

Identifying educational practices that promote inclusion for students with a hearing loss

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Abstract

The project being described in this paper used both quantitative and qualitative methods of analysis to assess the perceived effectiveness of the work of itinerant teachers of the deaf in promoting inclusion in mainstream classrooms for students with significant hearing loss. Methods of data collection used include questionnaires and semi-structured interviews.

The results of the study identified factors that enhanced or inhibited the effectiveness of their interventions as well as the perceived effectiveness of the strategies used in intervention. Ages/grades of the students affected the type and perceived importance of direct intervention strategies used with students, but more specifically the students' individual educational circumstances and needs relating to accessing information delivered primarily through spoken language. The assistance offered to the classroom teacher appeared to be less influenced by a student's age or grade, and related to the imperative of curriculum delivery and time available to assist the teacher in developing the skills to adequately accommodate the students' needs.

Introduction

The research examined different aspects of practices employed by itinerant teachers of the deaf when working with students with significant hearing loss in the context of their mainstream school environment. The practices employed aimed at promoting access to the curriculum and social opportunities and ensure participation in the school's community on an equal basis to their hearing peers.

Background to the study

The Student Support Service (SSS) is a Sydney-based itinerant teacher service that provides support to students with significant hearing impairments (greater than 60dB in the better ear) and their enrolling mainstream schools. SSS provides training for teaching staff in the regular school setting, and specialist teaching support to the students. An Individual Education Plan is developed for each student and prioritises educational and social goals, and acts as a guide for ongoing intervention and monitoring of progress. The itinerant teacher of the deaf (ITD) works in close collaboration with the classroom teachers to develop understanding of accommodations required to facilitate access to the curriculum and works directly with the student either in class or individually.

In 2004 two reviews were carried out by the management of the service. A Model Review (Race 2005) examined the literature and identified two broad models of itinerant teacher services. The first model focused on an advisory service which aims at informing teaching staff about the implications of having a hearing loss and methods of alleviating the impact on access to spoken language. The second model combined an advisory role with direct classroom support for the student (Race 2005). The second model reflected the work done by SSS.

A subsequent Quality Assurance Review (Race 2005) of SSS identified several areas for further investigation with the purpose of improving the efficiency of the service. Significant amongst these areas included an examination of the ITD practices for time inefficiencies, and activities that could be carried out by other support staff. However, this appeared to be somewhat simplistic in its suppositions, and this research exposes in more detail the nature of the ITD work, and adds value to notion of their work as having value in promoting inclusion for the students with whom they work.

The Concept of Inclusion for Students with Special Needs

The term 'inclusion' is used to describe the acceptance of a student into the regular classroom and the subsequent treatment of the student as an equal 'member' of that classroom and school community. The concept of inclusion as membership is promoted by both Powers (2002), and Antia et al. (2002). The term 'inclusion' may be regarded as an outcome achieved when the receiving school's community accepts that it is their responsibility to address the student's personal, social and learning needs and make adjustments accordingly (Power & Hyde 2002).

Specifically, children with significant hearing impairments need to have accommodations made for them in a regular classroom to minimise the impact of noise on hearing instructions given through spoken language; individualised intervention to help them to develop spoken language and literacy skills, and specialists to advocate for specific modifications made to the acoustic environment and teaching strategies (Luetke-Stahlman 1998). The success of inclusion of hearing impaired children therefore comes down to a preparedness to make these accommodations. Hyde and Power (2004) support these ideas and state that if we are to view inclusion as students being equal members of the classroom and the school community, the onus is on the regular school to adapt and change to suit the student's needs. The recent release of the Disability Standards for Education (2005) make it clear that schools are required to make appropriate accommodations, and if that means there is a disproportionate amount of resources goes into supporting the hearing impaired child - so be it.

Hegarty (2001), Graves and Tracey (1998), Power and Hyde (2002), Powers (2002) and Gale (2001) all write about 'inclusion' as being educationally and/or morally defensible for the majority of children with disabilities. For some, however, what is termed inclusion may simply be enrolment unless adjustments are made. For many children with significant hearing impairment, inclusion in mainstream education may in fact only be truly possible if some of the students' education occurs out of the classroom. Such examples may include auditory training or language tuition with a teacher of the deaf.

Significance of the study

Hyde and Power's (2004) study of hearing impaired students in various educational settings indicated that Australia has the largest percentage of students with a hearing loss attending regular schools in English speaking countries. At 84% the need for getting the educational inclusion right for individual children is apparent and immediate. The work of the ITD therefore becomes one of paramount importance in assisting the schools to prepare for and make accommodations for hearing impaired students. In addition, the expertise of a trained Teacher of the Deaf in promoting the student's development of listening skills, and the development of speech and language can be paramount to the student's academic and social achievements at school.

