting horse with your lips. Do this several times. Make with your lips the sound of a mop fly. Feel the vibrating of the lips.	Warming up.
Try to make a sound out of the horn. Look at your horn, what is on it? Can we name it.	
Breathing: make the sound of a snake "sss" How long is your snake, can we pass it through?	Breathing
What is the beautiful posture of a good horn player? Can you show how you think that looks like? Teacher follows, shows the good posture.	Posture
Make a nice sound on your horn? Did you like it? What can we improve? Teacher plays a sound without using valves, Students copy. How long can you play a sound?	Ownership
Teacher plays a tone, student copies. (NB same as the student played before, because the embouchure is then natural) Mostly this will be F or C	
Teacher plays F and C several times. Student makes air drawing for high and low. Name of the notes are: High tone is called F Low tone is called C Teacher plays, student copies. Start with the favorite of the student. Teacher play, student draw the melody contour and say the playing name of the tone. Student can pick one of them to play, teacher the other.	Prepare s-d

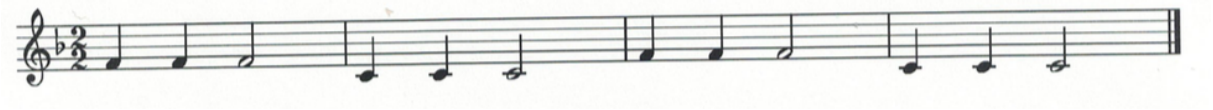
Play several times after each other, the sound is like a siren.

Song: Ik speel laag. *(Klaske de Haan)*



Sing the song and walk the beat. Melody, beat, meter
Sing the song and clap the rhythm rhythm
Sing the song and make an air drawing from the melody contour. Prepare s-d
Find out the song on the horn.

NB: high starting players will start the song the other way around.



Lesson 2: Learning about:

Breathing: make the sound of a snake "sss" Breathing
How long is your snake, can we pass it on?

Make the sound of a busting horse with your lips.
Do this several times.
Make with your lips the sound of a mop fly.
Feel the vibrating of the lips.
.
New: Buzzing on the mouthpiece.
Posture: 2 fingers above, thumb below.
Make a sound out of the mouthpiece.
Try several times.

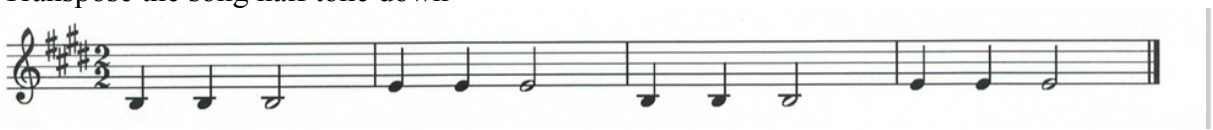
Play on the horn the note C and F.
Start with your favorite. How is this one named Present C-F horn
Teacher check.
Teacher plays C or F, student copies. Memory
Teacher plays several times, student makes air drawing.

How is the beautiful posture of the horn player? Posture

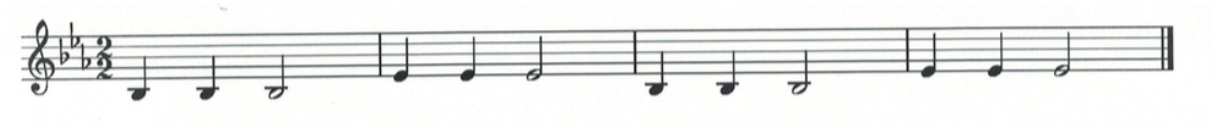
Play tone C and F after each other, start with favorite. (siren) Practice C-F horn
Part playing: play after each other one tone (siren)
Transposing with half tone; play siren.
B-E and B flat with 2nd valve
B flat –E flat with 1th valve.
Make conscious of the new playing names.

Song: ik speel laag.
Sing the song and walk the beat. Melody, beat, meter
Sing the song and clap the rhythm Rhythm
Sing the song and make an air drawing from the melody contour.
Play the song on the horn.
Teacher plays at the same time the song the other way around. Polyphony.

Transpose the song half tone down



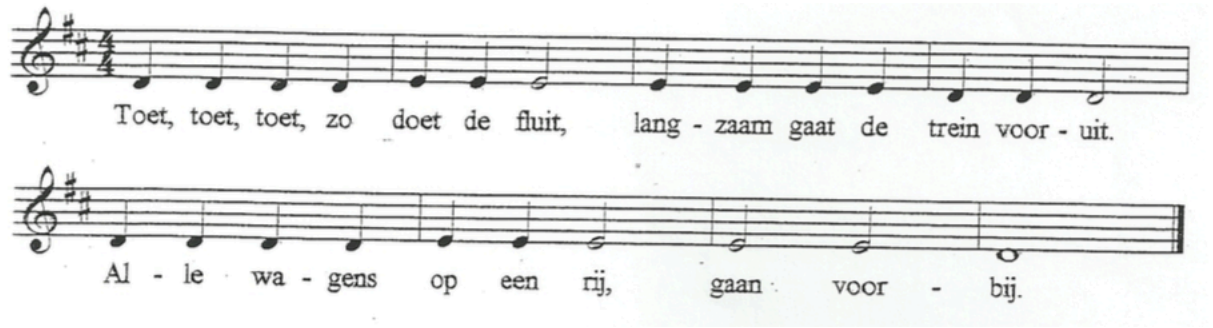
With valve 2: B and E



With valve 1: B flat and E flat

Homework: make an own song with the tones of the siren F and C.

New song: Toet Toet. *From: Pi lessons*

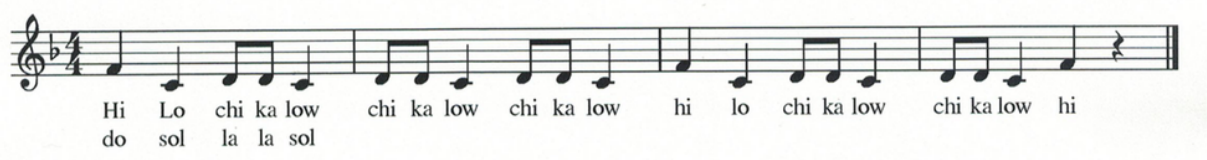


Sing the song and walk the beat. Melody, beat, meter
Sing the song and clap the rhythm rhythm
Sing the song and make an air drawing from the melody contour.

This song is with do and re, now for the horn we sing
the same song with do and sol.
Find out the song on the horn with do-sol. Starting with F.
Also transpose again halve tone.

Lesson 3	**Learning about**
New breathing: hand on your belly.	Breathing
Make the sound with your lips:	
FF FF FFFFFF SS SS SSSSSS (4x)	
Feel the movement of the belly.	
Buzzing mouthpiece:	Embouchure, memory
Echo game: teacher is buzzing, student copy.	
Buzzing the song Toet toet.	Inner hearing
Part playing: buzzing Toet Toet, in phrases.	
Play horn: siren with tone F and C	practice C-F, transpose
Transpose down: op E en E flat, new op D with valve 12	
Song: ik speel hoog	
Sing the song and walk the beat.	Melody, beat, meter
Sing the song and clap the rhythm	Rhythm, polyphony
Sing the song and make an air drawing from the melody contour.	
Play the song on F, transpose again, with valve 2,1 and 12.	
Play the song in reverse.	
Play together the high and low version with the teacher.	
Play your own made siren song.	Ownership, creativity.
Can you make a drawing from it on paper for next week?	Visual high-low
Toet Toet Starting on F	
Singing, walking beat, clapping rhythm.	Melody, beat, rhythm, meter
Play with do-sol	
Teacher plays together with do and re, students recognize.	Polyphony, listening.
Finding out the song on do and re.	
Starting on C, then on D	
All the new notes have been played before from the siren.	
Singing the song on playing name and press the right valve.	

