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FMT, Intrinsic Motivation and Self-esteem

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Utbildningen i Funktionsinriktad Musikterapi (FMT)

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Abstract

This essay presents a brief history of Music Therapy and describes the background, method and thinking behind Functionally-oriented Music Therapy – FMT. The essay includes two case studies describing my work with two clients during the last year of my training to become an FMT therapist. The topics explored are *intrinsic (inner) motivation and self-esteem* in the context of functional development in school children. The research question for the essay is to discuss whether Functionally-oriented Music Therapy can assist school children to rediscover their inner motivation and increase their self-esteem.

FMT encourages brain activity through sensory stimulation, movement and play – without verbal instruction, critical evaluation or praise. The FMT therapist meets the client with knowledge, understanding and unconditional acceptance of his/her present level of physical and mental function and with the intention of creating opportunities for development at every level. I have found that the work and approach used in FMT can play a vital role in helping school children towards increased inner motivation and self-esteem.

Keywords: FMT, Functionally-oriented Music Therapy, Intrinsic Motivation, Self-esteem, Sensory Integration
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1 Introduction

As a student of music therapy, a mother and a piano teacher I have become increasingly interested in the developing child and in education - both how we learn and teach. Writing this essay has given me a wonderful opportunity to explore the subject and to further my understanding of the processes behind motivation and self-esteem from a developmental and neurological aspect as well as from practical experience.

1.1 My background

I grew up in a music loving family in Sweden. My father played the guitar and my mother always sang; nursery rhymes with us children, pieces for her choir practice, jazz standards, folk songs and popular melodies from the radio. As well as singing in choirs and other music groups, I have played the piano since the age of seven and was fortunate from the start to have an intuitive and understanding piano teacher. He tuned in to my mood and motivation, especially during my teenage years and if this had not been the case, I might have discontinued my lessons much earlier. Instead, Jan-Erik Törngren was my teacher for 13 years and I only gave up piano lessons when leaving my hometown to move abroad. It was empowering to have the support and encouragement from a teacher and yet be allowed to progress at my own pace. My motivation to practise faded at times but he pretended to ignore this and suggested instead that we played some easy pieces or simply talked about music in the lessons. However, during periods of high motivation, he pushed my playing quite hard and encouraged steep progress. When I left Sweden and moved to London at the age of 20, I brought my electric piano with me.
My professional life in London has been varied: I have worked as a secretary, PA, TV presenter, TV production assistant, voice-over artist and piano teacher. When I was pregnant with our first child and left full time employment, I began taking piano lessons again. My new piano teacher came highly recommended and was sensitive to my situation and needs as a mother-to-be and later as a mother of young children. She understood the therapeutic power of music and shared her knowledge and experience in a simple and careful manner as well as making sure every stage was understood before progressing to the next stage.

It was Judith Richardson-Chapple, my new piano teacher, who suggested that a teaching career would work well with family and school life as well as give depth and further understanding towards my own piano practice. After passing Grade 8 piano exam and a AMusTCL diploma in piano teaching I began my teaching practice at home in 2001. As suggested by my dear teacher and friend, teaching made all my previous musical experience come together and my work still gives me many hours of joy every week.

In my late teens I began collecting books on subjects such as *music and the brain*, *music of the spheres*, *music and healing* and *the psychology of music*. I enjoyed reading the books but only recently made the obvious connection to study these subjects further and combine my teaching with music therapy at the end of my studies. It took me over 20 years to make this realisation and as a consequence, I have great respect for how very long a process can take to develop, mature and become a realized idea.
1.2 Aim and Essay Question

The aim of this essay is to introduce and describe FMT in the UK, primarily to staff and parents in primary and secondary schools. The topics I have chosen to explore are *intrinsic motivation and self-esteem* in the context of personal and educational development in school children. The research question for the essay is to discuss if and how FMT can contribute towards school children rediscovering their inner motivation and increasing their self-esteem.

1.3 Outline

The essay begins with a short history of music and music therapy, which leads to the chapter on the development of Functionally-oriented Music Therapy. There will then be a description of FMT, followed by a chapter on school children and Sensory Integration as well as a chapter on motivation. At this point I bring in my two case studies and the essay concludes with a summary and discussion followed by the final conclusion to my essay question.

For no specific reason other than to make the text flow more easily, I have used the pronoun *he* when referring to a client and *she* when referring to the therapist throughout the essay. In addition, the names in both my case studies are fictional.
2 Background

The World Federation of Music Therapy (WFMT) describes Music therapy as: “the professional use of music and its elements as an intervention in medical, educational, and everyday environments with individuals, groups, families, or communities who seek to optimize their quality of life and improve their physical, social, communicative, emotional, intellectual, and spiritual health and wellbeing. Research, practice, education, and clinical training in music therapy are based on professional standards according to cultural, social, and political contexts” (WFMT 23-03-13).

2.1 A brief history of music and music therapy

“The fact that music affects us on a deep level and leaves traces of sound within our souls and bodies long after it has ceased to sound, is as old as the story of music itself” (Ruud 2001 - my translation)

Nobody knows how old the story of music is but we know about the oldest reported musical findings: a bone flute from Neanderthal Slovenia dated between 43000 and 67000 years ago. In addition, there are cave drawings of musical shamans from early Palaeolithic times (West 2000, p. 51; Priestly 1975, p. 6).

In his book Moments of Warmth (my translation; Swedish title: Varma Ögonblick), Even Ruud refers to the notion which was prevalent for so many years throughout history from early Antiquity to present time: that body and soul need to be treated as one, both for mental and physical health. This holistic approach used to include healthcare prescriptions
such as art, culture and social life. An example of this is the archaeological excavation of the medical centre in Epidauros in Greece (600 BC). As well as buildings where the treatments were carried out, there are remnants there of a library, a concert hall, a theatre and a sports arena (Ruud 2001, p. 19–21).

Two hundred years later, in his book *Timaeus*, Plato also refers to the arts being part of medicine:

> Attunement, having motions akin to the circuits in our soul, has been given by the Muses to the intelligent user of the arts not for the mindless pleasure, as it is fashionable to assume, but as an aid to bringing our soul-circuit, when it has got out of tune, into order and harmony with itself.

The philosophies concerning the healing qualities of music were gradually pushed aside by more logical arguments and empirical observations. However, the musical philosophers tried to keep up with the advances of medicine and as soon as there was a new medical theory, they tried to secure a platform for the relationship between culture, illness, music and health (Ruud 2001, p. 23).

According to German historian Werner Friedrich Kümmel, there is plenty of evidence regarding the use of music to promote both physical and mental health throughout history. However, during the 19th century and the growing interest in science, the emphasis on studying the process of illness took over completely from the observations on how lifestyle and health was connected and not until the late part of the same century did music as a means of healing regain some ground again (Ruud 2001, p. 23).

In late 19th century Britain, the holistic thinking returned and there was a growing awareness of the need to treat the social and psychological aspects of illness as well as keeping up-to-date with advances in medical techniques. One of the pioneers in this field was Frederick K. Harford, a musician, composer and Minor Canon at Westminster Abbey.

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1 West 2000, p. 58
He was convinced that music was an effective form of treatment for certain medical conditions and when he had carried out some experiments, he published his ideas both through the medical and musical press (West & Tyler 2000, p. 376). Together with a group of violinists and female singers Harford formed The Guild of Cecilia (Cecilia being the patron saint of musicians) and the group performed in hospitals throughout London. As well as travelling around London with The Guild of Cecilia, Harford carried out experiments with selected patients where they were treated with music under the supervision of a doctor. The results were overall positive (West & Tyler 2000, p. 376; Bunt 1994, p. 3).

