



I. Introduction

Language disorders are difficulties in the use of language which can be diagnosed early on in life. Expressive language disorder is when you have trouble getting your message across to others. On the other hand, receptive language disorder is when you find it difficult to understand verbal and sometimes written language too.

Moreover, there is an increase of children and adults who are diagnosed with a mixture of both or called as mixed receptive-expressive language disorder, which makes this type of language barrier ten times more difficult. In fact, about 13% in some parts of Australia struggle with significant language problems.

However, Dr. Alfred Tomatis, a French Ear Nose and Throat specialist and physician, discovered that there is an important connection between the ability to hear sounds and the skill to reproduce them vocally. He established that any change in listening patterns leads to a big change in the voice and language.

II. Case Presentation

Charlene was 8 years old and in Grade 2 when she was diagnosed with the mixed expressive-receptive language problem. She had a strong but low and husky voice. She could not sit still during the interview or at school.

She has a brother and a little sister. Her father is an electrician and her mother is a nurse. Her mother fell pregnant with her at the third attempt of IVF. At the time of pregnancy, Charlene was suspected with a chromosome abnormality. Charlene's mother took antibiotics from having blocked ears and sinuses. The baby inside her was constantly moving especially during daytime.

The delivery was natural with epidural yet it was 4-5 days overdue. Charlene was born a bit blue and took some time to cry.

Mum thought the baby was allergic to milk after Charlene had a lot of reflux, was colicky, was not putting on weight. However, her developmental milestones were age-appropriate. She was also quite an active toddler.



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At 16 months, she was lactose intolerant. Sleeping used to be a problem when she was younger. This was until her parents changed her diet. At around 4 and a half, she was craving oranges and tomatoes.

When her parents stopped giving her these, she became calmer and her sleep improved. Her screaming also stopped when milk was taken out of her diet. Charlene had a glue ear, nasal congestion, food intolerance and sensitivities (salicylates).

In terms of gross and fine motor development, she fell easily, bumped into things and was very clumsy. She was very slow in learning how to ride a bicycle and had troubles with her fine motor skills (i.e. using pencil, scissors, and crayons).

Her auditory development was also delayed. She had glue ear at the age of 3 and a half. She was treated with grommets (a tube surgically implanted in the eardrum to drain fluid from the middle ear). She was very sensitive to sound yet liked to make loud noises.

She also mispronounced words along with other difficulties like following directions, learning how to read, modulating the volume of her voice, pronouncing words, remembering what she had been told, and understanding others.

Her behaviour was a cascade of extreme mood changes. She spoke and acted impulsively and did not show any sign of empathy. She also had frequent confrontations with her mother as she had trouble expressing her thoughts. She could not sit still even in the classroom.

Her intelligence test was low even though she had undergone speech therapy sessions, OT, counseling at school to help with behaviour and socialising with peers. She also had no TV/Screen-exposure during the weekdays.

After the Tomatis® listening assessment, I asked the parents to have her ears checked by GP and ENT. She was then prescribed with nasal steroids for 4 weeks and had no wax or glue ear.



III. Management and Outcome

On Charlene's second Listening Check after the first Tomatis® Program, we saw big improvements. The parents reported that she was compliant to do the program.

She was a lot more talkative and her voice was less husky. Her reading improved and had better articulation, more vocabulary, and longer sentences.

It seemed she also had better body-balance as there were no more bruises on her knees and was more aware of her space, people and things. She was also more outgoing and more organised/tidier.

I also recommended Charlene's parents to do the program too. I saw that her mother was less anxious and a lot calmer. Her dad was more organised and relaxed. Then, I advised Charlene to use Forbrain® during the break time and to attend the second Program after 3 weeks break.

On her third Listening Check after the second Tomatis® Program, improvements continued to flourish. She listened most of the time as she was better at following instructions. She could read properly a passage from a book out loud and her vocabulary also widened.

During the third Tomatis® Program Active Work, her teacher used different cards to let Charlene know when she was too loud. At the end of the third program, her reading and articulation continued to improve. Her penmanship was more legible.

She had fewer tantrums and better understanding on how people feel (empathy) by showing better manners and appropriate reasoning as well. She was more aware of her own feelings (introspection) and appearance too.

Based on her recent checking, Charlene was very obedient. Her parents reported that she was much more flexible; meaning, she had no more dramas about the things she did not want to do. She was also much more confident in her work, performed very well in class and did her homework with no argument.



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The morning routine was no more a time for struggle and repetition. Charlene was better and the whole family atmosphere had transformed. People were not walking on eggshells with regard to Charlene's mood.

She was a lot calmer and more confident. Her school counselor had also noticed how beautiful she was behaving now. She used to be at the 14% below the normal range in her speech assessment but after the third program, she had reached the normal level.

The Science Behind It!

The Tomatis® Method takes a neurosensory-integrative approach to language processing. "Neuro" in a sense that the brain is 'plastic' or it has the ability to change its structure and functions depending on the constant stimulation it receives (neuroplasticity). Then, the program utilises a major sensory organ--the ear--as the passageway to stimulate the brain and in effect, speech as well. But of all the senses, why the ear? And how does it impact our speech?

Dr. Alfred Tomatis, a French ENT and voice expert, established that the ear provides 80% of the brain's energy. Initially, he was helping singers and aeronautic arsenal workers with their voice problems when he realised that any change in their listening patterns caused changes in their ability to re-/produce sound.

Take note that listening is different from hearing. Hearing is a passive reception of sounds while listening is an active mechanism of the ear and the brain which involves perception, attention, memory, concentration, and other auditory processing functions.