New song: Hi Lo Chickalo.
From:Singing Games and Rhymes for Middle years. By: Lucincda Geoghegan.



Sing the song and walk the beat.	Melody, beat, meter
Sing the song and clap the rhythm	rhythm
Sing the song and make an air drawing from the melody contour.	
Finding out the song, starting on F.	
All notes have learned before from the siren.	

Lesson 4

Learning about:

Introducing playing names paper.
Each new learning note we put it on the paper
give it a colour.

Present note names.

Breathing: Put your hand on the belly.
Make: FF FF FFFFFF SS SS SSSSSS 4x
Feel the movement of the belly.

Breathing

Buzzing mouthpiece
Echo game: teacher is buzzing , student copies
Buzzing the song: Hi Lo Chickalo.

Embouchure,
Inner hearing, Memory

Play on the horn; C and F, Play the siren
Transpose half step down on E en E flat and D.

Practice C-F

Cat and Mouse game: Teacher (cat) plays do or sol
Student (mouse) cannot play the same note as the teacher
Otherwise he has caught the mouse.

inner hearing, memory
practice game

Hi Lo Chickalo. F=Do
Sing the song with clapping game.
Play on the horn, starting on F
Teacher plays the same song in reversal at the same time.

Beat, Rhythm, Melody
Polyphony.

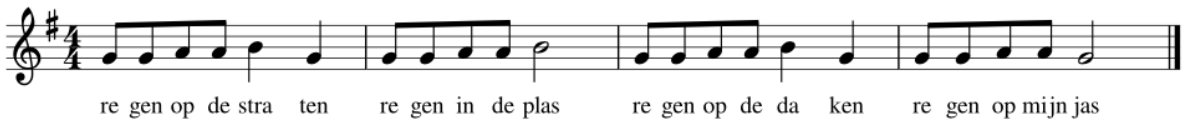
Can the student hear what is happening?
Find the following pitch by ear: E.(sound from teacher)
Play the song on this pitch, also on E flat.
Sing the song on playing names and make fingering on the horn.

Listening

Toet Toet.
Sing, walk beat, clap rhythm.
Play with do-sol transpose from F, E , E flat and D
Play song with do- re Start on C
Find out on which tones whe can play the song with do-re.
Watch your paper if you don't know.

Melody, beat, rhythm
Meter

New song: Regen op de straten *(From: pi/BASIS)*

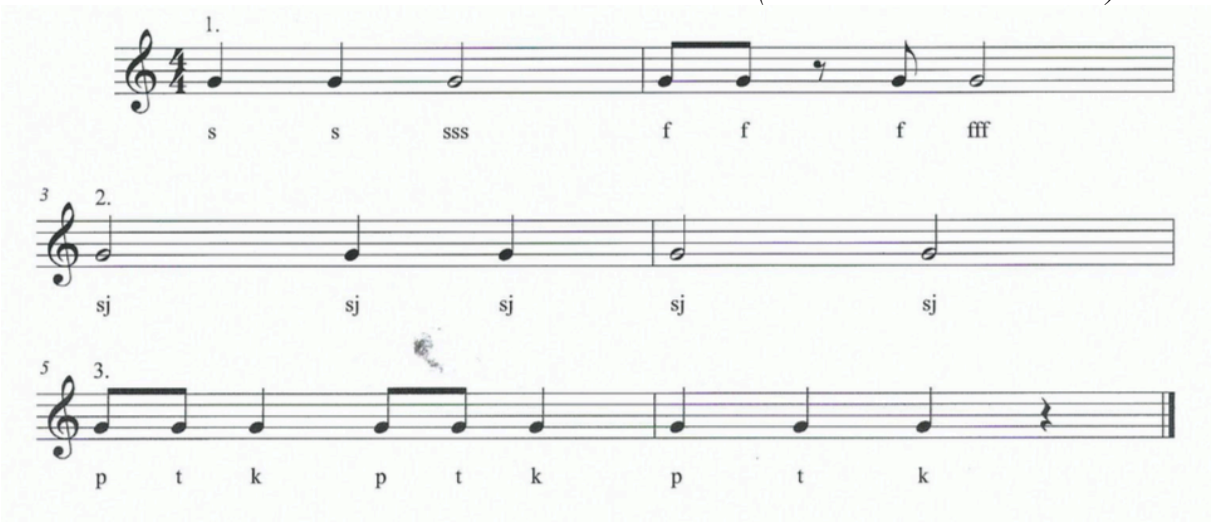


Sing the song and walk the beat.
Sing the song and clap the rhythm
Sing the song and make an air drawing from the melody contour.
Find out on the horn, start with C.
Which 3 notes we have to use? C D and E.
Sing the song on playing names and make fingering on the horn.

Melody, beat, meter
Rhythm, polyphony

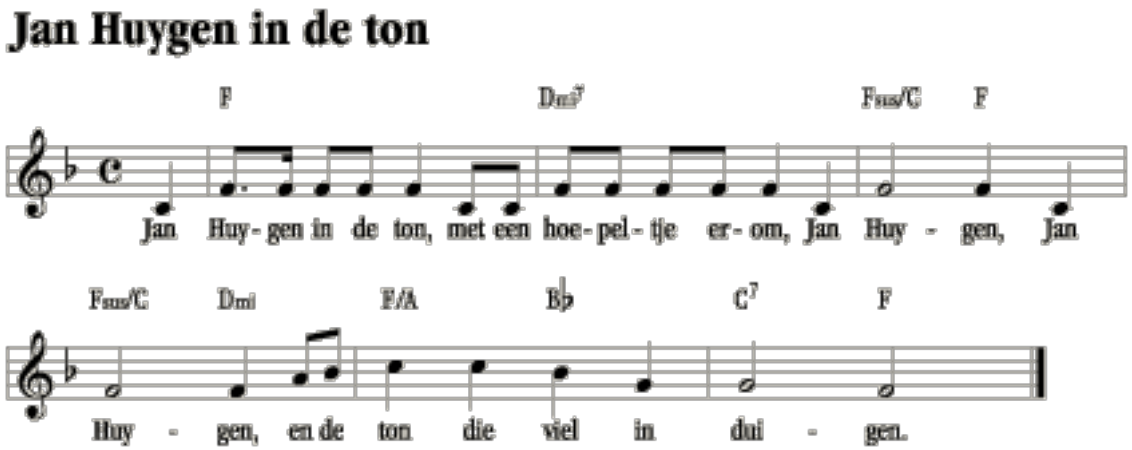
Lesson 26 **Learning about:**

Ademcanon. *(From: Leonore Zurwerra)*

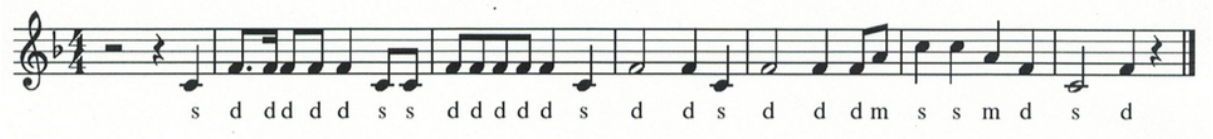


Breathing; Ademcanon. Breathing, polyphony
Also in canon.
Buzzing Mouthpiece: Mahler 1 Inner hearing, Memory
Part playing: frasing. Frasing

New song: Jan Huygen in de ton. *(from:kinderliedjes.overtuin.net)*



Natuurtonen lied: Jan Huygen in de ton.

