

A Portfolio of Research "Inclusion for deaf and hard of hearing students – let's get it right!"
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Title: Inclusion for deaf and hard of hearing students – let's get it right!

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Abstract:

The Portfolio of three research projects examined the perspectives that Itinerant Teachers of the Deaf (ITD), classroom teachers and students with hearing loss had towards the factors that, in their respective experience, influenced positive inclusion into mainstream classrooms. The Linking paper presents the context for the Research Projects by explaining the nature of significant hearing impairment and its potential impact on academic and social outcomes for students, as well as the features of the educational environment and personnel involved in the inclusive process. Each project was conducted separately, and outcomes for each study reported, but the collective perceptions of the three groups of participants informed the suggestions for practice for members of the students' support team.

The Itinerant Teachers of the Deaf developed a range of support practices that responded to the students' individual needs within the context of their particular educational situation. Professional development for mainstream school staff, that was provided by the Itinerant Teachers of the Deaf, was highly valued by both the classroom teachers and the students, but the opportunity to provide this indirect form of support was at times limited by time constraints and mainstream schools failing to provide adequate opportunity. General training followed up by collaborative interactions between the Itinerant and classroom teachers was regarded as important as it provided the classroom teacher with specific information about the student in their class. Embedded in the findings was discourse about the importance of collegial and professional relationships, and the trust that develops between the Itinerant Teacher of the Deaf and the students. Overall, it seems professionally most practical to carefully assess and plan for support early in the inclusive process, both for the student and the classroom teachers. This is primarily the responsibility of the Itinerant Teachers of the Deaf, but the implementation of the plan relies on the willingness of all involved to work as a team to ensure this vulnerable group of students become equal members of the school community.

Candidate's Certification

I certify that the substance of this portfolio has not been submitted for any degree and it is not currently being submitted for any other degree or qualification.

I certify that any help received in preparing this portfolio and all sources used have been acknowledged in this portfolio.

A handwritten signature in cursive script that reads "Ruth Price".

Signature

A Portfolio of Research “Inclusion for deaf and hard of hearing students – let’s get it right!”
Submitted by Ruth Elizabeth Price, November 2010. Resubmitted with amendments, June 2011.

The Linking Paper

“Inclusion for deaf and hard of hearing students – let’s get it right!”

The development of the Doctor of Education Portfolio “Inclusion for students with a hearing loss – let’s get it right”

A brief overview of a professional, work and research framework

The researcher as a professional

I am a qualified Teacher of the Deaf and have been so since 1982 when I completed a Graduate Diploma in Educational Studies (Hearing Impairment) at the Nepean College of Advanced Education (now University of Western Sydney). I was fortunate to be offered a cadetship by the NSW Department of Education which enabled me to complete this training without financial loss and with a guarantee of employment at the end. Later, in 1997, I graduated from the University of Newcastle (Renwick College) with a Master of Special Education (Sensory Disability).

My interest in the education of deaf and hard of hearing students was sparked when as a very young mainstream secondary school teacher I was privileged enough to have the students from the Hearing Support Unit in my classes. I remain in contact with a few of these students as I have met them over the years in various postsecondary educational settings, and have stayed friends with them as adults with their own families. It was these few students and their educational and personal struggles and triumphs, and their inspiring Teacher of the Deaf who set me on this career path.

After graduating as a Teacher of the Deaf I was appointed to a Hearing Support Unit in a secondary school in Sydney, NSW. After a couple of years, I resigned this position due to having a young family and commenced part time teaching in TAFE colleges in Sydney. This led me to experience many opportunities including tutoring deaf and hard of hearing students in various TAFE courses, coordinating employment training courses, acting as a Teacher/Consultant and finally as the Senior Education Officer in TAFE NSW Head Office. In 1992 I joined the Royal Institute for Deaf and Blind Children (RIDBC) as an Early Intervention teacher and worked with babies and toddlers and their parents in their homes. I changed my roles a few times within RIDBC; working as an Itinerant Teacher of the Deaf, and my final role as the Manager for the department that provided services to students who access education in the mainstream, RIDBC School Support Services (Hearing Impairment). This role was a dual responsibility as both a Principal for a primary

school for hearing impaired students and the School Support Service (HI). While the School Support Service (HI) was the main context for my research, I have gained some understanding from many Teachers of the Deaf with whom I have worked in a variety of educational settings.

I have been very fortunate to have had such a varied career in the education of students who are deaf or hard of hearing. I have had many positive opportunities to further my career and enhance my professional knowledge, but best of all I have met and worked with many passionate and dedicated Teachers of the Deaf, and it is my hope that I can provide them with some insight into their practices to assist them to continue to develop their practice in a positive way. It is also my hope, that I can influence those who make decisions about specialist service provision for deaf and hard of hearing students who are in mainstream educational settings, to value and promote the expertise of these highly professional people and support them in their endeavours.

The Work Context

The study was conducted within the context of the School Support Service (HI), a service administered by the Royal Institute for Deaf and Blind Children in North West Sydney, Australia. The service employs a team of Itinerant Teachers of the Deaf, who are engaged in specialist service provision to a range of independent schools in the metropolitan area of Sydney. Their services involve weekly visits to schools to provide direct support to deaf and hard of hearing students who are enrolled in these schools, and indirect support through activities that involve consultative and collaborative practices with the school and its staff, in particular the classroom teachers.

The Research Framework

As the manager of a service that delivered specialist support services to students with a significant hearing loss in mainstream schools, the Doctor of Education at UNE provided the best framework in which investigate and report on the effectiveness of the practices our service engaged in. The study set out to accomplish two main goals:

1. Define and evaluate the role of the Itinerant Teachers of the Deaf.
2. Add to the body of knowledge in the field of educating students with a hearing loss who were included in mainstream schools.

3. Identify the areas in which classroom teachers needed further training in order to maximise their knowledge and understanding of practices that enhance inclusion for students with hearing loss.
4. Give a “voice” to the students who are included in mainstream schools about what aspects of support they believe helped them.
5. Provide a useful context within which to make recommendations that aim to improve the quality and efficacy of the service.

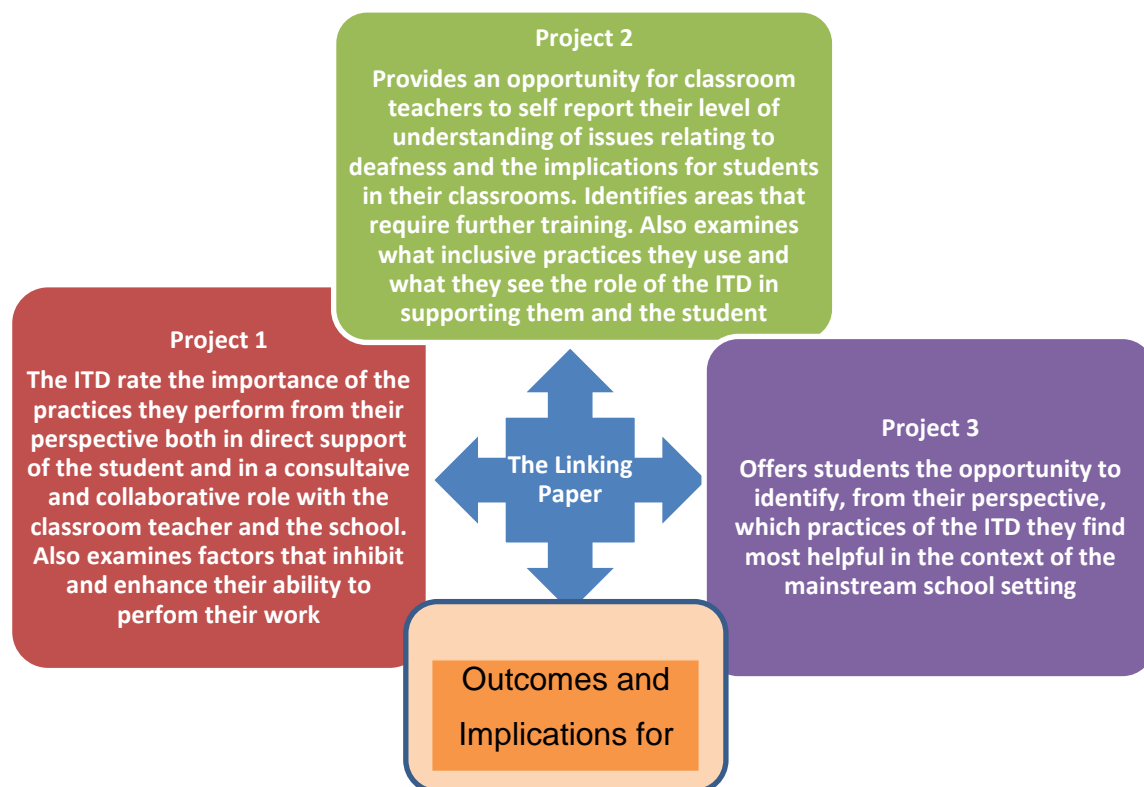
The Portfolio Structure

The Portfolio was considered to be the most appropriate format for the goals that were set for the investigation. Three important groups of stakeholders within the context of the mainstream school that were considered to significantly influence the educational outcomes for deaf and hard of hearing students were included in the study; namely the students, the classroom teachers and the Itinerant Teachers of the Deaf. Therefore a Portfolio of three separate, but complementary projects was considered to embrace the most effective way of examining the perspectives of all three groups of stakeholders. The Linking Paper provides an explanatory framework for the study, and as such, assists the audience to understand the context within which the research has been conducted.

The Three Research Projects

Each Research Project was discrete in structure, participants involved, and the order in which the three projects were conducted. However, the content of the data collection instruments in each project were intrinsically connected. The following diagram (Figure 1) explains the three Projects and the Linking Paper.

Figure 1 The structure of the Portfolio



Project 1

This project examined the perspectives of the specialist practitioners, the Itinerant Teachers of the Deaf, with respect to the importance of their practices both working directly with the students and activities that aimed at informing schools and supporting classroom teachers in their endeavours to include the student. Also identified were factors that enhanced and inhibited their ability to carry out their work

Project 2

This project examined the perspectives of the collaborative partners of the support services, the regular classroom teachers. The project aimed at examining the extent of their knowledge about deafness and its implications for education, and the level of training that had been received. The overall aim of this project was to determine in what areas the classroom teachers were well informed and confident, as well as identifying areas that required further training.

Project 3

This project examined the students' perceptions of the level of helpfulness of the Itinerant Teachers of the Deaf's interventions and practices as measured against a range of determined common activities. The recipients of the service, the students with hearing loss, were asked to rate the Itinerant Teachers of the Deaf's practice, in terms of helpfulness to their educational development.

The Research Questions

Each Research Project had a distinct purpose, but the cumulative effect aimed at identifying the main indicators of best practice in terms of: promoting inclusion for deaf and hard of hearing students; and, articulating the implications for future direction in the field of educating students with hearing loss in mainstream schools.

The overarching question that the Portfolio of research aimed to answer was:

"What are the experiences of Itinerant Teachers of the Deaf and general educators as they seek to establish inclusive learning environments for deaf and hard of hearing students, and how are the practices perceived to be helpful by the students they serve?"

To answer this question the perspectives and experiences of three of the major players in the inclusion process and within the context of mainstream schools were examined and findings compared; namely the students with hearing loss, their Itinerant Teachers of the Deaf's, and the classroom teachers. Each of the three projects responds to the overarching question by establishing each of the groups' individual and collective ideas about what makes an educational setting inclusive, thereby promoting equality of membership for students who are deaf and hard of hearing.

Project 1 The Itinerant Teachers of the Deaf's perspective

1. Which of the practices carried out in their daily work do the Itinerant Teachers of the Deaf believe to be most important in promoting the inclusion of students with hearing loss into regular classrooms?
2. What factors do the Itinerant Teachers of the Deaf find in their experience inhibit or enhance the effectiveness of their work in promoting inclusion of students with hearing loss in regular classrooms?

Project 2 The Classroom Teachers' perspective

1. What level of knowledge and understanding do classroom teachers identify that they have about hearing impairment and its implications for students?
2. What levels of knowledge do classroom teachers identify having about hearing impairment as an outcome of their current level of training and what further training is identified as being required?
3. What does the classroom teacher perceive the role of the Itinerant Teachers of the Deaf to be?

Project 3 The students with hearing loss' perspective

1. What do students with hearing loss like the most about having an Itinerant Teacher of the Deaf?
2. What do students with hearing loss like the least about having an Itinerant Teacher of the Deaf?
3. Which of the Itinerant Teachers of the Deaf's practices do the students with hearing loss find are helpful for them in the context of the mainstream school?

Links between the three projects

The projects examine the perspectives of the three main stakeholders present in schools about the factors that need to be considered for successful inclusion for students with hearing loss. Borg and Gall (1989) refer to research that collects essentially the same data from different samples as achieving triangulation, which they explain contributes greatly to confidence in the integrity of research findings, regardless of methods of data collection. While the research questions in the three research projects in the Portfolio have different purposes relating specifically to each group, embedded is commentary about the relationships that exist between the individuals involved. While each individual can exist without the others, it is the relationships that are formed that provide the structure of inclusion in which the student can be comfortable, and able to get on with the process of growing and learning both academically and socially.

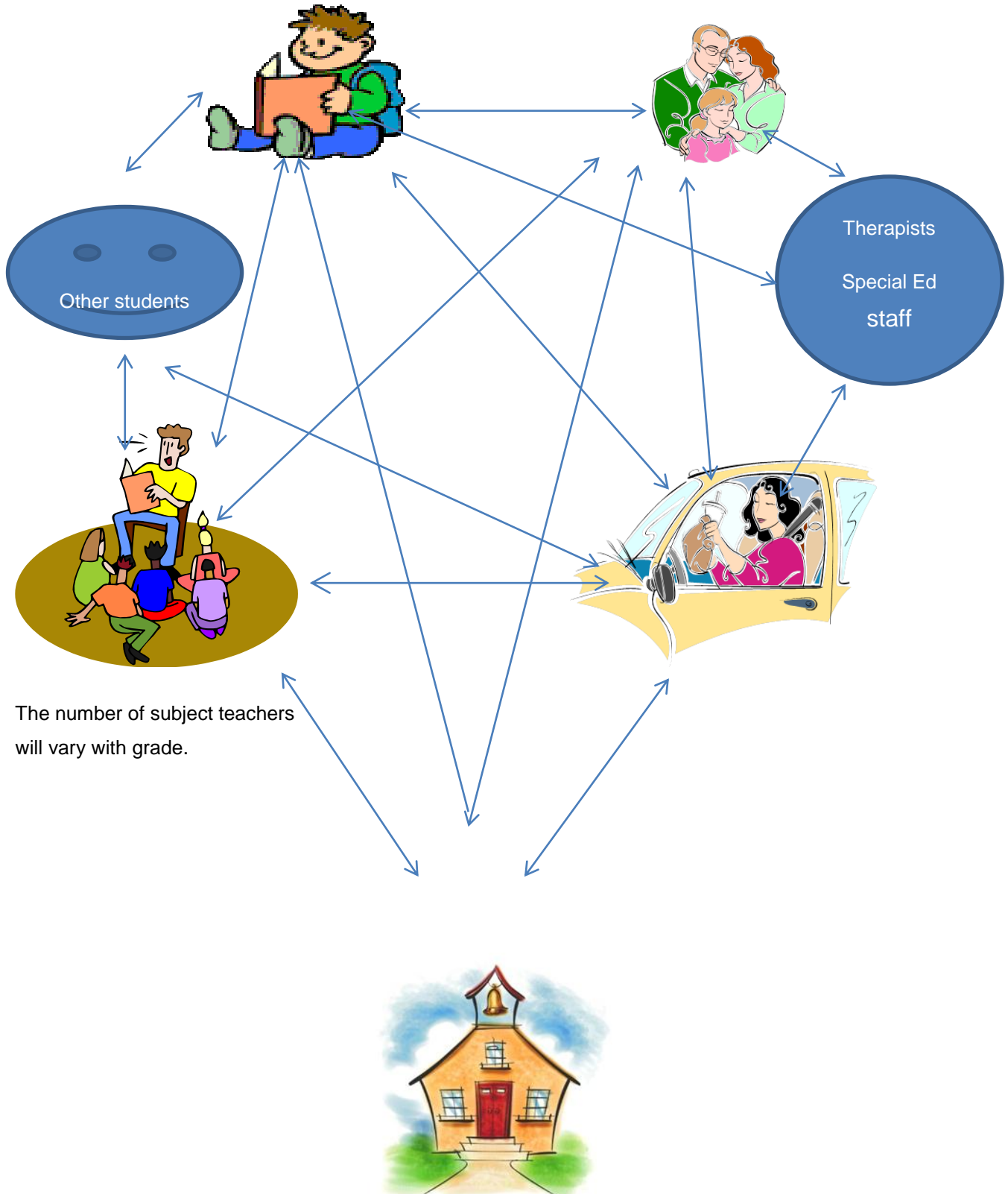
The number of members that constitute a student's support team may be determined by the student's age/grade, level of hearing loss, level of language and speech development,

type of hearing device/s used, level of independence and a range of other factors. The complexity of the relationships between the various members of the network of team members may also vary according to the nature of the student's individual requirements.

The diagram (Figure 2) below illustrates some of the possible relationships that may exist in this structure.

Note: It is acknowledged that parents play a significant part in the educational process for students with hearing loss; however, this relationship was not examined in this research project. It is recognised that parents' perspectives are important, and to include them in future studies would add a richness of data that would add another perspective on inclusion and the factors that may impact on the work carried out in schools.

Figure 2 Relationships that may exist in inclusive mainstream settings



The Choice of Research Paradigm

The nature of the research fits best in the interpretive paradigm. Cohen, Manion and Morrison (2001:22) explain the central purpose in the context of the interpretive paradigm is to understand the subjective world of human experience. The way in which the enquirer tries to gain an understanding of the phenomena is from within. As such, resisting external structures, such as those found in studies existing in a positivist paradigm that expose the viewpoint of the observer rather than the people who are directly involved. Further, an interpretive view which focuses on action, or intentional behaviour, rather than the conventional paradigm of behaviour which is responding to external stimuli, is more relevant to the type of studies in the Portfolio. Gibbons et al. (1994) describes this locally situated form of enquiry as one where the participants become active agents in defining and solving a problem as well as evaluating the outcome. Finally, the concept of an emergent, multi-faceted theory that is grounded in the data generated by the research, and develops from the situations that exist in the organisation, is more relevant than seeking to validate a devised theory.

Ontology

In dealing with the nature of reality in the context of the social world, Guba and Lincoln (1989) explain that realities are multiple, socially constructed, and not governed by natural laws. This is referred to as a relativist ontology which focuses on developing constructions from interaction with the people involved in the inquiry, and aims at common assent. Cohen, Manion and Morrison (2001) offer the description of reality in the interpretive paradigm as stressing the importance of the subjective experience of individuals in the creation of the social world, especially the way in which the individual creates, modifies, and interprets the world in which they are situated. These descriptions fit comfortably with my understanding and philosophical stance, the practices performed by the itinerant teachers in my organisation, attributes of the classroom teachers and, of course, the perceptions and views of the students with hearing loss.

Epistemology

Guba and Lincoln (1989) answer the epistemological question by explaining that the central stance is that it is impossible to separate the inquirer from the inquired in to, and it is precisely the interaction between the two that creates the data that emerges. Ladson-

Billings (2000) expands on this idea by explaining that knowledge and worldview are intimately connected. She cites Shujaa (1997) who posits the concept of symbiosis between knowledge and worldview – how one views the world is influenced by what one knows, and what knowledge one possesses is influenced by one's worldview. Cohen, Manion and Morrison (2001) explain that knowledge in interpretive paradigms is subjective, spiritual, based on experience and insight of a unique and essentially personal nature. Schwandt (2000) describes the inquiry process as a kind of activity where the doing transforms the theory and understanding into knowledge. Gibbons et al. (1994) further describes the production of knowledge as being one that is socially accountable and reflexive, involving a heterogeneous set of practitioners collaborating on a problem that is situated in a specific context.

The part 'values' play in the epistemology of the interpretive paradigm

Lincoln and Guba (2000) explain that the attention given to values in the interpretive paradigm make a significant departure from a conventional or positivist method of inquiry, which considers value as a form of bias that renders the inquiry results as invalid. As Paul and Marfo (2001) explain the difference lies in the relationship of facts and values. In the case of qualitative research, the view is that they are inseparable. Guba and Lincoln (1989) describe values as being an inevitable element of inquiry in this paradigm, not only of the inquirer but from all sources. This includes the various participants in the process, and the paradigm that informs the social structure the inquiry is situated in. Values concerning equity are embedded in the current discourse about disability and inclusion in mainstream education. These values are central to the investigation of the practices of the specialist teachers and the training of the classroom teachers.

The idea of "voice"

Kaufman (2000) describes the notion of 'voice' as an emancipatory process that extends beyond dialogue and describes the ability to speak one's truth. She further explains that this is not just a matter of telling of experiences, but of being able to share experiences, beliefs and standpoints in a safe environment.

Lincoln and Guba (2000) expand on the notion of voice as being an outcome of participatory research where the text, oral or written, not only exposes the researcher's voice, but the participants' as well. Stringer (2004) describes the intent to give voice to

participants of research as being important as it generates a body of ideas and concepts that are intricately linked with experience. These ideas and concepts inform and give validity to consensually decided-upon actions. Oleson (2000) describes the issue of voice in research as somewhat vexed, particularly how the participants' accounts are represented in text, as the writer of the text by definition holds the greater power. Young (2000) reiterates this concern that sociological research may be misused for the purposes of a dominant 'voice' that doesn't necessarily represent the view of the group. This is an important consideration in any research that was conducted where the researcher was in a position of power, for example an academic representing marginalised groups' views, and in the case of my research - an adult and teacher representing the views of students.

Authority and Power

In the framework within which I have been working, issues of power needed to be carefully considered. Issues of power are prominent in the discourses of disability, feminism, racism and those addressing gender. The premise behind these discourses is one of marginalisation and oppression. Kaufman (2000) discusses the importance of considering the relationships between the researcher and participants to guard against the impact power may have on the outcomes of any study into marginalised communities.

Considering the position I held in the organisation it was recognised that these issues may have arisen from my position and its perceived authority. Oleson (2000) alleviates some of the concerns with the label being one of 'responsibility' couched in the ethical behaviour of the researcher, so that the issue of power becomes less a matter of concern. In gathering the data for the three projects, care was taken to minimise the effect of the possible influence my position may have had as the manager of the service as well as the investigator. To minimise the impact of authority my position as the manager of the Itinerant Teachers of the Deaf included in the study may have had, participation was anonymous and voluntary. The questionnaires that were used to collect the data did not contain personal details and were collected by directing the participants to deposit completed questionnaires in a sealed box. Follow up interviews were also voluntary, and the data revealed was collated and presented in a way that individual responses could not be identified. Further precautions were taken when collecting data from the participants in project 3. The students were invited to return the completed questionnaires to the Principal supervisor at UNE rather than to the researcher.

Glossary

Terminology used in the EDD

Conductive hearing loss:

This type of hearing loss is caused by conditions that prevent the middle ear working well, for example otitis media. It is referred to as conductive because the sound is prevented from being properly "conducted" through the middle ear to the hearing nerves in the inner ear. Most middle ear conditions are temporary. Many Indigenous children are susceptible to chronic middle ear conditions (Australian Hearing 2010 online)

Sensorineural hearing loss: This term is used to describe a hearing loss that is permanent. It implies damage to the cochlear or inner ear structures. Descriptive terms used to describe the range of severity of a sensorineural hearing loss according to Australian Hearing are:

Normal hearing – up to 0 - 20 dB across the full range of frequencies

Mild hearing loss = 20 - 45 dB ISO

Moderate hearing loss = 45 – 60 dB ISO

Moderately Severe hearing loss = 60 - 75dB ISO

Severe hearing loss = 75 – 90 dB ISO

Profound hearing loss = 90dB+ ISO (Australian Hearing 2010 online)

Deaf and hard of hearing students: This phrase is encountered in current literature and defines students by the severity of hearing loss, but does not specifically distinguish those who identify as belonging to the Deaf community. An alternative descriptive term that may occur in the literature is 'hearing impaired'.

Student/s with hearing loss: This term is used throughout the Portfolio as a general term that implies the student has a hearing loss significant enough to require an assistive hearing device and access to specialist teaching support within their mainstream school. The students in this study have hearing impairments that fall into the moderately severe, severe, and profound ranges of hearing loss.

The Deaf student

This term is used to describe a student who identifies with the culturally defined Deaf community and uses Australian Sign Language (AUSLAN) as their preferred mode of communication.

Student with a disability: Throughout the portfolio this phrase is used to define a student who has a condition that has been medically diagnosed and will have an impact on their ability to access education without modification to one or more of the following aspects of school:

- The presence of an inclusion philosophy/policy in the enrolling school;
- Modification to the physical environment;
- Modification of the curriculum either in terms of content or the way it is presented;
- Adaptation by teachers to teaching strategies or classroom behaviour;
- The provision of support in the form of specialist personnel;
- In- service professional development for classroom teachers, administrative and support staff.

Inclusion: In the text throughout the portfolio the terms “inclusion” “include” “included” refer to a student with a disability who is enrolled in and attends full time at a mainstream school that their parents chose for them. This term is also used to describe a philosophical stance taken by a majority group with respect to a small number of students who without consideration being given to their special needs will be disadvantaged.

Integration: In the context of the portfolio this term refers to students with a disability who attend a mainstream school on a part time basis, or full time with significant support, but are not necessarily enrolled in the mainstream program.

Mainstream: A school that provides education to all children either by accident of being local to where the child lives, or by parent choice. The schools may be administered by the government, the local Catholic diocese or be registered as an independent school.

Regular classroom: Refers to a classroom in a mainstream school.

Classroom teacher/s and mainstream teacher: These terms refers to a teacher who delivers educational instruction within the context of a mainstream classroom across a

range of ages and subject disciplines. Typically, classroom/ mainstream teachers have not received more than generalised training during their undergraduate studies in working with students with hearing loss.

Itinerant Teacher/s of the Deaf: This title is given to a teacher who has undertaken specialist training in the teaching of students with hearing loss, and delivers their services to students at the school in which the student is enrolled. The term 'itinerant' indicates the peripatetic nature of the teacher, as they typically attend to a range of students on their caseload, often visiting two or more students in the one day at different school locations.

Introduction to the three research projects

Inclusion in Australian Education

The principle leading the practice of enrolling children with disabilities in the mainstream school, as opposed to attending one specifically providing education for the target population is that of normalisation. Normalisation refers to the inclusion of children with disabilities in every aspect of life as led by their peers without disabilities (Wolfensberger in Byrnes, Sigafos, Rickards, & Brown, 2002). In terms of educational opportunities, this principle means that parents have the right to send their children to any school of choice (Foreman, 1996). In theory, this enables parents to enrol their children with disabilities in any school, and to expect they will receive equal access to educational and social opportunities as their non-disabled peers. The concept of inclusion as related to educational opportunities for all students including those with disabilities is difficult to define, but a number of researchers have provided educators with explanations for a philosophical and practical framework. At a philosophical level the concept can be regarded as one that promotes the ideas of equality of opportunity and treatment, full participation that is free from disabling labels and discrimination (Hyde & Power, 2004). In terms of practice, inclusion implies that schools must adopt an enrolment policy and a pedagogical framework that treats all students and their families in the same way, regardless whether the student has a disability or not (Commonwealth Disability Discrimination Act, 1992; Disability Standards for Education, 2005).

Enrolling children with disabilities into the mainstream classroom is now regarded by many as a desirable educational placement, both from a moral and ethical standpoint, and because it is regarded as educationally sound (Graves & Tracey, 1998; Gale, 2001; Hegarty, 2001; Powers, 2002; Power & Hyde 2002). In fact, schools in Australia are now mandated by law to do so (Commonwealth Disability Discrimination Act [DDA], 1992; NSW Anti-Discrimination Act [Amendment] Act 1994; NSW Disability Services Act, 1993). With 84% of Australian children (Power & Hyde, 2002) who have a hearing loss ranging from mild to profound, enrolled in their local school or school of choice, mainstream education is certainly occurring for this population.

In Australia, the Disability Standards for Education (2005) articulates the standards for educational facilities to provide access and reasonable adjustments for students with

disabilities as originally mandated in the DDA (1992). This was more recently expanded and clarified by the Disability Discrimination Amendment Act (2005).

In the following excerpt taken from the NSW Minister for Education's forward to the Disability Standards for Education (2005), the purpose of the Standards become clear:

The Education Standards came into effect on 18 August 2005. The DDA makes it unlawful to contravene a disability standard, and compliance with a disability standard is taken to be compliance with the DDA.

The Education Standards set out a process to be followed, to ensure that students with disability are provided with opportunities to realise their potential through participating in education and training on the same basis as other students.

(Disability Standards for Education, 2006:iii)

The law is clear about accepting students with disabilities into schools, and policies that govern educators' behaviour in schools with respect to these students are also clear. For example the NSW Department of Education and Training provides teachers with very clear instructions about the expectations of behaviour in the Code of Conduct (Department of Education and Training, 2009, p.3) stating that employees must demonstrate adherence to the Department's stated values and: "be committed to social justice by opposing prejudice, injustice and dishonesty"

Independent schools are not exempt from the requirement to accept and make accommodations for students with disabilities. In the past, the disclaimer that is contained in both the Commonwealth and NSW Disability Discrimination Acts provided schools with an exclusion clause by claiming undue hardship. The successful case brought before the Human Rights and Equal Opportunity Commission, *Finney vs. Hills Grammar School* (2000), significantly influenced independent schools' attitude toward including students with disabilities. The resulting media attention around the case forced the issue of inclusion into the public forum (Byrnes et al., 2002), and gave parents a powerful base upon which to discredit any argument schools may wish to mount.

The National Report on Schooling in Australia (MCEETYA, 1997) set out some common and agreed upon goals for schooling in Australia. These goals relate to all schools

regardless whether they are Government, Catholic or independent. Specific to students with disabilities in mainstream schools the following goal was one of ten national goals, namely; "to promote equality of education opportunities and to provide for groups with special learning requirements." (MCEETYA, 1997)

Education for students with a hearing loss in recent times

The broader context

The debate about whether to include deaf and hard of hearing children in mainstream schools that was prevalent in the 1980s, is not the real issue to deliberate about any longer, it is happening. One question to ask is: whether it should be for all students with a hearing loss? While not addressed in the Portfolio, it is important to place the current study in a broader perspective by addressing the question of whether all children with hearing loss should be included in mainstream schools. This issue is the subject of current and ongoing ethical and often emotional debate from several viewpoints. The law states that there should be no exclusion on the basis of severity of disability. However, for children who, communicate and learn using Australian Sign Language [Auslan], it may be educationally more practical and culturally more appropriate for them to attend a program that can provide access to expertise in Auslan through employment of Deaf staff who identify with the Deaf Community and are native Auslan users. Additionally, there needs to be a focus on providing resources such as real-time captioning and bilingual- bicultural practice (Komesaroff, 1998). Lane (1995) is a strong advocate for children who are deaf and hard of hearing to be educated alongside their Deaf peers, to provide cultural identity and an educational program that educates about deafness and helps children to develop skills of self-advocacy so they do not grow up dependent and therefore disadvantaged. Komesaroff (1998) concludes that for the children whose first language is not spoken English but Auslan, education can be very positive, providing the principles of Bilingual deaf education are adhered to. She believes it depends on an appropriate and sensitive language policy being adopted by the educational institution, and the additional provision of appropriate and qualified linguistic models. Komesaroff also expressed concern about the contentious division between educators on what method of teaching students with a hearing loss was better, the small numbers of Deaf Teachers of the Deaf, and the lack of consistency in policy across the Australian states. This, she believed, led to the majority

culture, which is English speaking educators and policy makers, having power over a minority cultural and linguistic group, possibly to their disadvantage.

The linguistic and cultural debate will continue, but in the context of this study, the children who are included in the study are English speaking, and their parents want them to have educational opportunities the same as their hearing peers. This means that they want their children to learn in a mainstream school and be able to talk to them, have friends, do well academically and be happy. The debate in the context of this study therefore centres on what inclusion should *be* for this population.

Within the context of Australian Education, the incidence of students with a hearing loss who receive the majority of the education in their mainstream schools is around 84% (Power & Hyde, 2002). To keep this in perspective when discussing students with disabilities, the incidence of students who have hearing impairments significant enough to warrant funding from government is relatively small compared to other disabilities. The majority of students with hearing loss now attend mainstream government or Catholic schools close to their homes. A smaller number are enrolled in independent mainstream schools receiving services. The majority of these students receive services from Itinerant Teachers of the Deaf (Power & Hyde, 2002). In 2008 there were 143 students receiving some level of support from an Itinerant Teacher of the Deaf (RIDBC Annual Report, 2008). This number is small in comparison with to the 474 students who are identified as hearing impaired in Catholic Diocesan schools G. Grey (personal communication, June 23, 2010) across NSW, and 1400 (NSW Legislative Council, 2009) in government schools.

Deaf and hard of hearing students in mainstream educational settings

In the following section, the findings that resulted from a review of the literature are organised under headings. Each heading aims to provide the reader with an explanation of the issues that have been identified as having an impact on the students’ potential to succeed academically and socially. Further, the review explains educational provisions that may be put in place in schools to cater for the special needs of students with hearing loss. Additionally, these explanations provide a context for the research:

1. What does “inclusion” *mean* for children with hearing loss?

2. The issues that must be acknowledged and understood that pertain specifically to students with a hearing loss
3. The adjustments schools need to make to fully facilitate inclusion students with hearing loss.
4. The elements of educational practice performed by an Itinerant Teacher of the Deaf that aim to enhance inclusion for students with hearing loss in mainstream school settings.

What does "inclusion" mean for children with hearing loss?

Hegarty (2001), Gale (2001), Graves & Tracey (1998), Powers (2002), Power and Hyde (2002), 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 a placement unless adjustments are made. For many children with a significant hearing loss, adjustments do need to be made. Komesaroff (1998) asserts that success of inclusion in mainstream education may in fact only be truly educationally sound if some of the students' education occurs out of the classroom. Such examples may include auditory training, preteaching of vocabulary and individualised language work

The positive benefits of including children in mainstream schools are widely discussed both in the literature and in personal communications with parents, specialist staff, and staff of the schools we associate with. Graves and Tracey (1998) explain that children attending regular schools and participating in activities with their non-disabled peers helps parents perceive their child as a precious individual who happens to have special needs, not as handicapped as ascribed by society. Schools, who have a positive commitment to inclusion, state that the benefits to other children and their parents are that they develop acceptance and non-stigmatised views of people with disabilities (Graves & Tracey, 1998). This acceptance may be indicated by how the language changes, the "girl with a cochlear implant" becomes "Angela, Jenny's sister". One of the principals who supported the inclusion of students with hearing loss and welcomed these students into her school B. Richards (personal communication, 15 June, 2006) described the benefits of having children with hearing loss learning and playing alongside their hearing peers as being important by helping their peers to develop empathy for what other children have to cope with. She believed that these children will be better equipped to comfortably communicate

with people with hearing loss as adults. Leicester (2001) supports these comments by saying that inclusion is positive for those who may not otherwise experience the impact of disability, and suggests it prevents prejudice that comes from unawareness of disability.

Leicester (2001) describes the success of inclusion as being possible only when attitudes such as those described above, and others yet to be discussed are in place, but further challenges our thinking by describing a disability of any kind as only being disabling when the society imposes social restrictions. The question to ask therefore is: What is normal, and why is it that we so value sameness in our society?

Children with significant hearing impairments need to have accommodations made for them in a mainstream classroom to minimise the impact of noise, distance from the speaker, and reverberation on the clarity of spoken language (Crandall & Smaldino, 2000). No hearing aid, including cochlear implants can "fix" hearing; the children are still hearing impaired despite the newest and best technology available in Australia (Deaf Children Australia, 2010; Toe, 1999). The success of inclusion of hearing impaired children therefore comes down to a preparedness to make these accommodations as an ethical commitment to human rights and justice – being fair to all children. In effect, this may mean that there is a disproportionate amount of resources goes into supporting the students with hearing loss. Gale (2001) supports the view of school communities as being involved in making inclusion work. He asserts that it is not enough for a child to be physically placed in a classroom; they need to be given the opportunity to develop their abilities, and express and use what they know and can do. School communities can help by involving the staff, students and families in the construction of identity for students with a disability, increase awareness through education, and rearrange the social space allowing a valued place for the student with a disability. It is important for the school to recognise the student's achievements within the context of the whole school, for example recognise legitimate success in the context of the school assembly.

The issues that must be acknowledged and understood that pertain specifically to students with a hearing loss

The development of spoken language

The students who are the focus of this study have a significant, sensorineural (or permanent) hearing loss. With a sensorineural hearing loss sounds are not just quieter; they are usually distorted by a damaged auditory system (Nelson & Soli, 2000). The development of spoken language by children is directly linked to their ability to hear normally. To examine the complexity of the process of learning spoken language and the impact hearing loss can have on its acquisition we can refer to Ling and Ling (1978).

Ling and Ling (1978, p. 37) explain the nature of language as being intrinsically based on differences between sound patterns and learning the meanings which are arbitrarily associated with them. Children who have significant hearing loss at birth are unable to differentiate sound patterns, making the task of learning language very difficult. Almost from birth, a hearing baby is able to differentiate between speech sounds and other environmental sounds, and knows familiar voices. By the end of the first year the hearing baby is using meaningful words, and understands a lot more than s/he can say. In addition, they will be using a range of vocalisations with inflection that gives the utterance meaning. Regardless of the presence of hearing loss, children will produce vocalisations during their first year of life. However, the absence of hearing will result in the child not being able to attach meaning to these sounds.

In the year 2002, the state of NSW introduced Statewide Infant Screening – Hearing [SWISH], screening for hearing loss in all new born babies. Prior to new born screening, many children were not diagnosed with a hearing loss until they failed to develop meaningful speech at around 18 months to 2 years (NSW Health, 2010). For these children this meant that the benefit of natural, early learning had been lost, and as a result by the time they reached school their language acquisition was several years behind their hearing peers (Ling & Ling, 1978). However, there are still many children in schools who did not have this advantage as they were born prior to the advent of universal new born screening, and as a result, may experience significantly delayed language and speech abilities due to delayed diagnosis of hearing loss.

Kretschmer and Kretschmer (1999) explain the importance of children developing speech so that they can participate in the social discourse of their communities. Language that is the same as the community allows children to develop a sense of who they are and learn to appreciate their role in society, and develop a sense of self-worth and emotional well-being. As the vast majority of children with a hearing loss are born to hearing parents (around 90%) it is easy to understand why most parents put enormous effort and time into assisting their children to learn spoken language as soon as they have a diagnosis and hearing aids are fitted (Simser, 1999).