Dr. Tomatis saw that conditions, such as chronic ear infection and head trauma, could bring about harmful changes in the overall functionality of the ears that could cause adverse effects to your brain, your voice and to the rest of your body.



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This is why he developed the Tomatis® Method as an ear-brain training program for individuals, such as those with language difficulties, to achieve or recover the optimum maturity of your auditory processing ability which greatly impacts your speech and language skills.

The Tomatis® Method relies on Gating® that is installed in the TalksUp® device (Tomatis® player). It produces high- and low-frequency filters creating sound contrasts in the classical music (usually Mozart and Gregorian Chant).

With the use of specialised headphones, these sound contrasts are then transmitted via air and bone conduction. Bone conduction sends information through the skull directly to the inner ear.

The inner ear houses the vestibule system which is responsible for relating the information from the ear to the brain than to the body and vice-versa. This network is also responsible for body movement and coordination, sense of space, location and direction, body-image, and body balance.

This system and other ear-brain connections are subjected to an acoustic exercise to allow mechanisms such as attention, memory and other auditory processing faculties to function efficiently and ultimately, improve your communication skills.

In addition, one of the phases of this program is the Active Work where qualified professionals implement participatory activities such as verbal repetition. Using a state-of-the-art microphone, your voice will be instantly modified and re-transmitted in the earphones within the specific parameters of the Tomatis® effect.

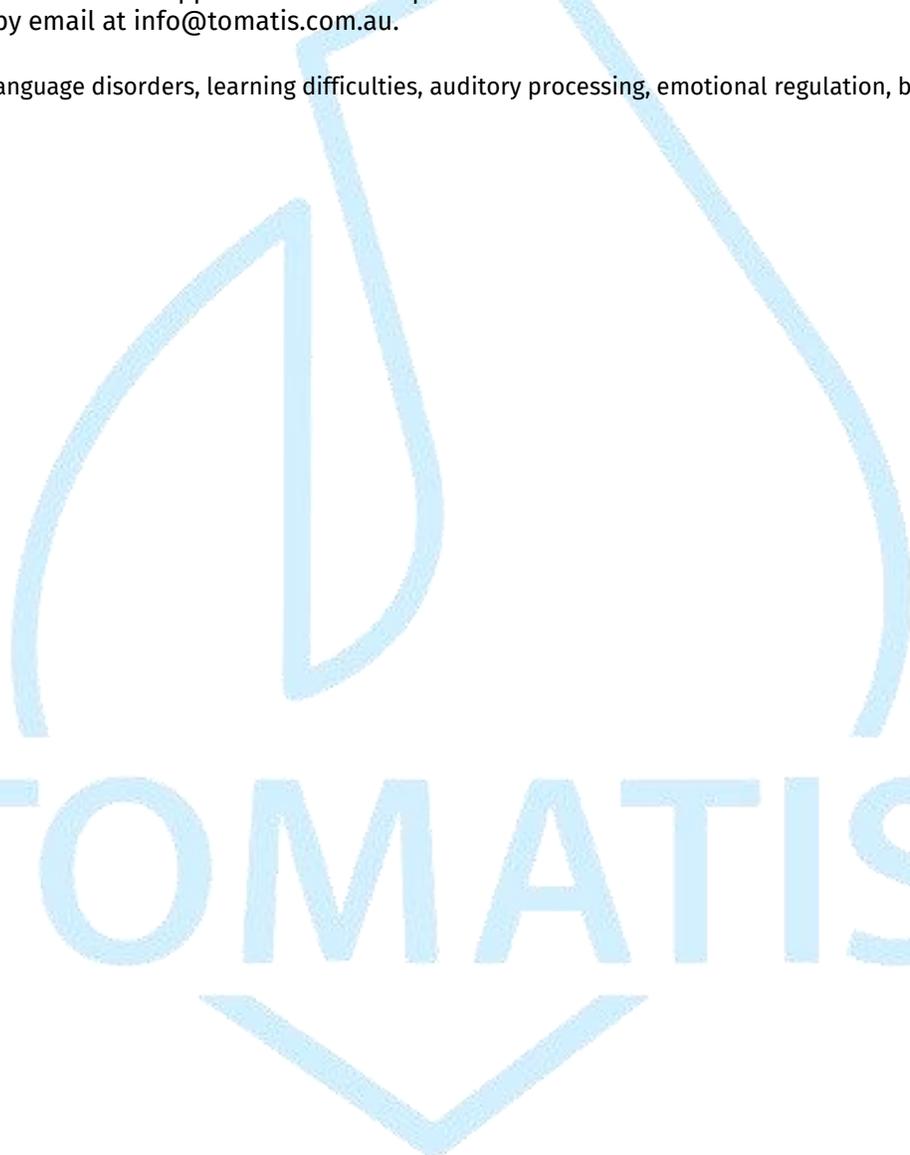
Charlene's story is a typical example of Tomatis' first law, "The voice can only reproduce what the ear hears." As the ear is the gateway to the brain and the body, it also transformed her emotional responses towards day-to-day challenges and demands of her student life. For more information, visit our website at www.tomatis.com.au!



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Françoise Nicoloff is a registered psychologist and an International Tomatis® Consultant and Trainer. Françoise has worked for nearly four decades around the world with children and adults suffering from anxiety, depression, learning and communication difficulties. She is passionate about helping those people especially when their difficulties are linked to auditory processing which means that their brains do not hear what their ears are hearing. Françoise is often invited to speak at conferences. She has chosen to be based in Sydney and she travels within Australia and around the world. Recently, she has been asked to support families and professionals in China too. She can be contacted on 1800 677 010 or by email at info@tomatis.com.au.

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