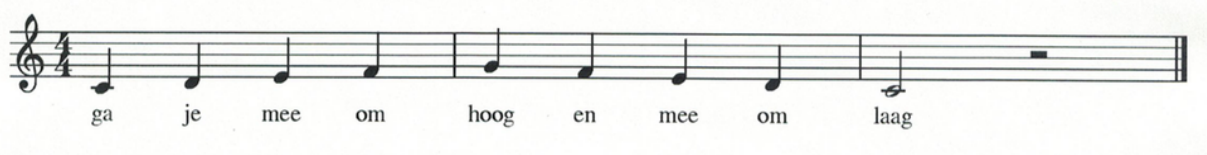


Sing the song with clapping game. Melody, meter, beat
Sing the song and make an air drawing from the melody contour.

Sing the song on singing names with handsign. Solmization
Sing the song clap the rhythm.
Sing the song on takadimi language and clap the rhythm. Takadimi language
Teacher plays the song, listen and put up your finger Listening
when you hear the siren in the song s-d.

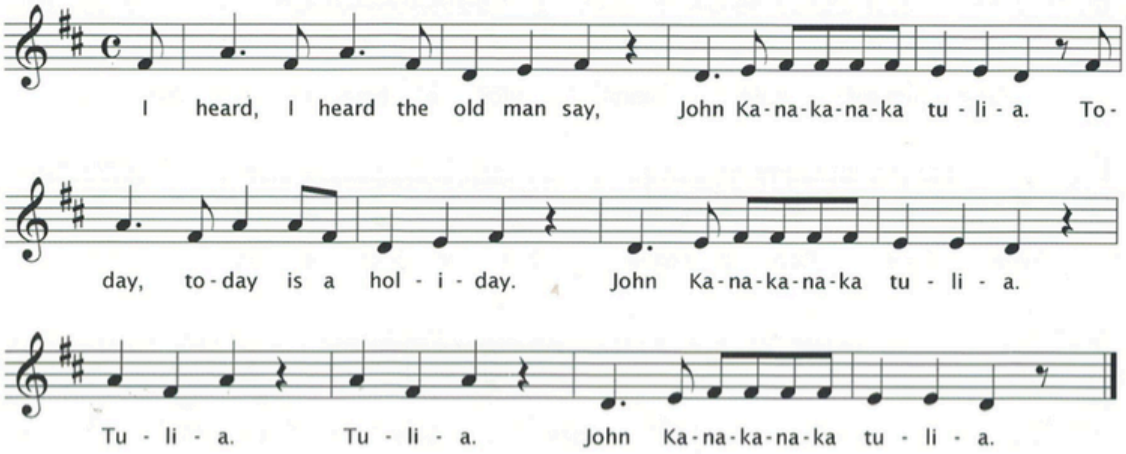
Find out the song on the horn: F=Do.
But does the song start on do?
Transpose the song with 2nd valve and 1st valve.

Song; Ga je mee omhoog en mee omlaag.



Play the song on: C,D and E flat =do

Song: John Kanaka
(From: Singing games and Rhymes for Middle years-Lucinda Geoghegan)



Sing the song and walk the beat and clap the rhytm together. Melody, beat,rhythm,polyphony

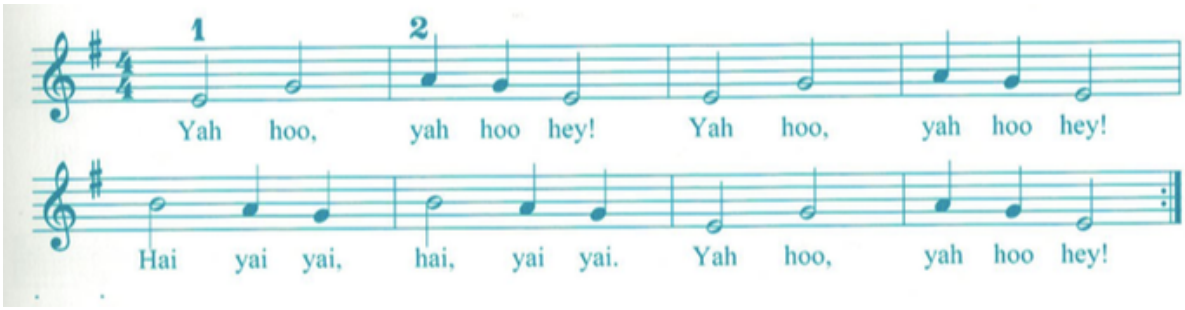
Sing the song on singing names with handsigns. Solmization
Sing the song on takadimi language. takadimi

Play the song on D=do
Part playing: Frasing
Teacher plays question
Student plays awnser: John kanakanaka Tulia
And switch.
Make own awnser with the same notes.

Play the song while teacher plays another song. Polyphony, listening

Which song do you hear? Hi Lo Chickalo in Quod libet.
Play both songs.
New: Find out the song on: E flat=do

Song: Yah Hoo hey. *(From: Come follow me-Jan Kruimink)*



Sing the song, clap the rhythm, walk beat. Melody, rhythm, beat.
Sing on takadimi language. Polyphony, takadimi

Code game; teacher claps code: play the code and tell the code. Pre -notation
Tell the takadimi language.
2 codes after each other.
| | ⊓ | = deze klap je niet
| ⊓ | | = stamp met je voeten
⊓ | ⊓ | = tik nu hier tik nu daar
⊓ ⊓ ⊓ | = met je handen op je hoofd.
⊓ ⊓ | | = tik nu op je schouders

Flashcards: this codes read from the flashcards. Practice notation
Clap, takadimi and play.

Ga je mee omhoog.
Play in d=la (minor)

Mahler 1: Vader jacob. Melody, beat,rhythm, meter
Sing the song, walk beat, clap rhythm. Polyphony
Sing on singing names, with handsign. Solmization

Play on d=la.
Part playing with teacher.
New: e=la.

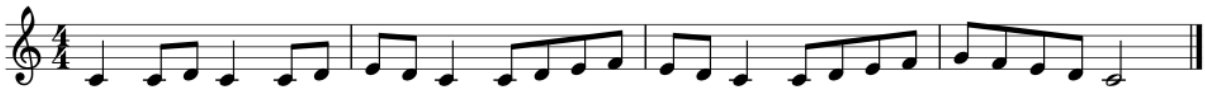
Appendix 9: Steps Musical Literacy in practice.

Effect of the melodic steps from chapter 5.3 in practice at BASIS 2.

Ad1: Sound-Visual
Feeling high and low on the body is a step that will be discussed right from the beginning at BASIS 1. At BASIS 2, repeat this step with the next song to make a connection to step 5; Visual spots. In this case, therefore, a link to the singing names has also been made immediately because they are already known from BASIS 1.

