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Communication and Learning in an Aboriginal School: The Influence of Conductive Hearing Loss

**Anne Lowell, Budukulawuy, Gurimangu,
Maypilama and Nyomba.**

Northern Territory



Introduction

Otitis media (middle ear infection) is one of the most common childhood diseases all over the world and is very prevalent in many indigenous populations including Australian Aborigines. When children have otitis media they often have a hearing loss that can range from slight to moderately severe. This hearing loss is often hard to identify and can come and go. The problem often starts in infancy and can continue for years; hearing returns to normal in some children but some have permanent hearing loss. Even a mild hearing loss in early childhood can seriously affect communication development and learning. This can make it very difficult for children to succeed in the classroom — even when they no longer have active otitis media or hearing loss.

Otitis media (OM):

- is very common and begins in infancy (up to 100% of babies in some communities (Boswell *et al.*, 1993))
- usually causes a slight to mild conductive hearing loss
- can be easy to see (perforated ears with pus running out)
- can be very difficult to see ('glue ear'— no obvious signs)
- often gets better as children get older.

The conductive hearing loss (CHL) associated with otitis media:

- can come and go
- is sometimes very mild so no-one knows the child has a hearing loss
- can have long-term effects on communication and learning — even after hearing returns to normal.

The Study¹

Even though research in other countries has investigated the effects of OM/CHL very little information was available about how this problem

¹ This paper is based on a research project funded by grants from the National Health and Medical Research Council, Sir Robert Menzies Memorial Foundation, and the Channel 7 Children's Research Foundation of South Australia.

affects Aboriginal children — so a research project was conducted in a traditionally oriented Yolngu² community in North-East Arnhem Land.

Thirty children were followed over two years: classroom interaction was videotaped, hearing and communication development were assessed, and their teachers and parents were interviewed. The Yolngu educators played a very important part in analysing the videotapes, so that the research findings were based on the Yolngu interpretation of what was going on in the classroom, rather than on a Balanda perspective.

Do Aboriginal Children Experience Similar Communication and Learning Problems in the Classroom to Other Children with OM/CHL?

We found that some of the children in this study were experiencing similar problems with communication and learning to those experienced by children with CHL in other populations. For example, some children were late starting to talk and sometimes their language was still delayed at school-age. Some children had difficulty maintaining attention, understanding the language used in the classroom and remembering instructions and information. Since strong oral language skills are very important for literacy it is not surprising that these children were also making very limited progress with reading and writing, as well as other academic areas — even when they attended school regularly.

Communication difficulties reported in the children's first language:

- late starting to talk
- using 'baby talk' longer than other children
- listening difficulties (problems with attention, memory and/or comprehension).

How Can OM/CHL Make It Difficult for Children to Succeed in the Classroom?

Even when the teacher speaks the same language as the children:

- it can be hard to focus attention if they are not close to the speaker or if there are distractions
- it can be difficult to maintain attention particularly on language-based activities/tasks for long periods
- the language used in the classroom can be difficult to understand because it is different to the way language is used at home
- both listening and speaking skills might be delayed due to hearing loss in infancy so children can't communicate as well as other children the same age
- long instructions or complicated information can be difficult to remember
- reading and writing is much more difficult if oral language is not strong
- complex language (metalinguistic) skills needed for literacy — sounding out words, blending sounds back into words, remembering which sounds go with which letters — might not be well developed
- motor skills — such as handwriting — can also be a problem for children who have had OM
- communication difficulties can seriously affect classroom behaviour and social relationships.

Some Unexpected Findings

We did discover something that surprised us: some of the children who were progressing very well in the classroom were found to have the

² Aboriginal people in this region refer to themselves as 'Yolngu' and to non-Aboriginal people as 'Balanda'.

worst hearing loss. These children had developed strategies to compensate for their hearing problems: they appeared to rely on visual and contextual cues more than other children; they watched the teacher more closely; they sat very still and away from distractions (which was sometimes at the back of the group); and they also watched other children for cues about what was happening or what they were expected to do. These children compensated so well that most of their teachers were not aware of their hearing loss. It was the children who had a history of fluctuating CHL — not the children with the most severe hearing loss — who were experiencing the greatest communication and learning difficulties. Most of these children had not developed effective compensating strategies and were considered by their teachers as having communication or learning difficulties of some kind — even though some no longer had a significant hearing loss.

Some unexpected differences between Yolngu and Balanda listening behaviour in the classroom were also found. The Yolngu educators explained that Yolngu listen differently to Balanda and these differences in listening behaviour were very clear in the videotapes. Some children (those with normal hearing and communication development) could listen effectively without watching — sometimes it seemed like they were not paying attention but then they would give the right answer! Yolngu children do not always show that they are listening by sitting still and using eye contact like Balanda children do — so it is easy to misunderstand children's behaviour.