Over the past 20 years legislation that champions the rights for students with disabilities to be included in mainstream education has ensured that students with hearing loss have access to many educational opportunities. Early detection of hearing loss and early intervention, coupled with improvement in technology such as digital hearing aids, cochlear implants, and other assistive devices, has meant that many children identified with hearing impairments have been able to develop clear spoken language and participate with their hearing peers in educational activities (Foster & Cue, 2009). However, at this point in time even with the most advanced scientific endeavours, there is still no operation or assistive hearing device that can completely restore or accurately simulate normal hearing. There is a need, therefore, for continued vigilance in educational endeavours to assist young children and school students to achieve their communicative potential (Deaf Children Australia, 2010).

A longitudinal study of developmental outcomes for children with hearing loss is, at the time of writing, being conducted by the National Acoustics Laboratory in Sydney, Australia. Early findings of the study into factors that affect language development in the children who are participating, indicate that early aiding does assist children to develop age-appropriate language up until the age of 3. However, it appears that by the time the children reach 5 years of age, regardless of the hearing device being fitted as early as 6 months, their language levels have dropped behind their hearing peers by one standard percentile (National Acoustics Laboratory, 2010). Children with significant hearing loss may have developed informal, routine, conversational language by the time they enter school, but struggle with the decontextualised language essential to comprehend and express the thinking skills required to access the curriculum (Nielsen & Luetke-Stahlman, 2002). This has implications for classroom teachers to be aware of the deaf or hard of

hearing student's language development in their class, and strongly supports the need for specialist intervention to assist them to reach their potential in a competitive, academic environment.

Literacy Development

Mayer (2007) explains that in the case of hearing children, there is an intimate connection between language development and subsequent literacy development. Children who enter school with stronger language abilities make the move to text-based literacy with greater ease than those who are at-risk for delay in the development of spoken language.

Children with hearing loss, by implication, may fall into this at-risk group. While the early detection of hearing loss, improvement in technology and early intervention are all improving the potential for positive linguistic achievements in this population, it remains a fact that many deaf and hard of hearing children fail to achieve a reading level commensurate with their hearing peers (Mayer, 2007). The pressure therefore, is on early intervention specialists and parents to work hard at assisting these children to develop good skills in face-to-face language prior to coming to school (Nielsen & Luetke-Stahlman, 2002). As Leigh and Power (2004) point out, the impact of early, as opposed to later intervention on the development of language in children with hearing loss is dramatic. In the past decade the impact of good quality early intervention has been demonstrated by research to have positive benefit to children with significant hearing loss (Rice & Lenihan, 2005).

Hearing devices

Digital hearing aids can be programmed to amplify sounds in order for children, with sufficient residual hearing, to detect sounds that are in the human speech range (Australian Hearing, 2010). Cochlear implants are generally reserved for children who are severe to profoundly deaf for whom hearing aids do not provide adequate amplification for hearing into the speech range. Cochlear implants have made an enormous difference for these children as the implanted electrodes are able to directly stimulate the cochlear to simulate the action of cochlear hair cells in transmitting signals along the auditory nerve to the brain (Sydney Cochlear Implant Centre, 2009). Whilst vast improvements and constantly improving hearing devices are available, these children will inevitably need early intervention and therapy in order to be able to make sense of the sensations gained through the cochlear implant to develop language. It is also important to understand that

the sounds children with hearing loss perceive are tested in ideal listening conditions. An auditory booth is treated to eliminate unwanted environmental sounds, and reduce reverberation as well as distance from the primary signal. Following assessment, an audiogram is produced to reflect a child's unaided and aided hearing under these ideal conditions. In the auditory booth, the child may well have access to the full range of the speech spectrum. However, these conditions are unlike the actuality of a school environment, and in fact, almost all other real life situations (Australian Hearing, 2009).

Given this introduction to the potential difficulties deaf and hard of hearing students face with respect to access to spoken language, it is not surprising that they have problems accessing information at school. In the classroom environment they will face rapidly delivered spoken information in less than ideal listening conditions; this coupled with the likelihood of delayed speech and language can result in the impact on learning being severe (Northern & Downs, 1989, p. 2).

Illustrative scenarios

Following are a number of realistic scenarios that may occur in mainstream schools which illustrate what can go wrong if the factors relating to hearing loss discussed earlier are not understood. The following scenarios are just a sample of the many that have been either reported to me in personal communications, or those I have witnessed firsthand as an Itinerant Teacher of the Deaf.

Consider the student with hearing loss who relies on their ability to listen through their hearing aid or cochlear implant who is in a noisy classroom where background noise, reverberation and distance diminish the clarity of the speaker's voice. Consider a hall where a teacher or principal is at least 5 metres from the student and is delivering a discourse on an upcoming event, explaining an important school rule, or describing what areas are out of bounds that day. The teacher spots a boy asking his friend what the teacher is saying, and calls, 'That boy in the second row see me after the assembly, you are expected to be paying attention not chatting to your friend!'

Consider for a moment what happens if the battery that powers any battery operated device fails. For students who are deaf or hard of hearing and rely on their hearing device for access to sound, the difference between having this access and not, is reliable as long as the battery is fully charged. What about school swimming lessons or if a small child's

hearing device falls off and is lost or damaged and a replacement is not available? The difference may be as significant as hearing well or total silence or at least muffled or incoherent signals, but the response of an adult may be, "They'll be OK for the rest of the day, we'll write home tonight".

Consider the student, who relies on their ability to speech read to gain access to information in class and the teacher talks to the board, walks about the room, has a heavy moustache or allows the class to talk while he/she is teaching. Then, what if the text for the day is a cartoon – where speech reading is impossible, or the movie is old and sounds crackly, or it is a history lesson on war that relies on information being delivered by an invisible commentator. At the same time the students are instructed to take notes or answer a series of written questions that will be the subject of the class test the next day.

Consider the senior secondary student whose language development is delayed with a consequential, significant impact on their reading ability. Usually the Itinerant Teacher of the Deaf is able to do some pre-teaching, but there is a new classroom teacher who hasn't realised they have student with hearing loss in the class. The class is required to read chapter 3 of the text, summarise and write an expose demonstrating their understanding of the aesthetics of modern architecture in three different countries.

Consider the 13 year old student who is the only student who has a hearing loss in the school, wears two cochlear implants, uses an FM system (reluctantly), has to attend speech therapy two afternoons a week and has a tutor on Saturday and an Itinerant Teacher of the Deaf who comes into class three times a week just so she can keep up with the school work. The other kids try to help her, but she ignores them. Recently, at parent-teacher night, the Year 7 year advisor teacher expressed concern that she was falling behind in all her subjects, was rude to other students and sat by herself at lunch time, the teacher asks the parent, "Is there any trouble at home that might be affecting her behaviour?"

Consider the student that was deafened at age 3, had a cochlear implant which failed, learned to sign, attended a school that used sign and was happy at school. At age 11 her parents decided to try another cochlear implant operation, however this required a change of country, and attendance in a mainstream school with support from staff who were instructed to not sign, but work on her speech and language. All good intentions by

parents and professionals – but the result is a socially isolated, lonely and lost young person who has to rely on her ability to read to access any information. In class the student asks the Itinerant Teacher of the Deaf after the class erupts into laughter at a subtle joke, 'What are they all laughing at?'

While these scenarios highlight some potential sources of distress for students who are in mainstream schools, there are ways of alleviating, accommodating and addressing some of the factors that may impact on the student's educational experiences, awareness and understanding are critical. It remains a fact that children with a hearing loss require early intervention, environmental adjustments and often specialist support throughout their education in order to be able to access information that is largely delivered through the spoken word and sound. Above all, however, it is up to sensitive and knowledgeable professionals who are willing to make the adjustments part of the school's policy and practice. Certainly it won't have a negative effect on anyone!

The adjustments schools need to make to fully facilitate inclusion for students with hearing loss.

Environmental Factors – Acoustics

There are a number of acoustic variables that can compromise speech perception in the classroom. Nelson and Soli (2000) and Wetherill (2002) emphasise the importance of providing good acoustics in the classroom to young learners whose vocabulary is still developing, and their ability to "fill in the gaps" while listening in noise is not yet established. Crandell and Smaldino (2000) identify these variables as:

- Level of background noise.
- Level of the speech signal relative to background noise.
- Reverberation.
- Distance between the listener and the speaker.

By way of explanation Crandell and Smaldino (2000) and others discuss each of these factors as they relate to the classroom.

Background noise can arise from a variety of sources including external sound, for example roadwork, the classroom next door, or students in the corridor. Or it can be in the classroom itself, scraping chairs, papers rustling, students talking, fans, air conditioners

and the fish tank pump. The impact on students who are deaf or hard of hearing is that the level of speech discrimination is compromised because the background noise can mask the acoustic and linguistic cues in the teacher's spoken message. Crandell and Smaldino (2000) further explain that background noise reduces consonant perception which can significantly influence speech perception. This occurs because the listener's ability to understand speech depends predominantly on the consonantal energy.

The level of the speech signal relative to background noise is referred to as the signal-to-noise ratio [SNR]. For students who are deaf or hard of hearing the SNR required to perceive speech is at least +15dB (Nelson & Soli, 2000). This means that the background noise must be at least 15dB lower than the teacher's voice. In the regular classroom this is rarely achieved. In fact Crandell and Smaldino (2000) report a summary of studies of classrooms that indicated SNR ranged from +5db to -7dB.

Reverberation is the prolongation of sound within an area as sound waves deflect off hard surfaces. The impact on the listener's perception of speech is that it overlaps with the direct signal; essentially masking the speech (Crandell & Smaldino, 2000). Typically in school settings, the larger the volume of the room, such as is found in an assembly hall, the greater the reverberation time. A lack of absorptive materials will also have a significant impact on the level of reverberation (Crandell & Smaldino).

At a close range, less than three metres, the direct sounds of the speaker's voice can be heard with minimal interference from other factors such as reverberation and noise. However, in the classroom, as the distance between the teacher and the student increases, the indirect or reverberant field begins to dominate the listening environment. The "critical distance", or the point at which reverberative factors interfere with the direct signal is, in a regular classroom, approximately 3-4 metres from the teacher (Crandall & Smaldino, 2000).

Environmental factors

In the previous section, acoustic factors that have a significant effect on deaf and hard of hearing students' ability to perceive speech in the classroom environment were examined. Classrooms with hard surfaces that are covered in soft absorbent materials are less reverberative. However, there are some rooms that are always going to be reverberative due to the hard surfaces required for the room's specific purpose – such as science labs,

kitchens and woodworking rooms. It is essential, therefore, that schools recognise these limitations and endeavour to develop solutions that will alleviate the deleterious effects noise and reverberation have on effective listening in these classrooms. Schools can modify the reverberative qualities of most rooms by the installation of absorptive materials. It may be as simple as having carpet on the floors and heavy curtains on the windows which will go some way towards reducing the echoic quality of the room. Better still, apply acoustic tiles on the ceiling and walls, carpet, and the installation of quieter ventilation devices and other electrical devices (Nelson & Soli, 2000).

Nelson and Soli (2000) sum up the standard for classroom acoustics that are recommended for all classrooms in the United States in the following quote:

The literature has demonstrated that if an acoustic environment can be provided that allows +15 dB signal-to-noise ratio throughout the entire classroom, then all participants can hear well enough to receive the spoken message fully. Classrooms that maintain ambient noise levels of 35 dB or less will allow speakers' voices to reach all listeners at the desired + 15 dB signal-to-noise ratio. In addition, research has shown that children require low room reverberation. The combination of background noise less than 35 dB and reverberation times between 0.2 and 0.6 seconds in unoccupied rooms will allow full access to clear speech in our classrooms. This is a challenging goal, but it is the right and achievable goal for the acoustical design of all classrooms. (Nelson & Soli, 2000, p. 358)

Assistive Hearing Devices

Toe (1999) emphasised the importance for Teachers of the Deaf to maintain their understanding of the latest technology in assistive hearing devices. This knowledge will go some way to ensuring that their students can access better listening conditions. It is also incumbent on the Itinerant Teachers of the Deaf's to pass relevant information onto classroom teachers and schools so they can consider adapting the conditions of the classroom to suit.

The use of the radio frequency FM system reduces the impact of background noise, distance from the speaker and reverberation (Higgs, 1998). The key element of a radio frequency FM system is to reduce the distance from the speaker to the receiver, so teachers wear a lapel or boom microphone within 10cms from their mouth. In a standard

setting it would be the speaker's voice that is transmitted over a distance that loses energy, and is affected by the impact of reverberation and other ambient noise (Australian Hearing, 2010).

Sound Field Systems have been used in some Australian states, particularly with indigenous children who often experience conductive hearing loss, to promote better listening conditions for students who have hearing loss (Deaf Children Australia, 2010). These systems work by strategically placing four speakers around the room, and the teacher wears a microphone. The teacher's voice is transmitted to the four speakers in the corners of the classroom. The students hear the teacher's voice at equal volume regardless of the distance from the speaker (Australian Hearing, 2010).

The School Community

Antia, Stinson and Gaustad (2002) discuss the indicators that need to be in place for inclusion of students with hearing loss to work. They point to effectiveness as requiring an examination of practices within the school community that promote membership, and a sense of belonging. They have identified the factors that need to be in place under the categories as follows:

Class Teacher factors

The classroom teacher takes ownership rather than deferring to a specialist support teacher.

The expectations for the student's achievements must be in line with their potential ability, not focused on their disability. This is not to say that accommodations are not made.

The class teacher and specialist support work as a collaborative team. Roles are clearly defined and negotiated.

Class Member factors

Students without hearing loss need education about hearing loss, including the function of hearing devices and communicative strategies. This may even be regarded as topic embedded in the curriculum. The student with hearing loss also has a role to play in identifying their own visual and communicative needs, and informing others what helps them to communicate with ease.

Structural Issues

For staff it means being given time to collaborate with the Itinerant Teachers of the Deaf's and other support personnel including parents and specialists. They must also take the opportunity to attend professional development

The student's time needs to be managed, so that their educational needs are met, but access to social opportunities within the day is provided and not overwhelmed by schoolwork.

Stability of enrolment is also important, making and keeping friends can be difficult if the student is constantly moving schools.

Community Support

Parents must be involved in the program, welcomed and regarded as good sources of knowledge about their children.

The elements of the specialist educators practice who work with students with hearing loss in mainstream setting.

The specialist educators that provide support for deaf and hard of hearing students in Australia are generally referred to as Itinerant Teachers of the Deaf (ITD). They have been trained as Teachers of the Deaf, usually through post graduate university programs across Australia. The term *itinerant* refers to the nature of their work as they travel from school to school providing support to a caseload of students (Kluwin, Morris & Clifford, 2004).

There has been a range of research investigating the nature of the Itinerant Teachers of the Deaf's role or seeking to define what it is that they do (Antia 1999; Foster & Cue, 2009; Hyde & Power, 2004; Kluwin, Morris & Clifford, 2004; Luckner & Howell, 2002; Yarger & Luckner, 1999). It appears, however, that to define the typical role of an Itinerant Teacher of the Deaf is difficult because of the dynamic nature of the role. Foster and Cue (2009, p. 442) conclude that the range of tasks performed by an Itinerant Teacher of the Deaf is "huge, reflecting a menu of possible options rather than a fixed list of prescribed activities." With this in mind, and the work they perform being described as quintessentially flexible (Foster & Cue, 2009), or being the definition of variety in terms of student profiles (Kluwin, Morris & Clifford, 2004), there are three broad categories that their range of activities or

practice fall into. These can be categorised under the following descriptions; direct intervention, consultation and collaboration. These three areas will be explained separately in the following text.

Direct Intervention

In the initial training to become Teachers of the Deaf, there is an emphasis on knowledge that pertains to the ability to provide direct intervention for students to attempt to assist them to develop communication skills. An examination of the course structure for the two remaining postgraduate programs in Australia that train Teachers of the Deaf (Renwick College in Sydney NSW, and the University of Melbourne Victoria) reveals the main focus as being on the development of audition, speech, language (spoken or signed), literacy, and cultural aspects of the Deaf community. This focus suggests that these programs aim primarily at training Teachers of the Deaf to be the main educator for deaf and hard of hearing students such as would occur in a self-contained classroom (Power & Hyde, 2002). Some of the research indicates that an Itinerant Teacher of the Deaf spends the majority of their time in mainstream schools utilising their training in the aforementioned areas in separate instruction with the students on their caseloads (Hyde & Power, 2004; Luckner & Howell, 2002; Race, 2005). With respect to direct intervention with their students, Foster and Cue (2009, p. 452) found the range of activities of an Itinerant Teacher of the Deaf included academic tutoring, speech and audiology training, intensive work on the language arts, and mentoring in terms of personal and social skills.

Consultation with classroom teachers and schools

Dettmer et al (2009, p. 8) define a consultant as, "One who gives professional advice or renders professional services in a field of special knowledge and training, or more simply, one who consults with another." This definition succinctly describes how the research explains the aspects of the Itinerant Teacher of the Deaf's work in terms of the advice they provide to schools and classroom teachers about hearing impairment, and its potentially deleterious impact on learning, as well as the adjustments that can be made to ameliorate these affects (Hyde & Power 2004; Luckner, 2006). However, this definition does not give justice to the range and form consultation for an Itinerant Teacher of the Deaf takes, as they have a variety of relationships (see Figure 2), and pressures to deal with. The relationships they need to develop include a range of school personnel who differ in terms of depth of knowledge and inclusive attitudes, parents, and other professionals etc. Some

pressures the Itinerant Teachers of the Deaf's may need to deal with are shortage of time (Luckner & Miller, 1994; Westwood, 1997), the student's need to understand the content of the curriculum, and having a number of students on their caseloads that range in terms of age and degree of hearing loss (Foster & Cue, 2009). Additionally, Itinerant Teachers of the Deaf have expressed frustration at having insufficient opportunity to provide the staff development to mainstream staff (Race, 2005).

Collaboration with the classroom teacher and other relevant personnel

Collaboration can be described as partly a mentoring role, and one that requires responsiveness and openness to new possibilities and learning (Dettmer et al., 2009). In terms of professional educators working together for the common goal of including deaf and hard of hearing students, the ability to collaborate effectively requires a relationship of open communication and trust (Antia, 1999). In the classroom situation, it may be that collaboration occurs informally between two professional educators, with the classroom teacher being responsible for the overall education for all the students in the class, and the specialist teacher being the advocate for the student. In this scenario, the focus on the needs of the student with hearing loss is likely to concentrate on the use of technology, the physical environment of the classroom, and situations in which the student is unable to obtain access to information (Foster & Cue, 2009). It is also noted in the literature that an Itinerant Teacher of the Deaf often takes on the role of collaborator between the various stakeholders in the students' education, namely parents and paraprofessionals such as audiologists and speech therapists (Antia, 1999; Luckner & Howell, 2002).

Professional Development

It has been identified as part of an Itinerant Teacher of the Deaf's role to impart their knowledge of hearing loss and its impact on a student's development and their capacity to access information through communication with the classroom teachers and schools (Antia, 1999; Luckner & Miller, 1994; Lynas, 1999; Race, 2005). In a consultative and collaborative scenario the classroom teacher is in a position of having to absorb new information if they are to be able to understand and respond to the needs of the students with hearing loss in their class. For an Itinerant Teacher of the Deaf to respond to this need, an understanding of how to develop effective training sessions would appear to be essential. However, as has been discussed earlier, the skills required for this role are often neglected in initial training. Because of their life experience, adults approach learning

differently than children. The following information as explained by Cave, LaMaster and White (2006) and Lieb (1991) sums up the nature of an adult's learning.

Adult learners:

- Are generally autonomous and self-directed.
- Are oriented towards relevancy and have their own ideas about what's important to learn.
- Tend to be concerned about effective use of learning time and prefer practical information focusing on the aspects that are most useful.
- Have accumulated life experiences to which they can relate new learning.
- Tend to learn when they need to in order to solve a problem or fulfil a need.
- Are more likely than children to reject or explain away information that contradicts their own experiences or beliefs.

Consequentially, when planning and delivering staff development for adults there are some principles that need to be considered to ensure the learning is relevant and rewarding. Some considerations are listed below:

- The adults need to be shown respect – instructors must recognise the wealth of experience the adults bring to the learning situation.
- They expect to find learning rewarding, therefore appreciate staff development that is well organised and has clearly defined components.
- The learning experiences use all the senses so the use of visual, auditory and kinaesthetic teaching styles enables the adult learner to be active in the learning process.
- Learning is more effective when it relates new information to their existing knowledge.
- The staff development and follow-up needs to include opportunities to practice their new skills and apply their new knowledge.
- Provide the adults with feedback on their progress so they identify in which areas they are developing well, and others that need further training and practice.
- The adult learner may need more time to make sense of and value new information, so follow-up will be important.

The summaries above are important considerations for services that provide professional development, and in the context of the current study it is often the ITD who develops the framework for learning new skills and understanding for the classroom teacher.

Outcomes and Implications for Practice

The three Research Projects examine the perspectives of the Itinerant Teachers of the Deaf, classroom teachers and students with hearing loss about the factors which promote successful inclusion. Each project has its own outcomes and implications for future practice. However, in each separate project the emergent perspectives of the other two groups of participants are used conjointly to add strength for a foundation for making suggestions for future practice. These suggestions are aimed at assisting the Itinerant Teachers of the Deaf and the mainstream teachers, within the context of their organisations, to continue to improve their practices and move forward with established and new, creative ways of supporting their students. The educational organisations that provide a framework for the education for all students, or those that support students with hearing loss within these settings, have an important role to play in the provision of resources that support the efforts of these educators.

Chapter 1

Project 1

“Identifying Practices that Itinerant Teachers of the Deaf use to Promote Inclusion for Deaf and Hard of Hearing Students”

Abstract

The project used both quantitative and qualitative methods of analysis to assess the perceived effectiveness of the work of Itinerant Teachers of the Deaf (ITD) in promoting inclusion in mainstream classrooms for students with significant hearing loss. Methods of data collection used include a questionnaire and follow-up 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. The age of the individual students affected the type and perceived importance of direct intervention strategies used by the Itinerant Teachers of the Deaf. In addition, the student’s individual educational circumstances and needs that related to accessing information delivered primarily through spoken language were considered. 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 to develop their skills to adequately accommodate the student’s needs.

The Itinerant Teachers of the Deaf saw themselves as advisors for classroom teachers, expert and professional consultants for schools and staff, teachers of the English language and at times tutors for students who struggled with access to the curriculum. They also considered themselves strong advocates for the students with a hearing loss. It is apparent that the role of an Itinerant Teacher of the Deaf is multifaceted relying on the individual’s expert knowledge and ability to adapt to a range of circumstances.

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 used aimed at promoting access to the curriculum and social opportunities, ensuring participation commensurate with their hearing peers in the school's community.

Literature Review

The literature review for Project 1 revealed three main themes recurring throughout previous studies. The following synopsis of the findings from prior research has been organised into headings that explore the themes that emerged.

1. Factors to be considered for the inclusion of deaf and hard of hearing students into mainstream schools.
2. The practices of the Itinerant Teacher of the Deaf, the history and development of the role.
3. Factors that inhibit the Itinerant Teacher of the Deaf's ability to provide effective support.

Factors to be considered for the inclusion of deaf and hard of hearing students into mainstream schools

For students with a hearing loss there is often a notable and relevant focus on access to communication and the curriculum when they are enrolled in a mainstream classroom. However, as with all students, whilst access to information is a necessary part of being included in a classroom, it is the promotion of membership in the school's community that marks successful inclusion (Antia, Stinson & Gaustad, 2002). Placing a student physically in a regular classroom is not a guarantee of academic and social success. In much of the literature, attitudes towards disability, the flexibility of classroom teachers and, importantly, the practices in schools that promote acceptance of all students as individuals with different needs but equal in value, denote clearer indicators of successful inclusion (Gale, 2001; Graves & Tracey, 1998; Hegarty, 2001; Power & Hyde, 2002; Powers, 2002; Stoeffen-Fisher & Balk, 1992).

Powers (2002) reviewed the literature regarding inclusion in mainstream schools for students with a hearing loss and examined political and societal debate to determine a useful definition of inclusion as:

Inclusive education is best conceived as a response to student diversity based on principles of equity and acceptance that aim to give all children equal rights to participation in mainstream curricula and communities as valued, accepted, and fully participating members of those communities, and also rights to achieve as much as they can academically, physically and in their social-emotional development. In this definition inclusion is not a state to aim for (e.g. the state where all children are in local mainstream schools) but is more concerned with processes and culture. Powers (2002, p. 37)

Marschark, Young and Lukomski (2002) agree with the sentiment that Powers (2002) expresses in his conception of inclusion, and further point to the assessment of the success of an educational program as being defined in the day to day activities, as well as the underpinning philosophical stance of the organisation.

Cawthon (2001) discusses case studies that expose successes and challenges in inclusive classrooms. She cites a common theme that has emerged as a predictor for success is a classroom that focuses on the needs of individual students. More specifically for deaf and hard of hearing students it is a focus on communication competency that is required, and that individualised plans need to reflect each student's particular needs.

Williams and Finnegan (2003) expressed concern about the classroom teacher's ability to individualise educational opportunities for students with special needs, with only a cursory knowledge of special education. In response, they emphasised the need for collaboration between the classroom teacher and special educators to ensure the students' needs are recognised and adjusted for if inclusion is to be successful. Luckner and Muir (2001) in their study into what factors enhanced success for students, identified the ongoing support of the ITD as a constant both in terms of direct intervention and collaboration with classroom teachers.

In the Linking Paper, it was explained that hearing loss can, and often does, cause delayed development in all areas of communicative ability. The level of developmental

delay may be influenced by age of diagnosis, access to early fitting of hearing devices, amount and quality of early intervention and the presence of other disabling conditions (National Acoustics Laboratory, 2010). In children with significant hearing impairment it is common to find delay in language development, with consequential literacy difficulties and affected communicative proficiency. These factors in turn may have deleterious effect on academic and social competence. The presence of hearing loss will, to varying degrees, affect the student's ability to access information in the learning environment which is delivered primarily through the spoken and written word (Australian Hearing, 2010). While it is the classroom teacher's job to deliver the curriculum and be primarily responsible for the student's welfare, it appears that the Itinerant Teacher of the Deaf plays a significant role in facilitating inclusion by advising schools, collaborating with classroom teachers and providing direct to students in an effort to ameliorate the impact of hearing loss (Antia, 1999).

The practices of the Itinerant Teachers of the Deaf, the history and development of the role

With an increase in students with hearing loss attending the local school, or schools of choice (as opposed to self-contained classrooms in special schools), so has the number of Teachers of the Deaf being employed as Itinerant Teachers of the Deaf (Hyde & Power, 2004). Since 1955 the NSW government has funded training for practicing generalist teachers to retrain as Teachers of the Deaf. In recent years the majority of the retrained teachers were employed as Itinerant Teachers of the Deaf. G. Leigh (personal communication, 17th September, 2010)

However, it is noted that the initial training for Teachers of the Deaf still focuses on the skills needed for direct intervention as would be required for teaching students with hearing loss in a self-contained classroom. The itinerant model differs significantly from classroom teaching in that professionally trained Itinerant Teachers of the Deaf spend a significant amount of time travelling from school to school, and may have a caseload of students ranging in age from school entry to the final year at school. Undergraduate mainstream degrees focus on either primary or secondary teaching, so for some Itinerant Teachers of the Deaf, this may require quite an adjustment in their pedagogical stance.

It has been noted by a number of researchers that Itinerant Teachers of the Deaf, in addition to direct intervention with the student, spend a significant amount of their time consulting with classroom teachers, other professionals, administration staff and parents (Luckner & Howell, 2002; Luckner & Muir, 1994; Power & Hyde, 2002). The authors of some studies voiced concerns that personal skills in consulting and collaborating were not considered in pre-service training (Foster & Cue, 2009; Luckner & Howell, 2002). Two postgraduate training programs in Australia, Renwick College in NSW and The University of Melbourne in Victoria, offer programs for teachers who wish to retrain as Teachers of the Deaf. Both programs include one subject that considers the factors relating to inclusion (University of Newcastle, 2010; Melbourne University, 2010). However, the major focus of these training programs still relates to audiology, speech and language development and literacy with some subjects that focus on sociocultural aspects of the Deaf community. Additionally, many Teachers of the Deaf trained a number of years ago when the main employment placement offered was in a self-contained classroom.

In several studies the Itinerant Teachers of the Deaf were reported as stating they did not feel adequately prepared to act in the role. These studies noted that often the Itinerant Teachers of the Deaf identified that a lot of their skills were learned on the job (Foster & Cue, 2009; Luckner & Howell 2002). This recurring theme in investigations into an Itinerant Teacher of the Deaf's work suggests that identifying and articulating their role might be quite difficult, as it appears that they adapt to the circumstances of each student and the school. Foster and Cue identified "flexibility" as one of the key qualities an Itinerant Teacher of the Deaf needed, and considering the number of students and other people they are expected to deal with on a daily basis this is not at all surprising.

Within the limited amount of literature available, it appears generally accepted that an Itinerant Teacher of the Deaf's practices included direct instruction either in or out of the classroom, in class support, gathering resources for the class teacher, professional development for mainstream staff, acting as a consultant and advisor for school personnel and parents, and preparation and travel (Luckner & Miller 1994; Power & Hyde 2002). Power and Hyde (2002) describe the model adopted by Itinerant Teachers of the Deaf in Australia as one that favours a "withdrawal" teaching method, but also included activities that represented consultation with classroom personnel and others. The data from this study indicate that the Itinerant Teachers of the Deaf see their role, as reflected by their

Individual Education Plan goals, as one that favours teaching and support activities that prioritise the students' language, reading, writing, speech development and social skills. To a lesser extent (>36%) speech reading, listening, maths, study skills and living skills were included in the Itinerant Teacher of the Deaf's intervention.

In terms of caseloads of students, Luckner and Miller (2002) in an American study, and Power and Hyde (2002) in Australia examined this issue. Luckner and Miller (1994) found that Itinerant Teachers of the Deaf in the USA provided services to an average of 11 students per week and provided consultative support to teachers for a further 7 students. The number of schools visited each week averaged 8 and the caseloads were determined by geography. Power and Hyde (2002) found that the number of students and schools visited across Australia varied widely with consequential limits to the time that was spent with each student. In the context of the study of Itinerant Teachers of the Deaf from RIDBC School Support Service (HI) it appears most reasonable to compare with the NSW statistics, where the majority of Itinerant Teachers of the Deaf (80%) had caseloads of between 1-10 students. Similarly, the Itinerant Teachers of the Deaf's caseloads in this investigation depended on geographic location of schools, and an assessment of individual student's needs. Subsequently, the program coordinator allocated a level of support that translated into provision of hours of service. The level of support ranged between two and six hours per week.

Hyde and Power's (2004) study profiled student characteristics and found that Itinerant Teachers of the Deaf typically work with students who have hearing losses that range from mild, 30-40dB, through the range to profound hearing loss, + 90dB. A small number of students who received an Itinerant Teacher of the Deaf's services used sign language and required interpreters in the classroom (10%). Significantly, the numbers of students who have severe to profound hearing loss now feature largely in the included population, in the past these students would have been in self-contained classrooms (Power & Hyde, 2002).

The question of how an Itinerant Teacher of the Deaf selects the type of practice they use when developing an individualised plan relating to direct intervention with students, largely relates back to their initial training (Foster & Cue, 2009; Luckner & Howell, 2002). This means that the skills the Itinerant Teachers of the Deaf use in individualised sessions with students relate primarily to the student's assessed needs in terms of language

development and communication; listening and speech development, language development, literacy development social development and matters pertaining to audiological management. However, the range of activities within this structure is very broad (Foster & Cue, 2009).

The repertoire of skills an Itinerant Teacher of the Deaf has in his or her "tool box" appears to be flexible and responsive to the needs of the individual student and adaptable according to the context of the school, schedules, time constraints and a myriad of unexpected challenges (Foster & Cue, 2009). It appears also, that while Itinerant Teachers of the Deaf often see themselves as the student's main advocate in the school setting (Kluwin, Morris & Clifford, 2004), they also work hard to ensure the students develop independence when they are young and so prevent dependency (Cawthon, 2001).

It seems it is reasonable to surmise that the preparation of programs for students on the Itinerant Teacher of the Deaf's caseload is, by definition, complex. A competent Itinerant Teacher of the Deaf requires a depth of knowledge of curriculum, spoken language and literacy development not to mention an ability to adapt this knowledge to a range of students needs and negotiate the political and variable world of schools (Foster & Cue, 2009).

Factors that inhibit the Itinerant Teachers' of the Deaf ability to provide effective support

Whilst there are very few researchers who have looked specifically at the factors that directly impede the Itinerant Teachers of the Deaf's effectiveness, there are some general themes that have recurred in the literature about their work. Time constraints appear to be one of the most common themes. Specifically this related to the number of schools/ students the Itinerant Teacher of the Deaf had to visit each day, traffic, and distance (Kluwin, Morris & Clifford, 2004). Reed (2003) found lack of time impacted severely on the amount of direct support the Itinerant Teacher of the Deaf was able to spend with each student and this in turn caused concern and frustration for them. Yarger and Luckner (1999) reinforced this view and explain that the frustration for Itinerant Teachers of the Deaf is that they see individual students who have significant needs that they know they could help with, and it is a constant juggle. They use the following quote from one of the

participants who summed this up by saying it a compromise between 'what we want to do versus what we can do'. (Yarger & Luckner 1999, p.112)

Isolation was cited in a number of studies as a concern for Itinerant Teachers of the Deaf, with few opportunities to meet with their colleagues to share experiences and obtain professional development (Hyde & Power, 2004; Kluwin, Morris & Clifford, 2004; Yarger & Luckner, 1999). The impact of this was primarily that the Itinerant Teachers of the Deaf became significantly more autonomous, but did not access activities that may have helped them grow professionally.

Another factor that emerged was the Itinerant Teachers of the Deaf having to negotiate their way around the various adults who were involved in the students' education in order to be able to advocate for them. Yarger and Luckner (1999) referred to this as having to 'tread on eggshells' (p.112) and noted that an Itinerant Teacher of the Deaf needs to develop highly effective communication skills to be able to negotiate their way around in order to promote better outcomes for the student.

Albeit fairly limited, there has been a variety of research into the work practices of Itinerant Teachers of the Deaf, and some attempts to describe what they do. However, there is little research that investigates exactly what practices are most valuable in promoting inclusion. Cawthon (2001) identifies the need for further research to quantify the value of teaching strategies in inclusive classrooms, and assess the effectiveness of these strategies in terms of inclusion for deaf and hard of hearing students. Project 1 aims to add to the growing body of knowledge about the practices the Itinerant Teachers of the Deaf use in mainstream schools and what part they have to play in promoting and facilitating the inclusion for this population of students.

Participants and their work context

All the participants included in the study are practicing Itinerant Teachers of the Deaf who are employed by the Royal Institute for Deaf and Blind Children (RIDBC) situated in the North West suburbs of Sydney. The Itinerant Teachers of the Deaf employed by RIDBC's School Support Service (HI) have completed university qualifications in regular teaching and postgraduate qualifications in the education of deaf and hard of hearing students. Each participant in this study has a minimum of 15 years teaching experience with students with a hearing loss, either in an itinerant role or in a special school/ class setting.

RIDBC School Support Service (HI) provides specialist support to students in grades Kindergarten to Grade 12 who have significant hearing loss (greater than 60dB in the better ear), and attend mainstream independent schools in the greater metropolitan area of Sydney, approximately in a 40 km radius from RIDBC. Each Itinerant Teacher of the Deaf has between four and eight students on their caseload that they visit a two or three times weekly and they all have an additional number of students they see on a consultancy basis between two and four times per year. Some of the teachers are part-time employees which affects the number of students on their caseloads. A full time caseload is between seven and eight students taking into consideration the distance between schools, the students' grade, severity of the hearing loss, other significant disabilities the student may have, and whether there are other students in the one school. The Itinerant Teachers of the Deaf visit schools grouped in geographical regions around Sydney. The geographic grouping of schools aims to reduce time spent in travel. In a number of the caseloads there are two or three students in the one school, although not necessarily in the same grades, and some of the schools cater for students from Kindergarten to Grade 12 on the same or nearby campuses.

Race (2005) in a review of RIDBC School Support Services (HI) found that the Itinerant Teachers of the Deaf spent 42.2% of their time in direct intervention, and 10.8% consulting and collaborating with classroom teachers and other staff. Compared to other services in NSW where the averages were 49% for direct intervention and 6% for collaboration and consultation (Power & Hyde, 2002), this indicates a slightly higher emphasis on support for classroom teachers. Travel, academic tutoring, meetings and a range of administrative and staff development activities took up the rest of the Itinerant Teacher of the Deaf's time in both studies.

Background to the study

RIDBC School Support Service (HI) provides specialist teaching support to the students, and consultative services as well as training for staff in the regular school setting. An individualised plan is developed for each student, following formal assessment and observation. Each plan prioritises communicative, educational and social goals, and acts as a guide for ongoing direct intervention and monitoring of progress both within the classroom and in individualised sessions. The Itinerant Teacher of the Deaf works in close

collaboration with the classroom teacher to assist them to develop a clear understanding of accommodations required to facilitate access to the curriculum.

The Itinerant Teachers of the Deaf that are employed by the Royal Institute for Deaf and Blind Children (RIDBC) provide a service to students with a hearing loss who attend Independent schools. This service was commenced in 1989 in response to parents wishing to enrol their children in Independent schools. There were itinerant services in schools that came under the auspices of the NSW Department of Education of the Catholic Education Office, but did not provide a service to the Independent sector. The number of students with hearing loss enrolled in Independent schools has increased over the years as has the number of students accessing RIDBC School Support Service (HI). At the time the study was conducted, there were 71 students receiving weekly support from an Itinerant Teacher of the Deaf and an additional 51 students receiving a consultancy once or twice per annum (RIDBC Annual Report, 2007).

In 2004 two reviews were carried out by the senior management of RIDBC. 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 aimed 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 was identified as reflecting the work done by the Itinerant Teachers of the Deaf employed by RIDBC.

A subsequent quality assurance review (Race, 2005) of the service identified several areas for further investigation with the purpose of improving the efficiency of the service. Notable amongst these areas included an examination of the Itinerant Teachers of the Deaf's practices for time inefficiencies, and activities that could be carried out by other support staff such as a teacher's aide. However, the analysis appeared to be somewhat superficial in its suppositions and recommendations. Research Project 1 aims at investigating in more detail the nature of the Itinerant Teachers of the Deaf's work, and examining their practices in terms of having value in promoting inclusion for the students with whom they work.

Significance of the study

Hyde and Power's (2004) study of Australian students with a hearing loss in various educational settings indicated that the largest percentage of these students attend regular schools. At 84% the need for getting the educational inclusion right for individual children is apparent and immediate. Classroom teachers are not trained in special education, with even recent university graduates unlikely to have any great depth of knowledge in the implications of hearing loss on learning in the inclusive classroom (DEEWR 2007). In the current educational climate the work of the Itinerant Teachers of the Deaf therefore becomes one of paramount importance in assisting the schools to prepare for and make accommodations for deaf and hard of hearing 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 essential to the student's academic and social achievements at school (Foster & Cue 2009).