The Research Project

The project described in this paper examines the role of the itinerant teacher of the deaf (ITD) in the promotion and support of including students who are deaf or hard of hearing in the regular classroom. The project investigates practices that ITD perform in the regular classroom that support hearing impaired students within that environment. The study divided the students into four age/grade groups according to the NSW school grading system; Kindergarten – Grade 2 (infants); Year 3 – Year 6 (primary); Year 7 – 9 (junior secondary school) and Year 10 – 12 (senior secondary school). The project aimed to critically examine current practices; to develop an accurate conceptual model of activities of the ITD; reflect on individual and collective perceptions of the effectiveness of the model; and identify the practices that promote inclusion.

Research questions

1. Which of the practices carried out in the Itinerant Teacher of the Deaf's work are most effective in promoting inclusion of hearing impaired students into regular classrooms?
2. What are the significant factors that inhibit or enhance the effectiveness of the Teacher of the Deaf's work in promoting inclusion of hearing impaired students in regular classrooms?

Method

Participants

Ten ITD participated in the research project. All of these teachers have completed university qualifications in regular teaching and postgraduate qualifications in the education of deaf and hearing impaired students. Each participant had a minimum of 15 years teaching experience with students with a hearing loss, either in an itinerant role or in a special school setting.

Research design

A mixed method of data collection and analysis was used; questionnaire and semi-structured interview. The questionnaire was distributed to the ITD and, for those who volunteered; semi-structured interviews were carried out, taped and later transcribed.

The questionnaire aimed to establish the types of activities the participants used in their work, relative to the age/grade groups with which they were working at the time. In addition, the participants were asked to rate by importance the activities/practices that promoted inclusion for students with a hearing loss in regular schools. The questionnaire was divided into five sections. Only three (section 1 was divided by activity groups) of those sections are reported in this paper. The sections are:

- 1.1 Activities performed by the ITD that directly address the students hearing loss by adapting the environment
- 1.2 Activities performed by the ITD that directly address the students hearing loss by training the students
- 2.0 Activities performed by the ITD that assist the classroom teacher
- 3.0 Identification of conditions that enhance and inhibit the ability of the ITD to carry out their work effectively in the regular school environment.

Responses for sections 1.1, 1.2, and 2.0 of the questionnaire were entered into a spreadsheet. The responses were given a rating of 1- 4 (1 = unimportant; 2 = some importance; 3 = very important; 4 = essential; U = unsure). The rates of importance for each question were averaged and graphed according to grade/age groupings.

The ITD were subsequently invited to participate in follow-up semi-structured interviews. In these interviews, which were audio taped, participants were given a snapshot of the results of the questionnaire responses, and were asked to offer their explanation of the trends, and make comments about the nature of activities that were included in each category. The taped interviews were transcribed and analysed for common themes.

Section 3 asked the participants to identify three conditions that existed in schools that enhanced their ability to do their work, and three conditions that inhibited the effectiveness of their work in schools. This section is reported separately.

Results

Sections 1.1, 1.2 and 2.0

In this section of the paper, responses to three sections of the questionnaire are presented in table form. Participant discussion of these results derived from semi-structured interview follows each section. The results in this section of the paper respond to the first research question:

‘Which of the practices carried out in the Itinerant Teacher of the Deaf’s work are most effective in promoting inclusion of hearing impaired students into regular classrooms?’

Section 1.1 Activities that an ITD performs that directly address the students hearing loss; adapting the environment