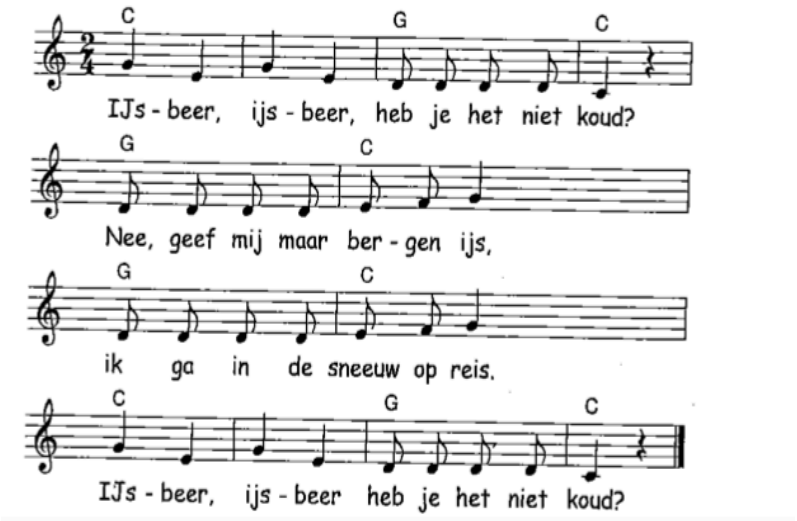
Source?

Doredo lied



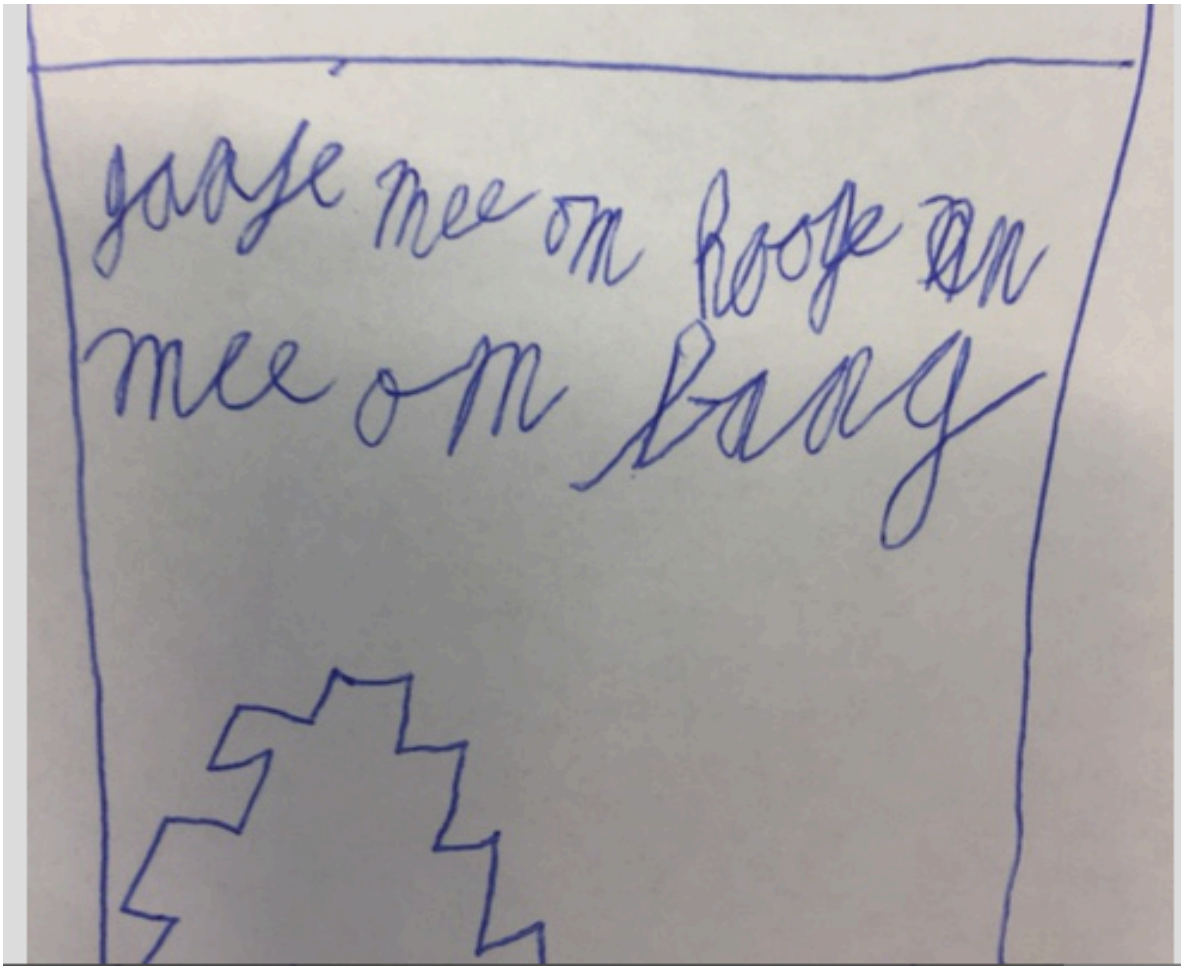
Singing the doredo song with singing names with movement on the body.
First, learn the song without movement. Then replace a certain singing name to a movement (singing with the "thinking voice") so that it is linked to inner hearing of this sound. If the children can keep singing the song after this tone with the "thinking voice", their inner hearing is correct. Replace more and more tones to a movement, eventually the whole song can be performed with movement only.
Do=stamp feet
Re= clap upper leg
Mi= clap hands
Fa= knip fingers
Sol= tap shoulders

The teacher takes another known song with the same tone material d r m f s and does the movements. In this case, the song Ijsbeer The students sing the correct singing names at the movement and discover the known song. They can then sing them with hand sign. These songs are then played on the instruments. In addition to having a lot of fun, inner hearing is approached from different sides. From a movement on the body, from solmization with hand signs this can be connected to the instrument.

