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WHY WE NEED MORE ABORIGINAL ADULTS WORKING WITH ABORIGINAL STUDENTS

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INTRODUCTION

The culturally shaped communicative context of classrooms has been documented to be an important influence on social and educational outcomes for Aboriginal students. There is increasing evidence that it may be a critical factor in the outcomes of Aboriginal students with conductive hearing loss (CHL) during their school years (Lowell 1994, Massie 1999). This article describes research that explores social and educational disadvantage associated with conductive hearing loss in two remote schools with wholly Aboriginal class groups taught in English by non-Aboriginal teachers.

Prevalence studies show that CHL is endemic among Aboriginal children. At any time between twenty-five percent and fifty percent of Aboriginal students are likely to have a hearing loss (Quinn, 1988). In some schools this rises up to ninety percent. This hearing loss is a consequence of middle ear disease, otitis media, which Aboriginal children have earlier, more frequently and with longer bouts of greater severity than do non- Aboriginal children (McCafferty, Lewis, Coman & Mills, 1985).

It seems likely that conductive hearing loss contributes significantly to Aboriginal educational outcomes. This proposition has often been put forward (Armstrong, 1975; Price, 1981; Nienhuys & Burnip, 1988) however, little research has been carried out in this area. Lewis (1976) found Aboriginal students with a history of middle ear disease performed more poorly on auditory and verbal tasks than other Aboriginal children. Similarly, Jacobs (1988) found otitis media associated with delayed first language acquisition among young Aboriginal children. In contrast , Lowell (1994) found minimal communicative and social disadvantage associated with hearing loss in a remote bilingual school.

It is essential for educators and families to be aware of classroom social and educational difficulties related to CHL, as the level of disadvantage is associated with CHL. is shaped by the communication strategies used by teachers and peers (Lowell 1994, Massie 1999). Lowell's (1994) work suggests that classroom communication strategies can minimize adverse effects resulting from conductive hearing loss. She found few social or educational problems when Aboriginal children from a remote community were taught in the local language, by teachers from the same cultural and linguistic background in small, same culture class groups with whom there is long-standing deep relationships.

Some of the successful strategies Lowell observed in these classrooms were

- Use of more simplified spoken language;
- More frequent verbal repetition;
- Being in close proximity to the child when speaking;
- Increased use of sign language and non verbal instruction;
- Encouragement of face watching including lip reading; and
- High levels of peer support.

Lowell (1994) noted that communicative breakdown was most likely to occur in cross-cultural contexts, when hearing impaired Aboriginal students were interacting with non-Aboriginal teachers using English. Even this when it occurred was often 'repaired' by Aboriginal teachers and peers. Lowell's (1990) findings are supported by the work of Massie (1999) who studied communication in four Aboriginal classrooms, three taught by non-Aboriginal teachers and one by an Aboriginal teacher. She found Aboriginal children with CHL had less communicative breakdown in the classroom where the Aboriginal teacher provided a culturally responsive learning environment. She described culturally responsive practice as social participation style that was less formal, had less reliance on verbal teaching strategies and use of strategies that encouraged observation, practical competencies and peer support. Lowell (1994) and Massie (1999) demonstrate culturally derived support strategies can help minimize educational and social disadvantage associated with Aboriginal children's conductive hearing loss.

The educational context for the overwhelming majority of Aboriginal students is in classrooms where there is limited availability of culturally based communicative support. Urban classrooms are taught in English and rarely have Aboriginal teachers or assistant teachers. Most regional and remote schools are taught in English by a non-Aboriginal teacher, sometimes with the support of an Aboriginal assistant teacher. This author (Howard, 1990) found significant social and educational disadvantage associated with CHL in a class taught in English by a non-Aboriginal teacher, supported by an Aboriginal teacher. In this classroom students with a current hearing loss were described by their teacher as contributing less to class conversations, having difficulty in following directions or answering questions and being less attentive than other students. Their teachers also saw them as needing more one-to-one assistance and as being more disruptive than were other students in this class (Howard, 1990).