When Harford died in 1906, The Guild gradually died with him. An editorial in The British Medical Journal acknowledged that The Guild had been “useful in some areas, particularly in reducing fever and calming patients”, but doubted that music could ever become a recognised form of treatment (West & Tyler 2000, p. 377). Harford believed that:

• music has the power to affect patients in physical or emotional distress
• music is effective as a form of treatment, alongside medical intervention
• there needs to be co-operation between medical and musical professionals
• training is essential before undertaking the work
• the efficiency of the work must be established by systematic evaluation and the publication of research findings

Similar definitions and descriptions of music therapy are found today, more than a century later (West & Tyler 2000, p. 378).
2.2 Music Therapy in 20th Century USA and today

In 1919, Margaret Anderton, a British musician, set up a course in music therapy at the University of Columbia in America as a result of a growing interest in using music in American hospitals. Anderton specialised in treating orthopaedic and paralysis cases. Later, after the Second World War, the medical authorities, especially in the USA, wanted to develop facilities for their veterans returning from war and they employed performers and music teachers in their hospitals. There was a widespread scepticism within the medical and scientific fields regarding the influences of music on patients. This highlighted the fact that professional training in music therapy was needed in order to be able to assess and verify the results of their work. In 1946 the first full academic course in music therapy was established at Kansas University, Texas (Bunt 1994, p. 4).

2.3 Music Therapy in 20th Century UK and today

The first music therapy course in the UK was held at the Guildhall School of Music and Drama in London in 1968. The teacher was Juliette Alvin, a cellist from France. When Alvin married an Englishman and moved to the UK, she started to perform in hospitals and special schools. She also organised meetings and information groups for interested doctors and musicians. This subsequently led her to start her teaching career at the Guildhall School of Music and Drama. Alvin’s work was psychoanalytically-oriented and this approach was also used and developed further by Mary Priestly, who began her work at St Bernhard’s Hospital in Middlesex and later developed the method now known as Analytical Music Therapy; one of the two main music therapy methods practiced in the UK today (Bunt 1994, p. 4; West & Tyler 2000, p. 381; Darnley-Smith & Patey 2003).

The other of the two methods is known as a Music-Centred Approach or the Nordoff-Robbins Music Therapy. This approach started to develop when Paul Nordoff and Clive
Robbins met by chance in 1959 in a school where Robbins was a teacher for children with special needs. As a visiting musician sent on a research programme, Nordoff came to the school to improvise with the children and try to draw them into a relationship through the music. The aim was to assess any improvements to their conditions by using this method. The collaboration between the two men eventually led to the Nordoff-Robbins training course in Music Therapy. The first course was set up in London in 1974 when Nordoff and Robbins returned from their research trip to Philadelphia. They had worked there as part of a team in a day-care unit for children with autism, funded by the University of Pennsylvania (West & Tyler 2000, p. 386–388).

Music therapists in the UK now work in special schools for children with learning difficulties and mainstream schools; hospitals and centres for adults with learning difficulties, physical disabilities, mental health and neurological problems; nursing homes; centres for children and adults with visual or hearing impairments; hospices and centres for people of all ages living with terminal illness and in the prison service (Bunt & Hoskyns, 2002, p. 13).

2.4 Music Therapy in Sweden and the birth of FMT

As well as in other parts of the world, the interest in music therapy in Sweden grew during the mid twentieth century. Music pedagogues were developing activities for children with disabilities and similarly to teachers and practitioners in the UK and United States, they felt the need for further professional training. In 1974, the first short courses in Music therapy were held in Sweden and during the same year the Swedish Association For Music Therapy (Svenska Förbundet för Musikterapi, SMF) was established (Granberg 2007, p. 19–21).
In 1975 Lasse Hjelm, a music teacher from Stockholm, was asked to join the Folke Bernadotte Hospice (the Habilitation Unit at Uppsala Academic Hospital) where he was assigned to a research project involving children with Cerebral Palsy. The work was extensive and with the experience he gained during this project, Hjelm started developing FMT. The method proved effective and within a year, Functionally-oriented Music Therapy received the same status and recognition as other therapy programs at the hospital. With the growing interest in the method, Hjelm extended his work to mainstream schools and schools for children with special needs. He established The Music Therapy Institute in Uppsala in 1987 where he offered a part-time course in Functionally-oriented Music Therapy. A year later a second course was set up at Ingesund College of Music in Arvika (Hjelm 2005).

FMT is now used in hospitals, schools and psychiatric clinics all over Sweden and Finland and is currently spreading to Italy, Spain, UK and Japan. In addition, the interest in the method in councils and schools in Sweden is increasing with the recognition that music therapy can act as a meaningful complement to other school activities (Granberg 2007, p. 21).
3 The FMT method

“Do something. If it works, do more of it. If it doesn’t...do something else.” – Franklin Delano Roosevelt

Functionally-oriented Music Therapy is a neuromuscular treatment with focus on a person’s physical and mental functions. The word function comes from the Latin word for perform and neural function is the way the nervous system performs a task (Ayres 2005, p. 4). Hjelm believed in a holistic approach where human psychology and physiology are closely related. He proposed that by encouraging physical and perceptual change, a person’s experience of self would be positively affected and that this in turn would lead to improved self-esteem and self-confidence. From the reverse perspective, emotions such as fear, anxiety, sorrow, joy and happiness can have an effect on a person’s fundamental physical functions (Hjelm 2005, p. 152–158).

Always based on the client’s individual level of function, FMT aims to:
- increase a person’s level of physical and mental function
- develop motor skills, posture, breathing and coordination
- increase concentration
- increase stamina
- organise behavioural patterns
- provide sensations and experiences

At the core of the method is the positive expectation that every person has the ability to change and develop (Margareta Ericsson lecture on 11-02-11).

FMT promotes development through physical experience – feeding information (stimuli) from the body to the brain. The client receives sensory information by playing on drums
and cymbals, using a variety of different drumsticks as well as using specially selected wind instruments. He does this sitting on different chairs and balance cushions, exercise balls or standing up. The therapist plays the piano and the music acts as a means for communication between client and therapist.

Without verbal instruction, demand, reward or praise, a person has to reach for his own inner motivation and initiative to act. The result is greater neurological activity than if the person acts on someone else’s demand or request; there is more synaptic activity created when an action is initiated by inner motivation and/or enhanced by emotion (Gunnar Smideman lecture 24-08-2011).

3.1 Background history of the method

“The journey of a thousand miles begins with a single step” – Lao Tzu

Lasse Hjelm developed FMT from his own experience working with children and adults with a wide range of disabilities. His curiosity and interest led him to study extensively and he was initially influenced and inspired by the Swiss developmental psychologist and philosopher Jean Piaget and his theories around child development through play and use of self-motivated activity. Piaget highlighted the significance of maturity in the developmental process and that the developmental building blocks follow a specific order, where each building block is dependent on the previous being well established. Piaget’s theories are often associated with the terms assimilation and accommodation. With assimilation he meant taking in new information or experiences and incorporating these into our existing ideas. Accommodation refers to how old ideas are changed or even replaced based on this new information (Piaget 2008).
Another person who inspired Hjelm was Gunnar Kylén, a psychologist and Associate Professor at the department for special education in Stockholm. Kylén is known for his work on “ability-development”. He talked about the importance of meeting every client at his present developmental stage in order to be able to encourage further development. This idea has always been central in Hjelm’s work and development of the FMT method.

Regarding a child’s motor development and Sensory Integration, Hjelm supports his ideas on the Danish physiotherapist Britta Holle and on American occupational therapist and developmental psychologist Jean Ayres. Like Piaget, both Ayres and Holle emphasise the importance of play in childhood development. In their literature, they both suggest that children, through self-motivated play and sensorimotor activities naturally look for opportunities to practise certain skills through continuous repetition. Ayres suggested that the brain’s ability to process and integrate sensory input plays a vital role in a child’s behaviour and motor response. In addition, both Ayres and Holle believed that the development of sensorimotor abilities forms the basis for all learning (Ayres 2005, Holle 1976).