A review of the literature revealed that there have been relatively few studies that examined what it is that Itinerant Teachers of the Deaf do in schools, and even fewer that rate the impact of their work on the inclusion of children who are deaf or hard of hearing. Following the Quality Assurance report (Race, 2005) that made recommendations for the future direction of RIDBC School Support Service (HI), it became clear that a description of range of practices that constituted the Itinerant Teachers of the Deaf's role was warranted. Subsequent to this, the investigation into the value of the Itinerant Teachers of the Deaf's practices in promoting inclusion commenced. It was anticipated that the outcomes may reveal insights into how the Itinerant Teachers of the Deaf chose the particular set of practices for each student. Apart from the desire to accurately define the role and evaluate its effectiveness, these two steps were regarded as essential if recommendations for improvements or changes to the Service were to be made in an informed manner.

The Research Project

The project described in this paper examined the role of an Itinerant Teacher of the Deaf and the value of their practices in the promotion of inclusion for students who had hearing loss in the regular classroom. The project investigated practices that Itinerant Teachers of the Deaf perform in the regular classroom, and how they rate their practices in terms of their importance for the range of students they support. 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 the range of practices used by the Itinerant Teachers of the Deaf; reflect on individual and collective perceptions of the effectiveness of their practices; and identify the factors in schools that promote and those which inhibit their ability to carry out their work.

Research questions

1. Which of the practices carried out in the Itinerant Teachers of the Deaf work do they believe are most important in promoting the inclusion of students with hearing loss into regular classrooms?
2. What factors do the Itinerant Teachers of the Deaf find in their experience, inhibit or enhance the effectiveness of their work in promoting inclusion of students with hearing loss in regular classrooms?

Method

Research design

The research conducted in Project 1 can be described as adhering to the principles of naturalistic research (Borg & Gall, 1989; Cohen, Manion & Morrison, 2000). Specifically, the principles of naturalistic research described by Borg and Gall (1989) are:

1. The natural setting provides the main source of data
2. Is bound by context and rich in description

3. Data are socially and culturally situated
4. The researcher is the key instrument of research
5. Data are descriptive and presented in terms of respondents rather than the researcher
6. Seeing and reporting the situation through the eyes of the participants
7. Respondent validation is important

Data Collection

A mixed method of data collection and analysis was used; questionnaire and semi-structured interview. A questionnaire was developed that used quantitative measures using a Likert scale and follow up questions that added qualitative information providing more specific information directly related to each section. The follow-up interviews were designed to challenge and corroborate the results of the quantitative data obtained from the group, and explore, in depth, the reasoning behind the responses.

Questionnaires were distributed to the thirteen Itinerant Teachers of the Deaf employed by the RIDBC School Support Service (HI). At the commencement of the project the Itinerant Teachers of the Deaf were invited to complete the questionnaire and volunteer to participate in follow-up semi structured interviews. Of the thirteen questionnaires distributed eight were returned by the due date. Reminder letters were sent to all thirteen Itinerant Teachers of the Deaf offering an extension of time of two weeks to complete the questionnaire. The reminder and extension of time resulted in a further two questionnaires being returned. Of the ten participants who returned the completed questionnaires, seven volunteered to participate in the follow-up interviews. The interviews were taped and later transcribed into a document.

Validity of the Research

The use of a mixed method of data collection subscribes to the concept of triangulation (Borg & Gall, 1989). The internal validity is strengthened by the self-reported data obtained in the questionnaire being corroborated, and in some instances challenged, by the follow-up semi structured interviews with the participants.

By the use of a questionnaire that employed a Likert-type scale (Borg & Gall, 1989) that measured the participants' opinions and open form questions that added a deeper level of understanding by providing practical examples and explanations of their practice, a degree

of external validity was obtained. It is expected that the same instrument could be used by other itinerant teacher services providing similar support to students in NSW, other Australian states, and those that are offered internationally.

One of the criticisms levelled at the research project by a member of the RIDBC Renwick College Ethics Committee was that it was confined to research about the practices of Itinerant Teachers of the Deaf that only visited Independent schools (as opposed to the NSW Department of Education and Training's Itinerant Teacher of the Deaf service, or the Catholic Education Office's Sydney dioceses' Itinerant Teacher of the Deaf service). However this criticism, whilst factual, does not take into account that all but two of the Itinerant Teachers of the Deaf who work for RIDBC had been employed at one time or another in alternative itinerant services, and as such, brought with them experience from other sectors. In fact, in the majority of cases the participants (n=6) were trained by the NSW Department of Education and Training through the cadetship scheme offered to practicing mainstream teachers wishing to become a Teacher of the Deaf. Other participants received their training in Queensland at Griffith University. In a small number of cases (n=2) the initial teacher of the deaf training was received at Renwick College, an affiliated training facility with the University of Newcastle and operated by RIDBC; both of these teachers were subsequently employed by RIDBC. In addition, it was the purpose of this study to examine the services offered by RIDBC, not to generalise the findings to other services.

The questionnaire

The questionnaire was designed to conform to the broad areas that typically constitute an Itinerant Teacher of the Deaf's work. These areas reflect the training a Teacher of the Deaf receives in postgraduate training and articulated by the Competencies for Teachers of the Deaf (AATD, 2010), namely Curriculum, Teaching and Learning; Communication Language and Literacy; and Educational Audiology. In addition, reference is made to these practices throughout the literature (Cawthon, 2001; Hyde & Power, 2004; Kluwin, Morris & Clifford, 2004) and others. Added to this background, was the researcher's experienced view of the scope of the Itinerant Teachers of the Deaf's work, and the shared understanding of the professional activities this cohort of practitioners performs.

The questionnaire provided a quantitative measure of the perceived importance for each of the activities the Itinerant Teachers of the Deaf performed in their work according to a student's grade. In addition, the questionnaire provided the opportunity for participants to provide data concerning additional information through open form questions about the actual activities they performed in their work that they believed promoted inclusion for their students.

The final section of the questionnaire used open form questions exclusively and responded to the second research question. The response required was qualitative and subjective in nature, but retained an element of quantitative measure by asking the participants to limit their responses to three factors that enhanced and inhibited the effectiveness of their work. See Appendix for full detail.

The questionnaire was divided into five sections. The first four sections related to activities that form part of an Itinerant Teacher of the Deaf role and were divided into two parts. The first part of each of the four sections contained questions relating to the activities identified. At the end of each of these sections the Itinerant Teachers of the Deaf were asked to identify any additional activities they performed in their work and indicate the level of importance in promoting effective inclusion for their students. The first four sections were as follows:

Section 1 Activities you perform in your work that address the student's hearing loss.

The seven questions in this section related to:

- Acoustics in the classroom.
- One-to-one auditory training.
- Hearing device checks and troubleshooting.
- Hearing device training for students.
- Adapting classroom materials.
- One-to-one speech training.
- Notetaking for student because the student will not be able to hear the content of the lesson.

Section 2 Activities you perform in your work that aims at assisting the regular classroom teacher to make adjustments necessary to provide access to the curriculum.

The four questions in this section related to:

- Team teaching.
- Consultation with the class teacher on a casual and regular basis.
- Formal staff development.
- Obtaining resources for the classroom teacher to use.

Section 3 Activities you perform in your work that directly assist the students to access the curriculum.

The four questions in this section related to:

- Note taking for the student in class to provide access to information delivered.
- Curriculum support (modifying texts, preparing alternative materials etc.).
- Academic tutoring outside the classroom aimed at teaching content.
- Pre-teaching language and vocabulary.

Section 4 Activities you perform in your work that assists the student to develop social skills.

The four questions in this section related to:

- Direct teaching of social skills that assists the students in developing relationships with other children.
- Supporting the classroom teacher's efforts to facilitate relationships with other children, but having no direct involvement (consultation).
- Providing opportunities for students to meet other students with a hearing loss on special activity days.
- Facilitating discussion groups/activities within the context of the schools that assist students to make friendships.

The participants were asked to circle the age/grade groups they used each activity with; the grade groups being divided into infants K-2; primary 3-6; junior secondary school 7-9; and senior secondary school 10-12. If the activity was not performed at all, then the participants circled Not Applicable (NA). The second part of the question was to rate the

importance of each activity in terms of the level of importance it was perceived to have on the inclusion of students with a hearing loss into the mainstream classroom.

The levels of importance were rated on a Likert-type scale as follows:

unimportant some importance unsure very important essential

The levels of importance were allocated a score as follows:

Unimportant = 1; some importance = 2; unsure = 2; very important = 3; Essential = 4.

Not Applicable (N/A) was rated 0. Not Applicable was used if the participant did not perform the activity with students within a particular age group. The data was placed in a spread sheet, tallied and averaged for each age group. The resulting data was graphed according to the aggregate rating of importance for each age group.

Section 5 Significant factors that inhibit or enhance the Itinerant Teacher of the Deaf's work in promoting inclusion for students with a hearing loss in the mainstream classroom.

The fifth section was dedicated to the Itinerant Teachers of the Deaf identifying significant factors that inhibited or enhanced their work to promote inclusion of students with a hearing loss in the regular classroom. This section was divided into two parts:

Part 1 "Consider the various aspects of practice you use in your day to day work. Consider the practices that you use that you believe will facilitate inclusion for your students. List and briefly explain **the 3 most helpful conditions** that occur in regular schools that allow you to carry out your work effectively".

Part 2 "Consider the various aspects of practice you use in your day to day work. Consider the practices that you use that you believe will facilitate inclusion for your students. List and briefly explain **the 3 conditions** that occur in regular schools that **prevent or impair** your ability to carry out your work effectively".

The resulting data were transcribed in tabular form and screened for like- themes. However, due to the small number of participants, much of the detail was able to be included in the ensuing Results section.

Semi structured interviews

The semi structured interviews were carried out once the data from Sections 1 to 4 had been analysed, tabulated and graphed. The researcher conducted the interviews individually with each participant in a quiet room within RIDBC's facility. The outcomes and trends of the data were presented to the participating Itinerant Teachers of the Deaf and they were asked to provide explanations or suggestions as to why they thought the data followed the trends by using their personal experiences and knowledge. In some sections the Itinerant Teachers of the Deaf were asked what specific activities were performed. The aim for including the Itinerant Teachers of the Deaf's opinions and ideas was to clarify and extend an understanding of how they made decisions about what activities to perform with which students, and in what way are these activities perceived to influence the effective inclusion of the students. The interviews were audiotaped and transcribed in detail to allow for later analysis. The resulting data was screened for like-themes and prominent points. A number of these have been quoted in the ensuing Results section.

The questions asked of the Itinerant Teachers of the Deaf aimed at clarifying and explaining the trends noted in the quantitative data. They, in general, discussed their ideas from a range of experiences that they had, either in the past or, in some cases with students they currently were providing a service for. Often the participants chose to illustrate their ideas with relevant examples of situations using specific students. The examples cited about specific students varied, and it needs to be recognised that an individual student's age, level of hearing loss, school, and a number of other factors would influence the situation. However, there was enough likeness in the ideas the Itinerant Teachers of the Deaf presented to be able to recognise themes.

Individual profiles of the participants interviewed.

Kate had seven students in a mixture of primary and secondary grades, mainly in the Eastern suburbs. Kate had over 15 years' experience as an Itinerant Teacher of the Deaf in another education system and joined RIDBC twelve months prior to the study commencing.

Samantha had seven students in a mixture of primary and secondary grades, all on the North Shore of Sydney. Samantha had been a teacher of the deaf in special school

settings for more than 10 years and had been an Itinerant Teacher of the Deaf at RIDBC for a further five years.

Ingrid had eight students, in a mixture of primary and secondary grades in North West Sydney. Ingrid had been an Itinerant Teacher of the Deaf for over 15 years and had been employed by RIDBC for approximately 7 years.

Joanne had four students in a range of primary and secondary grades. The schools she visited were mostly in the Western Suburbs. She had over 20 years' experience as a Teacher of the Deaf both in special schools and as an Itinerant Teacher of the Deaf. She had been employed by RIDBC for approximately 10 of those years.

Jennifer had seven students in a mixture of primary and secondary grades mainly in the Eastern Suburbs of Sydney. Jennifer had over 15 years' experience as an Itinerant Teacher of the Deaf in Queensland and NSW. She had been employed by RIDBC for approximately nine years.

Barbara had five students all in secondary schools. She had over 15 years' experience as a Teacher of the Deaf in special school settings and as an Itinerant Teacher of the Deaf. She had been employed with RIDBC for approximately eight years.

Renata had over 15 years' experience as an Itinerant Teacher of the Deaf, and had only recently joined RIDBC. Her five students were in primary grades and mostly on the North Shore of Sydney.

Results: Project 1

Section 1

This section examined the nature of the Itinerant Teachers of the Deaf's indirect practice that addressed issues relating to the physical environment, or was direct intervention in the form of training or providing alternative material for the student. There were seven elements of this section that can be divided into two sections:

1. *Section 1.1 Adapting the Environment.*
2. *Section 1.2 Training the Student.*

Section 1.1 Results from questionnaire (quantitative data)

Activities that an Itinerant Teacher of the Deaf performs that directly address the students hearing loss; adapting the environment.

The activities that were included in this section included:

The acoustics of the classroom. This issue examines factors including the reduction of background noise; minimising reverberation and ensuring hearing devices such as FMs, Acoustic Loops and Sound Field Systems were used effectively.

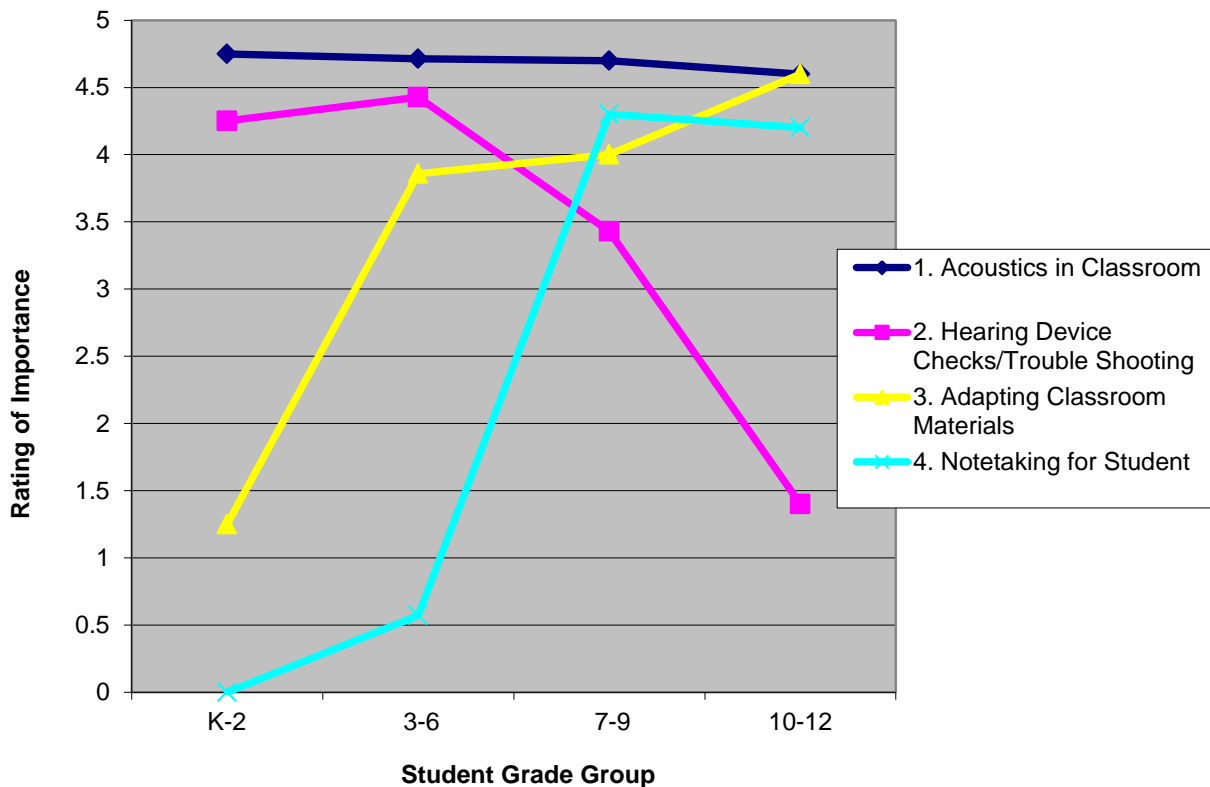
Hearing device checks. This question related to equipment that was used by the student and/or the class teacher and included personal hearing aids such as digital behind-the-ear hearing aids and cochlear implants and radio frequency FM systems (FMs) which are used by both the class teacher (transmitter) and the student (receiver).

Adapting classroom material. This activity included providing alternative formats that included visual representations of concepts, or print versions of media such as DVDs or videos with captions.

Note taking for the student. This activity related to the practice of an Itinerant Teacher of the Deaf sitting in the classroom and taking notes, either as the lesson is being delivered or when a non-captioned video/DVD was being shown.

The following graph (Graph 1.1) represents the responses to the questions relating to these activities and rate the importance of these activities in relation the students' grade at school.

Graph 1.1 Activities that adjust the classroom environment or class work



Analysis Section 1.1

Graph 1.1 shows the results for activities the Itinerant Teachers of the Deaf performed in their work that addressed problems and make adjustments to the physical environment. Such activities may include advising on improving the acoustic quality of the classroom, ensuring hearing equipment was 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, taking notes for the student while the teacher was lecturing, or the class viewing a non-captioned video.

These results indicate that ensuring the acoustic environment is as good as possible remained an essential part of the Itinerant Teacher of the Deaf's 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 Itinerant Teachers of the Deaf as very important in Kindergarten – grade 6, 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.

Results from semi structured interviews (qualitative data)

Discussion of the results with Itinerant Teachers of the Deaf regarding activities that directly address the students' hearing loss; adapting the environment

Acoustics in the classroom

It was noted that across all ages the Itinerant Teachers of the Deaf believed that maintaining good acoustics of the classroom was essential. When they 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 speech 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.

The majority of 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 students were very young there tended to be more tolerance of noise, as they were often engaged in 'doing' rather than listening to the teacher. When students reached secondary school there was reportedly a greater emphasis on teacher instruction and group work/group discussion. The problems background noise caused were the same across age groups, but 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) systems became increasingly important as the older students needed to concentrate on the increasing volume of information delivered orally. It was also noted that older students were much more able to identify problematic noise sources, and the Itinerant Teachers of the Deaf would arrange for them to be fixed. In the case of younger students it was often the Itinerant Teachers of the Deaf that identified the sources of noise that were potentially problematic.

More specifically the work the Itinerant Teachers of the Deaf reported they carried out could be grouped into themes with reference to the recipient of the intervention.

Educating the classroom teacher.

- Explained the impact background noise has on the quality of the signal (the teacher's voice) the student received.
- Demonstrated to the classroom teacher how to enable the best access for the student to lip read; and other practical suggestions such as using captions on television programs, videos or DVDs and provided students with copies of class notes.
- Continuously built on the information the class teacher gained in formal staff development sessions that the Itinerant Teacher of the Deaf had previously presented. This was explained as being through regular discussions, often informally or when a particular situation arose where the student was disadvantaged. At these times the Itinerant Teachers of the Deaf used the situation

as a teaching opportunity. One example given was when an Itinerant Teacher of the Deaf was providing oral interpreting for a student in an exam, and there was a lot of noise outside the classroom, putting the student at disadvantage.

- Taught the classroom teacher how to effectively and consistently use the FM system with a clear explanation about its value.

Educating the other students in the classroom:

- Talked to the other students in the class about the problem excess background noise has on the ability of the student with a hearing loss to hear information. Made them aware of noise – tapping pens, rustling papers, talking loudly.
- Some of the Itinerant Teachers of the Deaf assisted with noise management in the classroom, including speaking with individual students when they were making noise that was likely to affect the student with a hearing loss.
- Taught the other students how to use the FM in group work.

Direct intervention with the student with a hearing loss:

- Organised preferential seating for the student.
- Ensured the student was able to manage their own hearing equipment.
- Monitored the student's hearing (through regular checks) and the working order of the hearing equipment.
- Some organised a peer to assist the student with accessing information delivered in assembly etc.
- In some instances Itinerant Teachers of the Deaf organised peer note takers for class and group discussions.

Providing advice to the school's leadership:

- Assessed and reported on the noise levels and reverberative quality of the classrooms and other parts of the school the student accessed. For example; science laboratories and assembly halls.
- Informed schools about treatments available to improve the acoustic quality of the environment. For example, carpet on the floors, sound field systems. Samantha

reported that as a result of her advice, one school raised funds to purchase sound-muffling wall treatment and applied acoustic treatment to two rooms. The students with hearing loss were always timetabled to these rooms regardless of subject area.

- Provided the schools with information about capital equipment such as audio loops and how to access funds to pay for them.

Hearing device checks

When discussing activities related to hearing device checks, all seven participants were clear about the fact that they believed it was part of their role to ensure the student's hearing aid and/or cochlear implant and FM system was working well. However they asserted that 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 Itinerant Teacher of the Deaf 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, all 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 by the student. For example Barbara explained that even a five year old was quite able to remove and insert hearing aids, change batteries and hook and unhook their FM device.

Adapting Classroom Materials

When asked about the group of activities identified in the table as adapting classroom materials, participants' responses were quite varied, particularly about the type and amount of adaptations the Itinerant Teacher of the Deaf provided. A minority didn't believe it was their responsibility (n=2), 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 mainly through verbal instruction, increased dramatically as the student progressed to senior grades. In the early primary grades, 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"(n=5). As a result there was an essential need to ensure students had access to information through visual mediums. For example, the Itinerant Teacher of the Deaf may have sourced and provided the classroom teacher or student with transcripts of audio-visual material, captioned videos, adaptations to curriculum and note taking in class.

There was a variation in the degree of modification to curriculum content the Itinerant Teachers of the Deaf believed was part of their role, and each case was closely related to the 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 Itinerant Teacher of the Deaf themselves prepared, or advocated for the preparation of, modified work or modified expectations in assessments and/or the learning outcomes.

A similar degree of variation was evident in the descriptions the Itinerant Teachers of the Deaf made 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 Itinerant Teachers of the Deaf took notes if they had secondary students, and saw it as an important part of their work. They explained that in secondary school there was 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 Itinerant Teacher of the Deaf to be present.

Section 1.2 Results from questionnaire (quantitative data)

Activities that an Itinerant Teacher of the Deaf performs that directly address the student's hearing loss; training the students.

The activities that were included in this section included:

Auditory training An Itinerant Teacher of the Deaf has particular training in assisting students with hearing loss to use their aided residual hearing, and develop strategies that develop listening skills. Auditory training ideally occurs when children are very young (Australian Hearing, 2010; Goldberg 1999; Simser 1999). As the student enters school and the language of the classroom becomes more complex, less than ideal acoustics and other factors may interfere with clear auditory signals, and it may be difficult to apply these skills (Nelson & Soli, 2000). Incidental, or in some instances explicit training may be initiated for students by the Itinerant Teacher of the Deaf. For older students the concentration on these skills may diminish unless certain circumstances occur; for instance if a student receives a new hearing device.

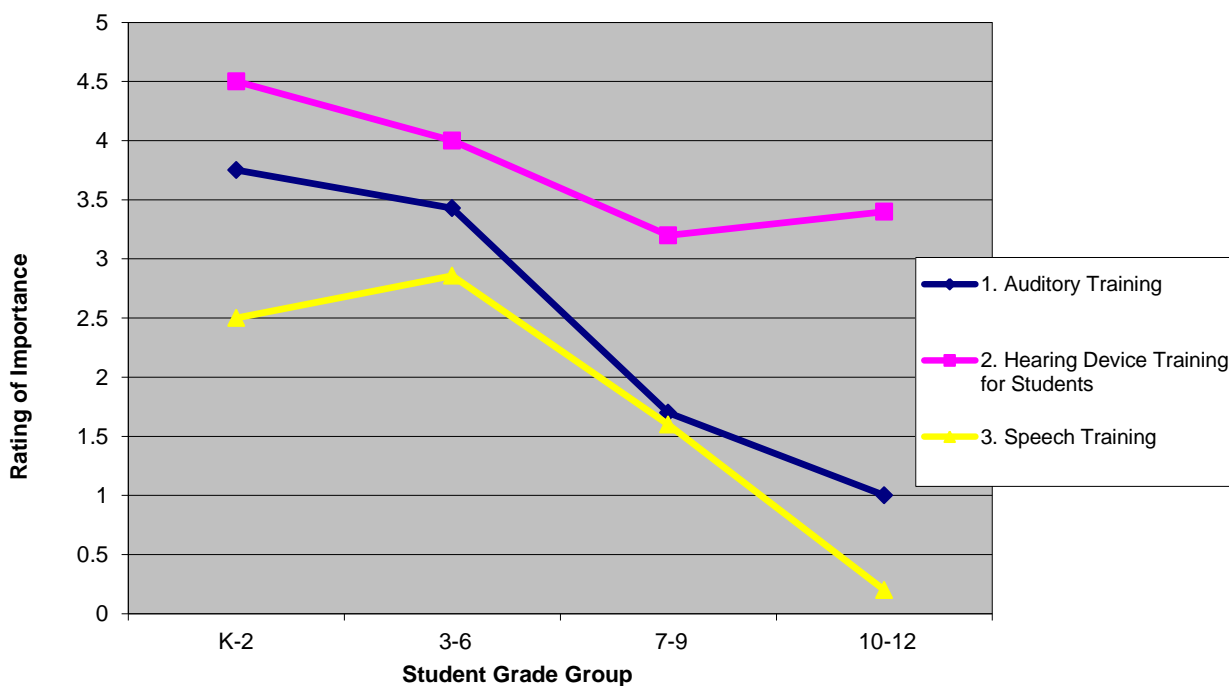
Hearing device training for students This activity is an integral part of the Itinerant Teacher of the Deaf's work. It is important that Itinerant Teachers of the Deaf have first-hand knowledge of all the current hearing devices available to school aged students (Toe, 1999). Such equipment includes personal digital hearing aids, cochlear implants, FM systems, acoustic loops and sound field systems. This means that Itinerant Teachers of the Deaf must regularly attend professional development to keep pace with new hearing devices becoming available, and to ensure they can maintain and troubleshoot the devices if necessary. The hearing aids offered to students through Australian Hearing and the Sydney Cochlear Implant Centre (the main providers of hearing devices for school aged children in NSW) are constantly changing with newer technology providing students with a hearing loss better access to sound (Australian Hearing, 2010; Sydney Cochlear Implant Centre, 2010).

Speech Training This area is another skill Itinerant Teachers of the Deaf develop when they do their initial training as a Teacher of the Deaf. As with auditory training, the development of clear speech is ideally achieved prior to children entering school (Australian Hearing, 2010; Simser, 1999). However, many children with hearing loss fail to progress in the development of clear speech as their hearing peers do. An Itinerant

Teacher of the Deaf may spend part of their time assisting the student to develop their speech.

The following graph (Graph 1.2) represents the responses to the questions relating to these activities and rate the importance of these activities in relation the students’ grade at school.

Graph 1.2 Activities that relate to direct student training



Analysis of Results Section 1.2

Graph 1.2 displays the outcomes for questions that relate to the Itinerant Teacher of the Deaf’s role in individual work they perform to 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 Itinerant Teacher of the Deaf’s 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 Teacher of the Deaf’s 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.

Results from semi structured interviews (qualitative data)

Discussion of the results with Itinerant Teachers of the Deaf regarding activities that directly addressed the students' hearing loss; training the students

Participating Itinerant Teachers of the Deaf were asked to explain trends in the data relating to auditory training.

Many Itinerant Teachers of the Deaf commented that their students had usually accessed 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 decrease in time 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 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 Itinerant Teachers of the Deaf 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 Itinerant Teachers of the Deaf 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 was at the time rolling out a new type of FM system that all students would 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 and encouraged to use the FM when speaking to a group or the class.

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:

- Because the technology of hearing devices has improved and the students had received early intervention the need for intense speech training from an Itinerant Teacher of the Deaf has decreased in importance.
- A number of the Itinerant Teachers of the Deaf 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 Itinerant Teachers of the Deaf felt it was unnecessary for them to take up time doing speech training in these cases.
- It was regarded as unusual for the Itinerant Teachers of the Deaf to have a student who had speech that required intense speech work, it was more a case of if the need arose, and they would prioritise it for that student. For example; in the case where prosodic difficulties or small articulation errors were noted, or if the student needed to present some school work orally as part of an assessment.
- In some cases it was a question of low priority for the student – particularly secondary students whose focus was to understand the curriculum and complete assignments.

It was agreed, however, that speech training was part of the role of an Itinerant Teacher 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.

Summary Section 1

While the Itinerant Teachers of the Deaf saw their role as being essential in assessing, advising and monitoring the acoustic environment, the intervention strategies used to adapt the environment to optimise the students' access to information, were influenced by the individual student's grade and language levels. Some of the work done in this area was consultative in nature, advising schools and classroom teachers about adapting the acoustic environment and ensuring staff and hearing peers were informed about the impact of noise on the students' ability to access spoken information. As the students reached secondary school and progressed to the senior years there was increasing focus on providing adapted materials. The Itinerant Teachers of the Deaf were very aware of the student's language levels being challenged as they moved towards senior years and notetaking, providing visual representations of text and tutoring became more important in terms of access. This was mainly in response to the amount of information the students were required to access through listening in class. In the primary grades teachers were more likely to provide concrete and visual support to learning new concepts, whereas secondary students were expected to have the ability to absorb more information through listening, viewing and reading. There was a marked increase in the expectation that secondary students learnt to complete assessment tasks and pass exams, and as a consequence the Itinerant Teachers of the Deaf reported assisting students in these areas.

The interventions that diminished in importance as the student moved in to the senior grades were mainly to do with checking the students' hearing devices. The Itinerant Teachers of the Deaf, in general, indicated that while they were available to assist the students, they believed essentially that it was up to parents and the older students themselves to manage and maintain their own hearing devices.

Other skills that were explained as being developed in early intervention, specifically listening and speech skills, diminished in importance as the student matured. This was usually reported as being due to the students' development of competence in this area,

but also in response to the increased pressure on the student being able to understand the content of the curriculum and meet the expectations in terms of assessment. This finding supports the assertions of Goldberg (1999), Simser (1999) and Australian Hearing (2010). However, the Itinerant Teachers of the Deaf maintained their skills in these areas by assisting students who required intensive support such as when they received new hearing devices. Often it appeared that the teaching of audition, speech and language was couched in curriculum content or in response to a specific need such as the student having to present something orally.

Section 2.0 Results from the questionnaire (quantitative data)

Activities that Itinerant Teachers of the Deaf performed that assisted the Classroom Teacher

The activities that were included in this section were:

Team teaching In this context the term 'team teaching' is used to describe activities where both the class teacher and Itinerant Teachers of the Deaf are working together in the classroom. It may mean the Itinerant Teacher of the Deaf either takes a small group of students including the student with hearing loss, or they teach part of the lesson, or they work alongside the student with hearing loss, supporting their understanding of the lesson content.

Consultation with the class teacher A considerable amount of time in an Itinerant Teacher of the Deaf's day is spent liaising with mainstream staff, either formally (such as arranged meetings) or informally (such as at morning tea, or in passing). In Luckner and Miller's (1994) study of Itinerant Teachers of the Deaf's work, consultation and collaboration with class teachers rated second in importance to direct support to students. A survey of the participating Itinerant Teachers of the Deaf's work carried out prior to this study (Race 2005), indicated that liaison and consultation (10.8%) with mainstream staff was second only to direct support of students (42.2%) in the amount of time spent in schools. Other time was taken up with travel and non-teaching activities such as planning, report writing etc.

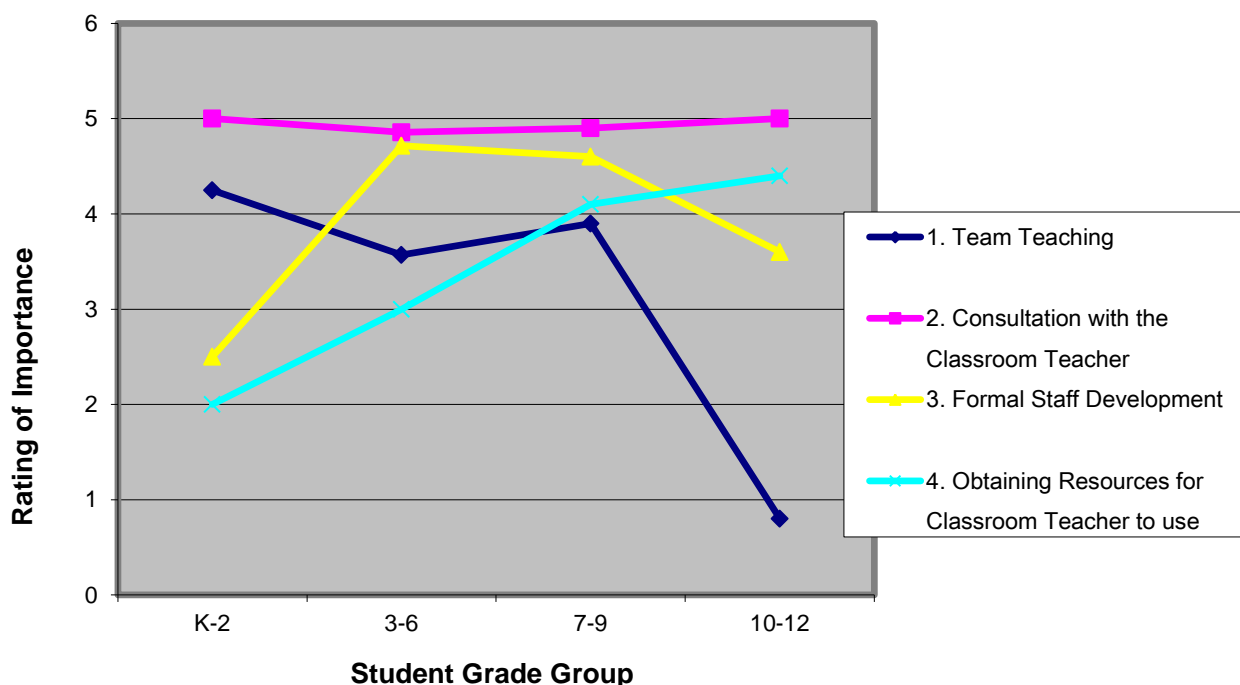
Formal staff development This activity describes the Itinerant Teacher of the Deaf's opportunity to present information directly to mainstream staff relating to hearing loss and

its impact on the students’ ability to process spoken language in a classroom context; factors that enhance or inhibit the student’s ability to receive and process information in all its forms (spoken, written, DVDs, films, lectures etc.); and techniques that a classroom teacher, and more broadly the school, can employ to maximise the student’s ability to access academic and social opportunities as equitably as possible.

Obtaining resources for classroom teachers to use This activity, in the context of the study, relates to the Itinerant Teachers of the Deaf sourcing information, providing supplementary material or material in alternative formats to the classroom teacher for use in the classroom. The material related mainly to a current topic or theme being taught in the classroom.

The following graph (**Graph 2.0**) represents the responses to the questions relating to these activities and rate the importance of these activities in relation the students’ grade at school.

Graph 2.0 Activities that Assist the Classroom Teacher



Analysis of Results Section 2.0

Graph 2.0 shows results for the questions the Itinerant Teachers of the Deaf were asked about activities they performed in their work that indirectly promoted inclusion for students with a hearing loss through providing assistance to the class teacher. This may have involved 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' was used to describe activities where both the class teacher and Itinerant Teacher of the Deaf work together in the classroom. It may mean the Itinerant Teacher of the Deaf either takes a small group of students including the student with hearing loss, or they teach part of the lesson, or work alongside the student with hearing loss, supporting their understanding of the lesson content.

As the students moved into grades 3-6 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. This most likely related to the fact that each year the students encounter new class teachers and new classroom environments, and the Itinerant Teacher of the Deaf played an ongoing role in working closely with the class teacher to ensure access to information was maintained, and the teachers' awareness of the students' needs were 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 trend for rating importance of obtaining classroom resources rose steadily throughout the years – 'some importance' in K-6, and 'very important' for 7-12.

Results from semi structured interviews (qualitative data)

Discussion of the results with Itinerant Teachers of the Deaf regarding activities that assisted the classroom teacher

Participating Itinerant Teachers of the Deaf subsequently discussed team teaching activities. In general terms they felt it was very difficult to truly team teach – that is collaboratively plan, program and deliver the lessons with the class teacher (Dettmer et al., 2009). 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 effect of enabling status as "just another teacher" rather than being exclusively present for the student with hearing loss.
- Taking a specific role – for example assisting the whole class with writing skills.
- Taking the whole class at times was explained by some of the Itinerant Teachers of the Deaf as affording them the opportunity to model good teaching strategies for the classroom teacher to use that would assist the student with a hearing loss.

In senior secondary grades, the majority of the Itinerant Teachers of the Deaf felt the drive for classroom teachers to cover the content of the curriculum was so great that it didn't allow time for team teaching. In fact they reported that the focus of the classroom teacher was on delivery of information rather than the process of learning. Additionally, students who reached this level of schooling tended to be quite independent, and directed their communications to the class teacher rather than via the Itinerant Teacher of the Deaf.

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 opportunities to reach a comfortable level in the class teacher- Itinerant Teacher of the Deaf's relationship.

Participants were asked to explain what it meant to consult with the class teacher, and how this related to inclusion of the student. The participants described consultation with the class teacher on a weekly basis as beneficial as it facilitated and encouraged the class teacher's confidence to work with the student, and provided an opportunity to develop understanding and empathy for the student's situation. This was explained by the participants as increasing the teacher's sensitivity to the need for making adjustments to the class environment, teaching strategies, and providing alternative-format materials when necessary.

The Itinerant Teachers of the Deaf 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 teachers could make to effect inclusion for the student. Two examples given were – ensuring the student understood a homework activity, and reducing 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 Graph 2.0, the participants, without exception, 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 grades 10-12 if the student has been in the school for some time, and the teaching staff were well informed. However, formal staff development was regarded as the basis for all continuing consultation throughout the year, and provided essential information to all school staff that came in contact with the students.

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 given subsequently built on this basic understanding. The lower rating of

importance in grades K-2 was speculated as more likely to relate to the lack of opportunity to present information to staff rather than their perception of the activity's importance. The slight drop in grades 10-12, was reported as again, relating to lack of opportunity, or the fact that the students had been in the school for their entire secondary schooling, and the school was well aware of the student's needs.

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 [teachers] 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." (Ingrid)

Participating Itinerant Teachers of the Deaf were asked to explain activities related to obtaining resources for classroom teachers. The type of resources they provided included:

- Materials in different formats, most notably captioned versions of videos and DVDs or written transcripts of media (films, DVDs, television shows) the Itinerant Teachers of the Deaf themselves prepared. However, many felt with the advent of DVDs that often have the option to display closed captions, schools had begun to take more responsibility for providing captioned media.
- All but one of the Itinerant Teachers of the Deaf provided visual representations relating to the class topics to assist the student to make linguistic-visual links and increase understanding. Some examples included books, posters, websites, and resource centre information for the class teacher to obtain their own resources. The Itinerant Teacher of the Deaf who did not provide the resources did not believe it was her role to provide resources, but gave the classroom teachers information about where to obtain them.