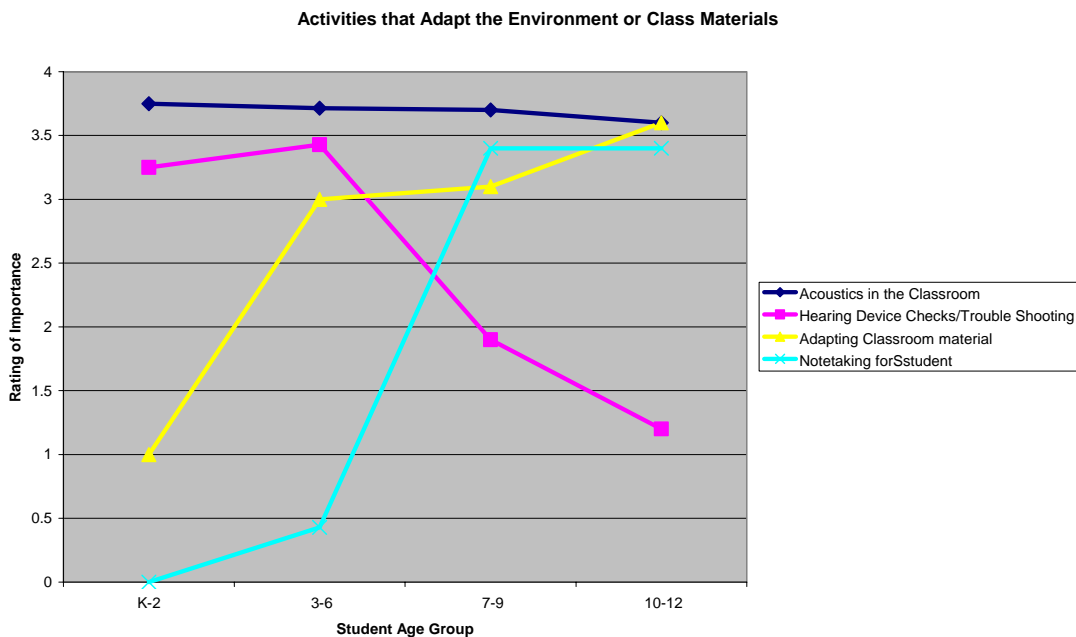


Table 1.1

Table 1.1 shows the results for activities Itinerant Teachers perform in their work that address and make adjustments to the physical environment. Such activities include advising on improving the acoustic quality of

the classroom, ensuring hearing equipment is in good working order; and making adaptations to class materials. Some examples of adaptations to class materials include providing visual representation of the subject matter, or taking notes for the student while the teacher is lecturing or the class is viewing a non-captioned video.

These results indicate that, according to the perceptions of the ITD, ensuring the acoustic environment is as good as possible remained an essential part of an ITD work regardless of the student age/grade. This means reverberation is minimised, background noise controlled and distance from the speaker is reduced (Luetke-Stahlman 1998).

The responsibility to maintain checks on a student's hearing equipment was regarded by the ITDs as very important in Kindergarten - 6 period, and remained as very important in grades 7-9, only when the student reached senior secondary school did this activity reduce to being unimportant.

Adapting classroom materials for students was assessed as unimportant in K-2, yet rose sharply to being very important for students in grades 3-9, and essential for students in grades 10-12.

It was noted that across all ages the acoustics of the classroom were similar. When the ITDs were asked to explain the nature of interventions described as 'acoustic', participants described making adjustments such as:

- Ensuring the student was seated close to the teacher
- Alerting the class teacher (and classmates) to the necessity of reducing background noise
- Ensuring the class teacher understood the need to position themselves so that their faces were visible to allow lip reading and in good light to reduce fatigue
- Alerting the teacher to the adjustments that can be made for a student when class discussions were being held. For example; arrange the students in a U-shape so the speaker is easily identified and lip reading can occur
- Ensuring the student's hearing devices were working at an optimal level, and advising schools about additional devices that can be installed, for example audio loops in halls and gymnasiums
- Alerting the teacher to situations which may be problematic for the student, as they occurred.

Participants reported that the type of intervention changed as the student matured. It was generally noted that the noise levels differed according to the activities that students engaged in. When the children were very young there tended to be more tolerance of noise, as the children were often engaged in 'doing' rather than

listening to the teacher. When students reach secondary school there was reportedly a greater emphasis on teacher instruction and group work/group discussion. The problems background noise cause is the same across age groups, but the differences in intervention were noted. Ensuring the best seating position and optimal class arrangement (U-shape for discussion) as well as effective use of Frequency Modulation (FM) hearing aid systems became increasingly important as the older students needed to concentrate on the increasing volume of information. It was also noted that older students were much more able to identify problematic noise sources, and the itinerant teachers would arrange for them to be fixed, whereas with younger children it was often the ITD that identified the sources of noise that were potentially problematic.

When discussing activities related to 'hearing device checks', all seven participants were clear about the fact that, whilst they believed it was part of their role to ensure the student's hearing aid and/or cochlear implant and FM systems were working well, it was equally important that the troubleshooting and responsibility of the hearing device management lay with the family and the student, more so as the student got older. The main reason given for this was that the ITD was not with the student for more than a few hours each week and it was not acceptable for the student to be without working hearing devices for any more time than necessary. The earlier the student developed independent management of their hearing devices the better.

Further, the participants believed that they could train the class teacher in simple trouble shooting, such as changing batteries for younger children, but they really were aiming for independent management in the children. They explained that even a five year old is quite able to remove and insert hearing aids, change batteries and hook and unhook their FM device.