To the above theories, Hjelm added another dimension: the non-verbal approach. He suggested that by not using language, we are able to create direct connections to, and affect, sensorimotor areas of the brain without going through the linguistic and intellectual interpretations and processes first (Hjelm 2005, p. 12).

Hjelm wanted to create opportunities to promote intrinsic motivation and he realised the importance of this approach when he worked at the Habilitation Unit at Uppsala Academic Hospital in 1975 where he met a twelve year old girl with Cerebral Palsy. Hjelm observed the girl in her classroom being asked a question, and to answer the question she had to point at a symbol on a map. When she answered, her intention and thought were directed towards the map but a reflex made her hand and arm get stuck in an asymmetrical neck reflex (a reflex we all have from birth and which gradually disappears in most people but remains longer in others) above her head. After a long pause, the arm was released with a thump and hit the map. For the next music lesson, Hjelm prepared a bass drum standing on
its side with the skin side upwards and when the girl entered the room, he played three notes on the piano (as though forming a question) and waited for a response. The girl raised her arm and hand and Hjelm waited for what he describes as “an eternity” before her arm eventually came down and hit the drum. As soon as it did, Hjelm responded with a chord including the resolving note and played three new notes forming the next question (Hjelm 2005, p. 41, 53).

Hjelm believed that the reflex movement was caused by the girl’s intention to act and respond to the musical question and he therefore repeated the question and patiently waited for her reaction. During this musical dialogue he noticed that the girl’s movements changed from being spastic reflexes into becoming voluntary movements and he therefore concluded that with music as the means of communication, he could create opportunities for self-motivated actions and movements. He could encourage the clients to gradually increase their repertoire of movements and their physical control. Hjelm experimented with different instruments and different pupils with a variety of disabilities and he found that the movements became increasingly more stable and controlled in all children. This was the beginning of Hjelm’s development of FMT (Hjelm 2005, p. 40).

3.2 MUISC – MUsic In preparation for SChool

The FMT method consists of two parts: individual therapy, and a group activity, mainly for pre-school children. As the method was developed in Sweden, pre-school in this context means ages five to six years. Hjelm called this activity MUISC: MUsic In preparation for SChool. MUISC can help a therapist or teacher to detect if a child is at a developmental stage where he is able to participate successfully in formal education or not. Hjelm believed that children need to be secure in their own body, have sufficient control of the body and have a broad repertoire of movements before being able to adapt and perform well in a school environment. In addition, they need to be able to use attention, perception,
be able to interpret, be able to imitate, and make themselves understood (Hjelm 2005, p. 143).

In MUISC, the children take part in singing, dancing, movement, sound-making and simple instrumentation to encourage and develop:

- gross motor skills, posture, balance, sense of gravity, coordination
- fine motor skills, breathing, concentration, relaxation, stamina
- attention, memory, creativity, auditory perception
- group dynamics, identity

According to Piaget, Ayres and Holle, the developmental stages of motor skills and perception in children largely follow the same pattern, one stage depending on the successful acquisition of the previous stage. Children, however, develop at different speed and this becomes obvious in a group environment such as MUISC. With individual FMT, the developmental process can be stimulated further to give children a chance to catch up with their peers if needed (Hjelm 2005, p. 142, Langlo et al. 2002, p. 99).

### 3.3 The music and instruments used in FMT

The music in FMT consists of short, melodic tunes played by the therapist on a piano. Hjelm composed the tunes and each melody corresponds to a specific model (set-up) of instruments presented to the client. The client has to work out how to execute the task in front of him without any verbal instruction. Hjelm intended for the music to be neutral; without any possibility of triggering emotional memories. He called the melody and the model of instruments together a “code”. There are approximately twenty different codes and they are designed to encourage functions such as cooperation, interaction, stability, torso-rotation and perception (Hjelm 2005, p. 63).
The purpose of the music in FMT is to serve as a medium or means to facilitate interaction and to trigger a physical reaction or response from the client. For example, the tunes often include an interval (the distance between two notes) that needs to be resolved; an unfinished melody (for example if Twinkle, Twinkle Little Star finished on "what you" instead of “are”). The therapist will pause and wait on the penultimate note and when the client strikes a percussion instrument or blows in a wind instrument, the therapist responds with the resolving note or chord on the piano to affirm the action. The tunes are short, harmonic and simple with the aim to create recognition and thereby a sense of security. They gradually increase in length and complexity as the client’s functions increase (Hjelm 2005, p. 66).

As well as working with various patterns of notes and sounds to encourage listening, the FMT therapist uses the suspense of silence and pause. This helps to develop auditory perception; to perceive, register, distinguish, localise, discriminate and classify sound stimuli. It also highlights the importance of non-action, waiting and stillness, and Iain McGilchrist describes this phenomenon poignantly in his book *The Master and his Emissary – The Divided Brain and the Making of the Western World* when he talks about ‘betweenness’:

> The notes mean nothing in themselves: the tension between the notes, and between notes and the silence with which they live in reciprocal indebtedness, are everything. Melody, harmony and rhythm each lie in the gaps, and yet the betweenness is only what it is because of the notes themselves. Actually, the music is not just in the gaps any more than it is just in the notes: it is in the whole that the notes and the silence make together. ²

When hands and/or feet are in direct contact with the skin of a drum, the vibrations from the drum create additional sensory information for the brain to register and interpret. Apart from the sound and vibration qualities the instruments produce, the reason for using percussion instruments in FMT is firstly that most people find it hard not to play when they see a drum, especially children. Secondly, as no specific note or chord is played on a drum

² *McGilchrist, 2009, p. 72*
or cymbal, the feeling of assumed knowledge about how to play is eradicated. Lastly, the instruments can be adjusted in position, height and angle to suit any purpose (Hjelm 2005, p. 67).

3.4 The Therapy Session

The therapist initiates the process and always meets the client at his present level of function and ability. To be able to do this as accurately as possible the therapist uses an observation technique where she observes the client’s stability, movement and behaviour. Hjelm developed this technique during his time working with children with school problems and during his extensive work with people with wide-ranging disabilities.

The therapy room always looks the same and the therapist plays the same opening and closing melody every week to create a sense of familiarity and security. The client and therapist play together and the therapist follows the client by accompanying and affirming his actions. However, the therapist is also able to control the dialogue by affirming selectively to encourage certain actions from the client. The therapist alters the position of the drums and cymbals as well as changing drumsticks in order to trigger new actions and give the client a variety of sensory stimulation.

If a client does not have a movement repertoire that allows for the use of instruments, the therapist will acknowledge any movement or sound he makes and in a playful manner entice further movement or sounding. The therapist may at a later stage be able to place a small drum in the client’s lap or introduce a drumstick – there are specifically created drumsticks for various sizes of hands, abilities to grasp and with varying texture to stimulate the palm.
3.5 Observation Points

The FMT therapist makes an initial observation of the client’s posture and body language; the movements, the way the client observes the set-up of the room, and the voice (if used). She also looks at muscular tension and possible cramp. Hjelm used the following set of observation points to be able to understand the whole person – body and mind (Hjelm 2004, B.1, p. 9).

3.5.1 Interaction/Cooperation

The therapist observes if the client is aware of her and if he is willing to interact and cooperate.

Interaction between client and therapist is essential for any future work towards positive personal development. The observation points and the sensitivity from the therapist to meet the client at his present developmental stage will help the therapist in her work to entice the client towards interaction even with very little prior knowledge about him.

The non-verbal approach in FMT means that there is no demand on the client to act. Every action will eventually derive from his personal initiative and intrinsic motivation. When auditory interaction is established, muscular activity will follow (Hjelm 2005, p. 66).