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. Many

subjects in secondary school study visual texts as parts of the curriculum, for example the Stage 5 and 6 (NSW) English curriculums use film as text (NSW Board of Studies, 2010).

Section 2 Summary

Consultation with the classroom teacher retained the same level of high importance throughout the school years. In particular, formal staff development, although at times a frustration for the Itinerant Teachers of the Deaf when not allocated the time by the school to deliver an information session was regarded as essential. The frustration was due to the Itinerant Teachers of the Deaf's recognition that material delivered as information in a workshop formed the basis for all ongoing consultation and information provision to the classroom teacher and the school throughout the year. It appeared to give the Itinerant Teachers of the Deaf and the classroom teachers a platform of basic knowledge from which to build understanding. Informal consultation mainly occurred via incidental communication or as Samantha described it "teachable moments". When an opportunity presented itself the Itinerant Teachers of the Deaf used the situation as a practical example to demonstrate a concept they had introduced previously. If the opportunity to present general concepts about the issues students with hearing loss may face was not afforded the Itinerant Teachers of the Deaf early in the year, they felt they were always trying to catch up, having no basis upon which to build up the classroom teacher's knowledge.

Similarly, consultation and collaboration with the classroom teacher on an ongoing and somewhat collegial basis was rated by the Itinerant Teachers of the Deaf as essential across all grades. Collaborative interactions were reported as being specific to the individual student. Opportunities to collaborate were enhanced by the Itinerant Teacher of the Deaf's presence in the classroom, because it gave them time to observe what was happening, and make constructive suggestions for adjustments to teaching styles and environmental matters. In addition, this collegial style of working promoted the development of respectful and trusting professional relationships (Antia, 1999).

Some Itinerant Teachers of the Deaf named one of their collaborative activities 'team teaching', but in essence the activity encompassed by this term is better described as working alongside the classroom teacher supporting the student within the context of the classroom. Within this context a range of activities occurred from scribing on the board

while the teacher was teaching, teaching part of the lesson or taking a small group that contained the student with hearing loss for part of the lesson. Several of the Itinerant Teachers of the Deaf stated that it was often an opportunity to model good teaching strategies that promoted inclusion for the student with hearing loss. The opportunity for these activities to occur were mostly found in primary classrooms, but continued to some extent into junior high school.

As the pressure increased for students to learn and retain curriculum content in order to pass assessments, the focus of the Itinerant Teachers of the Deaf's interventions changed responsively. With the reduction of opportunity for the Itinerant Teachers of the Deaf to have input into the delivery of lesson, they redirected their efforts into providing resources to the classroom teacher that promoted access to the curriculum. Some examples offered included sourcing captioned media and other visual representations of material that assisted the students to understand the concepts and make linguistic-visual links.

Section 3.0 Results from questionnaires (quantitative data)

Activities that Itinerant Teachers of the Deaf performed that directly assisted the student to access information.

The activities that were included in this section were:

Note taking for the student in class This activity related to the Itinerant Teachers of the Deaf being present in the live classroom and taking written notes that summarised or highlighted the main points that were being explained by the class teacher; or as a result of class discussion. Other instances occurred by summarising a non-captioned film, video or television program. In this context note taking refers to the purpose as being to assist the student to access information relating to the curriculum, as opposed to the earlier reference as being to take notes in class which directly addressed the students' hearing loss. However, similarities in results will be noted. The Quality Assurance review (Race, 2005) rated this activity for the Itinerant Teachers of the Deaf as very time consuming, taking the greatest proportion of their time at 14%. This raised issues which will be considered at a later time.

Curriculum Support The activities included in this section related to the Itinerant Teachers of the Deaf either tutoring in curriculum content or teaching the students

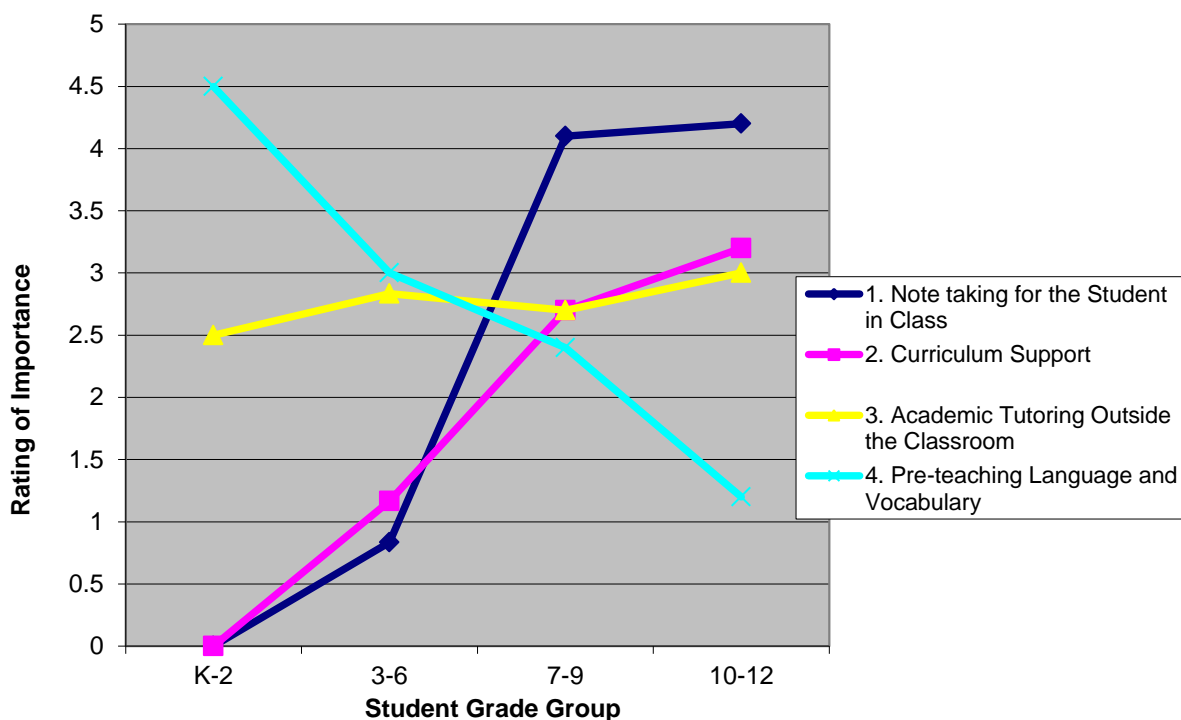
techniques that assisted them to access information relating to content. Examples include reading the texts, or accessing information in their own time.

Academic tutoring outside the classroom This activity related to providing the student with time out of class, whether it was by withdrawing them from the class or spending individual sessions in lunch times and before or after school.

Pre-teaching language and vocabulary This activity is self-explanatory, and relates to the work an Itinerant Teacher of the Deaf may do prior to the student being exposed to curriculum-specific vocabulary or language. The vocabulary related to words that could be expected as part of the understanding a normally hearing student would know at a given age.

The following graph (**Graph 3.0**) represents the responses to the questions relating to these activities and rates the importance of these activities in relation the students’ grade at school

Graph 3.0 Activities that directly assist the student to access information



Analysis of Results Section 3.0

Graph 3.0 shows the results for the questions Itinerant Teachers of the Deaf were asked about activities they performed in their work that promoted inclusion for students with a hearing loss. These activities provided direct assistance to the student either within the classroom or in a one-to-one session.

Notetaking for students in class was rated by the participants as being of no importance in K-2, and of little importance in grades 3-6. However, once students reached secondary school the importance of the activity rose sharply to being a very important activity, where it remained for grades 7-9 and 10-12.

A similar trend was observed for curriculum support. Again the importance of this activity was of no importance in grades K-2 and unimportant in grades 3-6. A rise in importance to being of some importance was noted in grades 7-9 and remained of some importance in grades 10-12.

For students across all grades the activity of academic tutoring outside the classroom was of some importance.

Pre-teaching language and vocabulary was exposed as having an almost directly opposite trend with respect to levels of importance for notetaking for students in class and those noted for curriculum support. This activity was regarded as very important, and by some participants as essential for students in grades K-2 and very important for grades 3-6. It remained as being of some importance in grades 7-9, but reduced to having little importance in the higher grades of 10-12.

Results from semi structured interviews (qualitative data)

Discussion of the results with Itinerant Teachers of the Deaf regarding activities that directly assisted the student to access information

The participants were asked to identify the factors that may have influenced these results.

The Itinerant Teachers of the Deaf, without exception, stated that they took notes for their students who were in the secondary grades. They pointed out that notes were only taken when information was delivered through live voice or film, not from notes that may be written on a board or provided on paper. Other explanations given for this trend were:

- In secondary school there was an increase in lessons being delivered using a lecture style and less visual support or kinaesthetic learning activities were offered.
- In secondary school there was an increase in class and group discussion. The Itinerant Teachers of the Deaf explained that this often led to students with hearing loss missing out on important information due to the rapid exchange of information delivered through spoken language. One example about the problem that discussion may create was the difficulty students with a hearing loss may have in locating the speaker in time to access to lip reading or other visual cues [facial expression, body language].
- Notetaking ensured that the students had a written record of the points that were raised by the teacher in class. The Itinerant Teachers of the Deaf explained that once the student had access to this information they were able to participate in class and, importantly, understand what was being taught or discussed.
- It was also related to the "sheer volume" of language and information that the students were expected to understand and retain. Additionally, a range of different topics and teachers delivering information in a variety of classroom settings was confusing for some students. For many of the students on the Itinerant Teachers of the Deaf's caseloads, language and vocabulary were weaker areas.

In the area of curriculum support the Itinerant Teachers of the Deaf explained that there was often a dilemma. They felt they were under pressure from their secondary students to assist them to understand the curriculum content as the students' priority was to pass their exams or assessments. The Itinerant Teachers of the Deaf stated that they did not believe they should be tutoring curriculum content as they could not possibly have expertise in all subject areas, but regardless they did so sometimes. They explained that when the family of the student was more involved with the student's education this pressure was alleviated as often the parents or siblings took on the tutoring role. Another factor raised was that the Itinerant Teachers of the Deaf believed that it was more their role to teach the students skills that enabled them to access the information themselves, but often found they were compelled to respond to the individual student's needs.

The activity of academic tutoring outside the classroom obtained a rating of being of some importance consistent across all grades from K-12. The Itinerant Teachers of the Deaf were asked how they would explain this trend, specifically why it did not rate highly in the

spectrum of importance. In light of the Model Review conducted by Race (2005) where the time allocated to "academic tutoring" constituted 12.6% of the total time of how the Itinerant Teachers of the Deaf spent in their week, the rating of some importance did seem to make sense. It should be noted however, that in the Model Review (Race 2005) there was no specification as to what constituted "academic tutoring", and whether it occurred within the classroom or in one to one teaching situations.

The responses from the Itinerant Teachers of the Deaf in the context of the current study indicated, in general terms, that most of their work was carried out inside the mainstream classroom. The time that was spent in one-to-one sessions was spent clarifying points learnt in class and checking understanding, or perhaps in the case of secondary students, assisting them with how to address an assignment. All the participants stressed the point that they were not subject experts, and so did not teach the curriculum as such. They instead encouraged students to approach the teacher for subject-specific content. The mismatch in time spent and what the Itinerant Teachers of the Deaf actually did during this time may be explained in the following points raised:

- Three participants explained that the amount of tutoring the student received was related to their individual needs, some students required more help than others. Students with poor language development may need more help. For example one participant had a secondary student who in her words stated that "he just doesn't get it" with respect to English literature. In this instance the Itinerant Teacher of the Deaf tutored the student outside class time so that the student had a basis of understanding when in the English class. The same Itinerant Teacher of the Deaf added that, in this particular case, the student may not be appropriately placed in a mainstream classroom, as he required so much additional assistance.
- Another participant said she would like to do more one-to-one work, but did not have sufficient time with each student to give this type of assistance.
- Another point raised was that often the Itinerant Teachers of the Deaf used curriculum content as a vehicle for teaching other skills. For example, language and vocabulary; some stated this may be a pre-teaching activity, but they didn't believe it constituted academic tutoring.

- One participant who had recently joined the Service, and had previously worked for another educational system, believed the rating of importance may reflect RIDBC's philosophical stance, being to provide the majority of the support to the student in the class context as opposed to withdrawal.

The results for the activity of pre-teaching language and vocabulary declined as the students progressed through the grades. Given this trend the Itinerant Teachers of the Deaf were asked to offer explanations, particularly considering in earlier sections they stated that their students had more difficulty with language as they progressed into the secondary grades, and the volume and complexity of language increased.

The Itinerant Teachers of the Deaf's responses to this request can be summed up as follows:

- The high rate of importance in K-2 was due to a need to ensure the students learnt all the new language and concepts, also to help them absorb and understand new information that was delivered in class.
- A number of participants also believed it was related to individual students, some needed more help with language and vocabulary. For some students this meant a constant reintroduction of terms as they may not retain the information well.
- In secondary school there was a greater need to encourage the student to become a more independent learner; the Itinerant Teachers of the Deaf would encourage the student to approach the subject teacher directly for clarification.
- In secondary schools there was less opportunity than in primary grades to have direct access to the classroom teachers to get copies of programs or to find out the next topic to be introduced.
- Some Itinerant Teachers of the Deaf believed there was more involvement by parents in the primary grades, and they had more influence on how they spent their time with younger students. One participant explained this as a possible "spinoff" from early intervention programs, with high expectations of parents being the child's main teacher. These parents often had an attitude of "let's learn before we need to know." (Kate)
- The Itinerant Teachers of the Deaf were less likely to pre-teach vocabulary to students in secondary grades as they are not experts in the subjects, particularly

the technical areas. In addition, they did not believe there was sufficient time to do so.

- Students who went onto grades 11 and 12 were more likely to be more capable academically, and managed well, reducing the need for this kind of support.

Summary - Section 3 Direct Assistance to the student - accessing information

In consideration of the interventions that the Itinerant Teachers of the Deaf used that could be described as directly assisting the students to access information in the school context, it was apparent that the student's grade at school had significant influence.

It appeared that in the early school years, students were engaged in lessons that focus on the students learning to learn and as such benefited from the Itinerant Teacher of the Deaf's intervention of teaching vocabulary prior to encountering it in the classroom. A number of Itinerant Teachers of the Deaf explained that they had a higher chance of developing a good collaborative relationship with the classroom teacher in these years. As such they were more likely to be able to gain access to the teaching program than in secondary years where they needed to negotiate with a number of different subject teachers. Similarly, in junior primary grades, parents were more likely to be in direct communication with the Itinerant Teacher of the Deaf and tended to develop a closer relationship with them, than with the classroom teacher. This finding is reflected in research conducted by Foster and Cue (2009). The formation of relationships with parents may have enhanced the Itinerant Teacher of the Deaf's knowledge about the student's communicative development, and subsequently, they tailored their teaching program to concentrate on areas the student specifically needed.

In secondary years, the content of the curriculum becomes more complex, and the expectations for learning and retaining large volumes of information largely delivered in class, or by reading material provided, increased. In response the Itinerant Teachers of the Deaf shifted the focus of support to academic learning. They felt under pressure to assist their students to understand the curriculum so they could meet the requirements of assessments and exams. Although the interventions the Itinerant Teachers of the Deaf explained that they used in this study as well as in the Model Review (Race 2005) have been labelled 'academic tutoring', they did not see their role as subject teachers. However, they often used the content of the curriculum as a context within which to explain concepts

so as to scaffold new learning. This type of support was consistently important across all grades and related directly to the gaps the student had in their knowledge of language concepts and vocabulary. In the semi-structured interviews, the Itinerant Teachers of the Deaf explained they constantly encouraged their students to develop independent strategies, and directed them to the teacher for queries of a subject-specific nature. Much of this work, clarifying the student's understanding and assisting them to manage the expectations of assessments etc., was implemented outside the classroom. However, time was a significant inhibitor and the Itinerant Teachers of the Deaf felt that they never had enough time with the individual students to do what they believed was needed. This finding agrees with Yarger and Luckner (1999), who also found Itinerant Teachers of the Deaf were frustrated by the limited time they could spend with each student.

Section 4.0 Results from questionnaires (quantitative data)

Activities that Itinerant Teachers of the Deaf perform that assist the student to develop social skills/friendships

The data that was collected in this section related to the role the Itinerant Teacher of the Deaf plays in assisting students with hearing loss to develop social skills and gain and maintain a selection of friendships. In most cases the schools that the Itinerant Teachers of the Deaf visited had more than one student with a hearing loss, but they were rarely in the same grade as each other. The information gained about social skills and friendships was also examined in the two other sections of the portfolio from the points of view of the mainstream class teacher, and self-reports from the students with hearing loss.

The sections that were included in this section were:

Direct Teaching of Social Skills This question asked the value in terms of importance the Itinerant Teachers of the Deaf placed on activities that explicitly taught social skills to the students they supported. Social skills in this context related particularly to communication (verbal, nonverbal and pragmatic), behaviours that were acceptable to the school environment and those that served to promote positive relationships with other students.

Supporting the classroom teacher's efforts to facilitate relationships with other children (consultation) This question related to the Itinerant Teachers of the Deaf

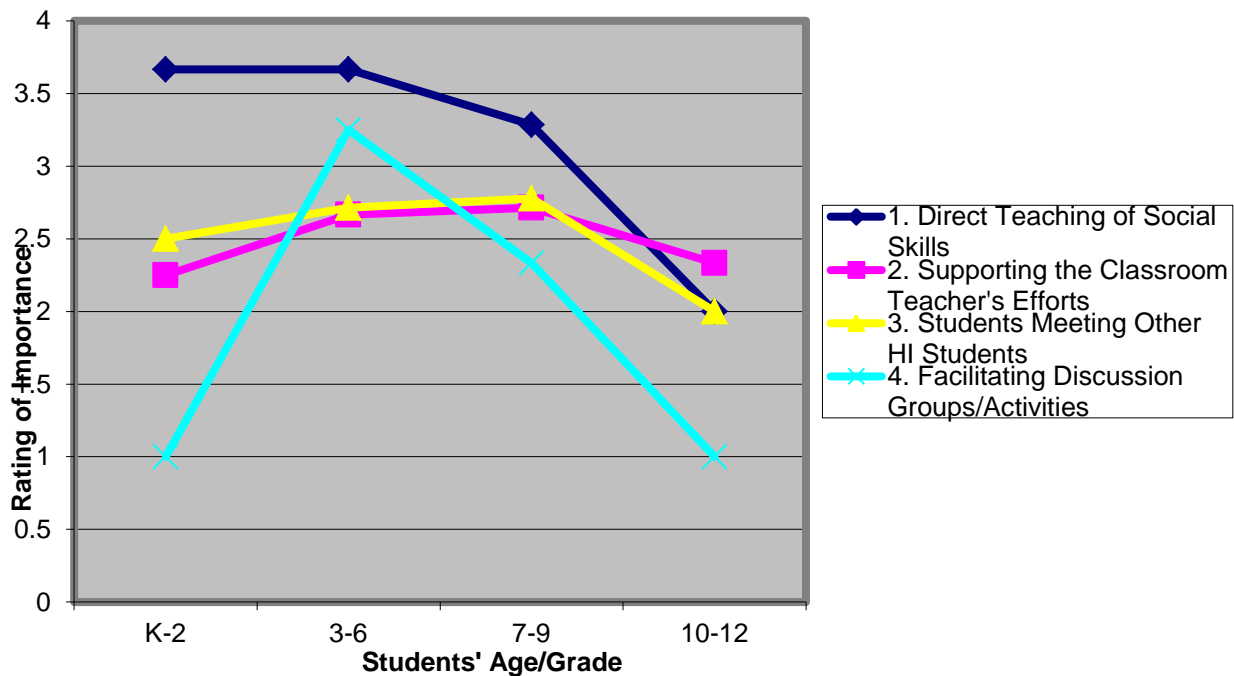
providing information or support to the teacher about the difficulties some students with hearing loss may have developing appropriate social skills and communication skills that enable them to "get on" with others and develop positive relationships. In some cases this may relate to classroom behaviour.

Providing opportunities for students to meet other students with hearing loss on special activity days (outside their own school) This activity refers to the practice of organising special days where students with hearing loss have an opportunity to meet others who are a similar age. These days are treated as excursions and are generally held at a host mainstream school. Parents are required to transport younger students to and from the venue. From personal experience, the organisation of these days is very time consuming and requires absolute adherence to safe practices.

Facilitating discussion groups/activities within the context of the [mainstream] school that assist students to make friendships The inclusion of this activity in an Itinerant Teacher of the Deaf's range of work practices may include the promotion of relationships with other students in the school. The activity may be in the classroom and run as part of a PDHPE lesson, or may involve selecting a small group of students and working with this group.

The following graph (Graph 4.0) represents the responses to the questions relating to these activities and rates the importance of these activities in relation the students' grade at school.

Graph 4.0 Activities that assist the students to develop social skills and friendships



Analysis of Results – Section 4

Graph 4.0 shows results for the questions the participants were asked about activities they performed in their work that promoted inclusion for students with a hearing loss by assisting them to develop social skills and positive relationships.

Direct teaching of social skills was regarded as very important to essential in years K-2 and 3-6. It remained as a very important activity in grades 7-9, but reduced to having some importance as students reached the senior grades 10-12.

Activities that supported the classroom teacher's efforts to foster the development positive social skills was regarded as being very important across all the grades with a small increase in the level of importance in grades 3-6 and 7-9.

Organising special days for students with hearing loss to meet each other was regarded as being very important for grades K-2, 3-6 and 7-9, reducing in importance in the senior grades 10-12 to being of some importance.

Facilitating discussions or activities in groups within the context of the school was rated by the Itinerant Teachers of the Deaf as an unimportant activity in K-2 and 10-12, but was of some importance in grades 3-6 with a small reduction in importance in grades 7-9.

Results from semi structured interviews (qualitative data)

Discussion of the results with Itinerant Teachers of the Deaf regarding activities that assisted the students to develop social skills

In general, there was a lot of discussion about all aspects of the results of this section. Evident too was a wide range of responses, revealing perhaps the individual Itinerant Teacher of the Deaf's chosen support style, experience, and to some extent, personality. The majority of the Itinerant Teachers of the Deaf in the study had worked with a range of students across the years Kindergarten to grade 12. However, one had not, and their experiences were mainly with primary students. In this discussion the responses to the questions reflected these experiences. It was also noted that most Itinerant Teachers of the Deaf were very concerned with the social development of the students on their caseloads, and initiated activities relating to social development with varying levels of success.

The activity of teaching social skills was generally regarded as a very important part of the Itinerant Teacher of the Deaf's role, only reducing in importance in the senior grades 10-12. Given this trend the Itinerant Teachers of the Deaf were asked the following question:

"Can you give some examples of the type of activity you would use to teach social skills to different age groups, and why do you think these activities are less important in senior grades?"

The responses of the Itinerant Teachers of the Deaf ranged widely. However, they all emphasised that activities that promoted positive social skills were a very important part of their role. They qualified their responses by explaining that it varied in focus depending on the individual student's needs. However, all of the participants had, at some time, used explicit teaching techniques such as drawing, role play and pointing out communication techniques such as maintaining eye contact, taking turns and listening to others. The Itinerant Teachers of the Deaf also used varying techniques as students got older. Some examples included discussion and role playing scenarios. In addition, there was a lot of

observation carried out and particular incidents were used as teaching opportunities. Some examples of this included listening to the student's "problems" and suggesting ways of handling unpleasant or upsetting experiences, or clearly explaining to the student when they displayed behaviour that was unacceptable or inappropriate. In some instances the Itinerant Teachers of the Deaf used class time, such as a Personal Development lesson, to role play with the whole class. Of note was that it seemed to be often left to the Itinerant Teachers of the Deaf to deal with social or behavioural difficulties. If the classroom teacher was busy, or they were uncertain what to do, they called upon the Itinerant Teacher of the Deaf's expertise to intervene. Some of the Itinerant Teachers of the Deaf gave scenarios that they had experienced when answering this question. To highlight the importance they placed on social skill development, one of these scenarios is used below.

Samantha provided a detailed glimpse of how assisting her students develop social skills may look:

"I have done a lot of this. Knowing beforehand what the problems are helps, so [I do] lots of observation of the child and see what problems may be there. I use butcher's paper, bullet points that highlight things like turn taking, listening to others, those kinds of things that a lot of our kids don't have. You would think they would but they don't. They need to be taught, role playing out little scenarios with them, sometimes in a group, sometimes with others. Informing the classroom teacher of what is happening so they can also help the child in this direction. I think there are still some very lonely children in grades 7, 8, 9 and 10 who still really need that. I know John [not real name], who is the one I worked so intensively [on his social skills] in primary school, still needs to be reminded in Year 9 that he is dominating the conversation or that he is not taking turns, and I will just give him a little nudge and you can see him roll his eyes and you can see him thinking 'oops I forgot'. He still needs help with that. I've just had big sessions with Damien [not real name] in grade 7 recently where I have just had to explain things. His big word for the week is 'impetuous', that is something that worries me about him. It's a problem in class and a problem with other kids, but he has been listening and really soaking up this new piece of language and you can see him thinking about what I am saying and I can see he is going to work on it. I've let his Mum know what the word of the week is. I've let one particular class teacher who is working with him at the moment

know what it is, and there is a real push to help him build a bit of control into his behaviour that will flow over into the classroom with yelling out answers and annoying everybody, not just the teacher but the other kids. At a grade 7 day we recently held there were 8 students there. Absolutely every parent said that they felt their child didn't really have a friend at school that they could invite home. They had friends outside school through primary school, netball, soccer etc., but that was because family was also involved. But as an individual in grade 7 none of those kids had any close friend or had broken into any friendship groups and I think that has incredible implications." (Samantha)

Each participant had their own styles of teaching social skills, but in general terms the Itinerant Teachers of the Deaf that participated, believed it was an important part of their role. The specific activities they described included:

- Explicit teaching particularly for young students.
- Playing games that aim at the development of social skills – turn taking, being fair, negotiating etc.
- Role play was used by all of the Itinerant Teachers of the Deaf, including in grades 9, 10, 11. Although two participants expressed that they took more care in the later years, only intervening if invited by the student, or more often, the mainstream school staff. One participant summed this up by explaining:
"I am thinking of Joe [not real name]. In grades 11 and 12, he was still doing some very bizarre attention-seeking things, but I didn't feel I could get too involved because it would have been excruciatingly embarrassing for him to know some of the stuff he was doing." (Samantha)
- Reading books that relate to the kind of skill needing to be understood.
- Talking to the student away from the class setting. Grades 7 and 8 were prominent in the responses; it was highlighted that these years can be particularly precarious socially for students with a hearing loss.
- Working with the class teacher to resolve issues. This may have been by a whole class activity on communication or the class teacher observing and intervening
- Setting up small study groups away from noisy environments where it was more comfortable for the student with hearing loss to interact.

- All the Itinerant Teachers of the Deaf made the point that it was not their job alone, and ensured they informed and advised staff and sometimes parents about difficulties the student may be having socially. Interestingly, however, three participants made the point that the intervention was often left up to them because the class teacher was busy with the rest of the class.
- Creating awareness of possible difficulties students with a hearing loss may experience, and giving mainstream teachers strategies to use in Professional Development workshops.

The Itinerant Teachers of the Deaf interviewed attempted to explain the trend in the data showing teaching social skills diminished in importance as the students reached grades 11 and 12. Their explanations can be summed up by the following quotes.

"I disagree that it is less important for older kids. I think in grades 11 and 12 they have had a chance to build a relationship with others. They still may not be terrific in groups, but they seem to be able to find somebody by then where they have a one to one relationship where they have built a little bit of understanding, and that they are OK as a person to at least somebody." (Samantha)

"I think it is less important for promoting inclusion in senior grades because of curriculum pressures and time constraints. I think there are some kids who just can't fit in anywhere, or maybe by that stage they have developed some skills, made some mistakes and learnt from them, and tried different ways. Also they would have been with the same peers for a long time and know each other, and there are fewer causes of conflict." (Jennifer)

"In senior years, I would say from grades 9 to 12, [it is regarded as a less important activity] because most of the kids I've got have their group of friends. They don't have to be best friends with everybody. That's accepted, normal peer behaviour. It's not an issue unless there is other stuff happening that is not related to the deafness usually I would say. They are usually quite solid in their own peer support and friendships groups. There might be some interchanging, but that is normal development too. With email and texting there are other ways of communicating. It's not like they have even to be in the same classroom. There are other ways of communicating – you know technology exchange." (Ingrid)

The activities that related to supporting the classroom teachers' efforts to foster social skills development was regarded as having some importance in all grades, rising slightly in importance in grades 3-6 and 7-10.

The Itinerant Teachers of the Deaf were asked to provide possible explanations in attempt to explore the relative stability in importance of these activities.

The depth of responses to this question was relatively small, but the responses revealed similar themes:

- The trend seemed to support the notion that Professional Development for classroom teachers was where a lot of the information was imparted about social development for students with a hearing loss and potential difficulties. This was an activity that was carried out at regular intervals throughout the students' school years.
- The rise in importance around the middle grades may reflect the transition periods in a student's life, when social development and communication skills may be tested. For example the transition from primary school to high school, and making friends in a new environment.
- One participant believed the fairly steady maintenance of importance highlighted the necessity for the Itinerant Teacher of the Deaf to be present in schools to offer advice to class teachers whenever issues arise. Her point was that if the Itinerant Teacher of the Deaf's visits were irregular, or only on a consultancy basis, social difficulties may go unnoticed until they became significant.
- Another theme that was noted was that in grades 7 to 12 there was less opportunity to conduct the same level of activities such as role play and other direct interventions, so it was more likely that the class teacher would take the lead role in monitoring the student's social well-being.

The activity of arranging special days where students had an opportunity to meet their peers was generally regarded as an important activity across all the grades, only reducing to being of some importance in grades 10 – 12.

The participating Itinerant Teachers of the Deaf were asked the following question:

"What benefits do you believe students gain from meeting other students with hearing loss? What type of activities do you initiate?"

The responses can be summarised and listed under the categories of "benefits" and "types of activities", direct quotes have been used to describe the outcomes.

Benefits (Quotes)

"Just in feeling they are not alone. By sharing experiences that make them feel they are not alone." (Joanne)

"It builds on their confidence and can start off lifelong friendships too, so I think it is very important across the board." (Kate)

"They are able to share common needs, common travails, and common solutions. It is a very relaxed time for them to let their hair down, for them not to have to worry about their speech or their language, not to have to think." (Ingrid)

"I think it is nice for them to know they are not alone. There are others out there with similar challenges and they get to talk about these challenges." (Barbara)

"I think it is important for their sense of identity. Here they are at a regular school and they are the only kid with a hearing impairment. With some kids – not all – that don't want to know about other hearing impaired kids, but others have expressed a feeling of isolation – 'I'm the only one', and so for them it is great to meet other kids who share similar issues and have a similar story. It's about identity, accepting who they are, not being different and alone. That there are other people who are out there who understand them." (Jennifer)

These responses suggest that they have witnessed their students exhibiting a sense of loneliness, stress and isolation and this has motivated them to organise special events to facilitate contact with other students in similar situations. The comments also imply that the Itinerant Teachers of the Deaf have witnessed direct benefits to the students.

Types of activities organised included:

- Special days for a particular age group e.g. Year 7.

- Social days, excursions or activities for students of similar age groups e.g. grades K-2 and 3-6. The comments relating to the success of these days related to the students' age. While the students were still in primary school they were more eager to participate. As the students reached the middle and later years of secondary school the Itinerant Teachers of the Deaf's comments indicated that students became more reluctant to attend, often due to pressures of school work. Some Itinerant Teachers of the Deaf believed this indicated that the secondary students were happy and settled in their schools and peer groups, so did not want to meet other students with a hearing loss.
- One event included all the students in years 6-10 where the students had activities organised by the theatre of the deaf and a play that was conducted use non-verbal communication and sign language.
- When there were a number of students with a hearing loss in the same schools the Itinerant Teacher of the Deaf sometimes attempted to bring them together at lunch time. One example of this was Jennifer who gave the following example:

"I have a school where there are 3 girls attending the school, so they have gotten together. The school organised a pizza lunch one day and they all got together and had a chat. I think it was great because there is [now] a sense that they can relate to each other. They are not friends but they know that they can go and see someone in the school who understands which is fantastic." (Jennifer)
- One Itinerant Teacher of the Deaf organised an afternoon tea for the students and their mothers.
- Another Itinerant Teacher of the Deaf explained that she initiated communication using faxes between her student and a student in another school. This was organised between the two Itinerant Teachers of the Deaf responsible. This was explained as in actuality a writing and reading activity, but used a social context.
- Within a number of these activities, the incidence of parents also meeting and facilitating or supporting social connections was evident. The positive spinoff for parents getting together and sharing experiences was also noted.

Activities that facilitated discussion groups or group activities to assist the student to develop social skills was assessed by the Itinerant Teachers of the Deaf as being of some importance in grades 3-6 and 7-9, but for young children in K-2 and 10-12 it was regarded as unimportant.

The Itinerant Teachers of the Deaf were asked to explain this activity and why they believed their responses followed this trend.

The following questions were asked:

"Why do you believe it is unimportant for young children and senior secondary students?"

"Is this an activity you have initiated? What value was gained?"

The Itinerant Teachers of the Deaf postulated that the trend may be due to younger children learning alongside their peers. All children in K-2 learn social skills as part of the early years at school process. In the English curriculum there is an emphasis on communication – listening and speaking. A number of the Itinerant Teachers of the Deaf stated that they didn't believe it was at all unimportant, but it was not part of their repertoire of activities. Kate and Ingrid's comments sum up the general feeling by saying:

"Maybe at that stage, the hearing kids are also having to learn social skills so maybe it's an across the board teaching of social skills, rather than the hearing impaired kid being worse than everybody else. So it's more of a blanket thing, happening naturally." (Kate)

"The little guys, I don't know, I sometimes do Helos (Hearing loss simulation machine) demonstrations, but I find them really accepting of each other, in those days they don't notice difference. The sorts of issues they have in those early years are very similar and they are not related to hearing loss. They all have problems sharing. They are all developing independence and a sense of ownership and all that sort of stuff where conflict might occur." (Ingrid)

With respect to students in grades 10-12, two participants made specific reference to the reasons that this activity was regarded as unimportant. Their comments highlighted the general feeling about the trend:

"When they come to the secondary years they have their friends and you don't want to mess with that." (Jennifer)

"Perhaps in the senior years the students themselves take on their own discussions or address any situations that may be causing problems. Perhaps by then they have a stable friendship so no intervention is required." (Barbara)

The response to the type of discussion groups the Itinerant Teachers of the Deaf had organised varied, but in general the activities were not frequent and comments highlighted the individuality of the students. The Itinerant Teachers of the Deaf' comments indicated that they sought the students with hearing loss' permission prior to holding class information sessions, or setting up any small groups that included the students with a hearing loss. Some of the activities appeared to have a slightly clandestine nature about them. For example:

"It is something that you have to set up and you can do that around a science class about the senses and talk about vision etc., and just slip the hearing part in."
(Ingrid)

"There was someone who repeated a year and had a whole new group of peers and particularly requested it [a presentation to the class about hearing loss] yes, otherwise I would come in the back door, starting [a small group] off together and bringing in other gradually. Like a book club where you go off and read a book and come back together to discuss it – it's coming in the back door so it's less overt. And then you foster it." (Kate)

The activities the Itinerant Teachers of the Deaf tended to carry out in grades 3-6 were mainly information sessions that sought to inform other students about hearing loss. Sometimes this included the student with a hearing loss a joint presenter and on one occasion the Itinerant Teacher of the Deaf asked her student's permission to present information to her peers, which was granted, but on the condition the student herself wasn't there. However, more often the group discussions didn't focus overtly on the student with a hearing loss, but was disguised in discussion about general skills such as "sharing" or "cooperation". Four of the participants stated that they had used the hearing loss simulator machine, called "Helos", to give the hearing students an idea of what it is

like to have a hearing loss. Many took hearing aids and FMs so that the class could handle the equipment and listen through them which aimed to take away the mystery. However as one participant pointed out, the effect was short term and needed to be followed up regularly. The comments that the Itinerant Teachers of the Deaf made about the students with a hearing loss' attitude to this activity were not very positive. They explained the students were often shy or embarrassed about being made the centre of attention. It appeared, however, that the benefit to general awareness was achieved. Comments such as Barbara's highlight this point.

"I have initiated discussion groups in a high school setting. I have done this a couple of times with students who are finding it hard to make friends and are being prickly about people and feeling self-conscious. I remember one time when I sought permission from the hearing impaired student to have a discussion with her peers. She wasn't to be there, she was going on holidays so it was OK for it to occur. I had about 45 students and they were most receptive, so it was a really good thing to do. I haven't done this with the student involved, no they haven't wanted to be involved." (Barbara)

Summary – Section 4 Social Skills

It seems this is a fairly sensitive area, and it is evident that the Itinerant Teachers of the Deaf took a great deal of care in initiating activities that could potentially cause embarrassment to their students. There was a sense that informing the students' hearing peers about hearing loss and its impact on social communication was important, and some of the Itinerant Teachers of the Deaf had had some success in this area. However, it was generally a short term benefit and needed to be followed up. Often it appeared that it was difficult to convince the student with a hearing loss that it would be helpful to them, so information was often delivered in a more general way, such as in a science lesson. Small groups that included the student with a hearing loss were sometimes organised by the Itinerant Teachers of the Deaf, but rarely was the real purpose explained to the students. Often it appeared that it was more that the Itinerant Teachers of the Deaf "hoped" it would facilitate some opportunities for the students with a hearing loss to develop positive relationships.

Considering that the training and work of a Teacher of the Deaf is focused particularly on the development of language and communication, it is not surprising that the Itinerant Teachers of the Deaf extended this to assisting the students to develop the complex skills of social interaction.

The Itinerant Teachers of the Deaf were more likely to prioritise their direct teaching activities that focused on social skill development in the primary grades, particularly in grades 3 to 6 where the importance of intervention increased. Whilst most of the intervention activities remained as having an important profile in the Itinerant Teachers of the Deaf's work all through school, direct input dropped in significance when the students reached secondary school. Responsively, supporting the classroom teachers' efforts to monitor the students' social well-being increased to being an essential component of the Itinerant Teachers of the Deaf's practice.

Many of the Itinerant Teachers of the Deaf believed that it was essential for deaf and hard of hearing students who were included in regular schools to meet with other students in the same circumstance. Many reported witnessing their students being the only one with hearing loss in the school, and believed some were quite isolated. When given the opportunity to meet with other deaf students they reported that the students had had a very positive experience. In addition, the opportunity to relax with others who "understood", and exchange email addresses and mobile phone numbers were other reported positive outcomes. Sometimes it took a bit of work to convince parents that this was a good thing for their child, but the Itinerant Teachers of the Deaf believed it was worth the effort as it may well be the start of meaningful and long term friendships.