When asked about the group of activities identified in the table as 'adapting classroom materials' participants responses were quite varied, particularly the type and amount of adaptations the ITD provided. A minority didn't believe it was their responsibility, but the majority spent a lot of time sourcing captioned videos and creating visual aids. One of the areas agreed upon was that the amount of information students were expected to learn (delivered through verbal instruction) increased dramatically during the years. In the early years, there was the opportunity for students to access lots of visual and concrete materials to help learn concepts, but by the time the students reached senior secondary school the emphasis was on "learning content for senior assessments". As a result there was an essential need to ensure students had access to information through visual mediums. For example: transcripts to audiovisual material, captioned videos, adaptations to curriculum and note taking in class.

There was a variation in the degree of modification to curriculum content ITD believed was part of their role and each case was closely related to individual student's language competency. If a student was assessed as not being able to access the curriculum content because of a severe language developmental delay, the

ITD prepared themselves or advocated for the preparation of modified work or modified expectations in the outcomes that were expected.

A similar degree of variation was evident in the descriptions of ITD in relation to 'note taking in class'. Note taking for students in class increased in importance as the student was expected to access increasing amounts of information delivered verbally in secondary school. All the ITD took notes if they had secondary students and saw it as an important part of their work. They explained that in secondary school there is an increase in pace and content delivered verbally, and the students had to adapt to a number of class teachers.

The style of note taking varied. Some of the participants saw it as an opportunity to demonstrate note taking techniques to class teachers, and used the board to take notes as the teacher taught. It was emphasised that this practice required a good working relationship with the teacher. Some took notes on paper when non-captioned videos were viewed, and others had an agreement with teachers that when complex topics were being introduced they would wait for the ITD to be present.

Section 1.2 Activities that an ITD performs that directly address the students hearing loss; training the students.

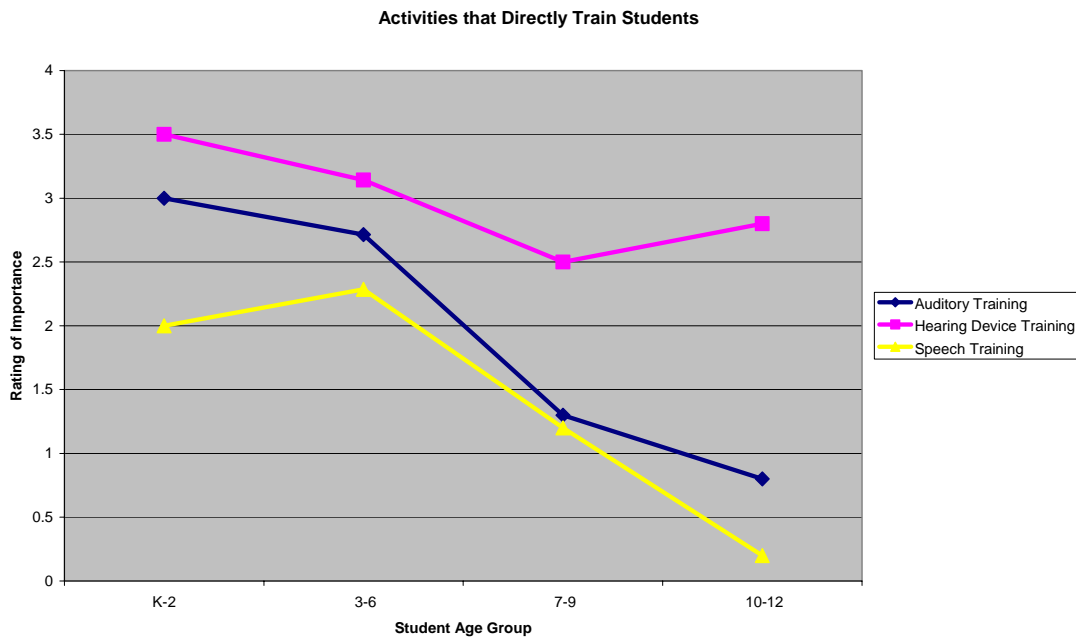


Table 1.2

Table 1.2 displays the outcomes for questions that relate to the ITD role in individual work they perform that train students to develop the use of listening skills, use their hearing devices optimally and develop intelligible spoken language. The trends indicate that the value of the ITD work that aimed at training students diminished to varying degrees as the students matured. Specifically, auditory training was a 'very important' part of the Itinerant Teachers' work in grades K-6 but dropped to an 'unimportant' role in grades 7-12.

Hearing device training was also assessed as being 'very important' to 'essential' in Grades K-6 and dropped slightly but remained a 'very important' activity in the secondary years. Speech Training had 'some importance' in grades K-6, dropping to an 'unimportant' part of the work in grades 7-12.