3.5.2 Stability

The therapist observes how the client stands, sits and moves.

She notices how the client uses his sitting bones and how the feet connect to the floor. This has considerable effect on the back, lower back and neck. In a satisfactory sitting position with both sitting bones on the chair and both feet grounded on the floor, the body can be relaxed and there is no energy wasted (Hjelm 2005, p. 204–205).
Stability is encouraged at every step in FMT and apart from codes to develop core stability whilst sitting, the therapist observes how the client’s senses are used and integrated and how this in turn affects the stability and balance whilst sitting, standing or moving in the room:

- The **vestibular** system (calcium crystals in the inner ear) tells us where our body is and gives us a sense of gravity
- The **visual** sense receives input via the eyes
- The **auditory** sense receives input via the ears
- The **kinaesthetic** sense (proprioceptive sense) is the input we receive via sensory cells in the muscles and limbs. These cells signal the position of our body and the muscle strength
- The **tactile** sense sends signals via touch

(Larsson 2000, p. 160).

### 3.5.3 Perception

Perception is being aware of the environment through our senses. In practice, it means to be able to (in the best possible way) manage our life in relation to the environment we meet. It includes the ability to assimilate relevant and valid information in what we hear, see, feel and experience (Larsson 2000, s. 193).

In addition, there are social and emotional aspects of perceptual function. For a person to feel secure and be in control of his environment, he needs to be able to distinguish and focus on one object within the vast amount of stimuli subjected to him. There are parts of the brain, which work to help or facilitate the flow of information and other parts sending out messages to hinder or inhibit the flow of messages across synapses. The combination of facilitatory and inhibitory messages produces modulation – the nervous system’s process of self-organisation. The nervous system modulates itself by increasing the energy
of certain messages and reducing the energy of others and it is this modulation that creates social and emotional security\textsuperscript{3} (Ayres 2005, p. 36–37).

**Auditory Perception**

The therapist observes if the client is able to hear the piano and if he is aware that she is following his tempo. She also observes if he is aware when she makes a clear ending on the piano and can hear which direction a sound is coming from.

Auditory Perception includes level of sound, timbre (sound quality), tempi, flow of frequency, distance and pitch\textsuperscript{4}. By using different sounding instruments and placing them at varying distance, height and angle from the client, the FMT therapist can stimulate and encourage auditory perception.

**Visual Perception**

The therapist observes if the client is able to see all the instruments in front of him, or if he is only aware of the drum in the centre. She also observes what happens when she moves the instruments.

Visual Perception includes colour, form, structure, size, distance, direction, quality and speed of movement\textsuperscript{5}. With small changes, the FMT therapist can change the model and structure of the instruments to observe and stimulate the client’s visual perception. It is not uncommon in school children to have weak peripheral vision and therefore only be aware of what happens in the focus, immediately in front of them. The FMT therapist can work towards increased peripheral awareness by moving instruments further and further away from the client. In addition, the instruments are placed at different heights and vary in size.

\textsuperscript{3} Gunnar Smideman: Description of the FMT Method
\textsuperscript{4} Gunnar Smideman: Description of the FMT Method
\textsuperscript{5} Gunnar Smideman: Description of the FMT Method
**Tactile Perception**

The therapist observes how the client reacts when holding the various drumsticks and feeling the materials of the different instruments.

Tactile Perception includes quality of touch, cold and warmth, different materials in the drumsticks, form, distance, direction, and pressure against the supporting part of the body\(^6\).

The three areas of the body with the highest density of nerve-receptors, i.e. where we are most *sensitive* are the palms, the soles of our feet and around and inside the mouth (Ayres 2005, p. 33). This means that for some clients it can be too painful to hold a drumstick (Lecture Margareta Ericsson 11-02-11). The FMT therapist can offer the client a variety of drumsticks with different texture and thereby feed a large amount of information through the tactile sense.

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\(^6\) Gunnar Smideman: *Description of the FMT Method*

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“Homunculus” – showing the physical representation of concentration of nerve cells in the brain
Proprioception and Vestibular Perception

The therapist observes the client’s posture and how he performs his movements – both whilst sitting down and moving around in the room.

Proprioception (position and muscle sense) allows us to control our limbs without directly looking at them. It is an internal (visceral) sense that is used to inform us about and help us to adjust our body position according to direction, distance, strength and use of energy (Holle 1976, p. 110).

Vestibular Perception detects motion and gravity and provides us with a sense of balance. From sensors inside the ear, it gives information about our body position, stability, flow and strength of movement. Children who often bump into other people, spill food or tip glasses over on the table may have a weakness in their proprioception (Holle 1976, p. 139).

By altering the position, height and angle of the instruments, the FMT therapist can stimulate the client’s development of the proprioceptive sense. In addition, there are codes where the client is encouraged to move around in the room between instruments.

3.5.4 Side difference

The therapist observes if one side of the client’s body is dominant and if there are signs of weakness in one side.

The two hemispheres of the brain have their own specialisation and therefore work slightly differently. One side is often dominant, receives more stimulation and therefore develops faster. There may also be a weakness in one of the sides and if the stronger side then becomes too dominant, problems may arise in the cooperation between the two hemispheres. This can in turn affect stability, cause learning difficulties and affect a person’s behaviour, such as increasing clumsiness and insecurity (Ayres 2005, p. 34; Hjelm 2005, p. 205).
The FMT-therapist offers sensory stimulation and works to encourage movement to both sides of the body. In codes with only one instrument, she offers drumsticks first to one hand, then the other and finally one drumstick to each hand simultaneously.

### 3.5.5 Asymmetrical Bilateral Coordination (Separate Side Movements)

The therapist observes if the client can perform a task with one hand whilst doing something else with the other.

Asymmetrical Bilateral Coordination is when both sides of the body are working together, performing different but complementary tasks, for example pointing in a book with one hand and taking notes with the other or holding a paper in one hand and using a pair of scissors in the other. To do this successfully and be able to scan the environment outside of focus, a person requires stability and sufficient body control as well as a broad visual perception. If the Asymmetrical Bilateral Coordination is weak, energy might be wasted on, for example, holding the book open and as a consequence, not enough attention is left for the actual writing and the contents (Hjelm 2005, p. 205–206).

There are codes in FMT to aid the development of coordination between the two sides of the body as well as specific codes for performing different tasks with each side.

### 3.5.6 Torso rotation

The therapist observes if the client can keep the lower part of his body stable whilst turning with the upper body.

Rotation of the torso develops from the age of eight months and is normally fully developed at the age of twelve. According to Hjelm, the reading process in the majority of children has similarly reached full development by the age of twelve. Hjelm and many
other FMT therapists after him have found a strong link between late development of torso-rotation and learning difficulties, especially reading and spelling (Hjelm 2005, p. 207).

There are specific codes in FMT to encourage a rotating movement of the torso.

### 3.5.7 Midline crossing

The therapist observes if the client is able to cross his arms both ways across the midline of the body.

The action to cross hands and arms across the median line (the supposed mid-line of the body) is at a high level of development and is aided by an effective torso rotation. Midline crossing is only possible if the commands from both hemispheres of the brain can switch and cooperate when, for example, moving the right hand over the left in front of the body. A person who has difficulties in crossing the midline might produce a co-movement (involuntary movement in the non-active side) when trying to cross the midline with the other hand. He may also move the whole body in order to avoid crossing the median line (Hjelm 2005, p. 208).

By encouraging stability, torso rotation, proprioception and visual perception, the FMT therapist works towards the development of midline crossing. There are also specific codes for this.

### 3.5.8 Development of the hand

The therapist observes how the client holds the drumsticks, if the grip is firm or weak and if the wrist is stable, straight, soft or stiff.
By observing the hand and grip, the therapist can draw conclusions about the client’s developmental stage of gross and fine motor skills. She can subsequently offer sensory stimulation by using different drumsticks and balls for the client to hold and use. In addition, she can position the drums and cymbals at varied angles to stimulate movement and stability of the wrist (Hjelm 2005, p. 57).