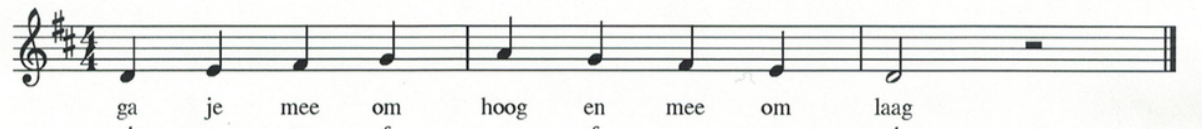


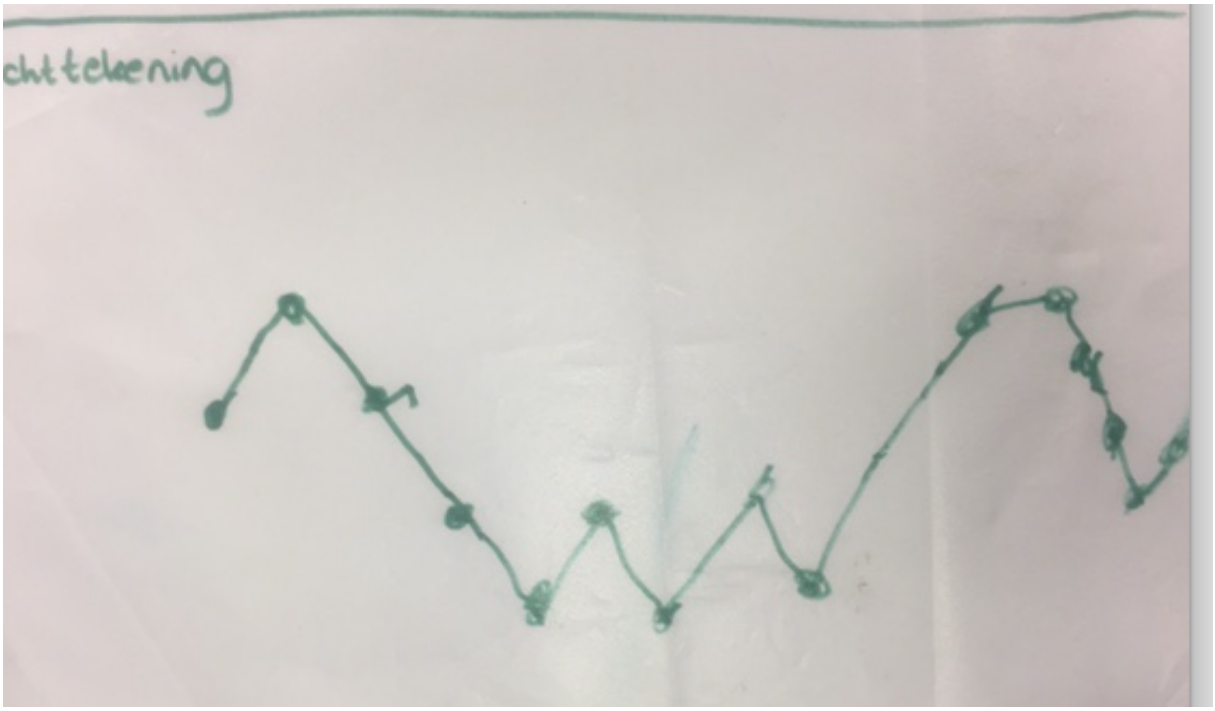
Ad2: Melody contour
With a song, the melody contour is drawing in the sky, a step we've been doing right from the start. Actually taking this step throughout the whole process of learning to get to know the songs. This is about the melody contour in terms of high and low, but also about the phrase and the shape of a song.

Ad3: Graphic notation
We did not take this step at BASIS 2, but we did this step with my first year students. Both at BASIS1 and at Scholen in de Kunst. The students come with interesting drawings of a song in which you can deduce the melody contour.

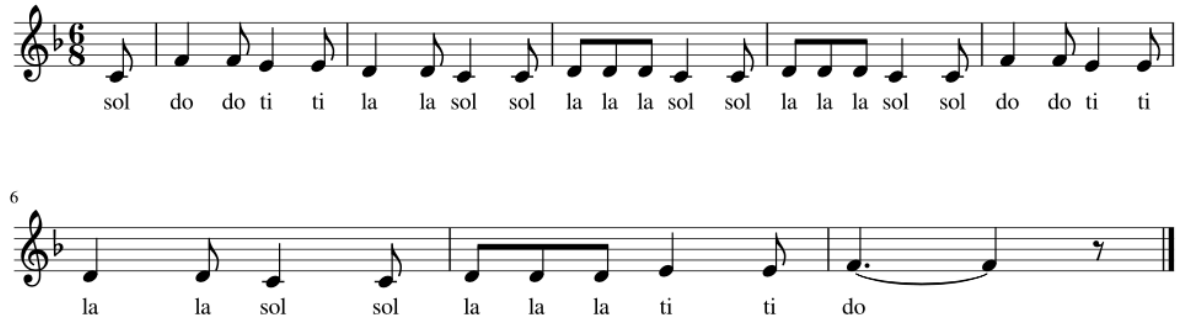


Picture made by Fosse from the song: Ga je mee omhoog en mee omlaag.





Picture made by Jan Jaap from: De Stoker en de machinist



At the blazers plus klas in Amersfoort, the students themselves put down their own melodies with the spots, which they could then play on the instruments. In this you could see that everyone had a different approach to reading this score. The one could walk on the spots while playing on his instrument, but it was still difficult to translate the height of the spots to a sound high and low on the instrument. The other passed the spots and counted the amount to play the melody.

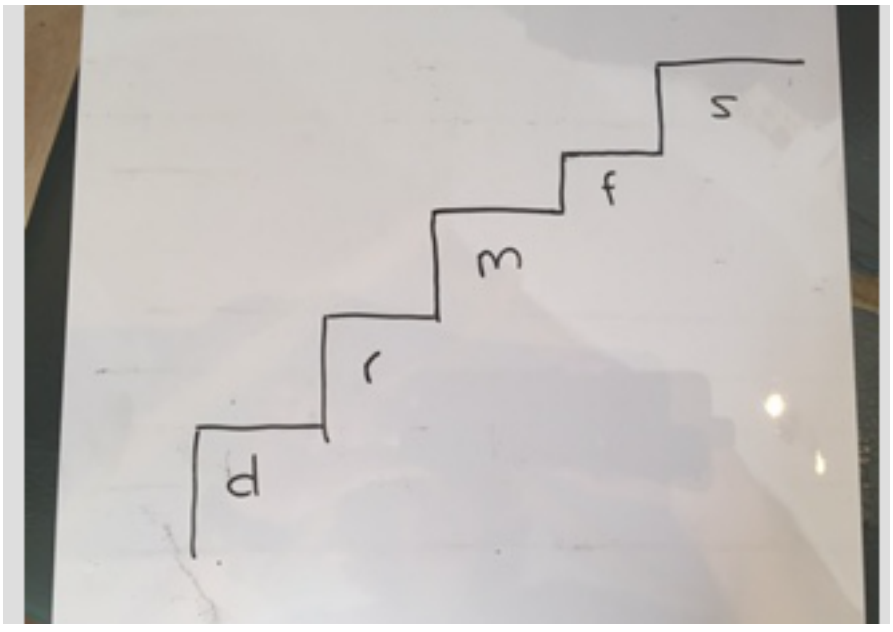
Ad4: Hand signs and solmization
BASIS 2, of course, knows all the singing names from BASIS 1, these are used for all songs.

Ad 5: Visual spots
From the well-known doredo song, the spots were laid on the ground with a clear halfway between the mi and the fa. In this we sung a song to raise awareness of these distances

do-re hele stap	sol-fa hele stap,
re-mi hele stap	fa-mi halve stap
mi-fa halve stap	mi-re hele stap
fa-sol hele stap	re-do halve stap

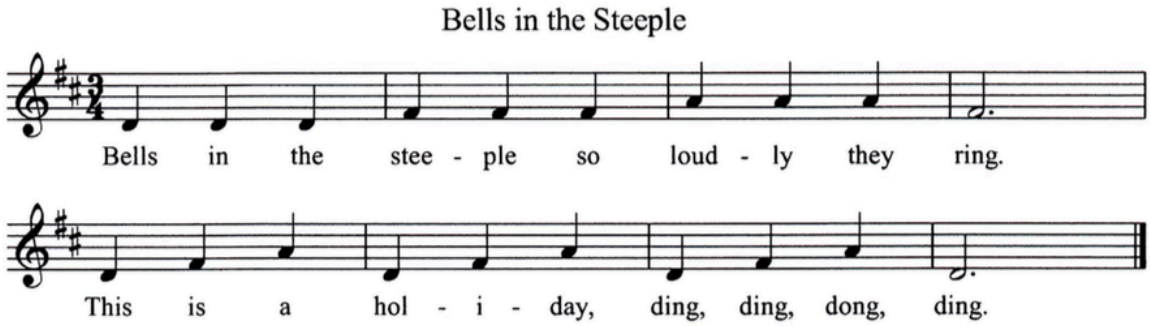
Now the students can play all sorts of 5 tone songs with the spots, and the other students sing the singing names and guess which song it's. .