Often children will move around, fidgeting and talking to other children — but at the same time they are able to attend to the teacher. As one Yolngu educator explained 'they can concentrate with their ears even when they do not concentrate with their eyes'; but some children (those who

have hearing or communication problems) do need to concentrate with their eyes and their ears to pick up the message clearly.

Cultural differences in listening behaviour can easily be misunderstood—we need to be very careful not to confuse communication differences with communication difficulties.

Differences in listening behaviour:

- children with good communication skills can listen to the teacher even if they are looking around, moving about, fidgeting or interacting with other children
- children with communication problems need to sit still, watch the teacher and other children and listen closely to help them understand
- Yolngu educators consider the child's responses to check if they are really listening, not just whether they 'look like they are listening'.

We also found that hearing loss was not the main cause of communication problems in these classrooms. Communication between the children and the Yolngu educators was generally successful, no matter what their hearing levels (see below). However, communication breakdown between the children and Balanda teachers was very frequent. Often the teachers did not realise the communication breakdown was happening, as the children and Yolngu educators used strategies which masked the problem. For example, the TA, or a child who speaks more English than the others, might translate as the teacher talks, or the children guess what to do or say from the situation, or from the teacher's voice or expression, or from one or two key words that they recognise. Because of these strategies the Balanda teacher may not realise how little of their language the children actually

understand. As well, the teachers' limited knowledge of the children's language also contributes to the frequency of miscommunication.

Even though all the children in this school were learning English as a second language (ESL) this was not reflected in the training or allocation of staff: there was no ESL specialist position and none of the teachers had specialist qualifications in this field. It was widely recognised that the children were not learning English successfully. However, this was not necessarily because the children had a problem with learning: the classroom observations showed that the oral English instruction was not adequate for children to successfully learn English — even for those children who were not further disadvantaged by the effects of CHL.

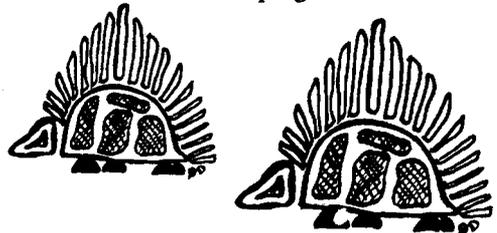
Many factors other than current hearing loss may have contributed to language learning difficulties in these classrooms including:

- the absence of a common language between Balanda teachers and children
- differences in communication styles between Balanda teachers and children
- inadequate school attendance
- differences between home and school in the way language is used
- inadequate specialist support and training for classroom teachers
- ineffective and/or inappropriate teaching practices and curriculum content
- delayed first language development due to the effects of CHL or other factors
- auditory processing and/or metalinguistic difficulties (e.g. developmental effect of CHL)

Another surprise was that the high noise levels in the classrooms did not cause the level of difficulty we expected from Balanda experiences. Even when classrooms were very noisy this did not appear to affect the children's listening and attention; nor did the Yolngu educators report it to be a serious problem. Only two of the children — who both had one ear better than the other (asymmetrical hearing loss) — found listening in noisy situations particularly difficult.

Sources of confusion in identifying children with hearing-related problems:

- Yolngu children do not always show they are listening by sitting still and watching — children with normal hearing can be listening effectively even when they are moving around and fidgeting — but in other populations such behaviour is often a sign of CHL but is not always the case with Yolngu children
- some children who have normal hearing when they are tested still might be in trouble due to earlier hearing loss — they need help too
- some children with hearing loss have developed strategies to help them — watching the teacher closely and watching other children: they look like very good listeners (Balanda style) and their other difficulties might not be noticed
- when the teacher and children speak different languages communication breakdown is frequent and should not be confused with hearing loss
- the source of the problem may not lie with the child but with the program.



Some Examples From the Study Group

Wamut has near normal hearing now, and attends school regularly, but he has a history of perforated eardrums which sometimes heal then perforate again. At first he was doing very well at school but as the language demands of the classroom became more difficult he started to have problems. His teachers feel he must still have a hearing loss because he doesn't seem to listen: he can't concentrate for long when the teacher is talking and often forgets instructions so he has to watch other children or ask for help to know what to do. His whole word recognition is good (he has a strong visual memory) but he has difficulty with reading and spelling unfamiliar words and remembering which sounds go with which letters. The Yolngu educator in Wamut's classroom recognises his need for extra support so she repeats instructions, explains what is happening in more detail, encourages other children to help him and prevents failure on tasks by modelling correct responses. Wamut always passes the school hearing screening and has received no extra services despite his learning difficulties.