As shown in the picture of the Homunculus (p. 24), the tactile sensory receptors in the hand (and around the mouth) are the most developed and therefore have more connections to sensory neurons than other parts. The tactile sensory receptors in the hands and mouth are used in the early development of an infant to investigate different objects, to form a conception of things themselves and their quality (Ayres 2005, p. 33).

3.5.9 Logical thinking

The therapist observes if the client is able to work out what to do by looking at the model of percussion instruments in front of him without any verbal instruction.

The position of percussion instruments presented to the client is based on different logical structures that he is expected to see, and the FMT therapist observes the client’s logical thinking and ability to act without any verbal instruction. This also involves planning and initiative from the client (Hjelm 2005, p. 209).

3.5.10 Hand-foot Coordination

The client observes if the client is able to coordinate his hands and feet – his lower and upper body.

The developing child unconsciously and continuously cultivates the coordination between the lower and upper body through running, climbing and jumping. This coordination

A bass drum with pedals is used to encourage progress from gross motor motion towards fine motor motion for the feet, legs and hips. The bass drum can be used by itself and later in combination with other instruments played with the hands to encourage hand-foot coordination. In addition, there are codes in which the client moves around the room to play. As well as hand-foot coordination, this stimulates the development of balance and perception: using visual perception to locate the instrument, proprioception to gauge and plan the movement of striking the instrument and when to turn, and auditory perception to listen and process whether the desired strength when striking the instrument is used.

3.5.11 Breathing Coordination
The therapist observes if the client’s breathing is deep or shallow and if he is breathing freely or with resistance.

To develop breathing coordination and to feed oxygen to the brain, the client uses recorders and ACME-instruments: wind instruments sounding like a duck and a crow for example. The wind instruments also stimulate the senses and motor skills around and inside the mouth and this in turn can stimulate sound making and speech. In addition, the ACME-instruments often induce laughter and are therefore a good tool for interaction (Hjelm 2004, B.3, s. 23–25).

3.5.12 Overall Coordination
The therapist observes if the client is able to coordinate his movements and plan his actions.

She observes a client’s ability to coordinate his full repertoire of movements together with the breathing. The observation also includes the connection between movement and logical
thinking and how well the client is able to adapt his body to the task in front of him: using his energy as efficiently as possible for the given task (Hjelm 2005, p. 212).

The more advanced codes in FMT include elements for the client to use both logical thinking and overall coordination.
4 A method based on experience, research and evidence

FMT therapists continuously follow research in neuroscience, psychology and physical therapies, at the same time as keeping a firm base in the tried and tested method that Hjelm offered.

Therapists Margareta Ericsson and Karina Larsson at the FMT Treatment Centre in Eskilstuna (FMT Behandlingscenter), are currently part of a research team, together with the Department of Neurology at Mälardalens Hospital, studying the impact of FMT in patients with Parkinson’s disease and patients who have suffered a stroke. The FMT Treatment Centre is also working in collaboration with professor Markus Wacker and PhD student Loreen Pogrzeba at the Hochshule für Technik und Wirtschaft (HTW) in Dresden on the DreMatrix project. The DreMatrix team is working to develop software with Kinect cameras to measure and process data, by filming FMT clients and subsequently using this information to measure any increase in the client’s movements (Drematrix 25-03-13).

The outcome of these collaborations is likely to lead to FMT entering the field of evidence-based research. In the meantime, there are large numbers of case studies showing practical evidence of improvement both in function and wellbeing from the method.
5 School Children and Sensory Integration

“I hear and I forget, I see and I remember, I do and I understand” - Chinese proverb

Sensations can be described as “food for the nervous system” – the brain needs sensory stimuli to develop neural interconnections. According to Ayres, over 80% of the nervous system is involved in processing or organising sensory input and this processing is known as Sensory Integration. This integration is needed for the brain to be able to produce useful body responses and useful perceptions, emotions and thoughts (Ayres 2005, p. 28–38).

Sensory Integration, according to Jean Ayres’s theory:

- is an unconscious process of the brain
- organises information detected by our senses (taste, sight, hearing, touch, smell, movement, gravity and position)
- gives meaning to what is experienced by sifting through all the information and selecting what to focus on
- allows us to act or respond to the situation we are experiencing in a purposeful manner
- forms the underlying foundation for academic learning and social behaviour

There is a great demand on school children to receive and interpret the extensive flow of information during a lesson and to be able to modulate the various stimuli, i.e be able to select what to focus on. If this is not achieved successfully, it has a direct effect on a child’s self-confidence. According to Professor in Neuroscience Martin Ingvar, the learning process of the brain ceases to function without social and physical security. It is not always obvious when a child has missed some of the information given in class or that he has not been able to process the information effectively and therefore is not able to act on the information given, so whilst being an invisible problem and often difficult to detect,
it could potentially have detrimental effects on the child in question (Hjelm 2005, p. 210–211; Ingvar & Eldh 2008).

Some children use much of their energy simply to sit still. To do this for any length of time can be very hard, as the muscles in a child’s body cannot accommodate for long periods of rest; the body needs to change position and move. The large groups of muscles, which support the body and provide a stable position whilst sitting, need to have an effective tonus, appropriate for the given task (Ericsson 2003, p. 36; Lango et al, p. 59).

If certain essential stages of motor skills are not established, problems can also arise during games and sporting activities. These activities require specific skills, and if a child has not developed these to a high enough standard, he might not be asked to participate or may not have the confidence to do so even if asked. In addition, a child may miss information about the rules of the game, or not be aware of how other children are interacting with one another, if he has to focus hard on everyday fine motor skills such as tying shoe laces, doing up a zip or fastening buttons (Lango, Jagtoyen, Hansen, Annerstedt 2002, p. 113–115).

Furthermore, low function in one of the senses has immediate effect on a person’s perception and leads to a less effective behaviour, such as problems with automation. This is noticeable when a child is struggling to do something automatically without having to think about how it is done. The child has to focus intensely on what he is doing and consequently, his capacity to do things simultaneously, as well as his stamina, decrease. Sometimes movements can appear to be coordinated and smooth if the child is using all his energy to perform the movement but at other times the automation can fail and the same movements can appear insecure and clumsy. When the senses are well integrated and a movement has become fully automatic, there is much more energy available for the child to focus and take in relevant information for the given task (Ericsson 2003, p. 36, Langlo et. al 2002, p. 81).
As far as academic learning is concerned, Ayres argued that the visual perception involved in reading is the end product of many building blocks that form during sensorimotor activities of infancy and early childhood. She continues to say that the same is true for all academic abilities and also for behaviour and emotional growth; everything rests upon a sensorimotor foundation. Both Ayres and Hjelm also stressed the importance of repetition. Every time a neural message passes through a synapse, the structure and chemistry of that synapse changes in order to transmit that type of message more easily in the future. In other words, the repeated use of a synapse for a particular sensorimotor function creates a neural memory of that function (Ayres 2005, p. 90; Hjelm 2005, p. 59–60).
6 Motivation

“Recent research is trying to prove what practical knowledge has always shown: that pupils who are engaged, motivated and possess good self-esteem learn better and faster”

(Gärdenfors 2010, p. 68 – my translation)

In 1949, Harry F. Harlow and two colleagues gathered eight monkeys for a two-week experiment on learning. The researchers devised a simple mechanical puzzle requiring three steps: pull on the vertical pin, undo the hook, and lift the hinged cover. The puzzles were placed in the monkeys’ cages and unprompted by Harlow and his team, they began playing with the puzzles with focus, determination and what looked like enjoyment. The primates began figuring out how the contraptions worked and after thirteen days they had become quite adept and were able to solve the puzzles quickly.