Some students with hearing loss in this classroom were observed to use culturally derived peer learning strategies of the type described by Lowell (1994). However, the effective use of peer learning strategies was often limited by non-Aboriginal teacher attitudes, which assumed they were the only legitimate focus of learning. One teacher complained that 'they (Aboriginal students) are just too interested in each other', effectively converting a potential peer learning asset into an educational deficit. Further, the Aboriginal teacher assistant's use of effective non-verbal teaching strategies was constrained by the non-Aboriginal teacher who had told her to 'teach by talking, not by showing'. This suggests that the classroom adaptations that can assist Aboriginal children with hearing loss may be actively resisted in many schools where there is no awareness of the culturally based communication skills Aboriginal adults can use to assist Aboriginal children with CHL. This points to the cultural context of the classroom being an important influence on the level of disadvantage experienced by Aboriginal children with hearing loss..

It is useful to consider classrooms in terms of where they can be placed along a cross-cultural continuum. At one end of the continuum are wholly Aboriginal class groups, taught by an Aboriginal teacher, speaking Aboriginal language- bilingual schools. Mid way along the continuum is where wholly Aboriginal class groups are taught in English by a non-Aboriginal teacher, often with Aboriginal education worker- most remote schools. At the other end of the continuum is where the majority of the students in class groups are non-Aboriginal and teaching is in English by a non-Aboriginal teacher- urban and regional center schools.

This study seeks to explore further the level of disadvantage experienced by Aboriginal children with hearing loss in cross-cultural classrooms. In particular to answer the question 'to what extent are the social and educational difficulties reported by this author in one cross cultural classroom, also evident in other cross cultural classrooms?' The research investigates in two remote schools the relationship between hearing loss and participation in verbal learning in class, need for one-to-one-help, level of achievement and causing disruption in class.

METHOD

The two remote area schools comprised nine classrooms with 167 students. In both schools instruction was in English by non-Aboriginal teachers and Aboriginal teaching assistants. A teacher survey filled in jointly by non Aboriginal teachers and Aboriginal teaching assistants asked them to identify levels of student achievement, disruption, need for individualised assistance and participation in classroom discourse (making contributions to class conversations, attention in class, carrying out teacher directions and answering the teacher's questions). Surveys were carried out immediately before hearing tests were undertaken.

Hearing loss was identified by pure tone audiometry and tympanometry. Students with hearing loss being defined as those with a loss greater than 20 dB averaged over .5, 1, 2 and kHz in the better ear. Sixty-eight children (41 %) had hearing within normal limits in both ears, sixty children (36 %) had bilateral loss-a hearing loss in both ears and thirty-

nine children (23%) had a hearing loss in one ear. Comparisons were made between students with a hearing loss in both ears and those without a current hearing loss; children with a unilateral hearing loss were excluded from the comparisons. The prevalence of hearing loss in these schools is consistent with that found in other studies among Aboriginal children. (Quinn, 1988; Weeks, 1991). The proportion of children with bilateral hearing loss was greatest in early childhood classes, where two thirds of the classes had a current bilateral loss and lowest in upper primary classes- one third of class group with a current bilateral loss.

Pearson's Chi Square was calculated to determine the level of association between hearing loss and other variables.

RESULTS

The results support that Aboriginal children with bilateral hearing loss participate less in class, are more disruptive and require more one to one assistance.

Classroom Participation

There was a very strong association between having a hearing loss and teachers reporting students did not answer questions in class ($p = .001$), as well as teachers reporting students with hearing loss make few contributions in class ($p = .005$). There was also a strong level of association between having a hearing loss and teachers reporting students having difficulty in following their directions ($p = .017$). Having a bilateral hearing loss is associated with limited participation in teacher's verbal teaching strategies.

