

“Try to imagine yourself as a child who can’t filter out extraneous noise” – Pascal Maher

Helping them listen

Does your child have a speech and language difficulty? Is he dyslexic, or on the autistic spectrum or have an attention deficit disorder (ADD or ADHD)? If so, he may benefit from the Cluas Programme that uses classical music and sometimes the sound of the mother’s voice to stimulate normal development. Margetet Hawkins speaks with Pascal Maher, the psychologist who brought this listening therapy to Ireland

Most children reach their developmental milestones without difficulty. They crawl when they should, they walk when they should, they speak when they should, they read when they are supposed to. They begin to socialise happily with others when they should too, and go on to lead happy and fulfilling lives.

But what if your child did none of these things on developmental cue, so to speak? What if he can’t speak properly? What if he can’t follow simple instructions? What if he can’t concentrate on tasks or play for more than a few minutes at a time? What if he seems wrapped up in his own agitated world?

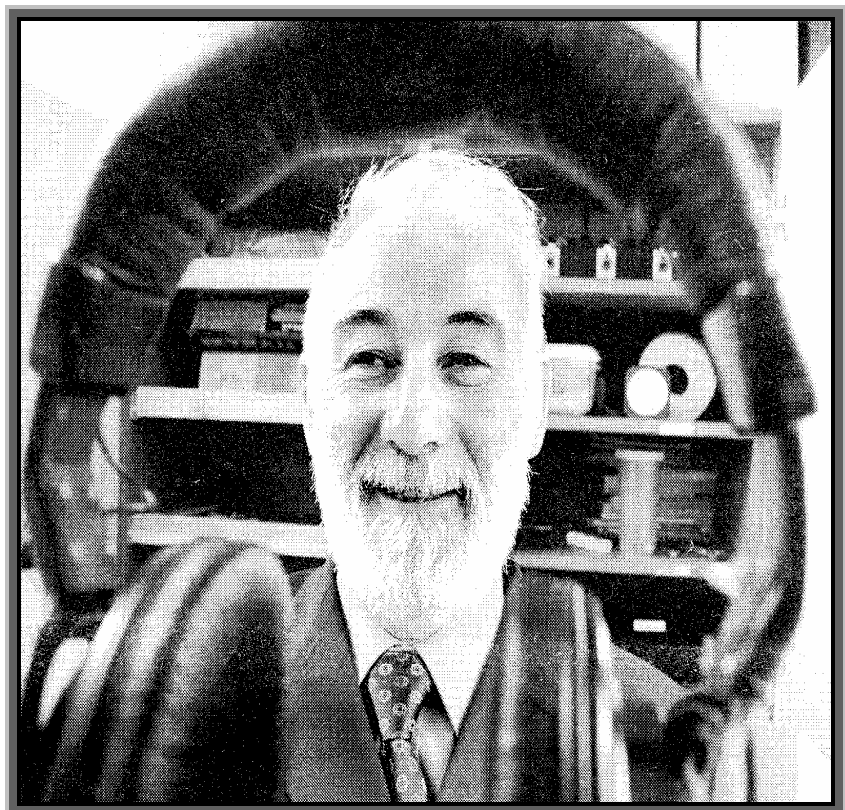
According to Pascal Maher, such developmental disorders relate to a problem in the child’s listening function. Such children can hear, but they can’t listen properly due to faults in their auditory development during pregnancy and early development.

The ear has fully developed as an organ at four and a half months gestation. In some children, however, muscles in the ear do not work properly, leading to speech and learning challenges down the line.

Sound selection

“We recognise that listening begins in the womb, and that it is the ability to tune into selected sounds,” said Pascal Maher, psychologist and former guidance counsellor who runs the Cluas Centre, in Tallaght, Dublin.

“We relegate what we choose not to hear to the background, so that we can concentrate on the task at hand. It is a very important ability. Children with developmental disorders like autism, Asperger’s



Pascal Maher with a set of headphones that ‘exercise’ the auditory system

syndrome, ADD, dyslexia and dyspraxia cannot do this, so the ear needs to be re-trained,” he said.

Imagine being unable to listen properly

“Try to imagine yourself as a child who can’t filter out extraneous noise. Every noise would have the same sound value for you. You would try to pay attention to a conversation or a lesson, but other noises would continually distract you, making your unable to concentrate on one thing for any length of time,” said Pascal Maher.

Teachers cross

“Parents and teachers might be cross because you weren’t following instructions or paying attention.

Over time, this inability to filter out sounds would lead to your doing one of two things in life: either tuning out or reacting to every little thing. You would become withdrawn or you would continually jump from one topic or activity to another — in short, you would suffer from attention deficit,” said Pascal Maher.

The solution to this problem was to find a way to re-train children’s listening abilities.