The semi-structured interviews examined some of the practices the Itinerant Teachers of the Deaf used, and gave them the opportunity to explain the rationale behind the selection of a range of activities. These interviews were of particular value in describing how the Itinerant Teachers of the Deaf adjusted their own priorities and goals for each student according to their social and communicative development and personal circumstances. The resulting responses have been organised under three headings as follows:

Direct teaching

Direct teaching often arose out of the Itinerant Teacher of the Deaf's direct observation of student behaviours, or reports from the class teacher about issues that occurred in either the classroom or playground. For younger children, the activities were more explicit and included role play and practice of skills such as taking turns, listening to others and discussion of particular incidents. Although the opportunities to have direct input into the student's social skill development lessened with age, the Itinerant Teachers of the Deaf felt it was continuously an important part of their role to provide advice and support that aimed to equip the student with the skills to develop meaningful relationships. There were particular periods of vulnerability identified, particularly when the student changed schools such as when they progressed from primary to high school. Some of the Itinerant Teachers of the Deaf found through reports from parents, and observing the students, that many grade 7 students appeared not to have broken into a friendship group after some months in the new school setting. These students often needed some help to do so, and the Itinerant Teachers of the Deaf felt that unless they assisted, the situation may not be easily resolved. Generally, it was reported that by grade 10, most students had at least one friend, but still may have difficulty in group situations.

Liaison with professionals and parents

The nature of the support the Itinerant Teachers of the Deaf offered the classroom teacher varied according to the students' age. In grades K to 2 all children are learning social skills and it was an important part of the class teacher's work. When given the opportunity the Itinerant Teachers of the Deaf highlighted, through staff development sessions, the possible difficulties young students may face when developing social skills. However, it appeared that this type of discussion occurred more when incidents were observed that indicated the student was having problems. In grades 3 to 6 a range of comments were made that indicated that often individual students continued to need to have direct explanations and practice with social skills. There appeared to be a sense of priority to take the opportunity to work with the students to help assist them to develop good social skills, before they went to secondary school. One Itinerant Teachers of the Deaf reported working with a student in grade 6, whose manner of

speaking appeared "babyish". Out of concern for the response of other students in grade 7, she prioritised the development of more age appropriate speech for this student.

The Itinerant Teachers of the Deaf reported that parents often appeared to communicate their concerns to them rather than the class teacher regarding their child's lack of friends or difficulty making friends. The Itinerant Teachers of the Deaf reported providing support (a sympathetic listener) for the parents, whilst managing the situation for the student at school.

As the students became older (grades 10-12) there was a tendency for the student to become much more connected to their peers and class teacher, and the priority for support was primarily academically oriented, as opposed to social.

Setting students up for successful interaction

Many of the Itinerant Teachers of the Deaf used some of their time in class in primary school to get to know other (hearing) students. Specifically, they worked with their student in small groups with their peers, ran information sessions (sometimes as part of the PDHPE curriculum) to promote understanding and empathy, and orchestrated opportunities for students to communicate with each other. There were more liaisons with class teachers in the primary years about using similar strategies and raising their awareness of the need to sometimes facilitate relationships between the student with hearing loss and other students. The Itinerant Teachers of the Deaf felt it was so important to raise mainstream teachers' awareness of possible difficulties, that it formed part of a training video they produced.

Section 5 Factors that promote the opportunities for inclusion

The Itinerant Teachers of the Deaf in this study were asked what they believed defined inclusion for students with a hearing loss in order to provide a context for the reported responses to the questionnaire and semi-structured interview. In all cases they believed that inclusion meant that the student would have the opportunity to participate in all aspects of school life. This included being able to access the curriculum, being able to develop meaningful friendships, to fully participate in school activities such as sporting events, excursions etc., and have a sense of belonging and security. It was clearly noted

however, that inclusion did not occur by placing the student in the school. Often significant adjustments needed to be made to the physical environment to promote good listening conditions; class teachers needed to have training and knowledge of the implications of hearing loss and what adjustments to classroom environments and teaching techniques could be made. In addition, the Itinerant Teachers of the Deaf believed that peers needed to have a level of awareness of the student's hearing loss and how to successfully communicate with them. Finally, the Itinerant Teachers of the Deaf advocated for adequate and appropriate support that met an individual student's needs that could be adjusted as the student matures and developed their own independent strategies.

The Itinerant Teachers of the Deaf were subsequently asked to respond to the following:

"Consider the various aspects of your day to day work. Consider the practices you use that you believe will facilitate inclusion for your students. List and briefly explain the three most helpful conditions that occur in regular schools that allow you to carry out your effectively."

The responses have been collated under headings that best describe the factors identified.

Class Teachers Attributes, Attitudes and Practices

- Flexible, open minded teachers with positive attitudes to assisting students with special needs.
- Willingness to "go the extra mile" for the student. Sees the student as a whole – looks at the big picture for optimising student's progress.
- Class teachers who are open to working with the Itinerant Teachers of the Deaf rather than using them as a teacher's aide. Collaborate about the shared and separate goals of each professional.
- Cooperative – work with the Itinerant Teachers of the Deaf.
- Willing to take on board the fact that hearing loss affects language and that this has ramifications for the student's ability to learn.
- Regular opportunities to have open discussions, planning and modification with regard to the hearing impaired student.

- Class teacher values the Itinerant Teacher of the Deaf's presence and expertise, and is not threatened by having them as part of the class.
- Provide space for the Itinerant Teacher of the Deaf to work in various ways with the student (support in class, group work etc.).

School and General Staff

- Use FM in assembly, chapel etc.
- Have competent Special Needs personnel in the school.
- Progressive and positive Principal.
- Schools that saw the education and welfare of the student with hearing loss as their concern – not passing the buck.
- One Itinerant Teacher of the Deaf noted that:

"One of the most essential roles of the Itinerant Teacher of the Deaf is to be an advocate for the students. A school climate that allows for and encourages this is beneficial for both student and teaching staff." (Kate)
- For inclusion to be most effective the Itinerant Teacher of the Deaf needs to be included.
- Schools support the Itinerant Teachers of the Deaf and students with hearing loss, by allowing them to access individualised sessions in class time with the Itinerant Teachers of the Deaf that does not take the students away from core academic time (exclude from Christian Studies, Assembly, etc.).
- Provide a suitable space for the Itinerant Teachers of the Deaf and students to work – away from noisy classrooms or public areas such as libraries.

Itinerant Teacher of the Deaf's - Practices

- Working in classroom by taking small groups (an opportunity to observe student's social skills), and make suggestions about strategies hearing peers can use to improve communication and enhance inclusion.
- Having the opportunity to explain the Itinerant Teacher of the Deaf's role so that the classroom teacher understood the importance of team work.
- Liaise regularly with Special Education personnel and parents regarding short and long term goal setting.

- The Itinerant Teacher of the Deaf's presence in the school was regarded as important as it served as a reminder that the student with hearing loss has special needs.
- Opportunities to have student one-on-one to work on audition, speech and language is important, and needs close monitoring.

Hearing Peers

- Participate in information sessions about the impact of hearing loss – gives the hearing students an opportunity to understand the issues – ask questions etc.
- Peers use FM system.

Students with hearing loss

- Cooperate with the Itinerant Teacher of the Deaf.
- Placement has been carefully considered prior to enrolment.

Itinerant Teacher of the Deaf – Service Management

- Support, acknowledgement and guidance from the Service's administration, and develop and articulate a cohesive aim for service.

Factors that inhibit or prevent the facilitation of inclusion

The Itinerant Teachers of the Deaf were asked to respond to the following question:

"Consider the various aspects of your daily work. Consider the practices you will use to facilitate inclusion for your students. List and briefly explain the three conditions that occur in regular schools that prevent or impair your ability to carry out your work effectively."

The responses have been collated under headings that best describe the factors and issues identified.

Issues with Classroom Teachers

- Some classroom teachers were defensive about having an Itinerant Teacher of the Deaf in their classroom.
- An expectation that Itinerant Teachers of the Deaf can take or mind a class.
- One Itinerant Teacher of the Deaf explained:

"There is a perception by some classroom teachers that I am being paid by the school to sit in class, keep the student on task, and provide resources and transcripts for lessons. The Principal, administration and teaching staff do not really know how the 'Service' works, and that my role is to recommend best practice, not do their bidding as a teacher's aide." (Renata)

- Classroom teachers who treat the Itinerant Teachers of the Deaf as a teacher's aide , or pass on all responsibility for the needs of the student to be resolved.
- Noisy classrooms.
- Uncooperative or disorganised classroom teacher.
- Teachers who refuse to adapt teaching styles to suit the student.
- Unwillingness to acknowledge the impact of hearing loss.
- Lack of communication with classroom teachers.
- Classroom teachers who do not attend professional development sessions, so are unaware of the needs of the student; they do not have time or inclination to listen.

Time constraints

- Unsatisfactory amount of time to meet with the classroom teachers. This problem didn't lie only with the classroom teachers being too busy, but also the time constraints the Itinerant Teachers of the Deaf faced when trying to go from school to school.
- Constraints of time prevented the Itinerant Teachers of the Deaf doing all the work they believe was part of their role – adapting classroom materials, transcribing media that was not captioned, providing worksheets that enhanced student's understanding.
- The expectation that Itinerant Teachers of the Deaf will find time to meet with a range of staff is very difficult.
- Not sufficient time allocated to supporting students in the development of social skills or friendships issues. This aspect needs to be timetabled; hurried infrequent sessions did not achieve what was needed.

Issues relating to timetabling

- The Itinerant Teachers of the Deaf found it difficult to support all their students adequately; this was particularly an issue in grades 7-12 classrooms.

- Timetable changes that were not communicated to the Itinerant Teacher of the Deaf.
- Day to day changes – especially around exam times.
- Finding time to provide one-on-one support (especially significant in grades 7-12). Primary schools were more flexible.

Issues relating to the student with hearing loss

- Students who had behavioural issues – uncooperative, maybe inappropriately placed.
- Students reluctant to accept assistance.

Issues with schools

- Nowhere for Itinerant Teachers of the Deaf and the student to meet for tutorials.
- Poor bullying policies at the school.

Issues with Parents

- Parents ringing the Itinerant Teachers of the Deaf on their mobile phone at all hours of day and night. One participant reported eight phone calls in 12 hours by parents who wanted them to sort out issues (unspecified), rather than taking responsibility themselves.

Issues with Itinerant Teachers of the Deaf's training

- Some Itinerant Teachers of the Deaf trained as primary teachers and found it hard to meet the expectations of tutoring students in grades 7-12, "The content of subject areas was too advanced or foreign for me." (Kate)

Issues with Role Description/Management

- The Itinerant Teachers of the Deaf reported they were not sure how much time to allocate to individualised sessions outside the classroom, and when to allocate this time. This was a dilemma and they believed they needed to be advised by the Service's managers.

Outcomes and implications for practice

Outcomes

The Itinerant Teachers of the Deaf have identified through their comments in the interviews, that students with hearing loss are not a homogenous group, so a one-size-fits-

all approach to supporting of the students is unlikely to be appropriate. Byrnes & Sigafos (2001) also make this point, suggesting that to consider the population of students with a hearing loss as homogenous would deny their unique experiences and requirements. The Itinerant Teachers of the Deaf understood the individuality of need, and made adjustments accordingly.

There were a number of areas that the Itinerant Teachers of the Deaf identified as being integral and essential components of their role. The skills required for these areas related to their initial training as Teachers of the Deaf, and as such they had particular expertise. Specifically, these areas included knowledge of hearing devices and their function, acoustics and how to modify the environment to make it a more favourable listening environment. Additionally they had skills that related to their teaching discipline, namely literacy and all aspects of communicative competence across a variety of contexts. What was not clear however, was regarding the practices that related to the mainstream curriculum content. These areas posed dilemmas for the Itinerant Teachers of the Deaf, because it stretched them beyond their knowledge and experience. Many reported using curriculum content to teach communication and literacy skills, and to assist the student to develop metaskills that could be generalised across a number of contexts. In secondary years conversely, they at times, responded to the urgency for the students to understand the curriculum content in order to pass assessments. The Itinerant Teachers of the Deaf tried to promote understanding of the issues the students may face as a consequence of their deafness, by developing and delivering formal staff development and ongoing consultative and collaborative interactions with school leaders and the classroom teachers. They reported they were, at times, frustrated in their attempts to provide the professional development needed, due to the school not providing an opportunity, or by teaching staff who were resistant and uncooperative to the Itinerant Teachers of the Deaf's professional input. It could be speculated that the professional development sessions they delivered to mainstream staff focused on audition, speech and language. It appeared these aspects took priority over the more subtle problem of developing social skills and making friends, as they had to prioritise what they included in these sessions due to limited time. Many Itinerant Teachers of the Deaf reported that they had difficulty getting time to present information to mainstream schools, so it is therefore not unexpected that they would prioritise the information they shared.

Considering this, it did not seem surprising that the Itinerant Teachers of the Deaf expressed concern for their students' wellbeing in this area, and believed that it was an important part of their role to facilitate social skill development. Often the Itinerant Teacher of the Deaf and the class teacher were left to manage problematic issues in a reactionary way, as opposed to a planned management strategy which could be developed collaboratively to offset any difficulties.

One area that seemed to be somewhat neglected in the training provided to classroom teachers, was the function and use of hearing aids. The Itinerant Teachers of the Deaf explained why they may not go into great depth in staff development about this area as they believed it was principally the role of the parents to maintain the equipment. However, they strongly encouraged the students to develop self-responsibility at an early age. This is not to say that the classroom teachers did not need to know, but perhaps a basic level of understanding of their function and troubleshooting knowledge was sufficient. One exception was the use of FM systems where the classroom teacher had to take a significant responsibility for the effective use of the device, and it appeared that the Itinerant Teachers of the Deaf spent time assisting and encouraging both the classroom teacher and the student to use the system to advantage.

Social skill development was another area, which may be significant, that was not included in depth at professional development workshops. The Itinerant Teachers of the Deaf expressed a great deal of concern about the impact their students' communicative competence had on their ability to make meaningful friendships. In some cases so much so, that they focussed their interventions in this area. The outcomes of Section 4 about social development indicated that the teaching of social skills across all grades (K-12), but particularly in years 3 – 6 was regarded by the Itinerant Teachers of the Deaf as an important element of their work, and an integral part of their role. Either way, social development and friendships are very sensitive areas, requiring tact and careful monitoring (Foster & Cue, 2009). Effective collaboration between the adults in the students' lives may be the most effective way of assisting the student in this area.

In terms of facilitating opportunities for deaf and hard of hearing students to have contact with other students who have hearing loss in similar educational settings, the Itinerant Teachers of the Deaf appeared to be the main instigators. The "special activities" they

organised to provide these opportunities, were reported to have provided the students another opportunity to develop friendships and have social contact beyond school. Given that the results indicated that these opportunities seemed more effective with younger students, perhaps particular age groups that have been identified as particularly vulnerable could be targeted e.g. the transition from primary to secondary school.

As service providers with limited time to fulfil all the aspects of their role, Itinerant Teachers of the Deaf chose to prioritise the focus of their work with the student. The question this raises is how do they gain access to the staff to have the time and opportunity to expand the staff development opportunities into the area of social and relationship development?

It is evident that we have not yet found a balance in the provision of service to students with hearing loss in mainstream education settings and their classroom teachers. Time is a constant constraint and it appears that schools do not always make it easy for the Itinerant Teachers of the Deaf to share their professional experience, and assist them to make the adjustments necessary for the inclusion of these students. Some students undeniably still face difficulties developing relationships with others and in these cases their needs have to be addressed. Itinerant Teachers of the Deaf understand and recognise the issues students face; they are often the person the parent and classroom teacher approaches when a difficulty arises (Foster & Cue, 2009). However, they are only in the school for a short period each week, and the regular classroom teacher/ school needs to take on the responsibility for assisting the student to deal with issues in a timely manner, rather than waiting for the Itinerant Teacher of the Deaf to arrive.

The development of quality relationships between all the stakeholders in the student's inclusion into the school of choice is essential. In particular professional interactions between the Itinerant Teachers of the Deaf and the classroom teacher are important, as unless successfully established, communication is likely to be compromised. This finding is reflected in Antia et al.'s (2009) study. However, the development of collaborative and consultative skills seems to be neglected in the Itinerant Teacher of the Deaf's initial training, possibly hindering the successful articulation and negotiation of their role in the classroom. The expertise to effectively present adults with information is an important skill, and it would seem that training in this area could be included as part of the Itinerant

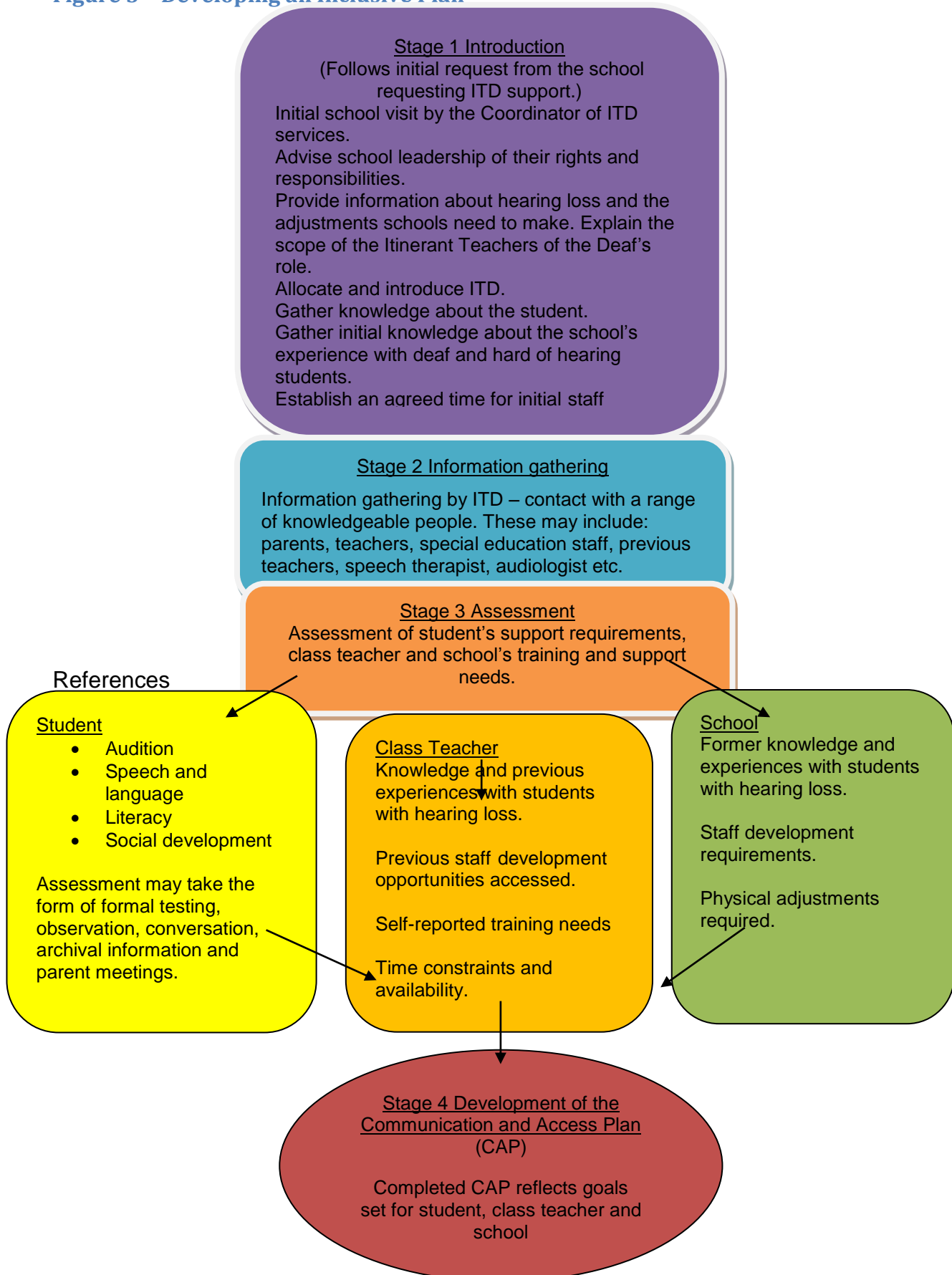
Teacher of the Deaf's professional development, either in pre-service programs or later as in-service training.

Implications for Practice

It would appear that the role of the Itinerant Teacher of the Deaf is broad and varied, mostly responding to the needs of the individual students in the context of the mainstream school. Following initial contact from the mainstream school requesting assistance from the support service provider, and prior to commencing support, it seems that there needs to be an introductory stage that is implemented by a service administrator – most likely the Coordinator of the itinerant service. The purpose of the introductory stage is to put in place some guidelines for schools in terms of their responsibilities, and provide an informative platform from which the Itinerant Teacher of the Deaf can take over. As time is such an issue for the Itinerant Teachers of the Deaf and the classroom teacher, it would be professionally practical to plan wisely, once information has been gathered and prior to locking in a schedule and support plan. Time needs to be allocated at the start of the school year, or when the Itinerant Teacher of the Deaf initially accepts a new student onto their caseload. The plan can be updated regularly whenever there is a change in the circumstance of the student, but accurate assessment and careful documentation of the results, along with clear goals will provide continuity of support regardless of a change of personnel.

The following plan has been devised to provide the Itinerant Teacher of the Deaf with a useful structure within which to respond to the needs of the students as well as the classroom teachers and the whole school context. The final stage is the development of a Communication and Access Plan (CAP) which becomes the blueprint from which teaching programs and goals for consultative activities can be developed. See Figure 3.

Figure 3 – Developing an Inclusive Plan



The Curriculum and Access Plan (CAP) should include:

1. The outcomes of assessment – both formal and informal. It may also include the preadmission assessment the Service Coordinator has undertaken and reported on, information gleaned from reports, previous educational placements and specialists.
2. Goals are clearly stated under the various categories of the CAP. The longer term goals (for the school year) can be broken down into smaller goals achievable in a given period of time (e.g. one term). These of course may remain on the CAP for the next period of time.
3. Strategies - Interventions to be initiated.
4. Indicators/ Outcomes - measurement of achievement.
5. Team Responsibility – the Itinerant Teacher of the Deaf; the student; classroom teacher; parents; school.
6. Evaluation – This would occur informally once per term – review the CAP, what has been achieved, adjust instrument to reflect achievements.
7. Annually, the review will be entirely reviewed and a new revised CAP will be developed for the following 12 months. This may mean the reviews occur at different times of year for different students and should include all the people involved in the student's education as far as possible.

Chapter 2

Project 2

"An investigation into understandings classroom teachers have about the issues faced by students with hearing loss in the mainstream classroom, and their satisfaction with the training received to develop the skills needed to ameliorate its impact."

Abstract

This project used both quantitative and qualitative methods of analysis to gain information from mainstream classroom teachers who had students with hearing loss in their class. Specifically, the quantitative data revealed information relating to the classroom teachers' knowledge of hearing loss and hearing devices, the implications of significant hearing impairment for students in the regular classroom, and the level of professional development that had been received, and what more was required, from Itinerant Teachers of the Deaf. Additional qualitative data provided some insight into the adjustments classroom teachers made to accommodate the students with hearing loss, and what the classroom teachers' perceived the role of the Itinerant Teachers of the Deaf's to be. The findings indicated that the classroom teachers, despite at times having years of experience with students with hearing loss in their class, were not obtaining high levels of understanding of the impact deafness can have on a student's academic and social achievement, and needed initial training combined with ongoing updates in order to develop the confidence to make the adjustments they need. Additionally, the classroom teachers responses identified that they valued the role of the Itinerant Teachers of the Deaf's as advisory and consultative, combined with aspects of practice that assisted the students to access information delivered in class.

Introduction

Project 2 was conducted with 28 participants, all being practicing classroom teachers who have, or have had a student with hearing loss in their class. The research examined the level of understanding these classroom teachers had with respect to the educationally significant factors affecting students who have hearing loss identified in the Linking Paper. Secondly, information was obtained about what training they had to address these issues in the classroom. The areas that required further training were also identified. An open form question at the end of each section of the questionnaire provided an opportunity for the classroom teachers to identify the specific adjustments they had made to the classroom environment and their own teaching practices as a result of having a student with hearing loss in their class. Finally information gained from a second open form question revealed the classroom teachers' perceptions of the role of an Itinerant Teacher of the Deaf (ITD). The results provided some insight into the partnership that existed between the classroom teacher and the Itinerant Teacher of the Deaf.

Literature Review

The conduct of the literature review for Project 2 revealed five main areas that will be addressed under the following headings:

1. Inclusion into mainstream classrooms for students with disabilities, discourse and trends over the past two decades.
2. The practical implications of inclusion for the mainstream classroom.
3. Classroom teachers' attitudes and understanding of students with disabilities.
4. Classroom teachers' training and their preparedness to include students with special needs, including those with hearing loss, in the classroom.
5. What knowledge and specific training do classroom teachers need in order to maximise inclusion for students with a hearing loss?

Inclusion into mainstream classrooms for students with disabilities, discourse and trends over the past two decades

In general, the political and academic discourse on equal opportunity, access and equity, reasonable adjustments, and more recently social justice, has led governments and policy makers to focus directly on education for students with disabilities being provided by the

local school. While the incidence of inclusion into mainstream classrooms for students with disabilities is not new (DEEWR, 2007), the concept of equal access to educational opportunities for all children articulated in legislation has forced the current trend (Disability Discrimination Act, 1992). This has resulted in the closure of some special schools and an increase in the number of students, who would traditionally attend a special school, being enrolled in the parent's school of choice (Power & Hyde, 2002).

The Commonwealth Disability Discrimination Act (1992) guarantees that all students with a disability have a right to obtain an education, and seeks to ensure that the disability does not impede enrolment in a chosen education facility, nor will it result in a conditional enrolment (Byrnes & Sigafoos, 2002). The New South Wales Anti-Discrimination (Amendment) Act (1994) contains similar legislation, and both the Commonwealth and State Acts apply equally to all school sectors.

While equal opportunity rights are applicable to everyone, social justice targets the marginalised groups of people in society – it focuses on the disadvantaged. Social justice recognises that there are situations where the application of the same rules to unequal groups can generate unequal results. Social justice provides a framework to assess the impact of policies and practices (Murdoch University, 2010).

In 1994, in Salamanca, Spain, over 300 international representatives of 92 government bodies and 25 international organisations met at the UNESCO World Conference on Special Needs Education. The aim was to develop guidelines for national and international bodies to adjust policies to ensure that inclusive education was available to all students, regardless of the nature of their disability or diverse needs. The result was a document that is known as the Salamanca Statement of the UNESCO World Conference on Special Needs Education: Access and Quality (June, 1994). With reference to the implication for schools the Salamanca Statement states in part that:

- Those with special educational needs must have access to mainstream schools which should accommodate them within a child-centred pedagogy capable of meeting these needs;

- Mainstream schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all. Moreover, they provide an effective education for the majority (without special needs) and improve the efficiency and ultimately the cost-effectiveness of the entire education system.

Post 1994, in Australia, addendums to legislation, including the Disability Standards for Education (2005) that was formulated under the tenets of the Commonwealth Disability Discrimination Act (1992) were developed and adopted by Australian schools. The Disability Standards document clearly sets out schools' obligations to include and make adjustments for students with special needs, including those with disabilities, and covers all sectors of education provision.

State Departments of Education across Australia have developed policies and guidelines to promote and facilitate the process of inclusion into local schools. Some states, such as Victoria have had a "no choice policy" with respect to inclusion since 1984 (Forlin, 1994). The NSW Department of Education and Training (DET) adhere to the document "People with Disabilities – A Statement of Commitment" (DET, no date) and provide schools with guidance via the "Special Education Handbook for Schools" (1998). Such documents are clear in their intent to facilitate inclusion and aim to support schools to gain funding and support services for students with disabilities who present for enrolment.

The independent school sector was a little slower to respond to inclusion, at times citing the disclaimer of unjustifiable hardship contained in both Commonwealth and State legislation as a justification for excluding students with disabilities. The legal case heard by the Human Rights and Equal Opportunities Commission (HREOC), *Finney vs. Hills District Grammar School* (2000) was a watershed case that forced many schools to change their practices with respect to enrolling students with disabilities. In the case *Finney vs. Hills District Grammar School*, the school was found to have unlawfully discriminated against Scarlett Finney, a seven year old girl with spina bifida. This was significant as it was the first case against a private school that claimed unjustifiable hardship as barrier to enrolment (Byrnes & Sigafos, 2001). This case also brought the inclusion debate into the media spotlight, and assisted in the establishment of clear standards for all schools,

demanding more care and consideration when assessing applications from potential students than before.

The practical implications of inclusion for the mainstream classroom

The debate on inclusion and what the implications are for the mainstream classrooms is still very much current and evolving. Forlin (1997) discusses research conducted into the inclusion and acceptance of students with disabilities in Western Australia in 1993. The outcomes indicated that classroom teachers' attitudes were particularly cautious and somewhat negative. Powers (2002) in his paper on inclusion noted that the real meaning of the term and corresponding implementation was misunderstood and called for all stakeholders to share a common understanding of inclusion.

In the early years of this decade it appeared that the inclusion debate took a philosophical and sociological stance, essentially that it was the right thing to do, but did not really examine the practical implications for students with disabilities in mainstream classrooms including those who have hearing loss (Marschark, Young & Lukomski, 2002; Powers, 2002). The recent DEEWR Research Project 03176 Report (2007, p. 25) articulates a more contemporary view, describing inclusion as detaching itself from the discourse of deficit, and maintains it is a whole school approach in terms of heterogeneity, difference and individual needs. McCluskie (2002) supports this notion and takes this idea one step further by stating that societal acceptance will become a reality only when diversity becomes the norm, and policies and programs reflect this concept. However, as literature such as the recent DEEWR report reveals; schools are accepting students with disabilities, but class teachers still have major concerns. In reality it appears that Australian education is not yet ready or equipped for this level of acceptance.

The Disability Standards for Education (2005) sought to specify how the Disability Discrimination Act (1992) should be interpreted by the Education sector in terms of enrolment, participation, access to the curriculum, use of support systems and freedom of harassment. However, the practical implementation of these interpretations needs to be specified in terms of individual students. In the case of students with hearing loss, additional factors that specifically address impaired hearing require consideration. Powers et al. (1999) offer an example of specific needs in their statement regarding good practice

in a British review of education for deaf students. They state “Audiological management was considered to be a key feature underpinning successful inclusion. Effective and positive audiological management was seen as central to success in spoken English.”

(p.218)

This statement assumes schools and classroom teachers have specific knowledge about how to ensure audiological management is in place, which may not be the case.

The DEEWR Research Project 03176 Report (2007) highlighted a number of factors that were of concern to classroom teachers regarding inclusion for students with disabilities.

These can be summarised into four broad areas:

The societal and educational policy context

Having a student/s with a disability may be only one of a number of pressures placed on the classroom teacher. Australian teachers are required to respond to major changes in the curriculum; there has been a recent increase in public scrutiny of student performance; other students in the class may have undiagnosed yet significant learning needs or behaviour disorders; and teachers are expected to respond to students’ needs in terms of cultural and linguistic diversity.

The School Context

Teachers reported that lack of time was their biggest issue in the school context. Paperwork and administration requirements impacted on their ability to consult with parents and support staff. Additionally, they found it difficult to find the time and resources needed to support the students with disabilities.

The Classroom Context

Concerns in the classroom context centred around difficulties posed by the behaviour or the nature of the students’ disabilities; lack of time to give the students with disabilities the teaching they needed; the impact on the other students; and the time to consult/collaborate with support staff. Time constraints were also cited as problematic in a number of other studies (Foster & Cue, 2009; Hyde & Power, 2004; Yarger & Luckner, 1999).

The Personal Context

Drawing on research across Australia the report found a concerning level of feeling amongst classroom teachers “that they did not have the training experience and/or

personal resources to feel confident or competent in meeting the needs of students with disabilities in their classroom". (p.19)

With reference to students with hearing loss these concerns were evident in another study by Byrnes and Sigafoos (2001). They noted also that mainstream teachers did not feel adequately equipped to deal with having a student with hearing loss in their classroom.

Funding, or the lack thereof, is often raised as a problem that inhibits the obtaining of resources. The nature of resources is dependent upon the nature of the individual student's needs and may be in the form of accessible buildings, assistive devices or specialist personnel. A number of enquiries and subsequent documents have focused on this issue and called on governments to increase funding to match the increase in the enrolments of students with diagnosed disabilities (Angus, Olney & Ainley, 2007), (ISCA, 2008). An informal enquiry into the services provided to students with hearing loss in Catholic diocesan schools emphasised the impact of funding shortages, teachers citing lack of funds to purchase sound attenuating equipment for schools as having a deleterious effect on the students' ability to access information in noisy environments. Staff in the Catholic sector also cited a shortage of trained teachers of the deaf, as having an impact of services delivered to students, particularly in rural and regional centres G. Grey (personal communication, June 23, 2010).

Funding is no doubt a critical factor when discussing the inclusion of students with identified disabilities. However, the argument raised by teachers and reported in the DEEWR report was that it was often the unfunded students (learning and behaviour difficulties) that resulted in the most effort and time consumption from teachers. In a recent state enquiry in NSW (NSW Legislative Council 2010), it was noted that while these specific issues were not addressed by the Parliamentary enquiry into the provision of education to students with a disability, the recommendations that did emerge from this enquiry included an increase in professional training and an increase in general support services.

Professional in-service training has been emphasised by Ross, Bracket & Maxon (1991) as being an essential element for classroom teachers with students with hearing loss in

their class. They point out the heterogeneous nature in terms of diversity of potential and skills of these students and, regardless of previous experience working with students with hearing loss, always turn up situations that require more information. The best way for the classroom teacher to develop these skills is through general training and regular in-service that is responsive to each new situation.

Classroom Teachers' attitudes and understanding of student with disabilities

An important factor that has been discussed in the literature on inclusion for students with disabilities is the classroom teacher's belief and understanding of disability and how this affects their ability to adapt their classroom practices to support the student's particular learning needs. Jordan, Glenn and McGhie-Richmond (2010) found that teacher beliefs about the nature of disability fell along a continuum with two categories at either end. At one extreme participant teachers viewed disability as an entity, a pathological condition that could not be altered by instruction. At the opposite extreme the participant teachers viewed disability as, in part, being constructed by society and therefore it is society that creates the barriers. Not surprisingly the teachers with the belief that disability is a pathological condition tended to blame the students and their parents for their lack of academic achievement and spent little time with their students with disabilities. While at the other end of the continuum, which represented about 20% of participants, teachers held the belief that it was their responsibility to make accommodations for these students and spent more time with students at greater levels of intensity. In this study about 50% fell somewhere in the middle and varied their views according the circumstances (Jordan, Glenn & McGhie-Richmond).

Jarvis and Iantaffi (2006) reported on a project conducted in the UK with pre-service teachers that challenged the attitudes and understanding of trainee mainstream teachers towards students with hearing loss. Their findings highlighted that the beliefs and attitudes pre-service teachers had towards hearing loss had been built up over a lifetime of experience. An attitude that placed disability as a deficit, and therefore one that sees the problem lying with the student with a hearing loss, was common. A specific training program with cohorts of pre-service teachers, over a three year period, that encouraged the trainees to examine things from the hearing impaired student's perspective resulted in a deeper understanding that it was the teacher's responsibility to adapt to the students'

needs rather than the student having to adapt to general mainstream expectations. Jarvis and Iantaffi's findings are an important consideration for training classroom teachers who have students with hearing loss in their class, as the acceptance of responsibility encourages the development of a repertoire of skills that promotes positive inclusion for these students.

For the majority of students with disabilities, adjustments to the classroom, curriculum, assessment and teaching techniques assume that the students will have access to clear, unimpaired spoken language. For the students who have significant hearing loss the issue of access to clear spoken language delivered rapidly and in a noisy environment poses particular problems (Crandell & Smaldino, 2000). So, while general handbooks and discussions about inclusion are most important in setting the context, for students with hearing loss consideration to specific factors is essential. Practices that address audiological management and the classroom acoustic environment; provision of opportunities to promote spoken language development; adjustments which focus on access to spoken communication; and an acute awareness that access to a curriculum that requires good levels of language development is not always automatic for these students. Finally, practices that recognise and assist social development when communication mainly relies on spoken communication are essential.

As previously mentioned, the incidence of people with hearing loss significant enough to interrupt the natural development of spoken language is relatively small. Often a classroom teacher's experiences of younger deaf people in the community may be non-existent. It is more likely that experiences are confined to older people with hearing loss that was acquired after the development of language. Broad misconceptions about hearing loss may occur, for example that all deaf people sign (Jarvis and Iantaffi 2006). It is not so long ago that the term "deaf and dumb" was broadly used to describe students with significant hearing loss (RIDBC, 2010). In fact, personal experience indicates that this term is still used by people who are none the wiser today.

Classroom teachers' training and their preparedness to include students with special needs, including those with hearing loss, in the classroom

A scan of course handbooks on five university websites in NSW indicated that undergraduate degrees offered to pre-service teachers include a subject that is related to students with special needs. In accordance with today's discourse most of the units offered to pre-service teachers relate to diverse learners, and inclusive education. One university referred to "special education" and "learning difficulties" in the unit titles. A deeper investigation of the unit outlines indicated that the courses range from a three hour online course with no live lectures, to a full unit of study spanning the semester. In general, the courses covered historical and political issues, and many made reference to teaching strategies and programming. It was noted also that specific reference was not made to teaching students with hearing loss in any of the university's course handbooks. (Charles Sturt University, 2010; Macquarie University, 2010; Sydney University, 2010; The University of New England, 2010; The University of Western Sydney, 2010).

Exposure to the concepts and theories behind inclusive practice may be the case for pre-service teachers in recent years, but it may have been many years since many experienced classroom teachers completed their initial teacher training. In earlier times, the discourse on students with special needs was most likely to have been very different. In the context of having a student with hearing loss enter their class, as a result experienced teachers may be faced with a situation that makes them feel inadequate (Byrnes & Sigafoos, 2001). These teachers are used to feeling competent, and so for them the experience of having a student with hearing loss may be daunting, and possibly even threatening. In respect to specific training for including students with hearing loss in the mainstream classroom, it appears it is dealt with briefly in pre-service training. Personal communication with a special education lecturer at one large university indicated that in a semester long elective subject in special education, information on hearing loss is usually combined in the same three hour lecture with vision loss.

From this we can assume that classroom teachers are unlikely to have more than the most rudimentary knowledge and skills necessary to deal with the specific needs of students with a hearing loss. The knowledge they have is gathered over a lifetime of

experiences, it is these experiences that have shaped their understanding of deafness in general (Jarvis & Iantaffi, 2006). Most of our experiences as adults are with older citizens, with glimpses of Deaf people in the community or media that use sign language. Unless the experiences have been with young people with hearing loss whose primary mode of communication is spoken English, teachers are unlikely to have the knowledge needed to make adjustments to the classroom environment or teaching techniques. The DEEWR Report (2007) identified four areas of consideration when inclusion is being contemplated. The strategies for schools and classroom teachers that will help them to prepare for students with special needs, develop the necessary skills and sustain an inclusive environment are addressed here at three of these levels that impact most directly on the students.