The monkeys had not been taught how to remove the pin, slide the hook and open the cover and nobody had rewarded them with food or affection when they succeeded. At this point in time, scientists knew of two main drives which powered behaviour: the inner, biological drive to satisfy hunger, thirst and sexual urges and the other drive, coming from the outside and dealing with rewards and punishments. Neither of these were part of this experiment and Harlow wrote: “The behaviour obtained in this investigation poses some interesting questions for motivation theory, since significant learning was attained and efficient performance maintained without resort to special or extrinsic incentives”.

Harlow offered a third theory and concluded that “The performance of the task provided intrinsic reward”. The monkeys solved the puzzles simply because they found it gratifying to solve puzzles. They enjoyed it and the joy of the task was its own reward. Harlow’s theory about a third drive for motivation was documented but never gained any support from scientists at that time and he eventually gave up on this idea. He later became famous for his studies on affection instead (Pink 2010).
For many years however, experts on childhood development have now stated that natural instincts motivate us to explore the world through our senses. A child wants to increase his ability to move, to find balance and stability and be able to perform more and more challenging and complex tasks using his body. Most children find this stimulation all by themselves when left alone to explore. Their natural instinct is also to keep repeating the movement until it is fully established before moving on to the next challenge. As all children are different, they use a range of techniques and need various amounts of time to learn the same skill; and some will never be able to succeed with certain tasks. Ayres argued that asking children to learn to read before their brain is ready will not only be unproductive – it will also take the child away from sensorimotor activities that their brain needs now in order to learn reading at a later stage (Langlo et al. 2002, p. 113–115; Ayres 2005, p. 8 & 5; Ericson 2003, p. 31; Bunt 2002, p. 230).

A feeling of success is achieved when a planned action results in a desired outcome. The neurological effect produced by this emotion is a calibration and strengthening of neurological pathways. When the planned action is activated by a person’s own initiative, the development of energy in the nervous system is even greater. As well as the increased activity between the neurons, the added effect is the increased production of the neurotransmitter dopamine. Dopamine helps to motivate and helps to produce positive emotion. It is also part of the process of planning and decision-making (Gärdenfors 2010, p. 70).

There is no verbal instruction involved in FMT – only short melodies with an unresolved ending, indicating a question. It is therefore voluntary for the pupil to answer and the FMT therapist is used to waiting for a very long time for a response. When the answer is given and the therapist acknowledges the response on the piano with the resolution to the melody, the pupil feels that he has succeeded. This motivates him towards keeping the musical dialogue open and towards more challenging tasks to follow. The subject of motivation in FMT, as in Harlow’s experiment with the monkeys, requires neither praise

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7 Gunnar Smideman Lecture 24-08-2011
nor reward – the feeling of joy and success in itself creates the motivation (Bundy et al. 2002; Hjelm 2005).

When a person is intrinsically motivated, he becomes totally involved in an activity. The Hungarian professor in psychology Mihaly Csikszentmihalyi refers to this state as flow and argues that “flow occurs in activities that are neither so difficult as to cause worry or anxiety, nor so easy as to result in boredom; such activity represents the ‘just-right’ challenge” (Csikszentmihalyi 2002). In her book Music from the Inside Out, Charlotte Tomlinson also discusses how the fear of making mistakes can act as a strait jacket and inhibit any further positive development. It is therefore crucial for the FMT therapist (and for anyone working with childhood development or teaching) to provide this “just right” challenge or opportunity for growth (Bundy et al. 2002, p. 230, Tomlinson 2012, p. 33).
7 Two Case Studies

I will describe and discuss my work with two boys who both attend mainstream local primary schools: Leo was diagnosed with the chromosomal disorder *Chromosome 13 Deletion Syndrome - q33/34* when he was a toddler and Tony has been assessed for Special Educational Needs (SEN) at school as he finds it hard to learn the alphabet and other sequences as well as to read and write.

7.1 A short description of Chromosome 13 Deletion Syndrome

13q Deletion Syndrome is a rare genetic condition where one of the arms or the whole arm of chromosome number 13 is missing at birth. Both general physical health and developmental delay are part of the diagnoses and the degree of disability depends on how much material has been lost and from which part of the chromosome.

The syndrome can be divided into three groups depending on which part of the chromosome is missing. Children like Leo, with a group 3 deletion, have intellectual disabilities but rarely any malformations at birth. Group 1 and 2 deletions include risk of severe organ damage at birth, congenital heart defects, epilepsy, abnormalities to the skeleton and various eye illnesses (Socialstyrelsen 25-03-13)
7.2 Leo

Leo is 7 years old and lives with his mother. He is an only child and the father lives in South America. However, Leo and his mother travel to see his father and his family and he also visits Leo in the UK once a year. Leo attends the local primary school and is now in year three. At school, he has a full-time assistant and has been attending Occupational Therapy, Physiotherapy and a music group at various times throughout his education. He finds school life challenging both academically and socially at times.

Leo’s mother is well informed and keeps up-to-date regarding how q13 Deletion is affecting Leo’s life. She makes sure that he gets as much sensory stimulation and physiotherapy as possible at home. Being a working artist, she also uses various art activities to stimulate his mind and body through joyful play. An extract from Leo’s Occupational Therapy Report from 5th October 2011 gives the following statement:

Leo has many barriers that limit his access to the school curriculum, including reduced postural strength and balance and joint laxity. This reduces his endurance to activities and he will become more fatigued than his peers, as daily activities are more effortful for him. He also has reduced hand/eye coordination, poor visual motor integration and sensory processing difficulties. In spite of these barriers Leo does on the whole seem happy within his school environment and participates to the best of his ability.

7.2.1 FMT with Leo

Leo first came to me as a pupil in January 2011 and we have had 38 FMT sessions together. When I first started FMT with Leo I noticed that both his muscle tone and stability were weak. His speech was slow and some words were pronounced with difficulty.

When I offered Leo a drumstick he would wait before accepting it and in the same way be hesitant in giving it back to me. Our sessions were initially focused around becoming
aware of the beginning and end of the tunes I played and the concept of receiving and giving back.

When interaction and cooperation were more established I could focus the attention on Leo’s core stability and balance. I did this by letting him alter between sitting and standing, using a balance cushion on his chair, altering the height of the instruments and later introducing two instruments at the same time and encouraging him to move from one to the other. I made frequent use of wind instruments to provide oxygen to his brain and to encourage deeper breathing, to feed sensory stimulation to his mouth area and to develop the coordination between hand and mouth. During these periods he either stood up or was sitting (or bouncing) on a balance ball.

For a number of sessions I presented Leo with the same instrument model and tune (the code) and offered him a variety of different drumsticks or wind instruments to investigate and use. I changed position, height and angle of the instruments within the code – keeping the structure simple and at the same time giving Leo a large variety of sensory input. As Leo’s stability increased, I started to incorporate more complex codes. Around this time, Leo had started to become less cooperative in the sessions and was often moving instruments and coming to get drumsticks from the piano. When this happened, I played a glissando (fingers drawn across the white keys on the piano) firmly on the piano to indicate an ending (every code ends with a glissando and a firm base note and this can also be used to mark an ending outside the code). To ask for the drumsticks back I stood in front of Leo and kept looking at my hands (in meeting his eyes there is an unspoken demand, hence the looking at my hands) and wait for him to give them back to me. This often took a long time.

On one occasion Leo kept moving the instruments around and creating his own instrument model to play. I did not respond on the piano. He kept looking at me for a response but I kept looking at the keys on my piano. After what felt like a very long time, Leo reduced the amount of instruments to the model I had initially presented to him, and when he started playing this time, I responded on the piano.
Leo kept changing the drumstick from hand to hand during the sessions and was inconsistent with which hand he used when accepting a new item offered to him. I tried to be clear when offering the drumstick in one hand and then responded on the piano if he used the same hand. I did not respond if he changed the stick to the opposite hand. To encourage the use of both hands simultaneously I used a special FMT drumstick for holding with both hands at the same time.

