

**Hearing Health inquiry submission:**  
Community Affairs References Committee.

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**1.0 Introduction.**

I am a Deaf Australian living in London and working as a postgraduate researcher at University College London. This submission uses research evidence to illustrate that sign language has a central place in the education of deaf children. This submission will refer to current academic research and is divided into three parts: an overview of sign language linguistics and linguistic human rights, brain-imaging studies involving deaf signers and, finally, the merits of bilingualism in education. Together, the evidence presented will reveal that deafness need not be seen as a tragedy or a cause for medical intervention, but that signed languages are a normal part of the diversity of language groups across the world, including Australia.

**2.0 Linguistics and Linguistic human rights**

It has long been proven that sign languages are real languages; the first linguistic description of a sign language published in 1960 by William Stokoe, which showed that American Sign Language was not a poor manual form of spoken English but a language with its own phonological structure (Stokoe, 1960). Analysis of signed languages show that they have the same levels of language organisation as spoken languages (phonemic, morphological, syntactical and discourse) (Klima and Bellugi, 1979; Petitto, 2000; Johnston and Schembri, 2007).

Sign languages, like spoken languages, have their own grammar, vocabulary, and can be learnt from signing parents as a first language (Sutton-Spence and Woll, 1999). Furthermore, sign languages can be used for expression of subtle, technical and complex meanings, just like spoken languages (Johnston and Schembri, 2007). There are many dictionaries of sign languages around the world, including the Auslan dictionary, which was published as a book and a CD ROM (Johnston, 1997). Sociolinguistic research into variation in Auslan has demonstrated that variation in Auslan can be related to a person's age, gender, region, education background, and family background. It most certainly follows that as language groups produce their own culture, there is a Deaf culture (Padden and Humphries 1988 and 2005; Lane, Hoffmeister and Bahan, 2000; and Ladd, 2003).

Deaf people and sign languages have indeed been a part of society over the millennia. Woll and Adam (in press) discuss how:

*...in the West, the first written evidence of the existence of deaf individuals or groups communicating by gesture or signs can be found with the rise of the Mediterranean societies in the 5th century BC. From that time onwards, Greek philosophers like Herodotus, Socrates, Aristotle, and Plato, and their equivalents in Jewish and Roman society, philosophised about the nature of Deaf people's existence and their place in society and discussed their situation in law.*

Thus, Deaf people have used sign languages and have been a part of society for all that time.

Australian Sign Language (Auslan) arrived in Australia with the establishment of schools for deaf children in 1860 by Deaf people who brought British Sign Language (Johnston and Schembri, 2007), though there is earlier evidence of British Deaf people emigrating to Australia (Carty, 2000). Today, Auslan has been recognised as a community language in the National Languages Policy:

*It is now increasingly recognised that signing deaf people constitute a group like any other non-English speaking language group in Australia, with a distinct sub-culture recognised by shared history, social life and sense of identity, united and symbolised by fluency in Auslan, the principal means of communication within the Australian Deaf Community (Dawkins, 1991:20).*

Prior to this government recognition, sign language was not fully understood by government, educators, and academics. Whilst the situation has improved, Deaf people remain unequal to hearing people in many areas of community life. Some teacher of the Deaf training programmes in Australia today do not include enough sign language content to ensure that teachers are able to sign at a competent level.

The United Nations Convention of the Rights of Persons with Disabilities has been signed and ratified by more than twenty countries around the world, including Australia. This Convention among other things mentions

*...recognition of sign languages, recognition and respect for Deaf culture and identity, the promotion of bilingual education in sign languages and the national languages as well as accessibility to all areas of society and life, including legislation to secure equal citizenship for all and prevent discrimination as well as the provision of sign language interpreting. (Haualand and Allen, 2009).*

Therefore, to not protect or recognise sign languages is in breach of Deaf people's linguistic human rights. This includes not promoting bilingual education for Deaf children. The Australian Government has a responsibility to ensure that every Deaf child who is diagnosed as having a hearing loss has access to Australian Sign Language. Research evidence which will be

discussed in this submission indicates that sign language does not hinder spoken language acquisition. Instead, knowing a sign language can enhance reading skills and assist in the acquisition of a spoken language.

When the linguistic human rights of Deaf people are not met, Skutnabb-Kangas (2002) raises the spectre of possible linguistic genocide. Given that there are signed languages throughout the world, the biodiversity of languages is threatened if sign languages are not promoted and taught to Deaf children.