At the school level

1. Schools need to seek out support for the students with hearing loss through funding and provision and the engagement of expert staff such as an Itinerant Teacher of the Deaf.
2. Schools need to recognise and allocate the time necessary for classroom teachers to collaborate with the Itinerant Teacher of the Deaf, parents and other professionals involved in the student's education.
3. Schools need to facilitate the attendance of classroom teachers at professional development days.
4. Schools need to ensure the distribution of students with special needs is fair, so as not to overload and potentially "burnout" the more experienced or obliging teachers.

At the Classroom Level

1. Teachers need to organise their time so that they have reasonable opportunities to collaborate with specialist staff and parents.
2. Teachers need to develop their own set of strategies and skills to cater for all the students including those with special needs.
3. Teachers need to promote an atmosphere of understanding, acceptance and empathy for others.

At the Personal Level

1. Teachers must take the opportunities available to access new learning that will help them develop an attitude that embraces that it is their responsibility to make adjustments to promote inclusion.
2. Teachers must accept the responsibility for the education of the students with hearing loss amongst the other class members so that the student is a true member of the class. This acceptance can be demonstrated in the first instance by the language they use when referring to any students – i.e. "James Smith" *not* "the deaf kid" or "the cochlear implant kid."

It appears that while the practicalities of inclusion still pose difficulty for classroom teachers, there is a range of handbooks and professional development resources that will help support teachers to develop strategies that may assist them to make the adjustments they need.

What knowledge and specific training do classroom teachers need in order to maximise inclusion for students with a hearing loss?

As discussed in depth in the Linking Paper there are a number of issues that relate specifically to hearing loss. An understanding of these issues and their potential impact on educational outcomes are regarded as important for successful inclusion. The questions asked of the classroom teachers in the data collection instrument are based on these identified issues. These can be summarised as follows (Refer to the Linking Paper):

1. The nature of hearing impairments and the use of hearing devices.
2. The development of spoken language and literacy in students with significant, permanent hearing loss
3. Environmental factors – acoustics
4. Adjustments that need to be made for an inclusive classroom
5. The development of social skills

Background to Study

Since 1989 the Royal Institute for Deaf and Blind Children has been providing Itinerant Teachers of the Deaf (ITD) services to students with significant hearing impairments (over 60dB average in the better ear) who are enrolled in Independent schools in the Greater Sydney area. The service, currently referred to as RIDBC School Support Service (HI)

was initially set up in response to parents' requests for Itinerant Teachers of the Deaf's support for their child that was not available. The number of students supported has increased over time from 6 students in 1989, I. Truscott (personal communication, May 10, 2007) to 68 in 2007 (RIDBC Annual Report, 2008). Compared to the numbers of students with hearing loss receiving Itinerant Teachers of the Deaf's services in Government schools and Catholic diocesan schools in NSW (1400 and 450 respectively), this is a very small number. This factor needs to be considered when reviewing the data. However, all Teachers of the Deaf supporting deaf and hard of hearing students in NSW receive training from the same tertiary training organisations, so it could be generalised that the services provided by RIDBC are similar in practice to services provided in Government and Catholic Schools.

Another factor that needs to be considered is that the Independent sector of education in NSW does not constitute a system. While the curriculum taught in all NSW schools is determined by the NSW Board of Studies and the legal requirements for enrolling students with disabilities are the same as the government and Catholic sectors, the governance, enrolment and fee structures differ. In addition, the majority of Independent schools in NSW adopt a wide range of religious philosophies and teaching contexts.

The number of Independent schools served by RIDBC School Support Service (HI) in 2007, when this study was conducted, totalled 54. A number of these schools enrolled more than one student with a hearing loss. This trend could be speculated as occurring due to parents, professionals and teachers talking to each other about which schools had experience with hearing impaired students.

Significance of the Study

One of the major assumptions of inclusion is that the class teacher will take the primary role in the education of all children in the classroom including those with disabilities (Antia, 1999; Ashman & Elkins 2009, p. 3). While there may be support provided by an expert in the field of disability (in this study, the Itinerant Teachers of the Deaf), the majority of the time the class teacher is expected to be the primary educator. For this acceptance of primary responsibility to occur the classroom teacher must have a solid understanding of

the student's needs and make adjustments that promote social and academic achievement. Access to support services and training in the relevant areas is essential to the development of the skills needed by the classroom teacher to take on this responsibility (Antia, 1999).

Antia and Stinson (1999) note that classroom teachers are the most prominent players, and hold the key to good inclusive practice. They also highlighted the need for the development of true collaboration between the specialist Itinerant Teachers of the Deaf and the classroom teachers, and the importance of developing and maintaining a respectful relationship that recognises each other's expertise. Antia and Stinson (1999) also point out that one issue that seems to work against effective collaboration is lack of time. This issue has been a constant in the literature regarding concerns of classroom teachers (DEEWR 2007) and Itinerant Teachers of the Deaf (Reed, 2002; Luckner & Howell, 2002).

Whilst there is much discussion in the literature, and there are general texts available to advise the classroom teachers about what they could do to make their classrooms inclusive in general (for example Ashman & Elkins, 2009), there is little written about the specific "how to" for regular classroom teachers who are responsible for teaching students with hearing loss. This study aimed to identify what depth of knowledge the classroom teachers reported they had about making the adjustments necessary to include students with hearing loss, and how they put this knowledge into practice. Additionally, the study sought to discover the specific areas of knowledge the classroom teacher's identified that required training in order for them to make necessary adjustments. The project also examined the classroom teachers' perceptions about the role the Itinerant Teacher of the Deaf plays in supporting both the student and the classroom teacher.

The Research Project

The research described in this paper examines the knowledge the classroom teachers had about aspects of hearing impairment, and the implications for students with significant hearing loss in the mainstream classroom. The project further identifies the implications for professional development that is required from the Itinerant Teacher of the Deaf. Open

form questions add to this information by providing an opportunity for the classroom teacher to identify the adjustments they make to their teaching techniques and the class environment. Additionally, they identified what they perceived the Itinerant Teacher of the Deaf's role to be.

The Research Questions

Information was sought from classroom teachers that answered the following three questions:

1. What level of knowledge and understanding do classroom teachers identify that they have about hearing impairment and its implications for students?
2. What level of knowledge do classroom teachers have as a result of their current levels of training about hearing impairment, and what further training is identified as being required?
3. What does the classroom teacher perceive the role of the Itinerant Teacher of the Deaf to be?

Method

Research Design

The research being conducted in Project 2 can be described as adhering to the principles of naturalistic research (Borg & Gall, 1989; Cohen, Manion & Morrison, 2000). Specifically, the principles of naturalistic research described by Borg and Gall (1989) are:

1. The natural setting provides the main source of data.
2. Is bound by context and rich in description.
3. Data are socially and culturally situated.
4. The researcher is the key instrument of research.
5. Data are descriptive and presented in terms of respondents rather than the researcher.
6. Seeing and reporting the situation through the eyes of the participants.
7. Respondent validation is important.

Data Collection

A mixed method of data collection and analysis was used. The questionnaire was chosen as the data collection tool, and tailored to the small sample size. The quantitative data was collected via a questionnaire with questions that used a three point Likert scale and multiple choice statements. The qualitative data was collected by the use of open form questions. Teachers were asked to volunteer to be interviewed at a later time; however time did not permit the interviews to occur.

Structured questions were used to measure the level of the classroom teachers' knowledge using the three point Likert scale. Subsequently, a choice of three statements was used to identify the level of training that had been previously received and highlight the need for further training. To substantiate the practical application of the identified level of knowledge, open form questions were used. In addition, a final open form question was used to collect information about what they believed the role of the Itinerant Teacher of the Deaf to be in terms of support for themselves and the students with hearing loss.

The Participants

The participants were classroom teachers employed in primary and secondary Independent schools across Sydney. Each participant had experience with students with hearing loss in their classroom. The schools all received services from an Itinerant Teacher of the Deaf from the Royal Institute for Deaf and Blind Children's School Support Service (HI). The classroom teachers were identified by accessing the School Support Service's database having received permission to do so from the management of RIDBC.

In all, eighty (80) invitations and information leaflets were posted to the identified classroom teachers. Twenty (20) initially responded, with a further eight (8) being received after a reminder letter and copies of the information sheet and questionnaire were resent. This constituted a total of 28 completed questionnaires representing a return rate of 35%.

The Questionnaire

The questionnaire was distributed to 80 classroom teachers who were identified as having had experience with students with hearing loss in their classrooms. The completed questionnaires (n=28) were returned anonymously to the researcher. The quantitative data

was graphed and the data from the open ended questions collected in a format that could be screened and grouped in like-themes.

The first section of the questionnaire collected general information about the classroom teachers regarding their experience with students with hearing loss in their classroom and what ages/grades those students were.

Sections 2 - 6 contained questions that related to hearing devices, spoken language development, classroom environment modifications, adjustments and modifications to teaching techniques and the social aspects of inclusion. Using a three point Likert scale the participants assessed and reported their level of proficiency/understanding of various aspects of hearing impairment and the implications for the students with hearing loss' language, academic and social development. The responses to these questions provided the data required to answer Research Question 1.

In Sections 2-6 classroom teachers responded to a choice of three statements that described the level of training they had received from the Itinerant Teachers of the Deaf, and identified requirements for further professional development. The responses to these questions provided the data required to answer Research Question 2.

At the end of each set of questions in Sections 3 - 6 the classroom teachers identified adjustments they made to cater for the language levels of the student; the classroom acoustic environment; teaching techniques and techniques used to assist students develop positive relationships with their peers. The information gathered by this question added qualitative data that established some of the practices they used, thereby adding weight to their claimed level of understanding identified in Research Question 1.

The final open form question in Sections 2 - 6 invited the participants to comment on what they believed constituted the role of the Itinerant Teacher of the Deaf's. The information from this open form question provided the data to answer Research Question 3.

Format and Content of the Questionnaire for Classroom Teachers

Each section in the questionnaire developed for Project 2 gathered data to build on the information gathered from the Itinerant Teachers of the Deaf in Project 1. The sections that required the classroom teachers to self-report on their understanding and training reflected the areas identified in the Linking Paper as being the most significant issues for students with hearing loss that affected their communicative, academic and social development.

Following is an explanation of each section of the questionnaire, the purpose of the questions and detail about the type of data gathering tools used. (See Appendix for a sample of the original questionnaire)

Section 1 – General Information

In this section information was gathered about:

1. The classroom teachers' currency of experience with students with hearing loss in the classroom
2. The age/grades of the students in their classes
3. How many years' experience the classroom teacher had teaching students with hearing loss in the mainstream classroom (see note below)

Note: the information gathered about the experience the classroom teachers had teaching students with hearing loss, in no way reflects the length of their general teaching experience.

Section 2 – Audiological Issues

This section had 5 questions and gathered information about:

1. The classroom teachers rated their level of proficiency in troubleshooting hearing devices – Hearing Aids, Cochlear Implants and FM systems. (three point Likert scale).
2. In relation to troubleshooting Hearing Aids, Cochlear Implants and FM system the participants rated the adequacy of training they had received (choice of three statements).

3. The classroom teachers rated their level of understanding of the function of hearing devices - Hearing Aids, Cochlear Implants and FM systems (three point Likert scale).
4. In relation to understanding the function of Hearing Aids, Cochlear Implants and FM system the participants rated the adequacy of training they had received (choice of three statements).
5. The classroom teachers' perception of the role of the Itinerant Teacher of the Deaf in relation to the troubleshooting and function of hearing devices (open form question).

Section 3 - The development of spoken language

This section had 6 questions and gathered information about:

1. The classroom teachers rated their level of understanding of the impact of a significant hearing loss on the development of spoken language (three point Likert scale).
2. In relation to their understanding of the impact of significant hearing loss on spoken language the participants rated the adequacy of training they had received (multiple choice of three statements).
3. The classroom teachers rated their level of understanding about how to make the necessary adjustments to cater for the language level of the student (three point Likert scale).
4. In relation to the classroom teachers' level of understanding about how to make the necessary adjustments to cater for the language level of the student the participants rated the adequacy of training they had received (choice of three statements).
5. The participants were asked to list the adjustments that they had made to cater for the language level of the students with a hearing loss in their class (open form question).
6. The classroom teachers' perception of the role of the Itinerant Teacher of the Deaf in relation to supporting them with respect to making the necessary adjustments to cater for the student's language levels (open form question).

Section 4 – Classroom adjustments and modifications

This section had 4 questions and gathered information about:

1. The classroom teachers rated their level of understanding of adjustments that could be made to the classroom acoustic environment to allow access to information delivered through spoken language and other means requiring good audition (three point Likert scale).
2. In relation to their understanding of the adjustments to the classroom acoustic environments to enhance the students with hearing loss' access to information the participants rated the adequacy of training they had received (multiple choice of three statements).
3. The participants were asked to list the adjustments that they had made to the classroom acoustic environment to enhance the student with a hearing loss' access to information (open form question).
4. The classroom teachers' perception of the role of the Itinerant Teacher of the Deaf in relation to supporting them and the students with respect to making adjustments to the classroom acoustic environment (open form question).

Section 5 – Adjustments and modifications to teaching techniques

This section had 4 questions and gathered information about:

1. The classroom teachers rated their level of understanding of adjustments that could be made to the teaching techniques to allow access to information delivered through spoken language and other means requiring good audition (three point Likert scale).
2. In relation to their understanding of the adjustments to the teaching techniques to enhance the students with hearing loss' access to information the participants rated the adequacy of training they had received (multiple choice of three statements).
3. The participants were ask to list the adjustments to their teaching techniques they had made to enhance the students with hearing loss' access to information (open form question).

4. The classroom teachers' perception of the role of the Itinerant Teacher of the Deaf in relation to supporting them and the students with respect to making adjustments to the teaching techniques (open form question).

Section 6 – Social aspects of inclusion in regular classes for students with hearing loss

This section had 4 questions and gathered information about:

1. The classroom teacher rated their understanding of the issues students with hearing loss have in relation to making positive relationships with their hearing peers (three point Likert scale).
2. In relation to their understanding of the issues relating to making positive relationships with their hearing peers the participants rated the adequacy of training they had received (multiple choice of three statements).
3. The participants were asked to list the techniques they had employed to assist any students that had difficulty making positive relations with their hearing peers (open form question).
4. The classroom teachers' perception of the Itinerant Teacher of the Deaf's role in relation to supporting them, and the students, with respect to assisting students with a hearing loss make positive relationships with their hearing peers (open form question).

The Likert scale – Sections 2-6

A three (3) point Likert scale was used to collect quantifiable data about the classroom teachers' level of understanding. The information gathered relied on the classroom teachers to assess their own levels of knowledge and self-report by selecting one of three levels.

There was a deliberate difference in the terms used on the Likert scale in Section 2, Question 1 and 3 and the other questions relating to knowledge. This was because these two questions gained information about the classroom teachers' technical competence in troubleshooting hearing devices; therefore the term "proficiency" was used. In all other questions the term "understanding" was used as the information sought related to conceptual knowledge. (See Appendix for sample questionnaire)

Definitions used on the Likert scale points (levels of understanding)

The participants were given the following definitions to assist them to choose the level of understanding that best described their knowledge of the each area:

A poor understanding means you believe your knowledge is inadequate or insufficient.

A basic understanding means you believe your knowledge contains the essential components.

A sound understanding means you believe your knowledge to be substantial and solid.

Statements that ascertained adequacy of training

In each of the sections 2 – 6, three standard statements were used to obtain quantifiable data from the classroom teachers about the level of training they had received and to identify any area requiring further training.

Examples of the three standard statements:

The three statements that identified levels of training in troubleshooting hearing devices were as follows: (Sample Section 2 Question 2)

- a) Yes I have received training in the function of the relevant hearing device/s and am comfortable with my level of proficiency.
- b) Yes I have received training in the function of the relevant hearing device/s, but need regular updates when the student/s gets new hearing devices.
- c) No I have not received any training, and see this as important.

The three statements identifying level of training in other sections were as follows:
(Sample Section 5 Question 2)

- a) Yes I have received training about making adjustments to the teaching techniques that could be made to enhance the hearing impaired student/s access to information and am comfortable with my level of confidence.
- b) Yes I have received training about making adjustments to the teaching techniques that could be made to enhance the hearing impaired student/s access to information but need regular updates.

c) No I have not received any training, and see this as important.

The open form questions in the Questionnaire

At the end of each section in the questionnaire the participants were asked to respond to one open form question in Section 2 and two open form questions in Sections 3-6.

Examples of open form questions in the Questionnaire: (Sample Section 2 Question 5)

Please comment on what you see the Itinerant Teacher of the Deaf's role in relation to supporting you and the student/s with respect to the troubleshooting and function of hearing devices.

In Sections 3 – 6 the participants were asked to respond to the following two open form questions: (Sample Section 3 Questions 5 and 6)

Please list the adjustments you have made to cater for the language levels of students with hearing impairments in your class.

Please comment on what you see the Itinerant Teachers of the Deaf's role in relation to supporting you and the student/s with respect to making necessary adjustments to cater for their language levels.

Results: Project 2

Section 1 – General Information

Twenty seven (27) of the twenty eight (28) participants had recent or current experience teaching students with hearing loss in the mainstream classroom. Of the three (n=3) participants who did not have students in their classrooms currently, two (n=2) stated that they were the Learning/Special Education Coordinators in the school, and had regular contact with the students in other capacities, one through Sport sessions and the other through disciplinary matters. The third participant with no current students did not identify their position. It should be noted that the classroom teachers were not asked to identify how many years' experience they had teaching in their career as it was considered irrelevant to the context of this study.

One of the participants qualified his/her position on the questionnaire as the learning support teacher K-6, and had not had any experience of teaching students with hearing loss in a mainstream classroom, but had had experience with similar students in a small group and one-one setting, and now had responsibility for a student in Years K-2. This participant was included in the twenty seven (27) who had current experience.

Profiles of classroom teachers’ experience with students with hearing loss in their classes

Table 1a Year grades of students

Grade	Number of Class Teachers	Number of Students
Kindergarten – Year 2 (approx. 5 - 7 years old)	6	6
Grades 3 – 6 (approx. 8 – 11/12 years old)	4	4
Grades 7 - 9 (approx. 12 - 14/15 years old)	4	9
Grades 10-12 (approx. 15/16 -17/18 years old)	8	13
Class teacher has more than 1 student currently	5 reported they had one student in their class between grades 7-9 and another student from grades 10-12.	Number included in grade levels above.
Has no contact with students in mainstream classes currently	1	0
Total	28	32

Analysis Section 1a

The results in Table 1a indicate that the majority of classroom teachers who responded to the questionnaire, had students currently in their classes or had contact with the students regularly (n = 27, representing 96%). Two of the respondents qualified their position, and stated that they had regular contact with students with a hearing loss in some capacity. This was either as a learning or special education support teacher, through sport classes, or in a leadership position. Only one participant did not have students in his/her class currently, but indicated that they had experience in the past.

Four participants (n=5, representing 18%) currently had more than 1 student in their classes. All of these were secondary teachers, and they had one student in their grade 7-9 class, and one student in their grade 10-12 class. One of these participants was also a Learning Support Teacher.

The number of class teachers who taught grades Kindergarten to grade 6 (primary grades) represented 36% (n=10) of the participants. Class teachers who taught grades 7-12 (secondary grades) represented 64% (n=18).

Participants' years of experience teaching students with hearing loss in the mainstream classroom

The results in Table 1b represent the years of experience the classroom teachers had with students with hearing loss in their class. (See note below)

NOTE: This does not represent the years of general teaching experience the teacher may have had with hearing students.

Table 1b Participants' years of experience

Years of Experience	Number of Participants
Less than 1 year (limited experience)	9
1 – 3 years (quite experienced)	9
3 – 5 years (experienced)	4
5+ years (very experienced)	6
Total	28

Analysis Section 1b

Table 1b details the level of experience the participants had with students with hearing loss in mainstream classes. More than half the number of participants (n=19) had more than one year's experience.

Of the total number of participants (n=9) had less than 1 years' experience and could be regarded as having limited experience; a further (n=9) had 1-3 years' experience and could be regarded as being quite experienced; a small number (n=4) had 3-5 years' experience and could be regarded as experienced. A surprising number of participants (n=6) had more than 5 years' experience and could be regarded as being very experienced.

Although the terms, limited experience, quite experienced, experienced and very experienced, used to describe the levels of experience the classroom teachers had with

students with a hearing loss is somewhat subjective, they will be used to make comparisons with levels of understanding and adequacy of training in later sections.

Section 2 Audiological Issues

The results in this section are reported according to the order the questions appeared in the Questionnaire. The information gained is reported in response to each question and is categorised in sections that responded using quantitative measures and those responding to questions that stimulated a qualitative response.

1. Quantitative information is tabulated and graphed (see appendix) according to frequency count with an analysis of the data following each section.
2. Qualitative data is grouped into like-themes and tabulated. Following each section there is a discussion of the information collected.
3. At the end of the entire Section there is a summary of the results from the preceding data analysis and discussion.

Results - (quantitative data)

Following are the results of the questions that used quantitative data collection tools (Likert scale and choice of three standard statements).

Section 2.1 Classroom teachers' level of proficiency in troubleshooting hearing devices

The following results represent the responses from the classroom teachers about their assessed level of knowledge about how to troubleshoot assistive hearing devices. Results are indicated for the three main assistive hearing devices students with significant hearing loss use; hearing aids, cochlear implants, and Frequency Modulation (FM) Systems. It should be noted that many students use a combination of these devices, and may in fact use all three on a daily basis in the classroom. It is common practice for students with a cochlear implant to also wear a hearing aid on their opposing ear to maintain the viability of the auditory nerve in that ear (Australian Hearing, 2010).

The results in Table 2.1 represent the classroom teachers' responses in terms of what they assessed their level of proficiency in troubleshooting assistive hearing devices.

Table 2.1 Proficiency in troubleshooting hearing devices

Hearing device	Unable to Troubleshoot	Can make simple repairs	Proficient	Not Applicable	Total responses
Hearing Aid	n=16	n=10	n=0	n=2	28
Cochlear Implant	n=21	n=4	n=0	n=2	27
FM System	n=14	n=14	0	0	28
Average %	60%	33%	0		100%

Analysis of Results Section 2.1

The results recorded in Table 2.1 indicate that the majority of classroom teachers were unable to troubleshoot their student’s hearing aids (n=16, representing 62% of those whose students had hearing aids) or cochlear implants (n=21, representing 81% of those whose students had a cochlear implant) or the FM system (n=14, representing 50% of those whose students had an FM). Overall an average 65% of class teachers could not troubleshoot any hearing device.

Comparatively, the classroom teachers believed they were more proficient at making simple repairs to hearing aids (39%)* than cochlear implants (15%)*. * Indicates the percentage of students who wore either hearing aids, cochlear implants or both.

The percentage of classroom teachers who assessed their ability to troubleshoot or make simple repairs to the FM systems was evenly spread, with 50% unable to troubleshoot and 50% able to make simple repairs. The higher score of competency in this area could be as a result of the class teacher having responsibility for the FM transmitter and therefore having the opportunity to learn simple repairs, whereas other hearing devices are worn exclusively by the student.

None of the participants believed they were proficient in troubleshooting any of the hearing devices.

Section 2.2 Classroom teachers 'provision of training in troubleshooting hearing devices

The following results represent the responses from the classroom teachers about the provision of training they had received about how to troubleshoot hearing devices. Results are indicated for the three main assistive devices students with significant hearing loss use; hearing aids, cochlear implants, and Frequency Modulation (FM) Systems.

Table 2.2 Training in troubleshooting hearing devices

Provision of Training	Frequency of responses n=	Percentage of total responses %
Have not received any training and see this as important	21	75%
Received training but needs regular updates when students get a new device	4	14%
Received training and comfortable with level of understanding	3	11%
Totals	28	100%

Analysis of Results for Section 2.2

Results indicated in Table 2.2 show a very high percentage, 75% (n=21), of the classroom teachers had not had training in troubleshooting hearing devices and saw this as important. A further 14% (n=4) had previous training but wanted follow up training when their students received new devices. Only 11% (n=3) had received training and felt confident with their level of proficiency.

Section 2.3 Classroom teachers’ level of understanding of the function of hearing devices

The following results recorded in Table 2.3 represent the responses from the classroom teachers about the level of understanding they had regarding the function of the three main hearing devices used by students with hearing loss. Results are indicated for hearing aids, cochlear implants, and Frequency Modulation (FM) Systems.

Table 2.3 Understanding of the function of hearing devices

Hearing Device	Poor understanding	Basic Understanding	Sound Understanding	Not Applicable	Total responses
Hearing Aid	9	13	5	1	28
Cochlear Implant	9	12	5	2	28
FM System	9	14	5	0	28
Average %	32%	46%	18%	4%	100%

Analysis of Results Section 2.3

Results represented in Table 2.3 indicate that the majority of class teachers had at least a basic or a sound understanding of the function of hearing aids, cochlear implants and FM systems. (HA 67%; CI 46%; FM 68%)*. The class teachers who indicated they had a poor understanding of the function of hearing devices represented an average of 33% (HA 33%; CI 35%; FM 32%)*.

*Percentages calculated based on the number of responses from classroom teachers about what was relevant for them in terms of their students’ hearing devices.

Section 2.4 Classroom teachers’ provision of training about the function of hearing devices

The following results recorded in Table 2.4 and Graph 2.4 represents the responses from the classroom teachers about the level of training they had been provided with about the function of assistive hearing devices. Results are indicated for the three main assistive hearing devices used by students with significant hearing loss; hearing aids, cochlear implants, and Frequency Modulation (FM) Systems.

Table 2.4 Training in the function of hearing devices

Provision of Training	Frequency of responses n=	Percentage of total responses %
Have not received any training and see this as important	12	43%
Received training but needs regular updates when students get a new device	8	28.5%
Received training and comfortable with level of understanding	8	28.5%
Total	28	100%

Analysis of Results of Section 2.4

Just over half the class teachers had received training (n =16, representing 58%). Of this group 50% (n=8) believed they had sufficient training and were comfortable with their level of understanding. The other 50% (n=8) wanted ongoing training when their students received new hearing devices. The remainder of the participants (n =12, representing 43%) had not received any training and believed it was important.

Results (qualitative data)

Following are the results of the questions that used qualitative data collection tools (open-form question).

Section 2.5 Classroom teachers’ perceptions of the role of the Itinerant Teacher of the Deaf with respect troubleshooting and the function of hearing devices

The results from this section have been grouped in like themes from the class teachers’ responses to the open form question:

Table 2.5 The ITD’s role troubleshooting and the function of hearing devices

Theme	Number of responses
The Itinerant Teachers of the Deaf’s role is to directly instruct the class teacher about simple troubleshooting and the best teaching strategies to use.	11
The Itinerant Teachers of the Deaf’s role is to deal with all technical issues and functioning of the hearing devices e.g. volume control. The class teacher takes no responsibility and refers all matters to the Itinerant Teacher of the Deaf and expects them to follow up if repairs are required.	8
The Itinerant Teachers of the Deaf’s role is to monitor the functioning of the hearing devices and make simple repairs when necessary or advise the class teacher who to contact when a hearing device malfunctions	7
It is the student and parent’s role to monitor the function of the hearing devices, maintain and organise any repairs necessary, the Itinerant Teacher of the Deaf may directly work with the student or parents	4
The Itinerant Teachers of the Deaf’s role is to provide basic information for all staff at the beginning of the year, and provide strategies for the schools staff how to cater for students’ needs in a variety of situation e.g. sport and music	2

Analysis of results of Section 2.5

It appears that the majority of classroom teachers believed one of the main aspects of the Itinerant Teachers of the Deaf’s role was consultative. In terms of the function and troubleshooting of hearing devices, they believed the role was in part to provide them with

individualised instruction about how to do simple troubleshooting. Further the classroom teachers expected the Itinerant Teacher of the Deaf to advise about what teaching strategies they should use in the classroom to cater for the needs of the students. A small number believed it was important that the whole school receive basic instruction on strategies to cater for the student's need in a variety of situations, including those outside the class environment.

However, a large proportion of the responses indicated that the classroom teachers believed the Itinerant Teacher of the Deaf was primarily responsible for direct intervention. This meant monitoring the function of the hearing device, maintenance or repairs, including following up any repairs. Further, they relied on the Itinerant Teacher of the Deaf to inform them about who to contact if the hearing device failed when he/she was not available. Some responses indicated that it was the students' or parents' responsibility to manage all aspects of the hearing device, and indicated that the Itinerant Teacher of the Deaf should work directly with either student or parents, not necessarily informing the classroom teacher.

Summary Section 2

It is apparent that the majority of class teachers believe it was the Itinerant Teacher of the Deaf's role, not their role, to take primary responsibility for issues involving the management of hearing devices. This is summed up by one participant's comment:

"I believe they [the ITD] should take the main role in addressing any such issues as I do not believe I have any authority or competence to interfere with the device."
(Senior secondary teacher with 5+ years' experience with a student with hearing loss in their class)

It could be however, that it was the Itinerant Teachers of the Deaf who chose to take this role upon themselves as they had the expertise, especially with young children. This possibility was exposed by the following comment:

"My ITD was fantastic, and because of her involvement I took a more minor role in the troubleshooting and function aspect." (K-2 teacher with less than one years' experience with a student with hearing loss in their class)

It appears that those who saw themselves having a role in simple troubleshooting and repairs preferred individualised instruction with reference to the particular student in their class rather than group training. This is explained by the following quote:

"[The Itinerant Teachers of the Deaf's role is] to be able to fix minor problems, to give instructions how to fix minor problems and assist when the hearing devices is not functioning." (K-2 teacher with 1-3 years' experience with a student with hearing loss in their class)

In regard to understanding the function of hearing devices, the majority of classroom teachers had a basic knowledge and some had a sound understanding. With respect to how the understanding of the function of hearing devices meant being able to do simple troubleshooting, a less positive result was observed. An average of (n=9) teachers believed they could troubleshoot and make simple repairs. These results varied depending on the device. The classroom teachers believed they could make simple repairs to hearing aids (n=10) and FMs (n=14). In contrast very few were able to troubleshoot cochlear implants (n=4). Most likely these results occurred because of the relative complexity of cochlear implants compared to hearing aids and FM systems. Considering the complexity of the cochlear implant it would be an audiologist and not the Itinerant Teacher of the Deaf who would need to troubleshoot, diagnose and rectify the problem. In the case of a hearing aid, there are a number of troubleshooting procedures that can be undertaken; changing a battery, cleaning the tubing or earmould, ensuring a whistling hearing aid is firmly placed in the student's ear – a less daunting prospect than the high-tech cochlear implant.

All the classroom teachers indicated that their students used an FM system, requiring them to take some responsibility for the wearing and understanding the function of at least one part of the device, the transmitter. The greater confidence the classroom teachers indicated that they had in troubleshooting and making simple repairs to the FM systems, (50%) possibly reflects the relative simplicity of checking the function of the device; requiring only a check with the student, or observing the student's listening behaviour.

In terms of training, it was noted that the majority of the classroom teachers (75%) had not received training in troubleshooting hearing devices, whereas a smaller percentage (40%) had not received training in the function of hearing devices. This may be a feature of the

type of professional development that they had attended. If the professional development session included a large group, the function of hearing devices may have been explained, but the more 'hands-on' activity of troubleshooting may not have been practicable.

Classroom teachers indicated that they wanted to have training in both the function and troubleshooting of hearing devices, and saw it as important to have ongoing professional development. At the same time however, the incidence of so many responses indicating that they believed it was not their responsibility to take any role in managing the hearing devices may reflect the lack of specific training. Or it may indicate that the students were quite capable of attending to their hearing devices independently. One comment follows which may explain the situation in secondary schools.

"We rarely have problems, [we have] 5 students years 8-12 and they know how to troubleshoot their own devices. If broken, we expect parents to send away for repairs – not the school's responsibility." (High school teacher with 5+ years' experience teaching students with hearing loss)

Additionally, considering the concern expressed by classroom teachers about the lack of time to collaborate with specialists and parents (DEEWR, 2007), they may simply feel they do not have the time or experience, and preferred to defer to the Itinerant Teachers of the Deaf's greater level of expertise. The following comment may indicate this feeling:

"The itinerant teacher is available on a regular basis to assist with any problems. If not for her, some problems would occur and be overlooked." (K-2 teacher with 1-3 year experience with a student with hearing loss in their class)

Section 3 - The development of spoken language

The results in this section are reported according to the order the questions appeared in the Questionnaire. The information gained is reported in response to each question and is categorised in sections that responded using quantitative measures and those responding to questions that stimulated a qualitative response. This section examines the responses from the classroom teachers with respect to:

1. Their level of understanding and provision of training about the impact of a significant hearing loss on the development of spoken language; and
2. Their level of understanding and provision of training about how to make the necessary adjustments to cater for the language levels of the students with hearing in their class.
3. Classroom teachers identify the adjustments they have made to cater for the language levels of the students; and reports
4. Comments made about the Itinerant Teachers of the Deaf's role in relation to supporting the class teachers and the students with hearing loss to make adjustments to cater for their language levels.

Results (quantitative data)

Following are the results of the questions that used quantitative data collection tools (Likert scale and choice of three standard statements).

Section 3.1 The classroom teachers' level of understanding about the impact of a significant hearing loss on the development of spoken language.

The following results (Table 3.1) represent the responses from the classroom teachers about the assessed level of knowledge they had about how hearing impairment affects the normal development of spoken language.

Table 3.1 Understanding the development of spoken language

Level of Understanding	Frequency of Responses n=	Percentage of Responses %
Poor understanding	2	7%
Basic understanding	16	57%
Sound understanding	10	36%
Not applicable	0	
Totals	28	100%

Analysis of results Section 3.1

From the results it is evident that the majority (n = 16, representing 57%) of the classroom teachers believed they had at least a basic understanding of the impact of hearing loss on language development, while a further (n=10, representing 36%) believed their knowledge was sound. A smaller number classroom teachers believed their understanding was poor (n = 2, representing 7%).

Section 3.2 Classroom teachers’ provision of training about the impact of hearing loss on the development of spoken language

The following results reveal the classroom teachers’ assessment of the provision of training they had received about the development of spoken language of students with hearing loss, and identify the need for further professional development.

Table 3.2 Training in the development of spoken language

Provision of Training	Frequency of responses n=	Percentage of total responses %
Have not received any training and see this as important	6	21%
Received training but needs regular updates	12	43%
Received training and comfortable with level of understanding	10	36%
Totals	28	100%

Analysis of results Section 3.2

In terms of training, a number of classroom teachers indicated that they had not received any training (n = 6, representing 21%) in this area. Others had received training and would like regular updates (n = 12, representing 43%). Around one third of the classroom teachers had received training and were comfortable with their level of understanding (n = 10, representing 36%). Comparing the results from the levels of understanding with the levels of training, it was noted that the number of classroom teachers who rated their knowledge of understanding of the impact hearing loss has on the development of spoken language as sound (n=10), compares directly with the number who believe the training they have received in this area was sufficient (n=10). Further analysis is required to assess whether the sound understanding is an artefact of training. Unfortunately this data was not available.

Section 3.3 The classroom teachers' level of understanding about how to make the necessary adjustments to cater for the students' language levels

The following results indicate (Table 3.3) what level of understanding classroom teachers had regarding the adjustments they needed to make to their classrooms, teaching strategies, teaching aids, promotion of visual literacy, modification of language (spoken and written), special provisions in assessments etc.

Table 3.3 Understanding how to make adjustments for students' language level

Level of Understanding	Frequency of Responses n=	Percentage of Responses %
Poor understanding	2	7%
Basic understanding	17	61%
Sound understanding	8	29%
Not applicable	1	3%
Totals	28	100%

Analysis of Results Section 3.3

It is clear from these results that the majority of classroom teachers believed they had a least a basic understanding (n = 17, representing 61%) about how to make adjustments to cater for the student's language ability, and 29% (n=8) believing their understanding was sound. There was a small number (n=2, representing 7%) that believed their understanding was poor.

Section 3.4 Classroom teachers' provision of training about how to make adjustments to cater for students' language levels

The following results (Table 3.4) indicate the classroom teachers' assessment of the provision of training they had received about making adjustments in the classroom to cater for individual student's language levels.

Table 3.4

Level of Training	Frequency of responses n=	Percentage of total responses %
Have not received any training and see this as important	4	14%
Received training but needs regular updates	13	46%
Received training and comfortable with level of understanding	10	36%
N/A	1	4%
Totals	28	100%

Analysis of Results Section 3.4

A relatively small number of classroom teachers had not received training in this area (n = 4, representing 14%). The majority had received training, and of this group the higher number believed they needed regular updates (n = 13 representing 46%). The remainder of this group believed the training received allowed them to claim they were comfortable with their understanding of the issue (n = 10 representing 36%).

It was positive that the majority of classroom teachers had received some training in this area (n = 23 representing 82%).

Results (Qualitative data)

Following are the results of the questions that used qualitative data collection tools (open-form questions).

Section 3.5 Adjustments classroom teachers made to cater for their student’s language levels

The classroom teachers responded to a request to list the adjustments they made in their classrooms, and teaching strategies to cater for the students with hearing loss. The results have been grouped into like-strategies used.

Table 3.5 Strategies classroom teachers used to adjust for student’s language levels

Strategies – Adjusting for language levels
<p><u>Using the FM</u> Use the FM in the classroom when the teacher is giving instruction or reading aloud Don’t wear clunky jewellery when using the FM</p>
<p><u>Student’s Comprehension</u> Check student’s comprehension regularly Explain word meanings Use simple language Ask the student to give the teacher feedback about what is working best Repeat other students responses</p>
<p><u>Visual Aids</u> Use visual aids as often as possible e.g. captioned DVDs and video, writing word meanings on the board, use computers to access information, visual resources, written notes as an adjunct to verbal explanation Use drama to promote understanding</p>
<p><u>Promoting good visual and auditory access to classroom teacher</u> Sit the student at the front of the room and ensure they have visual access to teacher to promote lip reading, gain student’s attention prior to speaking, don’t speak while writing on the board, stay at the front of the class when giving instructions</p>
<p><u>Special Provisions</u> Assist students directly by working 1-1 Modify the language in assessment tasks</p>
<p><u>Promoting good listening environment</u> Reduce background noise, close the door, use clear speech Adjust for conditions – outside the classroom e.g. sport</p>

Discussion of Results Section 3.5

All the classroom teachers responded to the request for details about their practice, often listing three or four strategies that they had employed in their classrooms. The list of strategies indicated that the teachers were very aware of the students' need to access clear uninterrupted spoken language, particularly the teacher's voice. Strategies to promote a better listening environment were used. Such strategies included using the FM correctly, minimising background sound, seating the students close to the teacher and adjusting for conditions when classes were held outside.

The classroom teachers also took responsibility for their own positioning in the classroom, and ensured the students were cued into when the teacher was speaking. They reported using strategies such as ensuring the student was aware when to listen, and made sure they could see the teacher's face to facilitate lip reading or receive other visual clues. The use of these strategies indicated that the classroom teachers had an understanding of the difficulty the student may have hearing the teacher, and the need to access additional visual information to facilitate opportunities to gain understanding.