When Leo was able to use one drumstick in each hand and simultaneously play on one instrument, I introduced a new code involving a forward movement from the snare drum in the middle to two cymbals in front, forming the letter V.

I gradually moved the instruments further away from him in order to stimulate his eye/hand coordination and his spatial awareness as well as encouraging more movement in his lower back. At the same time I introduced a foot cushion (with rubber spikes) to further encourage core stability and feed sensory stimulation through his feet. A few weeks later, I introduced a bass drum for stability and to encourage movement from the hip.

To create a different motion for the wrists, I angled the snare drum away from him as well as introducing drumsticks with tennis balls at the ends to facilitate this movement with the bounce of the ball as well as putting more weight into the wrist action.

7.2.2 Outcome of my work with Leo

Both Leo’s mother and I have noticed considerable progress both physically and mentally since he started FMT. Amongst the examples of developmental progress explained in her letter with feedback, Leo’s mother comments specifically on his increased confidence and ability to use his own initiative more – even to the point of going out of his “comfort zone”. She continues to say: “Over all, the safe space of music therapy has enabled him to begin to reach his potential without feeling the pressure of expectation and failure that I am afraid he feels continually at school when with teachers and peers faced with academic tasks.”
After 14 sessions I noticed small improvements in Leo’s stability and body control. He was beginning to use only arms and hands when playing as opposed to the whole upper body and he was able to adjust the force used to strike the instruments. Leo used to cover his left ear when playing on the large cymbal but when he was able to adjust the movement there was no need to do this any more.

After 27 sessions Leo started to be able to plan his actions and there was a noticeable increase in his balance and stability. The movement of his torso began to improve around this time as well as the development of his wrist. In addition, he used less co-movement when playing with one hand at a time. However, he still often became tired during the sessions and kept changing the drumstick between his hands or using both hands to hold the same stick.

When I started to move the instruments further and further away from Leo, he was able to adjust and focus his eye/hand movement in order to reach the instruments after often missing them the first time. He was also able to use a more measured amount of force for his action. As well as the physical improvement, Leo was able to remember the codes and during the last few sessions he has been singing along with the FMT melodies with a strong and clear voice.

7.3 Tony

Tony is ten years old and is currently in year five. He lives with his mother, father and older sister. He has a creative mind and is keen to share his thoughts and views and he has told me that he likes learning through doing things and experiencing things, for example on school trips. Tony has had 37 FMT sessions with me but I knew him before as I have taught him piano in the past. During our piano lessons, Tony showed signs of low self-esteem and immediately lost confidence if he failed to perform a task as well or as fast as
he would have wished. On several occasions he came to piano lessons upset about something that had happened at school, either during playtime or in the classroom.

Tony had a disrupted first year at primary school with frequent changes of teachers. As a consequence, no one was able to notice that he struggled with learning the alphabet and holding a pencil. However, this was picked up both by the teacher and his parents in year two. Last academic year, he attended three different assessments for learning difficulties and Special Educational Needs (SEN) in order to find the right support for him at school. The tests gave varied results. The SEN test done through his school concluded that his reading and writing skills were much below his age group. However, as he was just within the bracket for accepted ability, he did not qualify for any extra help at school. He was recommended speech therapy (as some of his sounds were not very clear) and Occupational Therapy to improve his gross and fine motor skills. At school he took part in a support group for reading and outside school he now attends a special school for dyslexia once a week where he gets spelling tuition. As dyslexia has not been formally diagnosed in this case, I am not going to make any further reference to the subject in this essay.

7.3.1 FMT with Tony

To begin with, I presented Tony with a snare drum in the middle and a cymbal on either side of the drum and when I played the “question” on the piano he responded without hesitation. To encourage stability and balance whilst sitting, I placed a balance cushion on Tony’s chair. The cushion was slightly wedged to make the body tilt forwards. I gradually moved the cymbals further and further away from him and I noticed that he often closed his eyes when trying to aim successfully at the cymbals.

To encourage the wrist to work in different directions, I angled the snare drum away from him and offered him drumsticks with varied thickness and weight. In addition, I often combined the use of wind instruments with bouncing on a balance ball to work towards a fuller breath and for Tony to experience the joyous and carefree sensation of bouncing.
I decided at an early stage to progress towards more advanced codes to challenge Tony’s mind and to keep him motivated. However, after a few sessions, Tony started to become disengaged and I struggled to create a meaningful FMT session with him. He moved around in the room and was playing the instruments very loudly. The drumsticks frequently fell out of his hands. After supervision at college I increased our sessions to twice a week for the rest of our time together. In addition, I presented him with smaller but more frequent changes in the positioning of the instruments. I still challenged Tony with more advanced codes, including one code making him cross his mid-line. During our last ten sessions together, I decided to use more codes involving both sides of the body simultaneously to make him use his whole body at the same time. To keep his body stable, I often put a soft ball between his knees.

7.3.2 Outcome of my work with Tony

After I had seen Tony twice a week for three months, several positive developments started to show physically but also in his behaviour. From a physical perspective he was beginning to plan and adjust his movements and take great care when playing the more advanced codes. He was able to keep hold of the drumsticks for longer and had increased control over the force he was using in his playing. He started to use his lower back and move the body forwards and backwards with ease. In addition, his movement to cross the midline of his body was beginning to flow for longer periods of time.

Tony’s behavioural changes included interacting and cooperating with me for the full length of the FMT session. He also observed the end glissando on the piano and gave me the drumsticks back at the end of each code.
8 Summary and Discussion

As Leo was used to other therapeutic environments and Tony knew me from piano lessons before we started FMT, a sense of communication was established at an early stage with both boys. However, issues of cooperation and interaction were noticeable. Leo found it difficult to initiate any action without verbal instruction and it sometimes felt as if he needed a physical “push” to begin to play. As the FMT approach works from the opposite of pushing, Leo was given time instead to reach for his own initiative and motivation to act. In Tony’s case the issue of cooperation needed to be addressed.

With both boys, I initially tried to emphasise the framework and structure in FMT; clear beginnings and ends to the tunes, staying with one instrument model, and giving change and variation by using different drumsticks instead. This approach worked well for Leo. He responded to the simple routine and started to initiate action when given enough time. As his stability increased slowly but continuously, he started to use only hands and arms when playing as opposed to tensing and using the whole upper body, which he used to do in the beginning.

Tony however did not respond well to this simple and structured routine. After the first few sessions he started to frequently move around in the room and be disruptive. He played very fast and hard on the instruments without much physical control. It is interesting to note that during the first five FMT sessions, Tony’s response on the instruments was careful and subdued and my interpretation of this was that his confidence in this new situation was low and that he was afraid not to respond correctly (p. 37). During these first sessions, Tony’s movements were controlled and he managed to hold on to the drumsticks.
However, when he started to feel more secure in the FMT sessions, he no longer tried to control his movements and the weakness in his stability, balance and handgrip clearly showed. Similar situations are likely to arise at school, where Tony uses much of his energy to keep the body under strained control to do what is expected of him and as a consequence, he would have very little energy left to focus on information from the teachers and fellow pupils (p. 26; 29–30; 32–33). With this in mind, I tried to encourage stability, balance and an increased sense of structure. My approach was not working however, and I struggled to retain Tony’s attention to entice him to sit on the chair and cooperate with me in a musical dialogue. As a result, my own confidence to manage the situation grew weaker every week. I tried to introduce more challenging codes and this had some positive outcome.