Wamuttjan has a mild to moderate hearing loss in both ears. She has had perforations since she was very small and still sometimes has pus coming from her ears. She is teased because of this. She was late starting to talk but now her oral communication skills are strong. In the classroom her teachers usually think that she has good hearing because she seems to be such a good listener: she sits very still and watches the teacher closely. Balanda teachers usually interact very positively with Wamuttjan, possibly because of her 'Balanda' communication style. She has learnt to listen like this because she needs all the extra cues to help her because of her hearing loss. She is making very good progress with literacy and with learning English — but Wamuttjan

always fails the school hearing screening. One year she was flown to the nearest town to see an audiologist and was given a bone conductor hearing aid to take back to the school. The teachers were surprised because she didn't seem to have any problems hearing in the classroom — and they didn't know how to operate the hearing aid. Wamuttjan thought it was to stop the pus coming out and after a short time she stopped using it. She is continuing to make excellent progress with all aspects of classroom learning and communication.

What Strategies Help Aboriginal Children With Past or Present OM/CHL to Succeed in the Classroom?

Even though all but one of the children in this study had previous or continuing CHL, communication between children and Yolngu educators was generally good. A number of strategies were used by the children and the teachers which seemed to help overcome the effects of CHL.

Yolngu educators, as well as some Balanda teachers, use many strategies to help children communicate and learn effectively in the classroom which are similar to the way Yolngu communicate with children outside the classroom. For example: lots of talking; using simple language appropriate for the developmental level of the child; emphasising facial expression and intonation; using gestures and sign language; and using stories and explanations to help children understand new information.

Some of the ideas for improving classroom communication and learning which worked very well in this school include:

- **Yolngu and Balanda working together, respecting and sharing each other's knowledge and skills:** the Yolngu educator who shares the first language/dialect of the children is essential for effective communication (to communicate information and to identify and help repair communication breakdown when it occurs)
- maintaining 'best listening distance': if all instruction is done with children **sitting on the mat** with the teacher sitting on a small chair using a low white board or easel instead of the blackboard:
 - children are all very close to the teacher so they can hear more easily
 - the teacher's voice will be stronger than the background noise
 - the children can see the teacher's expressions and lips more clearly which gives extra information about what she/he is saying
 - children of any age — not just early primary — are happy to work in this culturally appropriate way
- summarising and repeating information using simplified language — short sentences, familiar words, *yalnggi matha* (baby talk)
- **using 'actions'** — Yolngu sign language — as well as (not instead of) talking
- **working in small groups** so children get more chance to interact with each other and the teacher — they are likely to be more confident, it is easier to identify and support children who need extra help, and there is more opportunity for children to work together
- encouraging children to follow what is happening by **watching other children** (modelling) as well as using other **non-verbal cues** (e.g. lip reading)
- recognising and accommodating **individual children's communication needs:**
 - monitoring children's attention and comprehension by observing their responses
 - communicating in a way that each child can understand
 - providing extra assistance to develop the oral communication skills they need for the classroom
- providing **specific activities to develop oral communication and auditory processing skills** which are necessary for classroom learning and literacy (Yolngu educators already use a range of such activities and can help to adapt useful Balanda ideas)
- **adapting curriculum and teaching approaches** to compensate for likely communication and learning difficulties
- preventing failure by providing the **extra support necessary for children with OM/CHL to succeed in the classroom.**

Conclusion

The use of a language of instruction in which children do not have sufficient competence was the greatest barrier to successful classroom learning for the children in these classrooms. The influence of CHL, particularly on auditory processing and language development, constitutes an additional barrier which reduces their chances for successful classroom learning, even when instruction is in the child's first language. However, the serious long-term negative educational and social effects of OM/CHL can be minimised by providing early intervention and preventative strategies which are already available to non-Aboriginal children in this and many other countries. Equitable access for Aboriginal child-

ren to appropriate health and educational services does not yet exist and must be urgently addressed if these children are to have the chance to achieve their educational and social potential.

By the time a child gets to school their CHL can have affected their communication and other areas of development — treating the hearing loss at school age is too late. Educators need to help health service providers understand that OM/CHL in early childhood can cause learning difficulties later — so that early intervention becomes a priority. Only early identification and appropriate treatment for otitis media in early childhood can prevent educational and social disadvantage due to OM/CHL.

Finally, it is necessary to recognise that Yolngu parents and educators best understand the communication and learning needs of their children. Effective communication and teaching strategies already widely used by Yolngu parents and educators must be recognised and encouraged. Acknowledgement of this expertise is essential if Yolngu children are to receive the support they need to succeed in the classroom.

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Budukulawuy, Gurimangu, Maypilama and Nyomba are Yolngu educators from North East Arnhem Land. They became interested in otitis media and its effects through their experiences as both educators and parents. **Anne Lowell** is a speech pathologist with a particular interest in the effects of conductive hearing loss on communication and learning. The authors are continuing to participate in various research, resource development and education projects related to the effects and management of OM/CHL, as well as Yolngu language socialisation. □