Participating ITD were asked to explain trends in the data relating to 'auditory training'. Many commented that their students had usually had early intervention prior to coming to school and had developed a high level of competence in listening. They believed that once achieved, this skill remained with the student throughout the school years. The majority of participants pointed out that a lot of auditory training occurred in early intervention programs, and that the years prior to school age were the optimal time for developing listening skills. Once the students reached school age, the focus of training was on listening in a noisy classroom. The explanation for the tendency for time to be spent on auditory training in secondary school was explained as being due to a shift in priority, particularly relating to the increase in the difficulty levels of language in the curriculum. As a consequence more time was spent assisting the student to keep up with the vocabulary, understanding the content of the curriculum, and the developing the skills necessary to become more independent learners. All participants, however, qualified their responses by saying that it wasn't that auditory training was unimportant, and that if the need arose they would prioritise that activity above others. One example offered was a secondary student who received a new cochlear implant. They also explained that it was an activity that was occasionally requested by a student and they would respond in these cases.

In regard to 'hearing device training', all of the teachers engaged in this activity and saw it as a standard part of the work they do at all ages, but most notably when the students were in primary school. The ITD carried a bag of hearing aid maintenance equipment and used this to show the students how to maintain their own hearing devices. This was often when an opportunity or problem occurred, but most ITD monitored the student's skill at hearing device management across all grades.

The main reason the activity maintained a high level of importance throughout the school years was the regularity with which students received new equipment and upgrades to their hearing devices. For example, Australian Hearing is now rolling out a new type of FM system that all students will eventually use.

Training the students and the class teachers in the effective use of FMs was an activity that was always a high priority, but the focus changed as the students started to participate in other class activities, such as group discussion. Classmates were then included in the training.

Participants described a number of factors which they believed to explain the fairly low rating of importance of 'speech training' for students in the early years and particularly in later years of schooling:

- As the technology of hearing devices have improved and the students receive early intervention the need for intense speech training for a Teacher of the Deaf has decreased in importance
- A number of the ITD felt they lacked skills and confidence in their own ability to teach speech. This was explained as being due to inadequate training and lack of practice
- Many of the students had private speech therapy outside school, and the participants felt it was unnecessary for them to take up time doing speech training in these cases
- It was regarded as unusual for the ITD to have a student who had speech that required intense speech work, it was more a case of if the need arose, and the Itinerant would prioritise it for that student. For example if prosodic difficulties or small articulation errors were noted, or if the student needed to present some school work orally as part of an assessment
- A question of low priority for the student – particularly secondary students whose focus was understanding the curriculum and completing assignments.

It was agreed, however, that speech training was part of the role of an Itinerant Teachers of the Deaf, and that when necessary it should be prioritised. Participants agreed it was not acceptable that the student's speech difficulties, if present, were not addressed.

Section 2.0 Activities that Itinerant Teachers perform that assist the Classroom Teacher

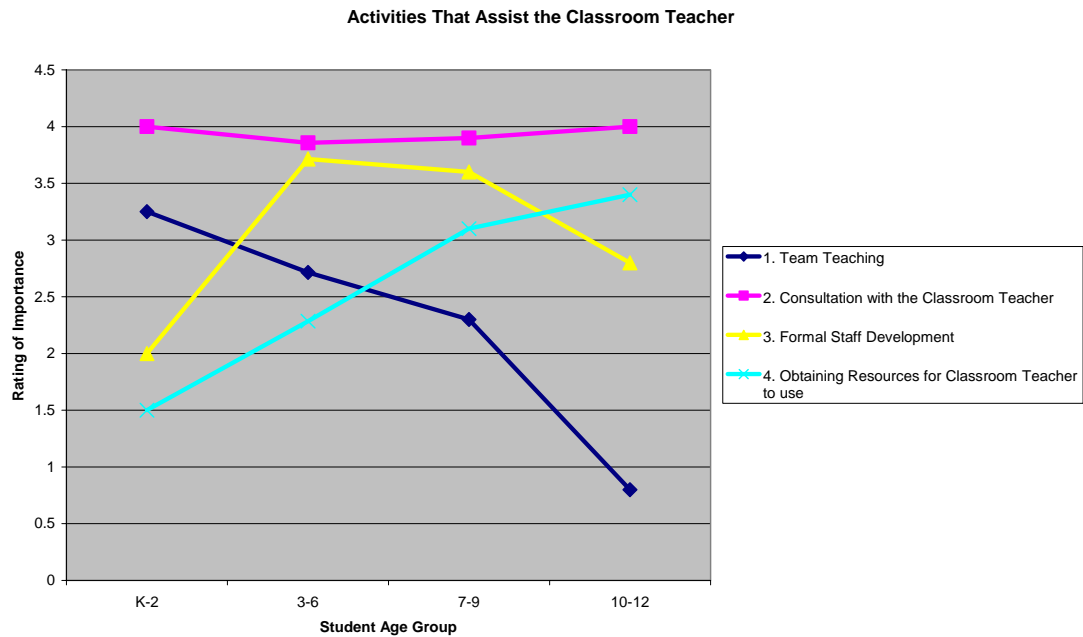


Table 2.0

Table 2.0 shows results for the question ITD were asked about activities they performed in their work that promoted inclusion for students with a hearing loss through providing assistance to the class teacher. This may involve working closely with the student and class teacher in the classroom, team teaching, consultation on matters pertaining to including the student with a hearing loss, providing formal staff development, or obtaining resources for the teacher to assist their delivery of the curriculum.