Ad 6: Stair
From the spots introduced the stairs on the board. Clearly visible the whole and half distances and this again linked to the song from step 5.

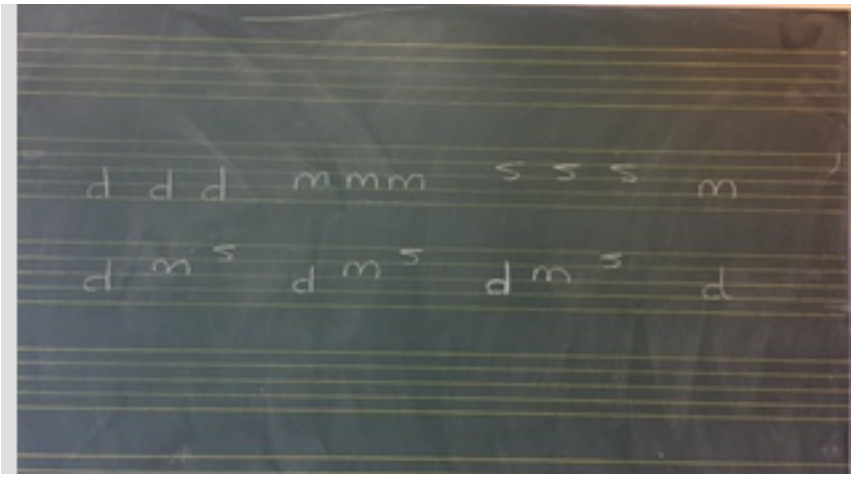


Point out known songs on this stair and sing and play on the instruments. But also use unknown melodies and sing and play. At this step, a lot of work has been done with the song Bells in the Steeple: a do-mi-sol song. This song is already known from BASIS 1 and is always used in the following steps.

From:Singing Games and Rhymes for Middle years. By: Lucincda Geoghegan.

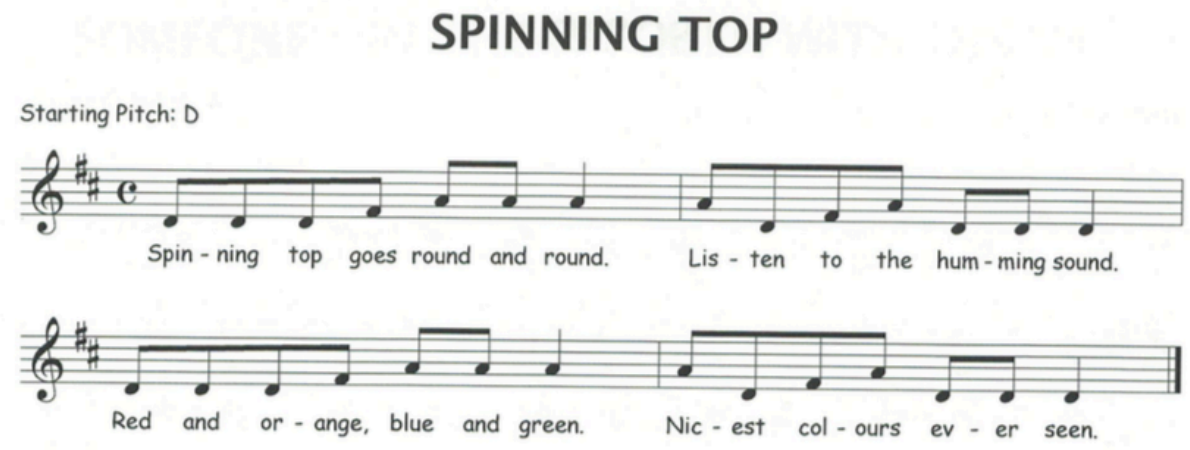


Ad 8 d-m-s visual
In practice continued with step 8 first, and then step 7.
The well-known song Bells in the Steeple is placed on the plate at different heights. The students sing the song from the plate with the hand signs. Immediately the hand staff is introduced in this step. Then changing the song a bit and sang again from the board.
Then playing on the instruments in the BMO B lesson.
Changing the song turned out to be a difficult step. Some children are not used to reading, so they looked the other way. Other children, inner hearing has not yet been developed sufficiently.

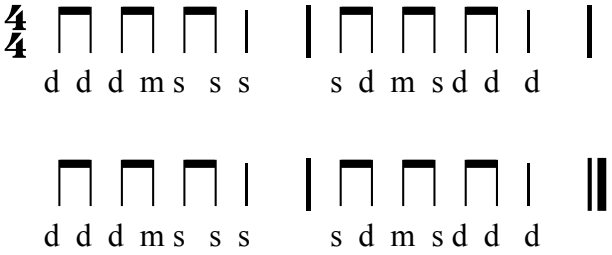


Ad 7: Rhythmic sol-fa symbols
Now rhythmic and melodic notation comes together. For this reason, the children learned a few lessons before the song Spinning top. This is another do-mi-sol song with well-known rhythm patterns in it. Note: The start of the rhythmic notation has been before which I do not participate in this research, so from this step the rhythm of this song has already a familiar image.

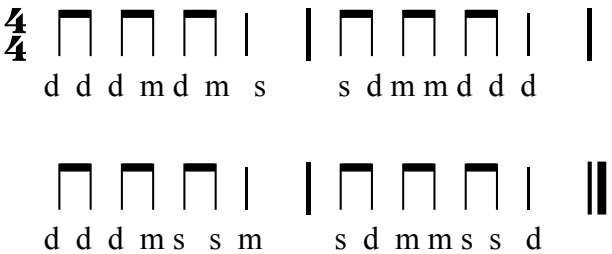
From:Singing Games and Rhymes for Middle years. By: Lucincda Geoghegan.



From the known song, stick notation was made with the singing names below.

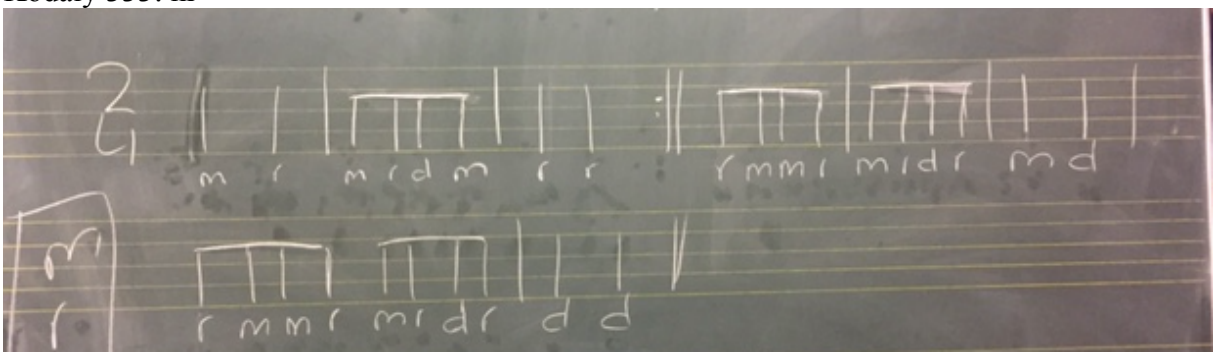


Learning the reading from stick notation by means of:
Clap metrum and rhythm and singing on takadimitaal.
Clap all the rhythm.
Just show d-m-s preparing from the stairs on board.
Sing the stick notation from what's on the board. Then the singing names change under the stick notation so it becomes another melody. Both singing in the BMO A lesson and playing on the instruments in the BMO B lesson.