Other strategies used indicated an awareness that the students with a hearing loss may not have as sophisticated or as well developed receptive and expressive language as the hearing students. For example, the classroom teachers reported to using simple language, checking the student's comprehension, and repeating other student's responses. Some classroom teachers worked individually with the student, or modified assessments

The use of more visually oriented techniques indicated that the classroom teachers had an awareness of the difficulty students with a hearing loss have processing information that is delivered via spoken language alone. This is particularly the case in the classroom where information is often delivered at a relatively fast pace. These strategies included; using captioned DVDs, writing word meanings on the board, providing notes, and using visual aids and drama to consolidate understanding.

Section 3.6 Classroom teachers' perception of the role of the Itinerant Teacher of the Deaf's in relation to supporting the classroom teacher and the students to make necessary adjustments to cater for students' language levels

The results from this section have been grouped in like-themes from the classroom teachers' responses to the open form question:

Table 3.6 The ITD’s role in assisting the classroom teacher, and support the student (language levels)

Theme	Frequency of Responses
Evaluate classroom teacher’s practice and suggest changes where needed	11
Provide additional support for students outside class to clarify information covered in class	8
Support the student in class (note taking, sitting next the student to assist understanding, in group discussions)	7
Provide In-service, raise awareness of staff	6
Advise the classroom teacher in areas the student is having trouble with	5
Assist students in areas of special needs or where there is a weakness in or out of class – remedial work	5
Team teach with class teacher	2
Sit with the students and assist them to stay on task, alert the student to changes in activity, encourage the students to ask/answer questions	2
Provide special provisions to the students in exams and assessment tasks including modifying the task if necessary	1
Provide the classroom teacher additional resources to clarify information delivered in class	1

Discussion of Results Section 3.6

It is apparent that the classroom teachers saw the Itinerant Teacher of the Deaf’s role as a combination of consultation and collaboration, combined with a role that provides direct support to the student.

In a consultative capacity, it appears that many classroom teachers highly valued the presence of the Itinerant Teacher of the Deaf in their classroom, and relied on them to provide feedback about how they can improve their teaching practice. There is an

expectation by some that the Itinerant Teacher of the Deaf will provide professional development to the classroom teacher as well as the other school staff.

The role of the Itinerant Teacher of the Deaf as a collaborator was also evident in some of the response. In particular; team teaching, advising the classroom teachers about areas where the student was having difficulty, and providing additional resources that could be used in class to clarify the information delivered.

A significant number of responses indicated that the classroom teachers expected the Itinerant Teacher of the Deaf to be with the student in and out of the classroom. Activities described included, assisting the student to understand the content of lesson. In the classroom this may be as a note taker, an interpreter, or in the case of little children, helping them to learn the processes and expectations of the classroom. Outside the classroom the Itinerant Teacher of the Deaf was expected by some classroom teachers to provide remedial tutoring in areas of weakness, modify assessment tasks if necessary, and organise special provisions.

The following quotes emphasise the level of importance the classroom teachers placed on the presence of the Itinerant Teacher of the Deaf in the school, and supports the notion that the Itinerant Teacher of the Deaf's role is perceived by the classroom teacher to be both consultative and collaborative.

Participant 5, a senior school teacher with more than 5 years' experience teaching students with hearing loss wrote the following comment:

"Most of what I know has been taught [to me] by the Itinerant Teachers. They support other staff members too. "

Participant 24, a primary school teacher with more than 5 years' experience made the following comment.

"The ITD keeps me informed and on task as regards to the student's needs. [They] keep me informed about what I need to revise with the students; often I have assumed they have grasped more."

Summary Section 3

The classroom teachers assessed their knowledge as having a reasonable grasp on the impact that hearing loss has on spoken language development. Most teachers claimed their knowledge was at least basic rising to sound, even though some still had not received specific training. This most likely reflects the general knowledge teachers should have about language development, given their professional teacher training. Such prior knowledge may well have provided a basis upon which to extrapolate the impact hearing loss has. As most of the teachers had current experience with students with hearing loss, observational and formal assessments in academic work, or simply communication with the student would soon indicate if there was some language delay. In addition, the relationships the classroom teachers indicated they had developed with the Itinerant Teachers of the Deaf in a consultative and collaborative sense may have facilitated improved understanding through formal and informal professional discussions.

As has been determined from the qualitative data, the classroom teachers saw the Itinerant Teacher of the Deaf’s role as being important in a consultative capacity, especially by evaluating their practice and making suggestions for improvement and providing professional development. One of the participants wrote the following comment that supports this observation:

“[The Itinerant Teacher of the Deaf’s role is to] educate teachers to be able to teach deaf students better. Give support and critical advice to teachers on how to improve their skills and teaching methods.” (Secondary teacher with 1-3 years’ experience with student with hearing loss in their class)

Additionally, most classroom teachers appeared to value the Itinerant Teacher of the Deaf’s support in a collaborative sense, either by team teaching, providing additional resources, or alerting them to difficulties the student was having. The following comment is an example of this type of response:

“[The ITD] provides additional advice on adjustments in the class and in other recreational activities. Team teaching is effective – whilst I conduct the lesson the ITD writes/draws/explains the topic on the board. She also provides appropriate resources on a particular topic which might clarify the topic for the student.”

(Secondary teacher with 5+ years' experience with students with hearing loss in their class)

A further indication that the classroom teachers were aware of potential difficulties some of their students may have as a result of delayed or poor language development was the number of responses that indicated that they recognised the Itinerant Teacher of the Deaf's expertise in this area. The responses suggested that there was an expectation by many classroom teachers that the Itinerant Teacher of the Deaf would, in a direct way, assist to students to access the information delivered in class. Such activities suggested included either by supporting the student in the classroom (note taking or concurrent explanations), or in a tutorial or remedial session away from the classroom. The following two comments are illustrative of these expectations:

"[The Itinerant Teacher of the Deaf's role is to] provide 1:1 support in the classroom – keeping student focused on what has to be done and cueing them into a change of activity, and giving homework instructions. To provide additional tutorial support for explanations. "(Secondary teacher with less than 1 years' experience with student with hearing loss in their class)

"[The Itinerant Teacher of the Deaf's role is to] provide me with advice and to assist the students in a preparatory way before lessons as well as note taking during lessons experience." (Senior secondary teacher with 5+ years' experience with a student with hearing loss in their class)

The techniques that many classroom teachers used to adjust their teaching practices indicated that they were very aware that the students needed them to make specific changes to the acoustic environment. They reported to use strategies that minimised background noise, provided optimal seating, used an FM and made accommodations for the students when the class is held outside. They were aware that providing visual access, either to facilitate lip-reading or through the provision of print or other visual techniques, would alleviate the pressure on the student to try to absorb information through audition alone. Most classroom teachers appeared to value the Itinerant Teacher of the Deaf's support in this area to assist the student directly in or out of the classroom, or indirectly by informing the teacher about how to make adjustments to their teaching techniques to improve access to information.

In acknowledgment of the likelihood that their students had some degree of language developmental delay, the classroom teachers reported to using techniques that modified their own language when instructing the class, and checked the student's comprehension. One participant used the following techniques:

"Explaining meanings of words, expressing ideas, particularly concepts in simple terms and ensure they are given in written form. I use the whiteboard a lot and am available for the student to ask questions about what they have misunderstood outside class time." (Secondary teacher with 3-5 years' experience with a student with hearing loss in their class)

The work of the Itinerant Teacher of the Deaf by tutoring, providing special provisions in exams, and in some cases, providing remedial work appeared to be valued by some classroom teachers, and indicated recognition that they realised the student may need extra support if they were to meet academic expectations.

It was positive that the majority of classroom teachers reported an awareness of the issues that students with hearing loss face in terms of language development and had strategies in place to go some way to increase access to information delivered in their classrooms. Judging by the responses about the perceived role of the Itinerant Teacher of the Deaf, there was recognition of their specific expertise in the area of language development, and a willingness to accept their counsel and assistance in the classroom. The following comment is illustrative of this:

"The itinerant teacher is an outside observer who can guide me in best practice to maximise students learning in mainstream classroom." (Primary teacher with less 1 years' experience with a student with hearing loss in their class)

"[The ITD] keeps me informed and on task as regards their needs, follow-up any problems and keep me informed as to what I need to revise with the student. Often I have assumed the student has grasped more than they have." (Primary teacher with 5+ years' experience with a student with hearing loss in their class)

It appeared that some classroom teachers welcomed the Itinerant Teacher of the Deaf into their classroom either in direct support of the student or supporting their professional learning, and had achieved a collegial role as was recommended by Antia, Stinson and

Gaustad (2002). Judging by the number of responses that indicated ongoing training was needed, as well as the strategies they reported to already be using, the classroom teachers appeared to be making a conscientious effort to improve inclusion for the students. However, it is very important to note that without the input and expertise of the Itinerant Teacher of the Deaf, and professional development opportunities, it is unlikely that the classroom teachers would be able to fully meet the students' specific needs.

Section 4.0 Making adjustments and modifications to the classroom acoustic environment

The results in this section are reported according to the order the questions appeared in the Questionnaire. The information gained is reported in response to each question and is categorised in sections that responded using quantitative measures and those responding to questions that stimulated a qualitative response.

This section examines the responses from the classroom teachers with respect to:

1. Their level of understanding and adequacy of training about adjustments to the classroom acoustic environment; and
2. Classroom teachers identify the adjustments they have made to the classroom acoustic environment to enhance the students with hearing loss' access to information; and
3. Comment on the Itinerant Teachers of the Deaf's role in relation to supporting the classroom teachers and the students with hearing loss to make adjustments to the classroom acoustic environment.

Results (quantitative data)

Following are the results of the questions that used quantitative data collection tools (Likert scale and choice of three standard statements).

Section 4.1 The classroom teachers' level of understanding about the adjustments to the acoustic environment

The following results (Table 4.1) represent the responses from the classroom teachers about their assessed level of knowledge about how to make adjustments to the classroom acoustic environment.

Table 4.1 Understanding adjustments to the acoustic environment

Level of Understanding	Frequency of Responses n=	Percentage of Responses %
Poor understanding	5	18%
Basic understanding	15	53.5%
Sound understanding	7	25%
N/A	1	3.5%
Totals	28	100%

Analysis of results Section 4.1

Similar results as in previous sections were evident in the area of adjustments to the classroom acoustic environment to enhance the student's ability to access information. Just over half of classroom teachers had achieved at least a basic level of understanding (n = 15, representing 54%), with a further (n = 7, representing 25%) believing their understanding was sound. However, a smaller number of classroom teachers (n = 5, representing 18%) indicated that they had a poor understanding in this area. One participant did not believe this was relevant to their work as their role was more supervisory in their capacity as Learning Support Coordinator.

Section 4.2 Classroom teachers' provision of training about adjustments that can be made to the acoustic environment

The following results (Table 4.2) indicate the classroom teachers' assessment of the provision of training they had received about making adjustments to the classroom acoustic environment.

Table 4.2 Training in adjustments to the acoustic environment

Level of Training	Frequency of responses n=	Percentage of total responses %
Have not received any training and see this as important	10	36%
Received training but needs regular updates	11	39%
Received training and comfortable with level of understanding	7	25%
Totals	28	100%

Analysis of Results Section 4.2

More than one third of the classroom teachers had not received training about adjusting the acoustic environment of the classroom (n = 10, representing 36%). Comparing this number with the proportion of participants who believed their understanding was poor (n = 5 representing 18%) it appears that 5 participants had managed to obtain at least a basic understanding independent of formal training. However, given the number of classroom teachers who had received training but wanted regular updates (n = 11, representing 39%), indications are that this area is one that needs to be included in school- based, or formal staff development sessions. The number of classroom teachers who had received training and were comfortable with their level of understanding (n = 7, representing 25%), corresponds directly with the number of classroom teachers who rated their understanding as sound (n = 7, representing 25%). However, further information was not available to assess the importance of this phenomenon.

Results (Qualitative data)

Following are the results of the questions that used qualitative data collection tools (open-form questions).

Section 4.3 Adjustments classroom teachers made to the classroom acoustic environment

The classroom teachers responded to a request to list the adjustments they made to the classroom acoustic environment to enhance students with a hearing loss’ access to information. The results have been grouped into like-strategies.

Table 4.3 Adjustments to the classroom acoustic environment

Strategies used – Adjusting the classroom’s acoustic environment
<u>Position of the student</u> Seating the students near the front of the class near the teacher Away from noise sources e.g. windows, air-conditioning units Seat the student with hearing loss near a cooperative peer
<u>Reducing background noise</u> Close doors and windows Fans off Ensuring the class is quiet (one participant found this hard) Inform the other students of the impact noise has on the student with a hearing loss ability to hear well
<u>Present information visually</u> Use captioned videos/DVDs Use overheads Provide written information
<u>Class organisation</u> Maintain a predictable routine and follow a timetable Use horseshoe shape when class discussion Use more small group and paired work Have a “quiet” space for the student with hearing loss to work Students works with ITD when the class is doing group work
<u>FM</u> Use the FM when practicable
<u>Modifying the classroom structure</u> One school had one classroom treated with acoustic material and the students with hearing loss were timetabled in this room

Discussion of results Section 4.3

The methods of adjusting or modifying the acoustic environment classroom teachers reported to use were generally those that they could control themselves on a day to day basis. The strategies used encompassed managing or minimising sources of noise, providing more visual support or moving class members strategically. In only one case had the school taken responsibility for providing the student and teachers with an acoustically treated classroom that minimised reverberation and impact of external noise intrusion. This admirable adherence to the understanding of inclusive practice resulted in minimising the two most deleterious factors that affects a person with hearing loss' ability to hear the primary source of sound (in the case of classrooms – the teacher's voice, other students' voices and DVDs etc.). In the Linking Paper these factors are explained in detail.

The strategies the classroom teachers used to manage background noise and minimise the sources of sound included; turning off fans, closing doors and windows, moving the student with a hearing loss to a quieter location in the room. In addition, the conscientious use of the FM indicated that many classroom teachers were aware of the importance of maximising the signal to noise ratio.

A number of responses showed that classroom teachers were aware of the importance of providing additional visual support by using captioned DVDs, overheads and written material.

Some strategies used indicated recognition of the difficulty students with hearing loss have hearing and comprehending information delivered primarily through spoken language in large, noisy class situations. These strategies, in the main, involved the organisation of class members, such as using a horseshoe shape when having a class discussion, pairing the student with hearing loss with a helpful peer, or including small group work and working in pairs.

By using practices that made the class aware of the need to work quietly, such as providing a "quiet space" and maintaining a predictable schedule, as well as the other strategies already mentioned, the classroom teachers have demonstrated a preparedness to accommodate the students with hearing loss and recognise the importance of optimising learning opportunities.

Section 4.4 Classroom teachers' perception of the role of the Itinerant Teacher of the Deaf in relation to supporting the classroom teacher and the students when making adjustments to the classroom acoustic environment

The results from this section (Table 4.4) have been grouped in like-themes from the classroom teachers' responses to the open form question:

Table 4.4 The ITD's role regarding adjustments to the acoustic environment

Theme	Number of Responses
Suggest changes and modifications that can be made to the classroom and assist the classroom teacher to make them	8
Identify the issues and needs relating to the student and provide advice to the classroom teacher	4
Observe and give feedback	4
Act as a reminder about techniques etc.	3
Take students out of class for individual tuition	1

Discussion of results Section 4.3

Many classroom teachers appeared to see the role of the Itinerant Teacher of the Deaf as mainly consultative and collaborative with respect to the support they provided to both themselves and the student with hearing loss. In terms of consultation, the Itinerant Teacher of the Deaf's role was regarded as primarily to identify the issues of the classroom acoustic environment and provide advice, make suggestions about changes and modifications that could be made, and observe the class in progress and give feedback to the classroom teacher.

Collaborative activities that assisted the classroom teacher to make suggested changes, and those that served as a reminder to the teacher about what techniques can be used, indicated that the presence of the Itinerant Teacher of the Deaf in the classroom provided valuable support.

One classroom teacher saw the role of the Itinerant Teacher of the Deaf to take the student for separate tuition when the class was in small groups. This comment was confined to a K-2 classroom, and may have been seen as an opportunity for the student to receive remedial work while there was no direct instruction by the teacher.

Summary Section 4

Around two thirds of the classroom teachers reported that they had achieved a least a basic to sound understanding of the importance of improving the classroom acoustic environment so that students with hearing loss have access to information delivered through spoken language. However, there were approximately one third of participants who reported not to having received training. It appears that at least some of these teachers had acquired enough understanding through other avenues. It could be speculated that general knowledge, experience with students or others with hearing loss, professional judgement, or contact with an Itinerant Teacher of the Deaf in the school may have contributed to this knowledge.

The strategies the classroom teachers reported that they used were confined to things they could manage themselves. For example, they attempted to minimise noise by eliminating the source – turning off fans, keeping the class quiet, closing doors and windows. They also manipulated the students and classroom space to make it more "listening friendly" by providing optimal seating, placing students in a horseshoe shape to promote visual access to lip-reading and body language. Some teachers used other students as "helpers" by pairing them with the students with hearing loss. Many also reported using the FM or provided visual alternatives to promote access (captioned DVDs, overheads etc.).

In only one case was it reported that the school provided an acoustically treated room and the students with hearing losses were timetabled into this room.

It was noted that the classroom teachers primarily saw the role of the Itinerant Teacher of the Deaf to advise them about the issues the students may have with respect to poor acoustics, and suggest how to make adjustments to their classrooms. It was clear that the classroom teachers saw it as their responsibility to make the changes suggested, and used the Itinerant Teacher of the Deaf in a collaborative and consultative role by informing about acoustic issues, make observations and advise them what to do. The following comments illustrate this observation:

"[The ITD] feels comfortable in making specific requests for adjustments when rooms are changed or videos shown or when there is a change in routine." (Senior

secondary teacher with 5+ years' experience with a student with hearing loss in their class)

With younger students:

"She would remind me if I'd forgotten something, e.g. if it is 'News Day', so the [other] children can use the FM." (K-2 teacher with 1-3 years' experience with a student with hearing loss in their class)

There is a range of treatments that schools can provide to make classrooms acoustically favourable, such as having carpet on floors, sound dampening treatment on ceilings, padded boards on the walls and provision of sound-field systems and hearing loops (Nelson & Soli, 2000). None of these things were reported by the teachers, but perhaps the nature of the question did not elicit this information. The knowledge of such treatment is part of an Itinerant Teacher of the Deaf repertoire of skills, and it is their role to assist the school to put such measures in place.

Section 5 Adjustments and Modifications to Teaching Techniques

The results in this section are reported according to the order the questions appeared in the Questionnaire. The information gained is reported in response to each question and is categorised in sections that responded using quantitative measures and those responding to questions that stimulated a qualitative response.

This section examines the responses from the classroom teachers with respect to:

1. Their level of understanding and adequacy of training about the adjustments and modifications that can be made to teaching techniques to assist students with hearing loss; and
2. Identifying the adjustments they have made to assist students with hearing loss; and
3. Comments on their perceptions of the Itinerant Teacher of the Deaf's role in relation to supporting them and the students with hearing loss to make adjustments to teaching techniques.

Results (quantitative data)

Following are the results of the questions that used quantitative data collection tools (Likert scale and choice of three standard statements). Results (quantitative data)

Section 5.1 The classroom teachers' level of understanding about the adjustments that can be made to teaching techniques

The following results (Table 5.1) represent the responses from the classroom teachers about their assessed level of knowledge about how to make adjustments to their teaching techniques to cater for the student with hearing loss.

Table 5.1 Understanding adjustments to teaching techniques

Level of Understanding	Number of Responses n=	Percentage of Responses %
Poor understanding	2	7%
Basic understanding	20	71.5%
Sound understanding	6	21.5%
Totals	28	100%

Analysis of Results Section 5.1

A high proportion of classroom teachers believed their level of understanding of how to adjust their teaching techniques to be at least basic (n = 20, representing 71.5%). Others assessed their knowledge as sound (n = 6, representing 21.5%). In this area only a small percentage believed their understanding was poor (n = 2, representing 7%).

Section 5.2 Classroom Teachers’ provision of training in adjusting teaching techniques

The following results (Table 5.2) indicate the classroom teachers’ assessment of the provision of training they had received about making adjustments to their teaching techniques to cater for the students with hearing loss.

Table 5.2 Training in adjusting teaching techniques

Level of Training	Number of Responses n=	Percentage of Responses %
Have not received any training and see this as important	7	25%
Received training but needs regular updates	13	46%
Received training and comfortable with level of understanding	8	29%
Total	28	100%

Analysis of Results Section 5.2

Notably, the number of classroom teachers who had not received training about how to adjust their teaching techniques (n = 7, representing 25%) was somewhat higher than the number who believed their understanding was poor (n = 2, representing 7%). This result may suggest that five of the classroom teachers, who responded, had developed some understanding independent of training. It could be speculated that this may be an artefact of collaboration with the Itinerant Teacher of the Deaf, experience, and/or prior learning. The number of classroom teachers (n= 8, representing 29%) who indicated that they had received sufficient training and were comfortable with their level of knowledge, was slightly

higher than those who assessed their understanding as sound (n=6, representing 21.5%).
 As with earlier sections, this may indicate satisfaction with a basic level of understanding.

Results (Qualitative data)

Following are the results of the questions that used qualitative data collection tools (open-form questions).

Section 5.3 Adjustments classroom teachers made to teaching techniques

The classroom teachers responded to a request to list the adjustments they made to their teaching techniques to enhance students with a hearing loss’ access to information. The results have been grouped into like-strategies.

Table 5.3 Strategies classroom teachers used to adjust teaching techniques

Strategies used – Adjusting and Modifying Teaching Techniques
<u>Position of the student</u> Seating the students away from noise sources such as a humming projector
<u>Teacher behaviour</u> Speak clearly and enunciate words Do not assume the student has understood or has prior knowledge– explain things in detail Repeat important information Ask the student questions to clarify understanding Reduce background noise Reduce external noise Make sure the student can see the teacher’s face Use FM Use small groups instead of large groups for discussion Individual instruction Use a predictable timetable
<u>Present information visually</u> Combining visual with verbal presentation e.g. transcripts for movies Use much more visual representations – words, pictures, overheads, photocopies, PowerPoint, Whiteboard, Smart board, DVDs with subtitles Use email
<u>Other students</u> Use the FM when practicable such as in news and class/ group discussion Teacher explained to hearing peers the problems hearing loss may present Teacher encouraged the student to explain hearing devices to take away the mystery

Discussion of Results Section 5.3

The classroom teachers appeared to be very aware of the need for the students with hearing loss to hear clearly without the interference of extraneous noise. As such, the strategies used to adjust or modify their teaching techniques were primarily focused on access to information that was delivered through spoken language. There was emphasis on the strategies teachers could control themselves - such as minimising background noise, providing good signals by using the FM, enunciating clearly, and ensuring the students was seated optimally.

The classroom teachers also indicated awareness that students with hearing loss may not always understand the information being delivered in class. Some strategies used to cater for this possibility included; repeating important information, and clarifying understanding directly with the student. It appeared that the concept of scaffolding information was used specifically with the students with hearing loss in mind.

Section 5.4 Classroom teachers' perception of the role of the Itinerant Teacher of the Deaf in relation to supporting the classroom teacher and the students when making adjustments to teaching techniques

The results from this section have been grouped in like- themes from the classroom teachers' responses to the open form question:

Table 5.4 The ITD's role regarding making adjustments to teaching techniques

Theme	Responses n=
Identify the issues, recommending strategies and facilitating change (includes training)	9
Advise on techniques (includes modelling)	7
Assist class teacher with the student, preview lesson content	5
Work directly with student - Note take in class, reinforce class work homework, work with student in their peer group	4
Act as a reminder (when present in class)	1
Withdraw student from the classroom	1

Discussion of Results Section 5.4

The themes that have emerged from the classroom teachers' perspectives about what the Itinerant Teacher of the Deaf's role was, with respect to adjusting teaching techniques, indicate a combination of consultation, collaboration and direct intervention.

The majority of responses fell into the consultative category. These classroom teachers expected the Itinerant Teacher of the Deaf to identify issues in their individual classrooms and responsively, make recommendations. Their specific knowledge about what is best for the student with hearing loss was recognised, and there was an expectation that this knowledge would be passed on to the classroom teacher in training sessions.

The Itinerant Teachers of the Deaf were seen as having a collaborative role with respect to specific techniques that could be used, and included modelling of these techniques. Some teachers saw it as a reasonable request for the Itinerant Teacher of the Deaf to preview the lesson content and provide advice on adjustments. One classroom teacher used the Itinerant Teacher of the Deaf as a reminder of what to do to cater for the student's needs.

The interventions some classroom teachers identified as direct intervention as being part of the Itinerant Teacher of the Deaf's role, were mainly within the classroom. The interventions were, in most cases, individualised. Such activities included; taking notes for the student, or reinforcing information that was delivered throughout a lesson. Two responses suggested that the Itinerant Teacher of the Deaf's interventions were best used when the class was in small groups, and in these instances they worked with a small group of students that included the student with hearing loss. In only one case, that was confined to a student in a K-2 class, was there a suggestion that the Itinerant Teacher of the Deaf could provide direct instruction away from the classroom.

Summary Section 5

Most of the classroom teachers reported that they had at least a basic understanding, some with a sound understanding, of how to adjust their teaching techniques to promote access for the students with hearing loss. However, with respect to training one quarter stated that they had not received training, and another half of the classroom teachers had some training but wanted regular updates.

The classroom teachers used a variety of techniques, largely focused on adjusting the classroom environment to improve the students' capacity to access information delivered through spoken language. The techniques were confined to techniques they could control themselves; such as minimising background noise, speaking clearly, and using the FM. Visual aids were also reported to be used to assist access to information delivered via teacher instruction or through media. Some reported adjustments to teaching techniques indicating that the classroom teachers understood that the students may not always comprehend what was delivered in class, and made efforts to check with the student. As an example - a secondary teacher with 5+ years' experience with a student with hearing loss in their class/s wrote the following comment, "I ask them questions to clarify understanding."

The same teacher also wrote. "I tend to explain things as I teach, not assume that the students understand."

While this technique is likely to be positive for the student with hearing loss, it would no doubt be helpful for all students.

One technique that emerged was the classroom teacher taking responsibility for informing the students' hearing classmates about the hearing devices they used. One participant who had a student in a K-2 class explained the benefit of this strategy:

"I spoke to the children separately about it. I also had the student [with hearing loss] explain to the children how the FM worked. It took away the mystery which was great."

The roles that the classroom teachers identified for the Itinerant Teacher of the Deaf when assisting them and the students, were largely consultative and collaborative, with direct intervention being mainly in-class support with the student. The word "advise" was common in the responses in this area. The teachers expected the Itinerant Teacher of the Deaf to make recommendations and assist them to make the necessary changes, including modelling techniques in some instances. A significant number of the responses indicated that the classroom teachers recognised the Itinerant Teacher of the Deaf's expertise and had developed a relationship with them that was trusting and collaborative. Some of the classroom teachers provided the Itinerant Teacher of the Deaf with lesson content, and asked them to assist them to suggest modifications if necessary. There was also evidence amongst the comments that the teachers appreciated their help, and recognised their role as part of a team that worked together to put in place the inclusive strategies regarded as important for the individual student.

One participant, who taught senior secondary school and had 1-3 years' experience with a student with hearing loss in their class, summed up the consultative and collaborative role of the Itinerant Teacher of the Deaf in a few words. "Educate, evaluate and suggest improvements."

Section 6 Social Aspects of Inclusion in Regular Classroom for students with hearing loss

The results in this section are reported according to the order the questions appeared in the Questionnaire. The information gained is reported in response to each question and is categorised in sections that responded using quantitative measures and those responding to questions that stimulated a qualitative response.

This section examines the responses from the classroom teachers with respect to:

1. Their level of understanding and adequacy of training regarding issues students with hearing loss may have making positive relationships with their hearing peers; and
2. Identifying the techniques they have used to assist that have difficulties making positive relationships with their hearing peers; and
3. Comments on their perceptions of the Itinerant Teacher of the Deaf's role in relation to supporting them and the students with hearing loss with respect to assisting students who are having difficulty making positive relationships with their hearing peers.

Results (quantitative data)

Following are the results of the questions that used quantitative data collection tools (Likert scale and choice of three standard statements). Results (quantitative data)

Section 6.1 Classroom teachers' level of understanding about social issues that students with hearing loss may have in forming positive relationships with their hearing peers

The following results represent the responses from the classroom teachers about their assessed level of knowledge about the issues students with hearing loss may face in developing social skills and forming positive relationships with other students.

Table 6.1 Understanding social issues students with hearing loss may experience

Level of Understanding	Number of Responses n=	Percentage of Responses %
Poor understanding	7	25%
Basic understanding	13	46.5%
Sound understanding	7	25%
N/A	1	3.5%
Totals	28	100%

Analysis of Results Section 6.1

The percentage of classroom teachers who believed they had a poor understanding of social issues that may be faced by students with hearing loss totalled 25% of the participants (n = 6). Those who assessed their understanding to be at a basic level totalled 46% (n = 13) with another 25% (n = 7) believing their knowledge was sound. One participant did not believe this knowledge was relevant for the type/level of contact they had with the student/s.

Section 6.2 Classroom teachers’ provision of training about social issues for students with hearing loss

The following results indicate the classroom teachers’ assessment of the provision of training they had received about the issues students with hearing loss may have developing social skills and forming positive relationships with other students.

Table 6.2 Training about social issues students with hearing loss may experience

Level of Training	Number of responses n=	Percentage of total responses %
Have not received any training and see this as important	10	36%
Received training but needs regular updates when students get a new device	10	36%
Received training and comfortable with level of understanding	7	25%
N/A	1	4%
Total	28	100%

Analysis of Results Section 6.2

In comparison with previous sections the percentage of classroom teachers who had not received training in this area was relatively high at 36% (n = 10). The same number of participants (n = 10 representing 36%) had training but wanted to have regular updates, while a smaller number (n = 7 representing 25%) was satisfied with their level of training and understanding.

Results (Qualitative data)

Following are the results of the questions that used qualitative data collection tools (open-form questions).

Section 6.3 Adjustments classroom teachers made to teaching techniques

The classroom teachers responded to a request to list the techniques they have used to enhance or facilitate the students with a hearing loss’ opportunities to develop positive relationships with their hearing peers. The results have been grouped into like-strategies.

Table 6.3 Strategies classroom teachers used to assist students to develop positive social relationships

Strategies used – To assist students develop positive relationships
<p><u>Classroom management</u></p> <p>Active pairing of student with hearing loss with “patient or compassionate” peers. Place student in groups to promote the development of peer relationships Group work rather than whole class activities Include student with hearing loss in all activities Use of the FM – class teacher, peers – in news and group work Arrange students in a circle for class discussion</p>
<p><u>Direct and Individualised treatment</u></p> <p>Monitor social development Actively support and scaffold relationships Act as a mentor or sounding board Direct teaching of social skills</p>
<p><u>Work with the whole class</u></p> <p>The Classroom teacher talked to the hearing students specifically about:</p> <ul style="list-style-type: none"> • Communication strategies • The purpose and function of hearing devices to remove the “mystery” • Anti-discrimination laws and practices <p>Actively encourages a class acceptance of difference Has buddies/ peers paired with student with hearing loss to assist them Has the ITD to explain hearing loss to the class Developed a social skills program to assist all students to develop positive social skills</p>
No special treatment (3)
Had no ideas/ struggles with this (2)

Discussion of results Section 6.3

The indication from many of the classroom teachers' responses was that they were not confident they had enough understanding of the issues students with hearing loss may face in developing positive relationships. All participants limited their interventions to what they could manage in the classroom, and none of the participants used any strategies to assist students in the playground. While this may not be surprising, considering classroom teachers have less contact with the students outside the classroom, it does confirm their assessment of limited understanding of the issues students with hearing loss have communicating socially in noisy environments such as playgrounds.

The training the classroom teachers received in this area was inadequate according to their responses. They recognised it as an area of need, and wanted more information.

Within the classroom, the classroom teachers reported to actively arranging their classes during learning time into strategic groups, with the student with hearing loss in mind. In some cases these were sympathetic pairings with more amenable students, and in other cases in small groups. It appears that the classroom teachers had some understanding of the difficulties students with hearing loss face when trying to manage communicatively and therefore socially in large groups. The classroom teachers attempted to compensate for this possibility by orchestrating their classrooms to provide opportunities for the students with hearing loss to make these connections in a more manageable environment (small groups or pairs). In some instances, it was apparent that the classroom teacher hoped that these arrangements may lead to some social connection.

The strategies used also indicated that the teachers tried to manage their classes to encourage a positive and accepting environment, using techniques that, at times, highlighted difference in order to promote understanding. For example, some classroom teachers saw hearing devices, by their very existence, as making the student with hearing loss appear different, so they talked to the class about them in order to take away some of their "mystery" rather than ignoring or hiding the fact. In some cases the Itinerant Teacher of the Deaf, or the students themselves, performed the role of explaining hearing loss and its implications. Some classroom teachers included discussion about anti-discrimination as a platform from which to encourage an acceptance of difference.

Section 6.4 Classroom teachers’ perception of the role of the Itinerant Teacher of the Deaf in relation to supporting the classroom teacher and the students with respect to social development

The results from this section have been grouped in like-themes from the classroom teachers’ responses to the open form question:

Table 6.4 The ITD’s role regarding students’ social development

Theme	Responses n=
Advise Class teacher, suggest techniques, ideas, developing awareness, training	13
Provide support in class both directly to students with hearing loss, and in group work to help facilitate friendships with peers	6
Talk with hearing peers about playground problems (the student with hearing loss encountered) and brainstorm solutions	4
Directly teach social skills, remediation role	4
Identify issues the student is having socially and communicate issues to class teacher and/or parents	3

Discussion of results section 6.4

It appears that the class teachers used the Itinerant Teachers of the Deaf as a source of advice and information and also as the person who will intervene if the student is having difficulties socially.

Many classroom teachers seemed to see their role in the promotion of social skill and friendship development as being confined to the classroom. The type of activities they initiated to help students with a hearing loss make positive relationships with their hearing peers included; student group work, scaffolding relationships by encouraging students to interact and use positive language, and actively pairing peers. In collaboration with the Itinerant Teachers of the Deaf they saw it as important that they ensure the students in the class were aware of the students with hearing loss’ need for consideration in conversations and provided general information about hearing devices.

In general, the classroom teachers saw the Itinerant Teacher of the Deaf’s role as one that was advisory regarding the potential and observable difficulties the student may be

experiencing. They expected the Itinerant Teachers of the Deaf to provide information about the known difficulties of communication and development of social skills, and what the classroom teacher could do assist ameliorate the difficulties. However, they often responded that they also saw the Itinerant Teacher of the Deaf as the person who is able directly intervene to resolve any issues the student with hearing loss had. Some classroom teachers expected that they would facilitate relationships between peers by being in the classroom and taking small groups that included the student with a hearing loss.

Summary Section 6

The area of social skill development and the potential impact of having a hearing loss may have, in this area, generated a mixed response for the classroom teachers. While just over half the participants reported that they had received some training, around a third hadn't. The majority of responses indicated that either no training had been received, or that they wanted further training (n=20). This corresponded closely with the number of responses indicating that the classroom teachers' level of understanding were either poor or basic (n=19).

Given the above reports of low levels of understanding and insufficient training, it is not surprising the teachers restricted their efforts to assist the students to develop social connections. The strategies they used were mostly in the classroom, and involved strategically placing the student with hearing loss in pairs or with small groups to provide opportunities for them to make connections with other students. One classroom teacher also saw themselves as an advocate and positive model for the students to copy. The following comment illustrates this observation:

"I model positive responses to all students to encourage them to use positive language." (Grade 7-9 teacher with 5+ years' experience with a student with hearing loss in their class)

There were a number of responses from the teachers that indicated that they believed it was important to inform the hearing students about hearing impairment, and how to communicate with the students with hearing loss. This occurred in all grades even in grades 10-12, but notably a number of the teachers who were senior secondary teachers commented that the students had developed a good network of friends and did not need

intervention. Some of the discussions were couched in general discussion about accepting difference and anti-discrimination. Most of the comments relating to providing hearing peers with communicative strategies occurred in grades K-6, for example:

"I speak to the class about the hearing impaired student's struggle in the playground, and we brainstorm solutions." (K-2 teacher less than 1 years' experience with a student with hearing loss in their classroom)

In a few cases the classroom teachers taught social skills to the whole class, but these strategies were confined to K-2 classrooms. The following comment is an example:

"I explicitly teach social skills, and model language of asking to join in and play etc. I ensure the children are actively involved and use peers to assist [the student's] understanding." (K-2 teacher with 3-5 years' experience with a student with hearing loss in their classroom)

A number of classroom teachers appeared to give the Itinerant Teacher of the Deaf a higher profile than themselves in helping the students to develop social skills and friendships. They saw the Itinerant Teacher of the Deaf's role as substantially advisory, and as such, giving them ideas and suggestions for strategies they could use, but also by providing direct intervention. Mostly this occurred in the class by taking a small group and trying to facilitate relationship building. In one case, however, the Itinerant Teacher of the Deaf was expected to teach the student social skills. The following comment illustrates this view:

"The itinerant teacher needs to work closely with the student on social expectations, but in collaboration with parents, classroom teachers, school counsellor and the year coordinator." (Senior secondary teacher with 3-5 years' experience with a student with hearing loss in their classroom)

The classroom teachers often used the Itinerant Teacher of the Deaf as a collaborator in their efforts to assist the student to have positive social experiences. The comments below illustrate this observation:

"The ITD acts as a support person, and to discuss issues with the teacher, also to be an extra pair of eyes in the classroom." (Grade 7-9 teacher with less than 1 years' experience with a student with hearing loss in their classroom)

"[The ITD] helps the teacher to break down any barriers which may exist between hearing and deaf students. [To provide] strategies, education and increase understanding and acceptance of deafness." (Senior secondary teacher with 1-3 years' experience with a student with hearing loss in their classroom)

It appears that the classroom teachers, in general, had limited knowledge of the potential social difficulties students with hearing loss may face. It appears also, that this area is an important inclusion in initial and ongoing professional development. Luckner and Muir (2001) emphasise this, and refer to research that points out that social skills are more of a reliable predictor of adult adjustment than either intelligence or academic achievement. They explain that having a friend means a child has someone to play with, to learn from and teach, to be nurtured and nurture. Friends help stretch beyond families and help children prepare for adult life. They are role models, they help define who they are and provide a haven from the stresses of daily life.

Section 7 - Comparison of Results by Experience, Level of Understanding and Satisfaction with Training

Scoring

In order to give a value to the levels of understanding and levels of training received the classroom teacher’s responses were allocated a score as follows (Table 7.1):

Table 7.1 Allocated scores

Level of Understanding	Allocated Score
Sound	3
Basic	2
Poor	1
Level of Training	Allocated Score
Provision of level of training adequate to ensure a comfortable level of understanding	3
Provided training, but wanted regular updates	2
No training provided	1

The following table (Table 7.2) compares the averaged amount of experience the classroom teachers had teaching students with hearing loss in their classrooms. The averaged reported levels of confidence in understanding the factors affecting students with hearing loss, and the level of training received.