For the K-2 classroom team teaching was regarded as very important. In this context the term 'team teaching' is used to describe activities where both the class teacher and ITD are working together in the classroom. It may mean the ITD either takes a small group of students including the student with hearing loss, the ITD teaches part of the lesson, or the ITD works alongside the student with hearing loss, supporting their understanding of the lesson content. As the students moved into the 3-6 grades the rating of importance to promoting inclusion for the student for team teaching began to decline slightly but remained of 'some importance'. In the first three years of secondary education, team teaching was still regarded as having 'some importance' but dropped significantly to 'unimportant' in senior years.

Consultation with the class teacher was regarded as 'essential' to ensuring the student was included across all grades. Each year the students encounter new class teachers and new classroom environments and the ITD plays an ongoing role in working closely with the class teacher to ensure access to information is maintained, and the teachers' awareness of the students' needs are clear.

In the early years, formal staff development was regarded as having 'some importance', and rose to 'essential' for grades 3-9. As the students reached senior secondary years the rating dipped slightly to 'very important'. The comment that all the participants made was that it was at the formal staff development sessions that basic information regarding hearing loss and the accommodations that need to be made was imparted. It was regarded as an extremely important activity as all other information imparted built on this basic understanding. The lower rating of importance in grades K-2 was reported as more likely to relate to the *lack of opportunity* to present information to staff rather than their perception of importance. The slight drop in grades 10-12, was reported as again relating to lack of opportunity, or the fact that the students have been in the school for the entire secondary schooling, and the school was well aware of the students' needs.

The trend for rating importance of obtaining classroom resources rose steadily throughout the years – 'some importance' in K-6, 'very important' for 7-12. The participants commented that this was related to the difference in curriculum delivery. As the students moved up through the grades, lessons were increasingly delivered in a lecture style, with little visual or hands-on activities to support the learning. The ITD therefore believed it became a more important part of their role to provide this supplementary support to assist the student understand the content of the curriculum.

Participating itinerant teachers subsequently discussed 'team teaching' activities. They felt it was very difficult to truly team teach – that is collaboratively plan, program and deliver the lessons with the class teacher. Participants explained their role as working as a team with the class teacher in the classroom. The extent to which they had input into the lesson delivery varied widely and was largely dependent on the relationship they had with the class teacher. Some of the activities included:

- Taking a small group including the student with hearing loss
- Generally assisting all students had the affect of assisting them to be seen as another teacher rather than exclusively present for the student with hearing loss
- Taking a specific role – for example assisting with writing skills
- Taking the whole class at times which a number felt gave them the opportunity to model good teaching strategies that would assist the student with a hearing loss.

The ITD felt the drive to cover the content of the curriculum was so great that it didn't allow time for team teaching and the focus was on delivery of information rather than the process of learning. Additionally, students who reach this level of schooling tend to be quite independent and direct communications to the class teacher rather than via the ITD.

In general, participants found primary teachers much more open to team teaching than secondary teachers. This was explained as being as a result of the development of good working relationships with one class teacher in the primary grades, whereas in secondary school there were a number of teachers to get to know and less opportunity to reach a comfortable level in the class teacher-ITD relationship.

Participants were asked to explain what it meant to 'consult with the class teacher' and why this related to inclusion of the student. The participants explained that consultation on a weekly basis facilitated and encouraged the class teachers' confidence to work with the student and to develop understanding and empathy for the students' situation. This was explained by the participants as meaning the teacher was sensitised to the need for adjustments to be made to the class environment, teaching strategies, and the provision of alternative materials when necessary.

They explained their consulting activities as:

- Observing students, teachers and the environment and making suggestions to the teachers about optimising conditions for students with a hearing loss
- Informing teachers about the implication of hearing loss on the student's learning ability
- Sensitively making practical suggestions about improvements teacher can make to effect inclusion for the student. Two examples given were – ensuring the student understands a homework activity, and reduce class noise
- Passing on specific information about the student's individual difficulties
- Planning and collaboration, modelling good teaching strategies and advising.

When exploring the trends for 'formal staff development' in the Table 2.0, without exception the participants expressed surprise at the results and believed the need for formal staff development was essential and critical to all ages. They believed it may reduce in importance in years 10-12 if the student has been in the school for some time and the staff was well informed. However, formal staff development was regarded as the basis for all continuing consultation and provided essential information to all school staff that came in contact with the students.