There was not a strong association between having a hearing loss and appearing to not pay attention in class ($p = .088$). Later work by this author indicates that Aboriginal students with CHL may be seen as more attentive in one-to-one situations, because they use face watching to compensate for diminished auditory input. However, they are also seen as less attentive in group situations, because they look around the class more than others to watch what other students are doing. The apparently weak relationship between CHL and attention may reflect that the survey question failed to distinguish between attention in one to one and group situations or teachers had difficulty interpreting culturally different 'attentional style'. Lowell (1990) described that many Aboriginal children with normal hearing tended to not make eye contact despite attending to what is being said. The lack of association between hearing loss and classroom attention as observed by teachers suggests identifying Aboriginal students with hearing loss on the basis of classroom attention is likely to be unsuccessful.

Class disruption and need for help

Having a hearing loss was also very strongly associated with teacher report of students causing disruption in class ($p = .003$) and need for individual help from the teacher ($p = .004$).

Level of achievement

On initial examination it appears there is not an association between hearing loss and achievement, measured by teacher report ($p = .215$).

However, a closer examination of the data reveals differences between upper primary and early childhood classes. This data is presented in Tables 1 and 2.

Table 1
Hearing loss and Achievement Level in Early Childhood Classes

Early Childhood	<i>Students with average or better achievement</i>	<i>Students with below average achievement</i>
<i>Normal hearing</i>	17	7
<i>Bilateral hearing loss</i>	25	17

There is no significant association between hearing loss and achievement in lower primary classes.

Table 2
Hearing loss and Achievement Level in Upper Primary Classes

Upper Primary	<i>Students with average or better achievement</i>	<i>Students with below average achievement</i>
<i>Normal hearing</i>	23	7
<i>Bilateral hearing loss</i>	6	12

There is a significant association between hearing loss and achievement in upper primary classes ($p = .01$)

The lack of association between hearing loss and achievement in lower primary classes (grades 1-3) may be interpreted in a number of ways. Firstly, it has been suggested that the effect of chronic hearing loss on Aboriginal student's achievement only becomes apparent in upper primary classrooms (Jacobs & Sinclair, 2002). It may be that difficulties related to hearing loss that develop in early childhood only become evident when

children are challenged by an increasingly difficult, language centered curriculum in upper primary grades.

A second possibility is that the disruption caused by the high proportion of students with a current hearing loss in early childhood classes also adversely impacted on the achievement of the minority of students with normal hearing, lowering the general levels of achievement. This author, (Howard, 1990) suggested that the classroom disruption and need for one-to-one help by a high proportion of students with hearing loss in classrooms can impinge on the learning opportunities and achievement of all class members. Two in every three early childhood student had a bilateral hearing loss, compared to one in three of upper primary students. It is possible the disruption and demands of children with hearing loss shaped the educational outcomes for all students in early childhood classes. This would mean the lack of significant association between hearing loss and achievement in early childhood may be due to the pervasive effect on the achievement of all students because of disruption and demands of the high proportion of the class group with hearing loss.

There is some support for this from observations in one of the early childhood classes in this study. In this class there were few children with normal hearing. This class had been extremely difficult for teachers to manage. One teacher had resigned from his teaching position because of the frustration he experienced in attempting to manage the class. Another teacher had been transferred because of her inability to manage it. The class group had its third teacher for the year and she was struggling to maintain order, let alone teach. It appeared that the unmanageable nature of the class was related to the absence of a sizable group of students with normal hearing. In other classes the group of students with no hearing loss, who were able to follow teacher directions, modeled what to do for students with hearing problems. However, in this class the proportion of students with hearing loss was so high, peer modeling could not work. The resultant difficulties in classroom management affected the learning opportunities of all students in the classroom.

DISCUSSION

These results suggest that Aboriginal children with bilateral conductive hearing loss experienced significant teacher reported social and educational difficulties in these nine cross-cultural classrooms. The classroom context of these classrooms, a wholly Aboriginal class taught in English by a non-Aboriginal teacher supported by an Aboriginal teaching assistant, is typical for schooling in remote areas. Information solely derived from teacher's perception of students' classroom responses is, of course, not an objective measure of children's classroom behaviour. Teachers are biased observers, attuned particularly to issues of discipline and inclined to favor students to whom they can personally relate. Malin's (1990) work highlights the importance of teacher perceptions and attitudes in determining Aboriginal children's educational opportunities. By selectively bestowing support and providing access to classroom resources, teachers favor some students and disadvantage others. Teacher perceptions may not just measure the classroom reality of students, but also create it.

