

BRAIN PLASTICITY AND THE HARD OF HEARING

By Marilyn Dahl

“I’m hard of hearing so I hear more slowly.” These are the words Margaret Brown, President of Chilliwack Branch, uses to explain her hearing difficulty to someone. I’ve adopted the phrase for my own use, and it tends to be effective in getting the other person to slow down and speak more distinctly. A look of understanding dawns in their eyes. Scientific research has shown that people with impaired hearing do indeed hear more slowly – there is a bit of a delay in processing and comprehending the spoken word. This applies at all ages, and is of importance in the educational setting, where hearing impairment, combined with the negative effects of noise in the classroom combine to put the hard of hearing student at a disadvantage.

I define “research” as a scientific process which proves something that “common sense” already knows. It is useful to have such research findings undertaken and published. It establishes credibility and a written record of the problems associated with coping with a hearing loss, and suggests solutions. Sometimes, too, research findings excite the public as well as the professional imagination and lead to the development of programs and policies which benefit us all.

In recent decades there has been great excitement over the breakthrough discovery in neuroscience that the brain, rather than being “hardwired” like a computer, can actually change its own structure and function. This is possible even into old age. Acceptance of

this concept has led to, in varied instances, the rehabilitation of stroke patients, vision for the blind, the cure of some learning disorders, and children with cerebral palsy disorders learning to move more gracefully. It has led to brain exercises which rewired the brain and reduced mental deficits, eliminated chronic pain, rejuvenated aging brains, and cured intractable depression. The brain actually changes itself. Dr. Norman Doidge's book, *The Brain that Changes Itself* recounts many personal stories of such triumph over trauma and disability.

The concept is called, "brain plasticity" and inspired the invention of the cochlear implant. We who have hearing loss, whether congenital, early onset, or adult acquired know about the importance and effectiveness of exercises in auditory habilitation and rehabilitation, coupled with use of a hearing device. Common sense and experience have told us so. The hard of hearing have run courses in speechreading and coping strategies for many years. CHHA's web page (www.chha.ca) offers some of these, under "Publications". Have a look at them.

There is no age limit on this benefit from auditory rehab either. Lily Bernstein, of Montreal wrote me recently that, at age 85, on the recommendation of her audiologist, she has begun to use a hearing aid in her right ear to augment diminishing hearing in her left ear, in which she has used a hearing aid for 40 years. She had never used one in her right ear because it gave only distorted language. On her own, she began auditory training, and learned to identify the sounds of various mechanical devices in her home, and is doing better with unscrambling language. Marvellous brain retraining.

For my part, with my cochlear implant, I continue to work at auditory music retraining, having purchased several CDs of “golden oldies” sung, respectively, by Frank Sinatra, Bing Crosby, and Perry Como. I play them in the car and try to understand the lyrics, some of which I already know. With repetition, suddenly a previously mysterious word or phrase will become understandable. One phrase continues to elude me. The song is “Jeepers Creepers” and in praise of those marvellous “peepers” Bing sings “How’dja get the lead out?” Now Der Bingle has never been a clear speaking vocalizer but this was a non refutable challenge. I confess – I downloaded the lyrics from the Internet. He is saying “How’d they get so lit up?” Sometimes there is a limit to brain plasticity.