One of the participants summed up this global sentiment with the following comments:

I think the beginning years are essential to start them off properly. Personally, I view it as essential right the way through. Each level has got a different need for the type of in-service and the actual type of information required. The senior years can be a bit blasé because the student has been there a long time. There is a blasé familiarity aspect that comes into the senior {grade}

teachers and it goes back to, 'What's it got to do with me? I've got all this content to get in. I've got to teach them, there's not enough time. I don't need to know all this stuff'.

Participating teachers were asked to explain activities related to 'obtaining resources for classroom teachers'. The type of resources the ITD provided included:

- Materials in different formats, most notably captioned versions of videos or written transcripts of videos the ITD themselves prepared. However, many felt with the advent of DVDs, schools had begun to take more responsibility for providing these
- Many of the ITD provided visual representations relating to the class topics to assist the student to make linguistic-visual links and increase understanding.

The reasons given for the change in importance with later grades related specifically to the provision of captions on videos and DVDs that were used as part of the lesson. As many subjects in secondary school study visual texts as parts of the curriculum, for example the Stage 5 and 6 (NSW) English curriculum.

Results: Section 3

The results in this section respond to the second research question:

'What are the significant factors that inhibit or enhance the effectiveness of the Teacher of the Deaf's work in promoting inclusion of hearing impaired students in regular classrooms?'

Conditions that enhance effectiveness

Participants identified the importance of providing opportunity and sufficient time to in-service teachers and hearing peers. In addition, having regular discussions and conducting planning with class teachers and the provision, where necessary, of individual teaching sessions for the student was noted.

The apparent willingness of schools and individuals was another perceived as an important condition. Schools that are willing to accept full responsibility for the tuition and well being of the student were reported to be the schools that welcomed the ITD as a valuable source of expertise and assistance. It was also believed that teachers who demonstrated the most inclusive attitudes were those who were willing to learn about hearing loss and its implications for learning and made adjustments to teaching strategies, environment, presentation of information etc. The class teachers who displayed a willingness to work with the ITD as an equal partner in the education of the student and to 'go the extra mile' for the student with a hearing loss added to the positive and inclusive nature of the classroom environment and enhanced the ITD

ability to do their work effectively. Students who were willing to accept and use the assistance of the ITD, not surprisingly, also facilitated an environment where the ITD felt they could be most effective.

Finally, the participants explained that their work is made more effective when they are welcomed as valuable members of the education team, as experts who have information that is important, as advocates for the student and as a valuable presence in the classroom. Support from parents and management was also identified as an important condition.

Conditions that inhibit effectiveness

Participants identified several conditions that inhibit the effectiveness of their work in the regular school environment. One of these is insufficient time to consult with teachers. Another is when schools change timetables. Being regarded as a Teacher's Aide and used in this manner is another inhibitor. Classroom teachers who are disorganised or defensive and unhappy about having an ITD in the room is also assessed as inhibiting the effectiveness of the service offered by the ITD. Similarly, class teachers who refuse to acknowledge the needs of the student with hearing loss and do not attend staff development sessions to learn about the likely consequences can create difficulties for the ITD. Finally, over-anxious parents and students who are reluctant or refuse to accept the itinerant teacher's assistance are other conditions under which the work of the ITD can become less effective.

Discussion

In the analysis of the data that identified the level of importance of various activities ITD perform in schools, it is apparent that the majority of activities are adapted according to individual student's needs, and the type of activity the student is expected to cope with in the classroom. Essentially this refers to access to good listening conditions and a level of language appropriate to the student's individual development. There remain some activity areas that are consistent in approach across all grades. These activities relate particularly to the management of the acoustic environment, hearing device training, and the passing on of information regarding hearing loss to the class teachers and schools. Clearly the ITD use their specialist knowledge to inform the class teachers and to some extent the school community about the repercussions of significant hearing loss and the strategies and adaptations schools must make to ensure the student with hearing loss has access to all aspects of school life, but primarily the curriculum.

The ITD practices that addressed the student's hearing loss in the areas of classroom environment initially appeared to be related to grade groups, but as was revealed by the interview process, in reality related to what happened in the classroom. Specifically, the amount of information delivered verbally, the increase in

the need to listen and respond in groups, and the volume and degree of complexity of language the student is expected to know and use competently.

Participants believed it was an essential part of their role to continue to ensure the acoustic environment was optimal, even though presumably, the student remained in the schools for some years. Perhaps this was necessitated by regular changes in class teacher, and in secondary school, different classrooms which are sometimes reverberative and noisy, for example science labs, woodwork rooms, halls. It may also relate to the difficulty the ITD have obtaining sufficient time to in-service mainstream staff, but it was unanimously regarded as a standard practice in their work.

