



# Musical Intelligence



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# Musical Intelligence



## Why is music so important in our lives?

Music touches the heart; it makes one happy, sad, upbeat or relaxed. It touches us on an emotional level and influences our mood.

People with a strong musical intelligence easily learn to play an instrument because they can hear and repeat rhythm patterns and pitch. They also have a strong long-term memory and can play whole compositions without reading the score. They might hum as they think and move their body as they read. Asking someone with a strong musical intelligence to sit still and to be quiet is not an aid to their concentration but an obstacle.



Music theory is closely interrelated and linked to mathematics. Therefore the intelligences of music and mathematics compliment and stimulate one another. Some teenagers have music on whilst they are studying. For them this is a stimulation and aid to remember other facts. A quiet and still study room is not for everyone.

Some rhythms produce enzymes in the brain and add to a sense of well-being. These enzymes aid the ability to focus, can reduce stress, and can awake feelings of empathy and love. They can also increase productivity. With music as part of daily life, people who are sensitive to sound perform and feel better.

## Strengths and characteristics of Musical Intelligence:

People who have strong musical intelligence are good at thinking in patterns, rhythms and sounds. They have a strong appreciation for music and are often good at musical theory, composition and

performance. Localised in the right hemisphere of the brain, the musical intelligence's grasp of subtlety and complexity is virtually unlimited. A musical child thrives best when music is part of their daily life. Activities such as singing, listening to music, dancing, playing an instrument should be part of their every day routine!

People with a strong musical intelligence:

- Enjoy singing and playing musical instruments
- Listen actively
- Can communicate through music/rhythm in ways that evoke pleasure, surprise and moods.
- Recognise musical patterns and tones easily
- Are good at remembering songs and melodies
- Have a rich understanding of musical structure, rhythm and notes
- Have a musical memory; remember in relation to sounds, patterns, songs, and moods.
- Have a good voice, can sing in tune and enjoys singing together with others, thus forming harmonies
- Can create atmospheres for scenes
- Love performing
- Can use music to evoke a type of mental satisfaction and harmony independent of rational thinking



# Music and the brain

**Dr. Howard Gardner, who introduced the idea of the eight intelligences, deconstructs the musical intelligence into three areas. Firstly, he identifies the technical aspects of music that include rhythm, pitch, harmony, and timbre. Secondly, he sees a more mysterious, emotional, and creative power of music. Finally, he presents music as a constructor of logic and describes the processing as "logical musical thinking".**

The human brain has two halves, the left and the right hemisphere. Traditionally experts have argued that most of our logical, analytical and strategic thinking happens in the left hemisphere and that this is the only side we need to develop. The theory of 'Phrenology' by Orson Fowler is a very good example of this. Consequently in traditional education academic subjects take 80% of the school day and creative subjects only 20%. But

thanks to a lot of recent research we know that a creative problem solving human being needs equal strength in both hemispheres of the brain. The left and the right side of the brain need a continuous cross over between the two halves.

Musical abilities are located mostly in the right hemisphere, however trained musicians are likely to draw upon the left hemisphere. This is proof that through the right side, the left side is also significantly developed and stimulated. This cross over of brain functioning is the reason behind the concept of logical musical intelligence. Music affects logic; music affects math; and music affects language!

Let's look at some 'cross fertilisation' between musical intelligence and linguistic intelligence. Some examples:





- Rhythmic, tonal qualities of words have long been associated with music. Music originates in dance, song, and gesture, places where speech and writing also have deep roots. The spoken word is a form of music. Spoken language follows different rhythms and patterns. It can be called the 'dance of language'.
- Poems and expressive writing are related to rhythm and draw upon the same powerful communicative abilities as music does.
- A complex piece of writing must hold in suspension a variety of elements; this is a task, which can be difficult for the logical mind, but easy in music.

When a child has a strong musical intelligence, it can be used as the entry into his/her inner core. It helps build the child's self-esteem and inner strength. By doing this, the child will be less reluctant to work on lesser-developed aspects of learning and thus open up more. Therefore music needs to be an equally important element at school (and ideally at home) to all other subjects!



# How music lessons enhance intelligence



Researchers have found reasons how music instruction can influence intelligence. Schellenberg (2005) and (Shlaug et al 2005) came to a variety of conclusions:

- The interaction and lesson requires focus
- Music notation is learned. This requires decoding similar to learning to read
- The codes are translated into precise motor patterns, thus developing a motor-memory
- The student learns to apply rules of pattern formation
- Music enters through the ear and is consequently memorised
- The child learns to feel and understand ratios and fractions in the shape of quarter notes which are half as long as a half note, and so on.
- Children learn to improvise within a set of musical rules, learn to 'play' within a base of knowledge.

When playing an instrument, including the voice, the brain is working at a high level of functioning which supports abstract thinking, analysing and synthesizing. According to research done by Glenn Schellenberg (2006) it influences other **cognitive tasks** such as:

- Visual-spatial skills
- Abstract math abilities
- Perceptual organization
- Reading skills
- Vocabulary retention
- Verbal abilities i.e. translating thought into sounds
- Memory in general

Thus music forms an entry into the abstract functioning of the brain and therefore has a long-term effect.

# Music at the International Montessori School

In many school systems, music is seen as a subject of less importance. The time and resources allotted to it as a subject is small in comparison to other topics. In some cases, music has been entirely eliminated from the curriculum when budgets are tight. Due to the importance of the development of all intelligences and the effect they have on each other, at our school we dedicate an equal amount

of attention to each intelligence. Therefore children can play an instrument from three years onwards. From six years onwards it is included in the daily routine and every child joins the Music Vivace group or plays a specific instrument.