Specialized Sound System

At Cluas a sophisticated sound system modifies sound. It can remove either low- or high-frequency sounds on request. Connected to a set of headphones, it can filter music or speech to make it replicate sounds heard in the womb.

The Cluas Programme, therefore, involves a programme, that over a period of months stimulates the ear to perform normally – sometimes by re-introducing sounds that would have been heard in the womb.

How we hear

“The way we hear is extremely important,” said Pascal. “If you think about it, you’ll know that we hear with more than just our ears. Have you ever heard a gunshot or a loud screech and jumped?”

“These sounds are picked up by our bones, leading to a reflex reaction. They are transmitted directly to the inner ear, without any filter to dampen their intensity, whereas sounds that we hear through air conduction are dampened before they get to us,” he said.

People with some types of ADD or ADHD hear too much through bone conduction. Sounds go directly to their inner ear and they cannot filter out extraneous background noise.

“The Cluas Programme trains the ears to become the main entrance for sounds and makes bone conduction the secondary entrance, as it should be. Many children who’ve had ear infections or glue ear have damaged hammer and stirrup muscles in their ears. This means that sounds aren’t filtered out, and the ear isn’t protected from loud sounds. The programme gives these muscles a ‘workout’, enabling the child to then listen properly,” said Pascal Maher.

How does it work?

After an initial assessment, where the child’s auditory processing ability is tested, a tailor-made programme is developed. It is a three-stage, circa 60-hour, programme that takes place over several months. The initial stage is 15 days of two-hour sessions. Children play in a therapy room at the clinic while listening to

music connected to the specialized sound system.

Calming music, like Mozart compositions or Gregorian chants, is played initially. “Mozart is the preferred composer, because his music was found to be the most perfect. It contains a lot of high frequencies, which is very important for energizing the person,” Pascal said.

“We begin by taking out the low frequencies and continue until all the frequencies, up to 9,000Hz, have been removed. The sound gets ‘tinier’ as it goes up, but it is a gradual process, as the person is trained to focus on the sounds over time,” said Pascal Maher.

The sound of the mother’s voice may also introduced and eventually filtered to only leave the high-frequency ‘ch-ch’ sounds that a baby hears in the womb. Using sound and the mother’s voice, as it would have been heard in the womb, the earliest stages of development are retraced where language, learning and movement began.

The child undergoing the programme does not listen to such filtered sounds continually, however. “We alternate it with unfiltered music, as the child would not be able to tolerate filtered sound continually. All the time this is going on, the child is busy playing or painting and becomes unconscious of the headphones,” he said.

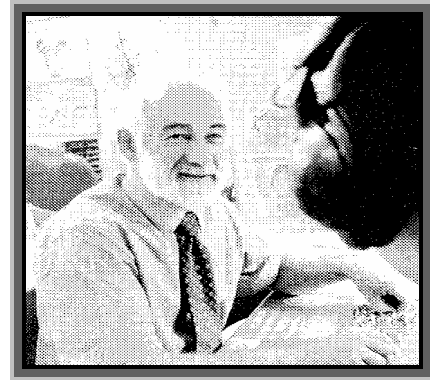
Microphone work is also used to enable the child to hear himself. “Sometimes children on the autistic spectrum have difficulty listening to their own voices,” said Pascal Maher, “so it’s a good learning exercise — a feedback loop that helps in the listening training.”

Pascal Maher became interested in severe learning difficulties through his 20 years experience as a guidance counsellor. He is also a trained neuro - developmental therapist. This therapy works on re-training reflexes and improving specific learning disabilities.

“I was seeing many people with severe difficulties in my work. However, after hearing about the Listening Therapy, I decided to study it. Internationally, it has been shown to improve attention spans, communication ability, memory and quality of speech.

“I see children who after treatment are more connected. They begin to come out of their own

A Cluas Programme



Pascal Maher ‘re-train’ a person to listen

world and relate much better to others.” he said.

How does it work?

The sophisticated sound equipment used at Cluas includes an amplifier with two audio channels. One channel is set to amplify the high frequency of incoming sound while simultaneously decreasing the low-frequency sound.

When the sound reaches a certain volume, it activates a ‘gate’ that redirects sound to the second audio channel. This channel decreases the low-frequency content while increasing the high-frequency content.

As a result of this rapid alternation or ‘flip flip’ of sound, from one channel to the other, the sound is perceived to be pulsating. These pulsating beats ‘exercise’ the auditory system, re-training how a person listens.

Toronto research

In a study of 400 children in Toronto, 95% of parents said that the programme had helped their children. In a follow-up assessment six months later, 83% of children (according to parents) had maintained the improvements; 145 said some of the gains had been maintained; only 3% maintained none of the improvements.

Cost

The Cluas Programme fees are substantial. An initial assessment of your child will cost €350. The full programme, tailored to the needs of the child, cost in the region of €5,000. The length of programme varies from child to child.

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