Education policies are highlighted by Skutnabb-Kangas, who cites the UN Convention on the Prevention and Punishment of the Crime of Genocide (1948), which has the following articles:

*Article II(e), 'forcibly transferring children of the group to another group';  
and  
Article II(b), 'causing serious bodily or mental harm to members of the group';*

Likewise, most minority education is guilty of linguistic genocide according to the UN 1948 special definition:

*Article III(1) 'Prohibiting the use of the language of the group in daily intercourse or in schools, or the printing and circulation of publications in the language of the group'.*

Skutnabb-Kangas contends that when sign language is not introduced in the classroom, Deaf children are not able to learn and use the language of the Deaf community, and for these children, 'the harm caused is much greater than for oral children, since trying to force Deaf children to become oral only and preventing them from fully developing a sign language in formal education, deprives them of the chance of learning the only type of language through which they can fully express themselves. Since they are unable to communicate with their parents, they are completely dependent on formal education to really develop their sign language skills to the highest possible level.'

Additionally, Skutnabb-Kangas states that:

*'many indigenous and minority children, schooled in a dominant language, show most of the indicators of an unsuitable education and an unequal society: high drop-out rates, low school achievement, overrepresentation in special education classes, high rates of suicides, youth criminality and unemployment, etc. Few have a chance to fully develop their linguistic, educational, cognitive and creative potential.'*

Harm as defined in Article II(b) would thus be inflicted if Deaf children as minority children were only taught in the dominant language, and not in sign language.

### **3.0 Neurology – the Deaf Brain**

As previously mentioned, sign languages have the same levels of organisation as spoken languages: phonemic, morphological, syntactical and discourse. (Petitto, 2000). Researchers at University College London with partners from King's College have explored whether the same systems in the brain are used to process signed and spoken languages, even though they are delivered through very different modalities.

Using functional magnetic resonance imaging (fMRI) MacSweeney et al. (2002) compared how Deaf people who were brought up using British Sign Language (BSL) processed BSL with how hearing people processed audio-visual spoken English. They found that both sign language and spoken language processing were left-lateralised. In other words, they were processed on the same side of the brain and used very similar networks (see MacSweeney et al., 2008 for review). This study found that Deaf native signers process BSL in the classical language areas – Broca's and Wernicke's areas, just as hearing people process spoken language.

This evidence suggests that there is little difference between how spoken languages and sign languages are processed by the brain. This research has contributed to how languages in general are understood; to process language in the classical language processing areas in the brain, a person does not need to speak and listen, this can be achieved through sign language.

The team at UCL have also explored speechreading (lipreading). Campbell and Capek (2008) also find that when the auditory cortex is not activated by acoustic stimulation, it can nevertheless be activated by silent speech in the form of speechreading. Policies withholding sign language before or after cochlear implantation are in conflict with this evidence. This evidence runs counter to the current practice in auditory-verbal training which claims that in order to maximize the benefit of cochlear implants, the visibility of oral actions must be reduced, and focuses on training the auditory cortex. Infants are highly sensitive to seen speech, and speechreading actually aids speech processing after implantation (Rouger et. al., 2007). Campbell and Capek (2008) conclude their review: *superior temporal regions of the deaf brain, once tuned to visible speech, can then more readily adapt to perceiving speech multimodally*. On the basis of these data it is therefore argued that it is inappropriate to withhold visual language – whether visual speech or sign language – from deaf children, even those with or about to receive a cochlear implant.

### **4.0 Bilingual education and bilingualism**

Bilingual education for Deaf children is the teaching of Deaf children in both sign language and spoken/written language, using sign language as the most accessible first language, to teach English as a second language, although actual practice varies from setting to setting (Gregory, 1996). This approach has had a long history in Scandinavian countries and in Sweden, Deaf children have achieved academic results comparable to their hearing peers (Svartholm 1995).

This came at a time when educators in a number of different countries noticed that Deaf children with Deaf parents had higher literacy skills than those with hearing parents (Israelite, Ewoldt and Hoffmeister, 1992) and began to realise that this was because these Deaf children were bilingual, or were able to learn a language within the critical period.