Music Vivace dedicates attention to rhythm and melody. Percussion instruments are used to get the basic feeling of different rhythm patterns. Additionally, a range of other instruments are introduced, thus giving the children exposure to a wide variety. It is a good introduction to musical conventions and creates a strong foundation to then specialise in a specific instrument.

Attention is given to all aspects of music:

- Rhythm
- Pitch
- Melody
- Composition
- Music notation
- Music history - research projects on composers, style, genre, cultural differences, effect on society and so on
- Performance skills
- Listening skills



# Exposure to music in the classrooms

Music is performed in the classrooms on a daily basis with the younger children and topic related with the older students. There is a specific set of Montessori materials that help children recognize pitch and also teaches music theory. Eventually the child can compose their own music pieces. In the Children's Houses these are called 'The bells' and in the Primary this continues with the 'Tonebars'.

Each Toddler Community and Children's House

also has a basket with a variety of percussion instruments. The instruments represent different cultures and also different sounds depending on the material it is made. The instruments are used during the daily music sessions.

The following list gives an idea of the variety of activities that happen in the classrooms. These are listed in progression from younger to older children:

- Song repertoire: The Toddlers and Children's House Children sing nearly every day. They have a session of 'action songs' before they go and play outside and sometimes again in the afternoon. They build up a song repertoire and share part of this with the families during their yearly Sing-along.
- Teachers organize rhythmic movement to music,
- Rhythmic clapping exercises
- Dance
- Listening to music styles and genres
- Listening to the instruments of the orchestra
- The bells and tone bars are initially used for isolated exposure to pitch; matching and grading
- Notation is done with sensorial materials related to the bells and tone bars
- Language exercises related to names of notes and other musical symbols
- Primary and Middle School songs are often in relation to other topics in their curriculum
- Rhythm is presented with percussion instruments
- Musical notation in relation to rhythm is presented with symbol cards
- Research on life and work of different composers
- Music as part of the performing arts takes a more evolved shape in Primary and Middle School; children write plays, make costumes, develop choreography, dance and choose and perform music alongside these other theatre activities.



# Exposure to instruments by the music specialists

## Children's Houses:

Children's House children can follow instrumental instruction of the violin with the violin specialist. These sessions include:

- Introduction to the violin,
- Fine motor skills through handling of the instrument and bow
- Learning to read notes in relation to the instrument
- Learning to listen
- Rhythm and melody
- How to work together, play together
- How to perform

Children take music sheets home to practice. Families can get involved and have scheduled music enjoyment sessions at home. Violins can be purchased privately or rented from school.

## Primary:

All students receive music lessons from one of the specialist music teachers. Depending on their focus instrument, repertoire, and performance preparations, children go individually or in small groups with the teacher. During these lessons the students receive instrument instruction together with other activities such as music theory, listening and composing.

The choices available to the child are:

- 1) 'Music Vivace': Exposure to a combination of instruments for groups of children. For this, Orff and other percussion instruments are used and



children are initially exposed primarily to rhythm. This naturally leads into melody with instruments such as recorder, violin, guitar and piano.

Children's natural leaning toward a focus instrument, will then shine through, after which they leave the 'Music Vivace' group and join

specific Piano, Violin or Guitar instruction groups.

- 2) Violin Instrumental Instruction with the specialist teacher as described under Children's House.
- 3) Piano Instruction offering an in depth approach in learning to play the piano and many components such as: music theory, study of different composers, listening activities and percussion accompaniment. Children receive compositions that are ideally also practiced at home on a piano or keyboard.
- 4) Guitar instruction is available to students from age 10 onwards. The children bring their own guitar to school. They receive individual and groups instruction depending on the child and

the happenings planned. They become part of performances for other children in the school and slowly but surely can also play a part in the theatre productions.

Violins can be purchased privately or rented from school. We have all sizes available!

## Upper Primary and Secondary students:

In Upper Primary and Middle School, all children play a focus Instrument. This can be violin, piano or guitar. They usually practice in small groups and combine in different group settings to come up with surprising results.

Music theory is included in the sessions and stage performance and planning is part of the teamwork.

At this stage we advise all families to purchase their own instrument. The school has a number of violins for hire for families who are not sure of their choice yet. Guitars present are only for in-school use.



# Theatre Productions

Both the Primary and Secondary sections create beautiful theatre performances. These are staged every year at the end of May. All students are involved in different components. This can be:

- Script writing
- Character research
- Prop making
- Stage management
- Costume design and making
- Dance choreography
- Choir singing

- Make-up design and application
- Light and sound design and crewing
- Performance of song, dance, act, and play of an instruments

These theatre productions are creative products of the team of teachers and the students together. The children develop and/or strengthen many skills as the process is going along. Performing arts helps the personality to integrate and provides lots of enjoyment in the learning process!



## Suggested reading:

### Internet:

[www.mypersonality.info/...intelligences/musical](http://www.mypersonality.info/...intelligences/musical)  
[www.parentingscience.com/music-and-intelligence](http://www.parentingscience.com/music-and-intelligence)  
[www.brainleadersandlearners.com/multiple-intelligences/musical/the-brain-on-music](http://www.brainleadersandlearners.com/multiple-intelligences/musical/the-brain-on-music)

### Books available in the Parent Library:

#### By Thomas Armstrong:

- 'In their own way, Discovering and Encouraging Your Child's Multiple Intelligences'
- '7 Kinds of smart'
- You're Smarter Than You Think: A Kid's Guide to Multiple Intelligences

#### By Maria Emma Willis M.S

- Discover Your Child's Learning Style: Children Learn in Unique Ways - Here's the Key to Every Child's Learning Success

#### By Carol Barnier

- The Big What Now Book of Learning Styles: A Fresh and Demystifying Approach

#### By Jeanne Bamberger

- The Mind behind the Musical Ear: How Children Develop.