Same step with new material like: Kodály 333 exercises. Prepared as described above, singing as well as playing. After that, all kinds of games have been done like: Reversal, boys sing mi, girls re, teachers do etc ... (practice)
This showed that this step requires a lot of practice to connect the reading and sound relationships.

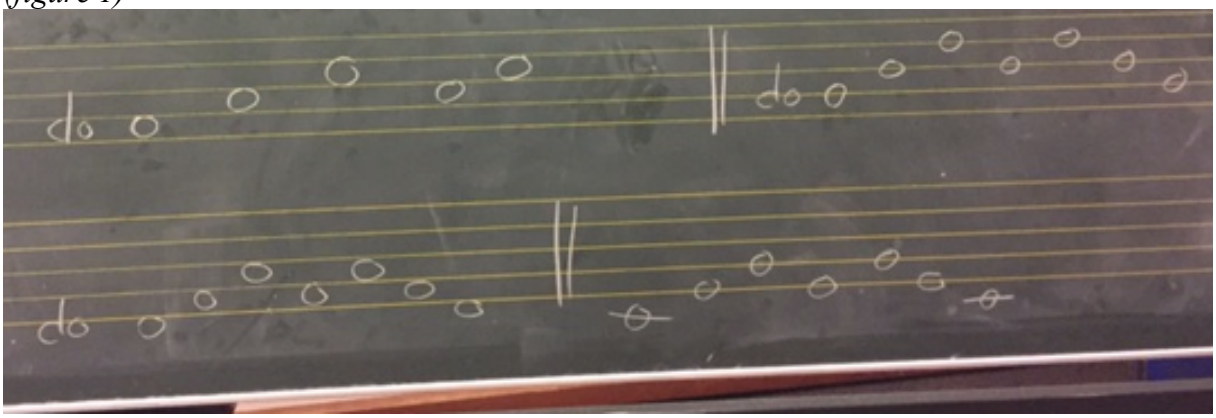
Kodály 333: nr



Ad 9: Hand staff
Introducing the hand staff. Sing the song Spinning top on singing names, then designate on the hand staff. Putting the do in different places on the hand staff.

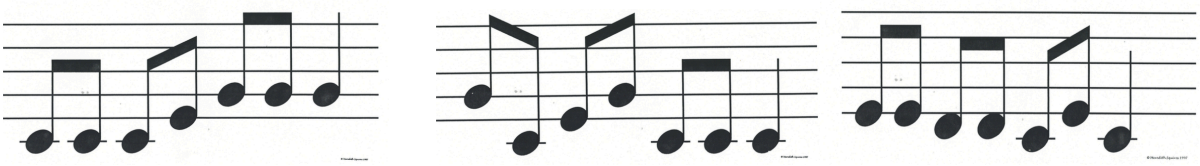
Ad 10: d-m-s on the staff (do clef)
Staff on the board without clef. Showing Do-mi-sol on the staff. Singing on absolute pitch and these connected to the hand staff. After that, the position of the do moves, and sing on absolute pitch. Worked with the following images. (figure 1) Students discovered themselves as the do move where the place of mi and sol comes. Both singing and instrumental. Hereby the instruments find the do on their instruments by copying the sound of the piano. Notes are not further named. It is important not to notate the do always into absolute pitch sound so the transposing instruments learn to read the right image to the sound as well. This is important for the step towards absolute note names.

(figure 1)

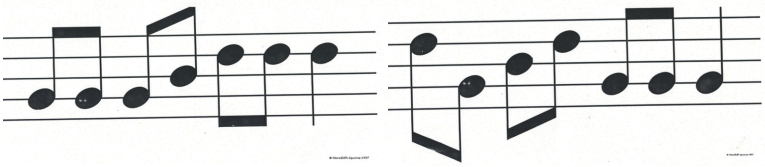


Ad 11: d-r-m-f-s on the staff (do clef)
Staff without clef using diatonic series. From the stairs, make this step to the hand staff and then on the staff. Again work with the same image than in step 10.

Ad12: Melody and rhythm on the staff (do clef)
Putting the song Spinning top on the staff. Using rhythm, metrum and pitch.
Practice: With the flash cards worked with the song Spinning Top, using different pitches, but also changing the end of the song. For example:

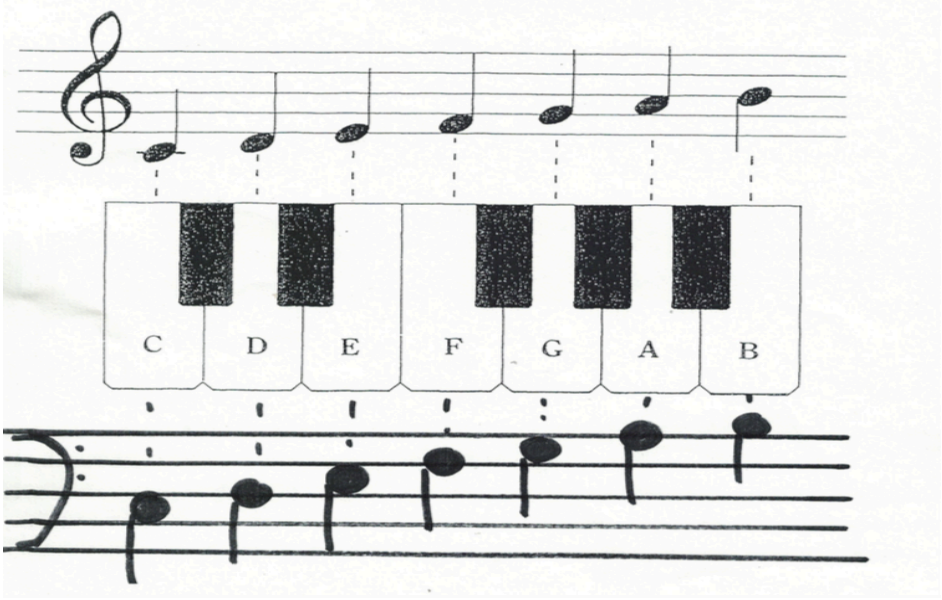


Changing do

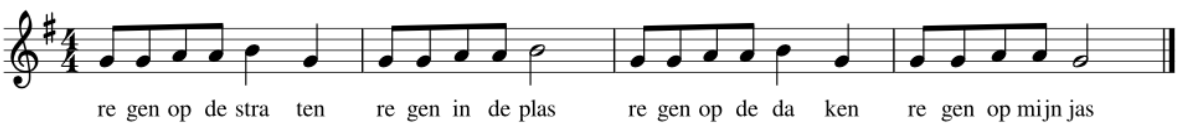


This step singing on absolute pitch notation: C=do and G=do
Playing on instruments: Finding the do from the sound of the piano, not yet give it a playing name on the instrument. The children can play it easily because for them it is d-m-s and that is what they translate to their instruments.