With regard to training, the student's maturity and increasing independence largely dictated the amount of intervention required, except in the area of hearing device training where new devices were a regular event. Although interestingly, speech and audition were regarded as important by the ITD regardless of grade, even when the students' own priorities for the assistance offered by the ITD shifted to accessing the content of the curriculum in secondary grades.

Practices of the ITD that assisted the classroom teachers in the classroom (adapting materials and team teaching) appeared in the initial analysis to be related to the students' grade group, and, upon further analysis of the qualitative data, it appeared the type of activities are more specifically dictated by the pressures faced by the classroom teacher to deliver increasing amount of curriculum content that will be assessed formally (NSW School Certificate and Higher School Certificate). Presumably, as a consequence, class teachers have less time to spend discussing strategies with the ITD. This compelled the ITD to put more effort into providing adaptations that directly assist the student. Similarly in grades 7-12 the opportunity for the ITD to work as a team teacher diminishes and the ITD role changes to one of direct support of the student. Some comments from the ITD also indicated this shift in support style was somewhat related to appropriateness from the students' points of view, who as adolescents, do not wish to be exposed as seeming different. Consultation with class teachers remained essential across the grades, apparently mainly due the significant gap in expertise and knowledge of hearing loss that appears to be rarely closed.

The main factors that related to the ITD work being enhanced or inhibited were related to the value the schools, parents and students placed on that work, and the time that they were willing or able to give the process. It appears to be the difference between being accepted as a team member and equal participant in the education process and one that was regarded as an imposition and a threat. This also appeared to be directly related to the acceptance from class teachers and schools that it was their primary responsibility to provide the best inclusive environment for the student.

Implications for policy and practice

It would appear that the acceptance and understanding of the ITD role in assisting schools to adequately accommodate the needs of students with hearing loss needs to be made clearer prior to providing a service in the school. One way of explaining this role, and in effect clearing the way for the ITD, would be to negotiate a service agreement with each school. Such a service agreement would include mandatory staff development and allocate sufficient time for the ITD to consult with, and train, the class teacher. In addition, the preparation of collaboratively developed individual education plans that include input from the class teacher/s, ITD, and when appropriate, parents, other professionals and the student. The individual education plan would serve as the blueprint for all aspects of the students' education and inclusion into the school community. Whilst the concept of individual education plans are not at all new, students with hearing loss have specific needs that go beyond the curriculum, extending into areas of environmental acoustics and access to complex learning that is delivered primarily through spoken language. Areas to be included could be specific goals for developing the student's communication competence including the role the ITD plays in fostering these skills; promoting the student's development of independence in managing their hearing equipment and advocating for their own needs relating to accessing information; and goals for the classroom teachers' development of skill and knowledge. Regard should also be made to the nature of the support the ITD provides to the student both in and out of the classroom. It would seem important, in light of the difficulties the ITD face regularly with class teachers and schools tending to abdicate their responsibility, that detailed roles for all the stakeholders need to be agreed upon and documented. Due to the variation in activities that ITD use to respond to students' different circumstances, standardised checklists that advocate for a one-type-of service-fits-all are clearly not going to be useful. Rather the students' individual education plans need to reflect the particular circumstances the student encounters in their schools and relate especially to the impact these circumstance have on the students access to information and opportunities.

Conclusions

Schools are increasingly aware of their legal and moral responsibility to make all accommodations necessary to include students with a hearing loss into their schools. Yet ITD are still reporting aspects that relate specifically to their acceptance in schools as being negative. This appears to be directly related to the preparedness of the school/class teachers to give the necessary time to learn about how to help individual students and to make adjustments to accommodate their specific needs. This situation reportedly occurred more often in secondary schools where there were a number of teachers dealing with the one student.

Lack of time was a huge factor for ITD; not enough school time allowed for in-service, schools rarely allowed class teacher release time for consultation with the ITD, and there was not enough time to work with the students. It would appear that one way to alleviate some of the pressures impacting on the ITD ability to

perform their work effectively would be to have a service agreement with each school. Central to all decisions is the consideration about how much impact the student's hearing loss affects their ability to access information that is delivered in less than ideal acoustic conditions, and the impact the hearing loss has had on their ability to access the level of language at which the curriculum is delivered. An individual education plan should reflect the educational circumstances the student is in and be flexible so it can change with circumstances and achievements.

The onus remains on mainstream schools to embrace their responsibilities to students with hearing loss, but the specialised nature of the expert knowledge and skill an ITD possesses is an essential element that insures appropriate interventions are in place to provide access.

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