Research shows that similar patterns in language acquisition are seen in both signed and spoken languages (Emmorey, 2002; Morgan and Woll, 2002). In spoken languages, a child will reach their first word milestone within 9-14 months – the true index of normal language development (Petitto and Kovelman, 2003). Unfortunately, for Deaf children with hearing parents, sign language learning often starts after this point, which may have a negative effect on the long-term language development of the Deaf child. Between 90-95% of Deaf children are born to hearing parents who do not know sign language at the time of their child's birth, and thus acquisition of both spoken language and sign language is often delayed, (Morford and Mayberry, 2000, Johnson and Newport, 1989). Subsequently the age of exposure predicts performance on psycholinguistic tasks (Newport, 1990; Mayberry, Lock and Kazmi, 2002) with native signers out-performing people who learnt a sign language late. Surprisingly, people who learnt sign language later as a second language out-performed people who acquired a first language late, because the latter had acquired no natural base for languages within the critical period. Also, native signers outperformed people who learnt English later as a first language (Mayberry, 1993).

Yoshinaga-Itano (2006) describes the Colorado Home Intervention programme in a state where the average age of diagnosis is two months of age and a referral is usually made within 48 hours of diagnosis. Parents are offered different choices in which services they want to use and which language they will use in the home. Parental support in the form of Deaf or hard of hearing service providers, who assist with 'language, cognitive, social-emotional and sometimes speech and auditory skill development', is provided. Connor et al., (2000) found that the use of sign language with children with cochlear implants resulted in higher vocabulary levels than those who were educated orally. It is imperative that parents have as much information about sign language and be able to access parent support.

Jiminez et. al. (2009) found in a comparative speech development study of deaf children with an unilateral cochlear implant that bilingual children had better verbal and manual expression' than those who only 'achieved better results in terms of speech intelligibility, auditory reception and grammatical closure.' A longitudinal study by Preissler, Tvingstedt and Ahlstrom (2002) also found that Deaf children with the best spoken language skills also had the best sign language skills, and that a child's development is positively influenced by:

*...the quality of parent-child and peer interactions, the communicative styles of the adults and importantly that the use of sign language positively influenced the development of the children's communication.* (Hyde 2007).

Herman (2002) found that Deaf parents are aware of, and indeed capitalise on, their child's visual perspective whether using speech or sign. In contrast, a hearing mother may not appreciate that a Deaf child responds to seeing her face rather than hearing her voice. Gallaway and Woll (1994) in Herman (2002) find that hearing parents fail to acknowledge the child's difficulties with access to language input and, as a consequence, communication opportunities are missed. Deaf parents, whether using signing, speech or both provide good models of early interaction (Gregory, 1996).

Full access to a language can have a positive effect on a child's development. In a study by Dammeyer (2010), the psychosocial development of Deaf children was examined. He found that while psychosocial difficulty in children with a hearing loss was 3.7 times greater than a comparative group of hearing children, if there was evidence of good sign language and/or oral language skills, this psychosocial difficulty was not evident.

These studies stress that it is quite important to think of both languages as being of equal importance. Often people do not treat both languages equally and treat sign language as a means to an end, of teaching Deaf children the written/spoken language. The Deaf Community is a minority community and will always be - education should teach Deaf children how to become Deaf adults and not hearing adults.

## **5.0 Recommendations:**

- *That the Australian Government meets its obligations under the National Policy on Languages, the Disability Discrimination Act and the UN Convention of the Rights of Persons with Disabilities by ensuring that every child born with a hearing loss have access to a sign language.*
- *That the Australian Government implement a national strategy to ensure that all children with a hearing loss have access to Auslan as a first language on diagnosis.*
- *That parents of children diagnosed with a hearing loss have access to Auslan classes, and are able to meet with Deaf role models.*
- *That hearing parents of children with a hearing loss have access to support and Deaf role models in well-structured early intervention programmes.*
- *That all cochlear implantation programmes be required to incorporate Auslan classes for implantees and their families.*
- *That the education of Deaf children include such subjects as Deaf studies (including study of Deaf history, folklore, and Deaf culture).*

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The author would like to thank Professor Bencie Woll (Director, Deafness Cognition and Language Research Centre, University College London), Emeritus Professor Ruth Campbell (UCL), Dr Mairead MacSweeney (Institute of Cognitive Neuroscience, UCL), Dr Jordan Fenlon (Deafness Cognition and Language Research Centre, UCL), Dr Merle Mahon (UCL), Dr Rosalind Herman (Language and Communication Sciences, City University for their assistance with references, and comments on earlier drafts of this submission, and Emeritus Professor Mervyn Hyde (Griffith University, Australia) for his assistance with a reference.