It is uncertain to what extent that teacher perceptions described in survey results merely reflects the educational and social disadvantage of Aboriginal children with hearing loss in cross cultural classrooms or may actually signify a process that contributes to creating this disadvantage. Whether the results of this study reflect or create reality, they support that Aboriginal children with hearing loss in cross cultural classrooms experience significant educational and social difficulties at school. Hearing loss was strongly associated with teacher report of poor learning and social outcomes in these two remote schools. Teacher's perceptions of Aboriginal students capacity to participate in classroom discourse and the need for individualized assistance was strongly related to their hearing status. Further, teachers identified that classroom disruption mostly involved students with current hearing loss.

Given Malin's (1990) work, which demonstrates that some teachers selectively exclude Aboriginal children from educational opportunity who are perceived as uncooperative, it would seem likely that the difficult behaviours of Aboriginal children with hearing loss results in them, more so than other Aboriginal students, being often excluded by teachers from educational support and resources.

The propensity for Aboriginal students with CHL to be disruptive supports findings that current CHL contributes to school behaviour problems (Moore & Best, 1987; Howard, 1990). How CHL contributes to school behaviour problems is a subject of this author's current research. Results suggest that social and behavior problems arise from student's attempts to compensate for CHL related communication problems in cross-cultural classrooms. More information on this can be found at www.eartroubles.com

In the upper primary class groups in this study, students with hearing loss achieved at a significantly lower level than did other students. These results support the often-discussed proposition of an association between Aboriginal children's endemic hearing loss and low school achievement.

The absence of an association between hearing loss and achievement in lower primary classes is interesting. This may be related to early childhood curriculum being less dependant on language than is the case in the upper primary classes. Students with hearing loss may be able to get by through observation in early childhood classes, however in upper primary classes learning through language is essential for success. Another possibility is that the higher proportion of children with bilateral conductive hearing loss in early childhood classes impacts on the achievement of all children in these classes. This author (Howard, 1990) has suggested that the higher the proportion of a class group that have a current hearing loss, the greater the disruption to the learning opportunities of all students in class, due to teacher time being taken up managing disruption and providing one-to-one help. These are speculations also requiring further research.

Overall, teachers described that there were significant difficulties experienced by Aboriginal children with bilateral hearing loss in these classrooms. This suggests that the culturally based communication strategies that have been found to be used by Aboriginal teachers which help to minimize problems related to hearing loss (Lowell 1994, Massie 1999) appear less evident in these cross cultural classrooms.

Earlier research (Howard, 1990) together with the work of Lowell (1994) and Massie (1999) points to the importance of having Aboriginal adults providing classroom support to Aboriginal children with CHL. Access to Aboriginal adults familiar with Aboriginal styles of verbal and non-verbal communication, preferably who have established relationships with the students can help support Aboriginal children with hearing loss. Further, there is much that training of non-Aboriginal teachers can learn from Aboriginal teachers and Aboriginal families about working with Aboriginal children with hearing loss.

This analysis of research results suggest that there are some important strategies for school systems and teacher training to consider in meeting the needs of Aboriginal children with conductive hearing loss. These are to:

- Ensure Aboriginal students with CHL have access to Aboriginal teachers and tutors;
- Train Aboriginal teachers and tutors in issues around CHL;
- Ensure that non-Aboriginal teacher training and professional practice support Aboriginal teachers and tutors being able to utilise culturally based communication and teaching strategies;
- Provide professional development to non-Aboriginal teachers to adequately prepare them for cross-cultural classrooms where a significant number of Aboriginal students have hearing loss;
- Such teacher training needs to include information about conductive hearing loss as well as effective cross cultural communication strategies and
- This training also needs to include behaviour management strategies that consider both hearing loss and cross cultural communication. Some resources in this area are available at www.eartroubles.com

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