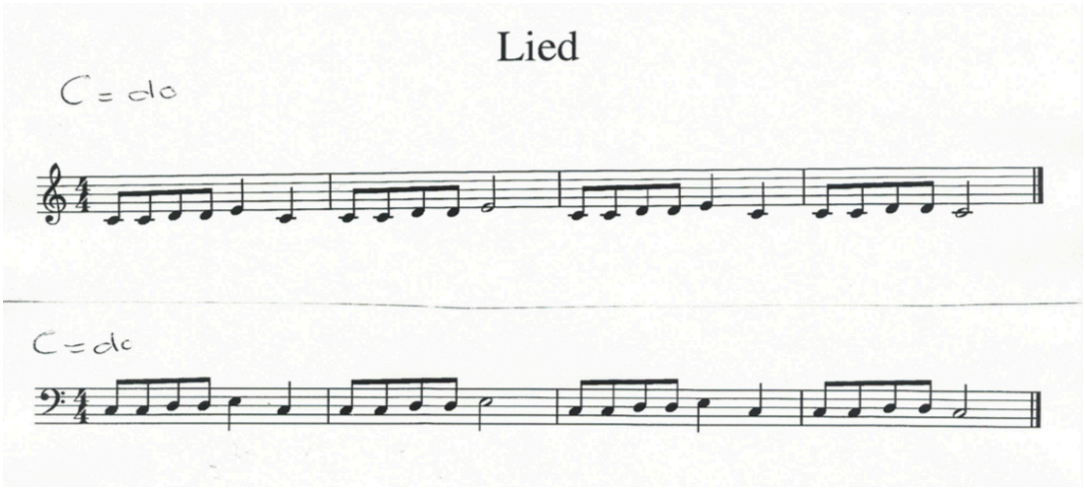
Ad 13: Absolute note names on the staff
Introducing the clef. Using this worksheet with imaginary piano to make this step. G and F clef reading and singing on absolute pitch. Reading the G and F clef and singing on absolute pitch. Using the song from step 5, with whole and halve steps. Singing and pointing on the imaginary piano and on the staff. Also make a translation to the hand staff.



Now this step translated to a well-known song: Regen op de straten.

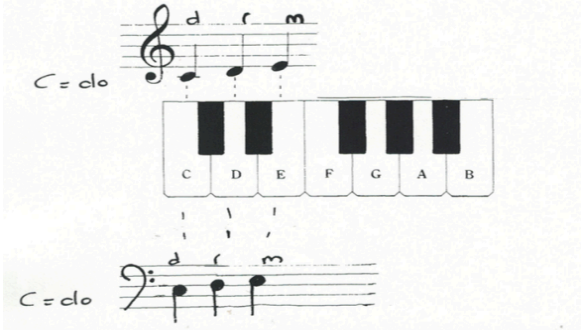


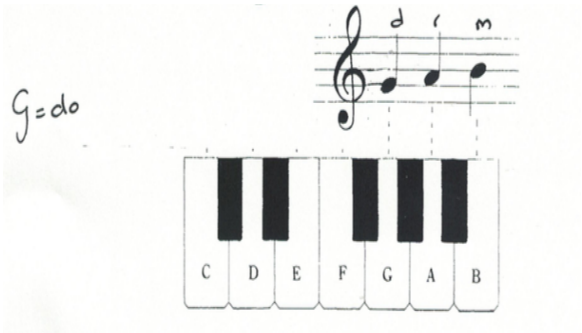
Singing this song on singing names and absolute note names. For the children this is called playing names, so that a connection to the own instrument is created.

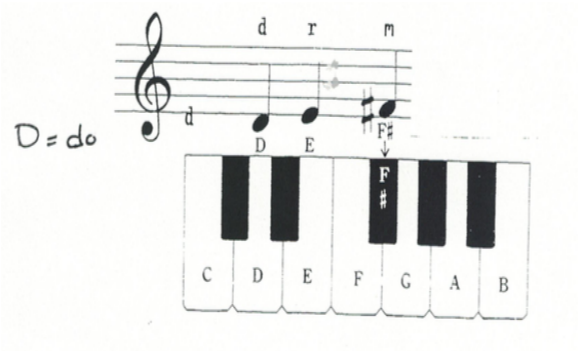


With the instruments simultaneously playing this sheet music, the children discovered that the sound did not match when the instruments where playing together. They discovered that some instruments had to start on another do.
With the following worksheet (figure 2) introducing the new do. Which means we need key signatures. The children automatically sing the right letter names. For example: when they knew the D was do, they song the F sharp. Then the teacher explained how this looked like in the sheet music.

(Figure 2, idea from book: The Kodaly way to Music: Vaijda)

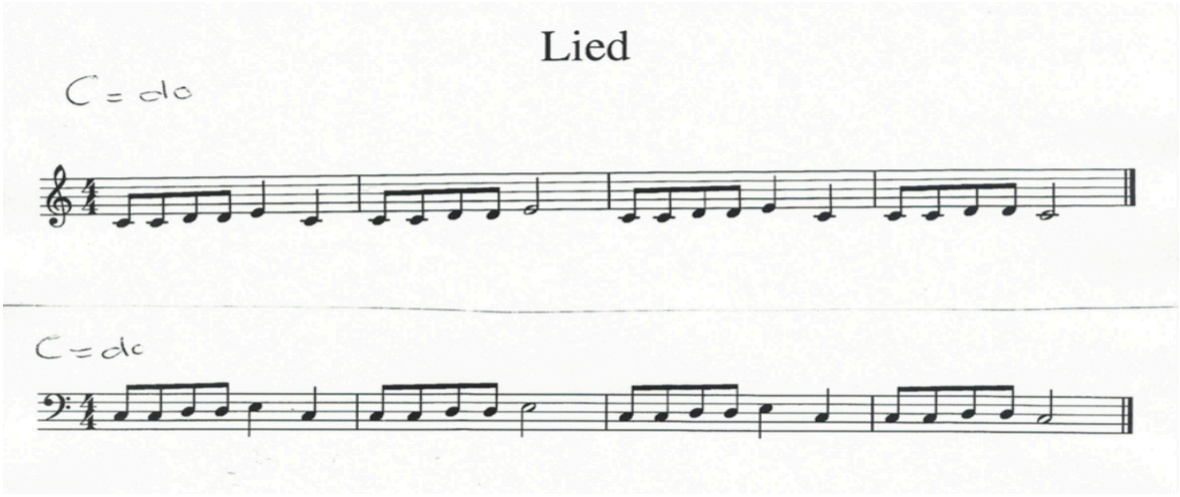




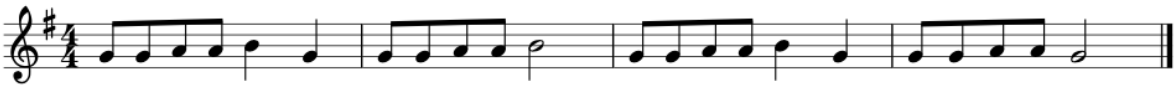


The same song; Regen op de straten now reading and singing in different transpositions from the sheet music. In the BMO class, we did an experiment. The various transposed sheet music was distributed randomly. Students discovered that the sound still did not match together. They swapped the different sheet music and listened and swapped just as long as the sound was right. At the end there was one sound and each player had his one unique sheet music.

Flute, Oboe C=do in G clef
Horn = G=do in G clef
Clarinet = D=do in G clef
Bassoon = C=do in F clef



Horn: G=do



Clarinet; D=do