Having also asked my college supervisor for help, I increased our sessions to twice a week and continued the routine I had started. However, my focus now had to be on meeting Tony exactly where he is (physically and mentally) and respond accordingly. I was also reminded to remain entirely neutral in my approach and not evaluate either Tony’s behaviour or my own reaction to the situation. The different mind-set changed the atmosphere in the room with immediate effect and Tony started to cooperate and interact with me the first session after my supervision. When Tony felt unconditional acceptance from me and I, as the adult in the room, ceased to add my own values onto Tony’s behaviour and instead tried to meet him at his level of mental and physical being, he relaxed and was therefore able to direct much of his attention back at me in cooperation and interaction.

With all this in place, I was able to re-establish a routine where I worked to encourage the development of Tony’s core stability and balance. I noticed, as I used to in our earlier sessions, that Tony’s focus increased when he was presented with more complex codes and logical problem solving. I therefore continued to include more advanced codes as a complement to working with specific codes to encourage stability, balance, development of hand and wrist and breathing coordination.
With both boys, I increasingly noticed a high sensitivity to perceptual stimuli. Leo would investigate every new instrument or drumstick thoroughly with his hands and move them around his face, especially round the area of the mouth (p. 24). In the early sessions he used to cover his left ear when playing on a large cymbal, but as he gradually was able to adjust his movement, he no longer had the need to do so. In addition, he used to pull the instruments towards himself, all the way to his body, as a form of tactile stimulation to gain a sense of security. This and that fact that he responds well to pressure and firm touch was written in his OT report from 5th October 2011. It was therefore a considerable positive development when he started to leave the instruments where I had positioned them and later also was able to reach out – away from his body – to play.

Tony showed several signs of perceptual “overload”. The two most significant examples were firstly, when he closed his eyes to aim more accurately for cymbals when they were positioned in a V-sign and more gradually moved further away into his peripheral field of vision. With his eyes closed and thereby inhibiting one of his senses, he was able to strike the cymbals with accuracy, whereas with his eyes open this was not the case. Secondly, Tony often used to talk throughout the full twenty minutes of the FMT session. Some of the content was relevant to what he was doing at the time, but most was irrelevant information – not necessarily aimed for me to respond to. It is possible that, when trying to solve a challenging task, Tony’s own talking served as a focal point in the middle of too many other stimuli occurring around him at the same time. His own voice may have helped him to draw attention towards the task in front of him – helping him to take control of his actions and the environment (p. 22; 32–33)

The significance of relaxation became evident in both Leo’s and Tony’s development. Leo always showed increased development in stability and interaction when he returned from holidays. He often spends these with his grandparents in the countryside and it is therefore possible that the added physical activity and being in an environment with less people and noise around him gives a more balanced dose of sensory stimulation for his needs. He also spends his holidays with his mother in her art studio being creative with body, mind and
emotion and this again may be a more suitable environment for his needs than being in a classroom.

As far as Tony is concerned, I believe that he relaxes when he feels accepted just the way he is and allowed to be himself. Both his parents and I have noticed signs of this: reduced confidence when he is under pressure to conform and increased confidence and self-esteem when accepted and able to be himself completely.

In order to encourage motivation and self-esteem and meet a client at his personal level of development, a therapist is required to have sufficient knowledge about human development – physical and mental – and an ability to observe the client objectively without preconception and/or judgement. In FMT, the therapist is able to adjust the positioning of the instruments and change drum sticks and can therefore swiftly correct the physical set-up of the session, should the observation of the client’s level of function prove to be slightly inaccurate. There is however very little room for an incorrect observation as far as meeting a client mentally, and I believe this to be true in any form of educational environment. If a challenge is pitched too high and there is a risk of failure involved (not being in control of the environment or actions), the client is not able to find his inner motivation. In addition, as both professor Martin Ingvar and Charlotte Tomlinson argue, there is also a possibility of the above situation reducing a person’s self-confidence significantly (p. 32–33; 37).

I was able to present Leo with new codes only when he had developed sufficient stability and his movements were sufficiently relaxed, controlled and automatic (p. 33). The fact that his ability to control his actions and environment had increased is likely to have affected the increase in his confidence and ability to instigate an activity, as the feedback from his mother indicated (p. 22–23; 41). Piaget, Ayres, Hjelm and many others have highlighted the importance of letting every step in the human developmental process mature and become fully established before moving onto the next (p. 15; 34; 36). I therefore believe that letting Leo develop at his own pace and allowing every step in FMT to settle before moving onto the next helped him with the logical thinking and model
solving he was able to do in the later sessions. Evidence of this was clear when he, after longer periods between FMT sessions, still could recognise and remember codes (p. 42).

In Tony’s case, I had to learn through my mistakes. His disruptive behaviour in the beginning is likely to have been the result of me presenting him with codes that were too challenging for him to master, either physically or mentally. Later, when my experience and understanding had grown and I was able to present him with tasks for his precise level, his motivation was instantly triggered and he never showed any signs of lowered self-confidence when trying to solve an FMT code. On one occasion it took Tony almost the full session to solve a problem, which I presented to him in a variety of ways. At no point during this session did his motivation or confidence show signs of fading. My understanding of this is that without any demand, expectation, reward or praise, the issue of possible failure was eradicated and Tony therefore felt comfortable and in control of the situation whatever the outcome.

Everything I have read and learned throughout the process of writing this essay and working with clients, points towards the facts that when a person is given a variety of sensorimotor experiences, enough time to mature and integrate previous knowledge as well as given space to nurture his inner motivation to progress, learning can be a stress-free and joyful experience.

I therefore wonder if it would be possible in primary schools to involve the whole class, or the majority of the class, in more activities usually only provided for children with special educational needs? Activities such as MUI SC, art, dance and sport are always beneficial in the process of developing gross and fine motor skills and Sensory Integration; all three being essential for reading, writing and further intellectual learning (p. 27; 34; 36). Consequently, would it not be beneficial to include everyone in the process of promoting sensory processing and integration on a more regular basis? I would go further in suggesting that it would be more beneficial for children whose motor skills are well developed, who find it easy to focus and who perhaps need to be further motivated by academic challenges, to be taken out of the classroom situation on occasion, to be
motivated and stimulated at their developmental level. From my experience, children with special educational needs who are taken out of the classroom situation – well aware of their weaknesses – often suffer from further reduced self-esteem as a consequence of being excluded. If the children leaving the classroom situation were aware that they did so because of being strong in the subject as opposed to weak, their confidence is likely to be positively impacted.
9 Conclusion

Professor Csikszentmihalyi writes about an optimal state (“flow”), which is reached when attention is invested in realistic goals, and when skills match the opportunities for action. He believes that the quest to reach a goal brings order to our awareness because we concentrate all our attention on the task in front of us and momentarily forget everything else. Csikszentmihalyi argues that these periods of struggling to overcome challenges are what people find to be the most enjoyable times of their lives.

The approach and code system in FMT provides the opportunity to meet such challenges within a safe and familiar environment. I therefore conclude that when I learned to offer the ‘just right’ (p. 37) challenge to the boys in my case studies, the feeling of success and joy they experienced helped to create inner motivation for them both. In addition, the positive physical development of increased stability, balance, sensory integration and perceptual awareness had a positive affect on their self-esteem (p. 14; 32–33).

9.1 Closing words

I would like to finish by going back to the beginning of this essay and to remember the archaeological findings from 600 BC of the medical centre in Epidauros, where part of the healthcare included a library, a concert hall, a theatre and a sports arena (p. 9). As there is a consistent increase today in dis-ease and people suffering from mental disorders caused by stress, it might be of great benefit for our society to encourage a lifestyle that promotes a feeling of ease instead. It is probably true to assume that the managers of the medical centre in Epidauros believed that activities such as reading, art, music, sport and social
interactions produced *ease* and *peace* of mind and body and I would argue that the same holds true today.
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