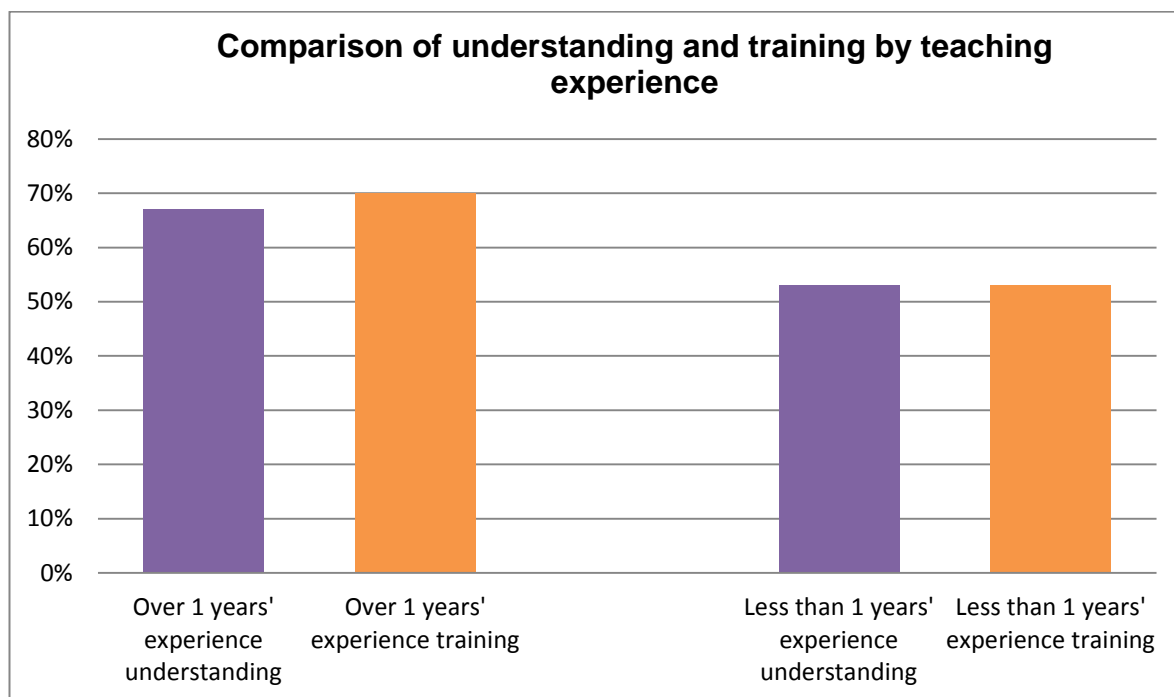
The scores allocated to the levels of understanding and levels of training regarding factors that affect students with hearing loss in mainstream classrooms were averaged across all the areas of investigated in the questionnaire.

The scores were converted into percentages (%) in Table 7.2 to provide a basis for comparison: *Averaged across all sections of Project 2.

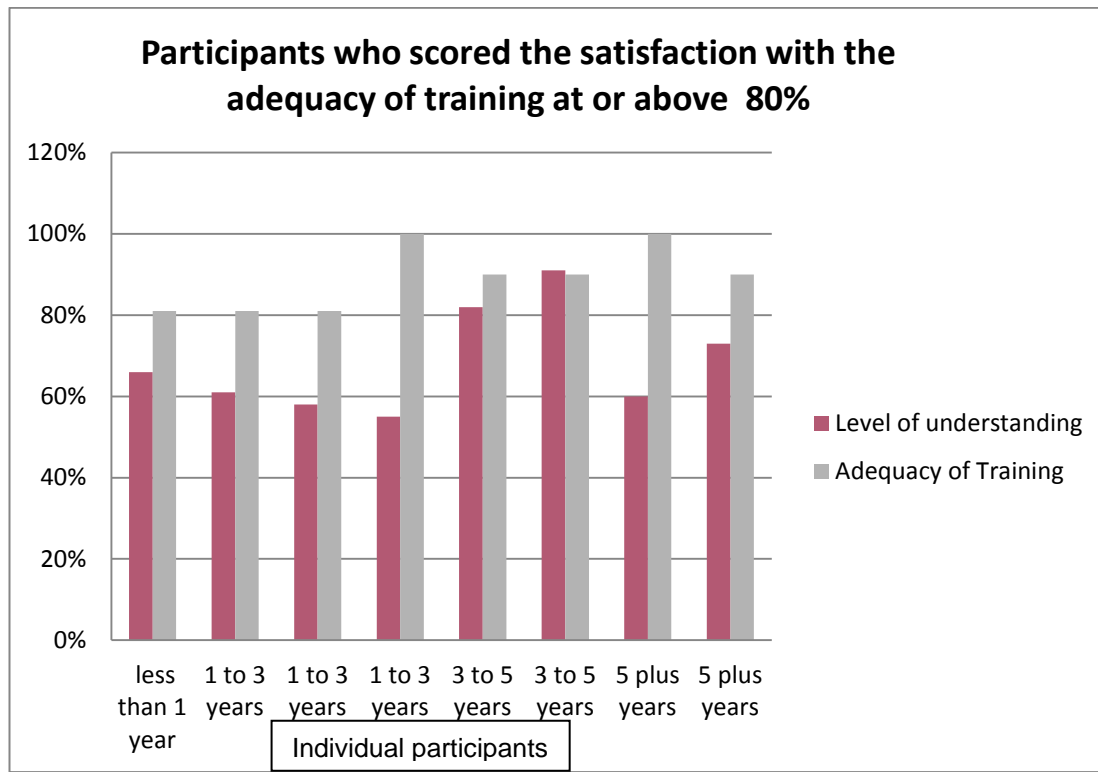
Table 7.2 Comparison of understanding and training by teaching experience

Years of experience teaching students with hearing loss	Level of Understanding Averaged scores*	Range of Scores	Level of Understanding Scores converted to %	Level of Training Averaged scores*	Range of Scores	Level of Training Scores converted to %
More than 5 years	20.7	28	63%	14.5	67	69%
3 to 5 years	24.3	43	73%	15	38	71%
1 to 3 years	21.4	33	65%	14.8	48	70%
Less than one year	17.6	30	53%	11	48	53%

Graph 7.3 Comparison of levels of understanding and satisfaction with training between the classroom teachers who had more than one years’ experience with those who had less than one years’ experience (averaged scores converted to percentages)



Graph 7.4 Comparison of understanding in classroom teachers who claimed high levels of satisfaction with training received



Analysis of Results Section 7

An examination of the results in Graphs 7.2 and 7.3 indicate that participant classroom teachers who had more than one year’s experience teaching students with hearing loss, on average, scored higher in provision of adequate training (70%), than the classroom teachers who had less than one year’s experience (53%).

In terms of the levels of confidence their understanding of factors affecting students with hearing loss in mainstream classrooms, the classroom teachers who had more than one year’s experience teaching students with hearing loss scored an average of 67%, and the classroom teachers who had less than one year’s experience teaching students with hearing loss scored lower at an average of 53%.

However, a closer examination of classroom teachers who claimed that they were at least 80% satisfied with the level of training (Graph 7.4) received shows a different picture. By examining the results in Graph 7.4, it appears that while sufficient training had been received, the level of understanding doesn’t always match up. The trend that the group with experience (3-5 years), appears to be the most closely matched group in terms of

training resulting in corresponding levels of understanding was upheld, but the two scores for the other groups did not match well at all. While this may not be surprising for classroom teachers with less experience (less than three years), the two participants who had over 5 years' experience and claimed they had received adequate training (over 80% satisfaction), appeared to have a comparatively low level of understanding.

Discussion - Section 7

A comparison of the scores relating to understanding and training can be directly linked to each other when averaged out. The average scores (%) of levels of understanding compare very closely to the average scores (%) for level of training, regardless of years of experience teaching students with hearing loss.

Generally, the scores of those who have more than one year's experience are higher both in level of understanding and satisfaction with the level of training received than those classroom teachers with less than one year's experience. This result is not really surprising.

What is more interesting, is the comparison of scores of classroom teachers who have more than one years' experience and are, quite experienced (1-3 years), experienced (3-5 years) and very experienced (5+ years). For the three more experienced groups the reported level of satisfaction with the level of training peaked at an average of 71% in the experienced teacher's (3-5 years) group, but in actuality there was no significant difference between all three groups (average 70%; 71% and 69%). It appeared that the classroom teachers obtained training within the first few years of having a student with hearing loss in their class. The one participant who had less than one years' experience and claimed a high level (80%) of satisfaction with the training they had received which translated into a score of 66% level of confidence with their understanding was an exception.

In terms of reported levels of confidence in understanding the issues students with hearing loss face, the results indicated that the average level of understanding reached a ceiling (73%) in the years where classroom teachers could be regarded as experienced (3-5 years). In fact, the levels of confidence in understanding appeared to decrease (63%) for the classroom teachers who were regarded as very experienced (5+ years). This trend is

supported by a comparison of participants' scores who claimed a high level of satisfaction with the level of training they had received (Graph 7.4).

The explanation for these trends can, in part, be explained by the classroom teachers' years of experience with students with hearing loss in their classrooms. With experience usually comes confidence. Similarly, the increase in satisfaction with the level of training received could be explained by opportunities to access training, both at a formal professional development level. In addition, they may have had time to develop a collegial relationship with an Itinerant Teacher of the Deaf, whose role it is to support the classroom teacher as well as the student on a regular basis.

It was interesting that the individual classroom teachers with the most experience (5+years) did not all identify as being satisfied with the level of training received. In fact, only one participant claimed 100% satisfaction. In this group the scores ranged between a 33% - 100% level of satisfaction, the widest range of scores out of all the groups classified by experience (range = 67). This result needs to be examined further to understand the wide variance, and to establish why some very experienced teachers have not had access to training. It is possible that the classroom teachers, as they gained experience, ceased to access professional development, whether this was by choice, or their schools being unsupportive is unknown, likely some of both. The other explanation may also be that they have gained knowledge through their experience of having students with hearing loss in their class, and have developed good communication with the Itinerant Teacher of the Deaf. However, if the results for this group's understanding are examined the story is not that clear. This group averaged a claimed level of understanding of 62% with a range of scores between 48% - 76% (range = 28). These results cannot be regarded as highly confident levels of understanding at all.

If we examine the group of classroom teachers who were experienced (3 -5 years), a somewhat different picture emerged in terms of links between levels of training resulting in more confidence in understanding. The average scores for satisfaction with training (71%) with a range of scores between 52% - 90% (range = 38), compare closely with the average level of understanding (73%), the range of scores being 48% - 90% (range = 43). There is however, still a wide variation in scores in this group.

The group of classroom teachers who are quite experienced (1 -3 years), exhibit similar trends of variation in scores, as does the group with less than one year experience (see Table 7.2).

The wide range of scores across all groups, regardless of level of experience, is significant and needs further explanation. It could be expected that the variance in the range of scores would be higher in the less experienced group as they gain knowledge through professional development opportunities and experience. It may also be as a result of the influence particular Itinerant Teachers of the Deaf may have. However, the difference in the range of scores that measured understanding between all the groups when classified by level of experience is not large; in fact there is only a small difference between the least experienced group and the most experienced group.

With respect to satisfaction with level of training, again there is a wide variance of scores. The range tends to lower by the time the classroom teachers have between 3 - 5 years' experience, but the most experienced group's range increases substantially (ranges from least to most experienced groups = 48,48,38, 67). If the levels of understanding were greater, this would not be of concern, but in fact they are slightly lower, which is of concern.

It is evident that the individual experiences of the each participant varied widely in the amount of training they had received, and the level of understanding they had developed about all the issues examined. However, the level of understanding should be increasing with experience, and it does not appear to be. Each classroom teacher in this study has an opportunity to access training on an annual basis (organised and run by the staff of the RIDBC, School Support Services (HI)), and they have regular access to an Itinerant Teacher of the Deaf who visits their school. In addition, classroom teachers have access to the student's knowledge of their needs, and parents' advice. Considering the presence of opportunity to develop understanding and access to training opportunities, these results are important and informative about the areas the RIDBC School Support Service (HI), in consultation with classroom teachers and participating schools, need to address.

In terms of service delivery, there is a trend for services that provide support to students with hearing loss to reduce contact from specialists in schools, either due to lack of funds or trained staff as is the case in rural areas of NSW (Checker, Remine & Brown 2009).

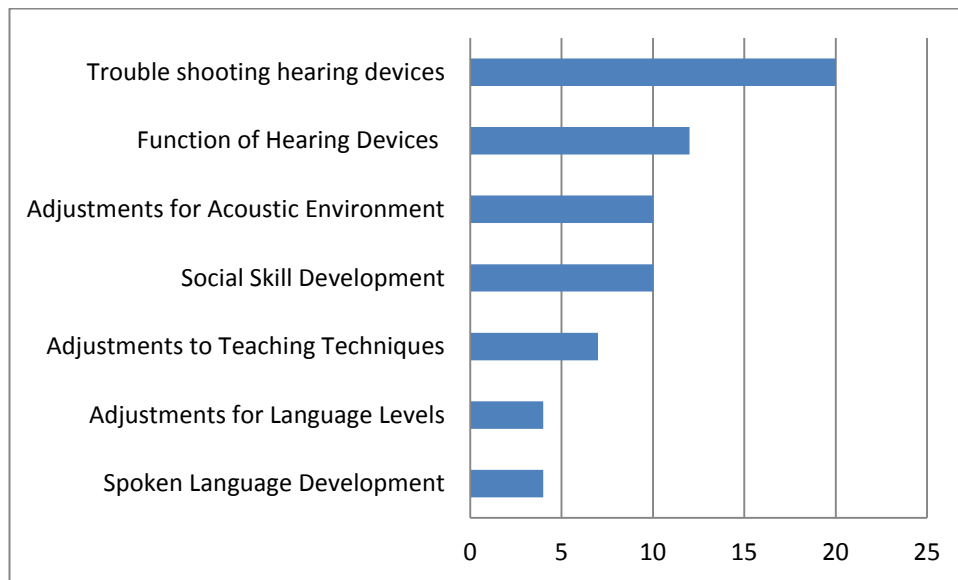
RIDBC does not offer a face to face Itinerant Teacher of the Deaf service outside the greater Sydney area, but offers a limited Consultancy service to schools in the Central Coast and Wollongong areas (1-2 visits per annum). In NSW Catholic diocesan schools, Itinerant Teacher of the Deaf services are limited to mainly the Sydney and Parramatta Diocese, with large regions such as the Broken Bay Diocese providing consultative services to 21 students. In NSW rural and regional areas a number of students who have a diagnosed significant hearing loss attend their local Catholic school, teaching services are provided by the school with no Itinerant Teacher of the Deaf, or regular specialist support. These areas include Armidale (10 students), Bathurst (4 students), Wilcannia/Forbes (2 students), Wagga Wagga (10 students) and Lismore (9 students). G. Grey (personal communication, June 12, 2010). However, across NSW there are only 36 teachers in Catholic systemic schools (some part time) employed to cater for the needs of approximately 300 students. Students in Independent Catholic schools in Sydney are supported by RIDBC.

The services provided by the NSW Department of Education and Training are somewhat wider spread, with 247 "mobile specialists" supporting 1111 students with hearing loss (DET Annual Report, 2009).

Section 8 - Identifying areas that require training

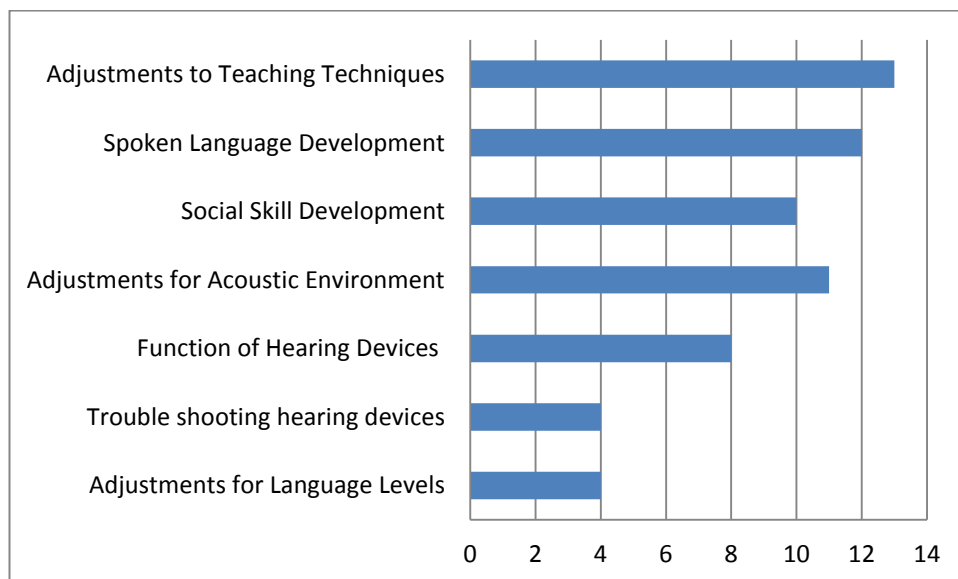
In order to establish the areas where training was required, the numbers of classroom teachers who identified that they had not received any training and believed this was important were collated (Table 8.1).

Table 8.1 Classroom teachers who had not received training (by section)



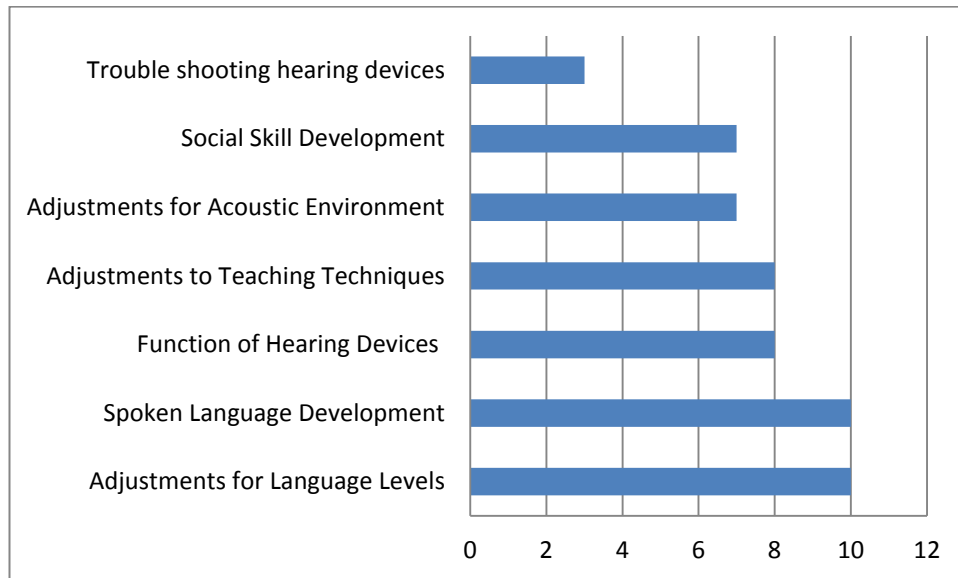
Additionally, the numbers of classroom teachers who identified that they had received training but required regular updates were collated (Table 8.2)

Table 8.2 Classroom teachers who had received training, but needed updates (by section)



Finally the numbers of classroom teachers that identified that they had received sufficient training and were comfortable with their level of understanding were collated (Table 8.3).

Table 8.3 Classroom teachers who had adequate provision of training (by section)



Analysis of Results Section 8

The number of classroom teachers who had received no training varied across sections, it should be noted however, that all sections were identified at varying levels by the participants as not having received training. However, the two areas that were identified as highest in absence of training were in the troubleshooting (75%) and function of hearing devices (43%). Not far behind these two areas, however, was the critical area of adjusting the acoustic environment to cater for the students with hearing loss (36%); and an area that appears to be somewhat neglected, social skill development (36%).

The three other areas identified as receiving no training were; adjusting teaching techniques (25%); understanding the development of spoken language in students with a hearing loss (14%); and making adjustments to teaching techniques to cater for the students’ language levels (14%).

Areas that were identified as requiring further training or regular updates that rated as having relatively high importance included; adjusting teaching techniques (46%); spoken language development (43%); adjustments for the acoustic environment (39%); and social skill development (36%). Almost 30% identified as needing regular updates on the function of hearing devices when their students received new equipment. Considering the

high proportion of classroom teachers who had not yet received training in troubleshooting hearing devices, the small number of classroom teachers who identified this area as a low priority for updates is not surprising.

The number of classroom teachers who expressed satisfaction with the level of training they had received and as a consequence felt comfortable with their level of understanding was, by comparison, relatively low. The highest scores were in the areas of spoken language development (36%) and the adjustments that could be made to cater for language levels of the students (36%). A slightly smaller number (29%) expressed satisfaction with the level of training received in the function of hearing devices and how to make adjustments to their teaching techniques. Only one quarter (25%) of the classroom teachers believed the training they had received equipped them to confidently adjust the acoustic environment, and assist students with hearing loss in their classes to develop positive social relationships. The very small percentage (10%) of classroom teachers who were adequately trained and confident to troubleshoot hearing devices was not surprising considering the numbers who had not received any training.

Discussion of Results Section 8

Considering the amount of experience many of the classroom teachers had with students with hearing loss in their classrooms, the levels at which they claimed to have had adequate training was low. In fact, there was no area in the investigation demonstrating a higher level of adequacy of training received above 36%. What was very evident was that not only initial training, but ongoing regular refresher training was regarded by classroom teachers as very important. This result stood out across all the areas examined. The classroom teachers expressed the importance of regular professional development in all areas. Most particularly was the development of skills to confidently and independently adjust their teaching techniques and the acoustic environment, and possess information about spoken language and social skill development to assist the students.

The fact that the classroom teachers expressed a significant lack of training about troubleshooting and the function of hearing devices may not be as worrying as some other areas. Most students with a significant hearing loss have had their hearing devices from a very young age. For students, except those in early primary school, the skills they have developed in maintaining their own hearing devices should be sound. In addition, it is

usually the parent's responsibility to ensure the devices are in good working order, and as the students mature this responsibility becomes theirs (see Project 1).

The areas that classroom teachers need to concentrate on are the day to day factors that most seriously impact on the students' ability to access information and meet age appropriate milestones in their development (Dettmer et al 2009). These factors relate most particularly to accessing the curriculum and social opportunities. For this to happen all necessary adjustments must be made to the acoustic environment, and classroom delivery of information must be adjusted to promote understanding. Additionally, an effort needs to be made to ensure the students have the opportunity to make social connections that are satisfying, and promote confidence and positive self-esteem.

If schools are to continue to claim they are inclusive in the true sense of the word, the classroom teachers must be given all the support necessary to develop these skills. This doesn't mean a one-off session at a professional development day, but it means allocation of time to consult and collaborate with specialist teachers such as Itinerant Teachers of the Deaf. Classroom teachers need encouragement to continue to develop their own professional and inclusive strategies to enable them to reach a high level of expertise. With 33,000 students with disabilities (75%) in NSW public schools (School Directorate, May 2010), inclusion is a reality and is here to stay. For students with significant hearing loss and no other significant disability, there is little option other than mainstream school, so the responsibility remains with the enrolling school and the individual staff members.

Outcomes and Implications

In this final section the findings and conclusions of Research Project 2 will be expressed in terms of outcomes and implications for practice in keeping with the practical nature of the Doctor of Education Portfolio structure. The findings from research Projects 1 and 3 will also be taken into consideration.

Audiological Issues

Outcomes:

The classroom teachers reported having very little training about how to check the students' personal hearing devices, and only a moderate amount about their function. Consequently, they were not confident, and in some cases believed it was not their role, to assist the students in this area, deferring to the expertise of the Itinerant Teacher of the Deaf, or the parents. Classroom teachers of senior grades explained that their students were quite independent and there was little need for them to intervene. However, the majority of teachers believed it was important for them to have this knowledge. With respect to the FM, where the teacher takes on some personal responsibility for the use of the device, they were more familiar with its function than either a hearing aid or cochlear implant.

In Project 1 the Itinerant Teachers of the Deaf explained that they focus on assisting the students to develop independence in the management of their personal hearing devices, and rely on parents to make sure all hearing devices were in good working order. In consideration of the fact that they are only seeing the students on several days during the week, they were simply not available to be primarily responsible for the care and maintenance of the hearing devices.

Project 3 revealed that the majority students, by Year 5, were quite independent in the checking and maintenance of their hearing devices, and infrequently required assistance. However, in a few circumstances the students, regardless of their grade, continued to require the Itinerant Teacher of the Deaf's assistance. It was unclear what the reason for this was, but it may have been that the students had recently received a new hearing device. An exception to this trend was the role the Itinerant Teacher of the Deaf played in

encouraging the students to use the FM, which the students reported that the Itinerant Teacher of the Deaf was very helpful.

Implications for Practice

In terms of training, while the classroom teachers had little training and knowledge about troubleshooting the personal hearing devices the students use, this may not be as concerning as it first appeared. Considering that the students are developing independence for their own devices by grade 5 (Project 3), it may be that any training offered is focused on classroom teachers in the junior grades, and in keeping with their preference being individualised rather than in a large group. This training is much more likely to be effective if the learning is more kinaesthetic in nature. Some suggestions include:

1. The Itinerant Teacher of the Deaf provides simple, graphically presented guidelines for the lower primary classroom teachers to use, and include them in the sessions when they check the students' hearing devices. They could also be provided with their own otoscopes (a simple device used to listen to the hearing device to assess its function) so that they can assess the student's hearing device themselves in the absence of the Itinerant Teacher of the Deaf.
2. The Itinerant Teachers of the Deaf are encouraging the students to become independent (Project 1), so whatever strategies they are using, such as working alongside the student to test the hearing device battery, could include the classroom teacher. A simple program that the student and the classroom teacher could work on together may be an effective way of achieving this goal.

In terms of the functioning of the hearing devices, the levels of training were reasonable, but the majority of classroom teachers believed they needed regular professional development in this area. In order for classroom teachers to have an overall understanding of the students' ability to access information delivered in a noisy classroom, it is no doubt important to include information about the students' personal hearing devices in a professional development session.

With respect the FM system, it is likely that the training needs to occur on an individual basis to maximise the teachers' understanding of its function and advantage for the

student. With clear understanding of the FM's benefits for the student, and confidence in its use, the classroom teacher is more likely to be able to make considered decisions about when and where the use of the FM is most advantageous. These suggestions are summed up below:

1. The function of personal hearing devices (hearing aids and cochlear implants) needs to be included in formal staff development sessions. It seems that this training may be more effective if it is directed towards the staff members most involved with the student. The presentation of the information should include handling the devices to remove some of the mystique unfamiliar technology may have.
2. The Itinerant Teachers of the Deaf are no doubt the experts in this area, and need to be able to answer any questions competently. As such they are a resource for the classroom teacher to use. The Itinerant Teacher of the Deaf can take advantage of this by providing the classroom teacher with follow-up material which is presented in a non-technical way that is meaningful for them in their current circumstance.
3. FMs are relatively simple to use, but a full understanding about their purpose and how to make informed decisions about when they are most advantageous comes with confidence and acceptance of responsibility.

Acoustics of the classroom

Outcomes

The classroom teachers, in the majority, had attained at least a basic level of understanding of the problems students with hearing loss have accessing information that is delivered through spoken information in less than ideal listening conditions. The strategies the classroom teachers reported to use confirmed their understanding of the actions they could take to alleviate the impact of background noise on the student's ability to hear well. However, only a minority of classroom teachers reported that they had received adequate training and believed this was important. In only one case had the school accepted responsibility for acoustically treating the classroom, leaving the onus on the classroom teacher to do what they could.

In terms of the role of the Itinerant Teacher of the Deaf, it was regarded as both consultative and collaborative. The classroom teachers respected the Itinerant Teachers of the Deaf's knowledge in this area and relied on them to individually advise them about adjustments they could make to the classroom, and to assist them to make the changes necessary. The classroom teachers realised that the Itinerant Teacher of the Deaf had additional knowledge about the specific needs of individual students and expected them to collaborate with them about how to meet these needs.

The findings of Project 1 in the area of acoustics in the classroom revealed the Itinerant Teachers of the Deaf believed it was an essential part their role to ensure the acoustics of the classroom were as optimal as possible, but were limited in their influence. Their suggestions made to the classroom teachers about adjustments to the classroom's acoustic environment were well matched with the strategies that they were putting into practice. However, the Itinerant Teachers of the Deaf saw their role as much broader and believed they had an essential role to play in informing the school's leaders about physical changes that could be made that effectively modify classrooms to improve the deleterious effects of noise, reverberation and distance from the source of the main speaker.

In Project 3 the students reported that the Itinerant Teachers of the Deaf's interventions in providing the whole school and their classroom teacher/s with about their hearing loss and how best to help them a lot, and it was one of the practices that the students preferred.

Implications for Practice

Given the information obtained from the three groups of participants in Projects 1, 2 and 3, there was agreement that the Itinerant Teacher of the Deaf had an essential role in assisting the school and the classroom teacher to establish an inclusive environment in terms of an acoustically improved setting for the students to learn. With the exception of one school, there was no actual consideration to what additional resources the school could put in place to optimise the classroom environment. As Crandell and Smaldino (2000) explain, the deleterious effects of poor classroom acoustics and noise on all students' academic performance and the teachers' wellbeing are significant, and any adjustments that can be made have a positive impact on everyone. It seems therefore that there is much to be done to improve this situation. Some suggestions for practice follow:

1. Schools need to understand their obligations for adjustments that need to be made for students with hearing loss that attend their school. The Disability Standards for Education (2005:14) clearly articulate that schools need to make adjustments to enable the student to achieve learning outcomes or participate in courses and be independent. It seems, however, that the onus on explaining the need for change comes down to the Itinerant Teacher of the Deaf. It would seem that provisions such as acoustic treatment should be made as soon as the school is aware of the student's enrolment, and advice be delivered by someone with expertise in the field, preferably the coordinator or administrator of the itinerant teaching service. (See Project 1 [diagram] Outcomes and Implications for Practice. Figure 3. Planning for inclusion and development of a Communication and Access Plan)
2. Once the Itinerant Teacher of the Deaf has received the student on their case load, they will need to organise a staff development program for the mainstream teaching staff to provide initial training about how to manage their classroom environments and adjust their teaching strategies in consideration of favourable acoustics.

Language development

Outcomes

The classroom teachers had a reasonable understanding that students with hearing loss may experience difficulty understanding the language of the information delivered in the classroom. However, the majority did not feel they had received sufficient training in this area and would like regular updates. They made a number of adjustments to their teaching styles, and provided the students with alternative visual representation to promote their understanding of concepts and curriculum content. It appeared that the classroom teachers recognised the Itinerant Teacher of the Deaf's particular expertise in this area and expected them to provide advice and support about how they could improve their inclusive strategies. Significantly classroom teachers often deferred to the Itinerant Teacher of the Deaf's expertise and believed that a primary part of their role was to support the students' understanding by directly supporting them both within the classroom and in separate teaching sessions.

Implications for Practice

It appears that more is needed in terms of training for classroom teachers to assist them to understand the potential deleterious impact hearing loss can have on language development. It has been noted in the research (Byrnes et al., 2002; DEEWR, 2007; Foster & Cue, 2009; Luckner & Howell, 2002) and confirmed by the Itinerant Teachers of the Deaf and classroom teachers in Projects 1 and 2 that each student with hearing loss has different needs, as a result of their age/grade, level of hearing loss and a myriad of other factors that have been discussed throughout the Portfolio. To assist the classroom teachers to meet the needs of the students in their classroom, it appears that the Itinerant Teacher of the Deaf has a significant role to play in advising and supporting the teachers, as well as providing direct support to the student. It would be very difficult for the classroom teacher to be able to ascertain the student's needs and provide the support required without the help of the Itinerant Teacher of the Deaf. However, the deeper the understanding the classroom teacher has, the more likely they are to be able to develop the skills necessary to provide the student with appropriate support when the Itinerant Teacher of the Deaf is not present.

Language development is an area that classroom teachers are likely to have good understanding considering their undergraduate training. Any additional information can build on this understanding with observance to the principles of adult learning (Lieb, 1991), specifically practical application and relevancy to the current situation. Considering the classroom teachers appeared to have a high level of regard for the Itinerant Teachers of the Deaf's knowledge, this information is most likely to be more effective if it is presented generally firstly, and later explicitly in the context of the individual student through collegial collaboration. The responses from the students in Project 3 agree with this suggestion, as they prefer a consultative and collaborative approach between the Itinerant Teacher of the Deaf and their teachers about their specific needs.

Teaching Strategies

Outcomes

It was interesting to note that a lot of the adjustments the classroom teachers reported to make to their teaching techniques were similar across a number of the areas investigated. In general, they were related to reducing background and classroom noise, maintaining a

close proximity to the student, using the FM system, scaffolding learning and the use of visual aids. The Itinerant Teacher of the Deaf's assistance in terms of advice and collaboration about the student was valued and it appeared to be an expectation that they would be available on a regular basis.

Implications for practice

The classroom teachers are the experts in terms of teaching a class, and the Itinerant Teachers of the Deaf take on a role that assists them to modify their practices to suit the student with hearing loss. It was apparent that the classroom teachers wanted the Itinerant Teacher of the Deaf to assess their competence in this area and suggest changes; they were not transferring the responsibility to the Itinerant Teacher of the Deaf, and appeared to have developed some good strategies in this area. In this circumstance, the Itinerant Teacher of the Deaf needs to capitalise on any opportunity to model best practice and provide constructive suggestions for improvements. This can only happen if he/she is present in the classroom. The implication therefore is for the Itinerant Teacher of the Deaf to have a physical presence in the room, and to develop a trusting and professional relationship with the classroom teacher. Likewise it is incumbent on the classroom teacher to be open to suggestion. In reality, this relationship is only possible if careful selection of the classroom teacher occurs by the school administration, and the Itinerant Teacher of the Deaf has the skills to negotiate their way into this position. The onus is also on the Itinerant Service administrators to provide training for the Itinerant Teachers of the Deaf about adult learning principles and the art of promoting collaborative relationships.

Social skill development

Outcomes

It was apparent that many classroom teachers found the area of social skill development quite daunting and they believed they need more training in this area. Often they deferred to the Itinerant Teacher of the Deaf to intervene if the students were having problems socially. Combined with the findings of Project 1 where it was revealed that the Itinerant Teachers of the Deaf were very concerned with this area of their students' development, it appears to be an issue that is far from being resolved. While the Itinerant Teacher of the Deaf's expertise lies in the field of communicative competence, the classroom teacher is

better placed to observe the day to day interactions the student with hearing loss have with their peers.

Implications for practice

Considering the classroom teacher is in a better position than the Itinerant Teacher of the Deaf to observe the students' interactions with their peers, it would seem that training in this area is very important. It is likely going to be a collaborative effort between the classroom teacher, the Itinerant Teacher of the Deaf, who may have a closer working relationship with the students, and of course parents. Certainly social development and the art of making meaningful friendships should not be neglected in the individualised plan developed for each student. It is also an area that could change frequently and it is incumbent on the adults in the students' lives to enable them many opportunities to practice their social communication and meet a wide variety of people.

Chapter 3

Project 3

Students with hearing loss' perceptions of helpfulness of the Itinerant Teachers' of the Deaf practices in mainstream schools

Abstract

The project investigated the perceptions of students who have significant hearing loss and were enrolled in mainstream schools on a full time basis. All the students participating in the study received the support of an Itinerant Teacher of the Deaf (ITD). Information gained focused on the various attributes of the support afforded by Itinerant Teachers of the Deaf, and the students' perceptions of the level of helpfulness of their practices. Outcomes suggest that these students valued the support their Itinerant Teacher of the Deaf's offered across a range of practices that were delivered both directly to assist them to maintain academic achievement, and indirectly by providing information about their needs to the classroom teacher and school. In general, the students were able to clearly articulate their opinions about what type of support they preferred.

Introduction

The students in this study all attended Independent mainstream schools based in Sydney, NSW. The schools all belong to the NSW Association of Independent Schools (AIS) and obtain funding for students with disabilities through this Association. In terms of governance, each school has its own constitution. In some cases there is a parent body that manages the school's business and direction, and in others an independent Board has been formed. The majority of the schools adhere to various religious philosophies that underpin the educational stance. However, the schools all are required to provide access to the curriculum as set by the NSW Board of Studies.

There were 23 participants ranging in age between 8 and 17 years. They all received regular visits at least twice weekly from an Itinerant Teacher of the Deaf employed by the Royal Institute for Deaf and Blind Children. The students all had a hearing loss greater than 60dB in the better ear, averaged across three frequencies as assessed by Australian Hearing. They all wore digital hearing aids, Cochlear Implants or a combination of both. Additionally they all used FM systems in the classroom.

Literature Review

A review of the literature concerning students with hearing loss who are fully included in mainstream settings follows. In particular, the literature highlights some of the issues that these students may face as a consequence of their hearing impairment, and reports some of the students' perceptions about their educational situations.

Byrnes et al. make the following observations in their investigation into policy and practice informing the inclusion of students with hearing loss in NSW.

"Educational policies and practices should be derived from actual experience, rather than the perceptions of those experiences. Policies and practices created without recourse to students who are deaf or hard of hearing may promulgate inequity through the devaluing of difference. It is valuable to incorporate the rich perceptions derived from those most intimately affected by the policy, as students are after all the focus of all educational endeavours.... In the end it is their educational outcomes that are affected and not those of other stakeholders."

(Byrnes et al., 2002, p. 255)

Byrnes and Sigafoos (2001) sought the opinions of secondary students with hearing loss who were enrolled in mainstream schools with the support of an Itinerant Teacher of the Deaf (ITD). Analysis of the positive and negative comments about their schooling highlighted a couple of salient points. In the majority, the students believed that by attending school with hearing peers (as opposed to segregated education provisions), they had better opportunities to prepare for life in a world largely populated by hearing people, and believed this to be a preferable option both academically and for speech and language development. However, the negative comments offered by the students centred on feelings of being different and feeling isolated. Concerns were expressed primarily around lack of friends who understood and accommodated their communicative needs and fear of discrimination from other students and teachers. Similar findings were supported by Angelides and Aravi (2007), in a comparison between students who attended a special school for the deaf and others who were included in the mainstream.

A number of studies have highlighted the fact that many students with hearing loss, who are included in mainstream schools, are often the only student with hearing loss in the school (Byrnes et al., 2002; Byrnes & Sigafoos, 2001; Hyde & Power, 2004). In the majority, these students use aided residual hearing, digital hearing aids and/or cochlear implants to develop spoken language. There are no students currently in NSW mainstream Independent schools (personal experience as Manager of the School Support Service, RIDBC 1997 - 2008) or NSW systemic Catholic schools G. Grey (personal communication, June 21, 2010) who rely on sign language to obtain information. Hyde and Power (2004) found that in Australian government schools, 32% of students had a profound hearing loss; around one half of these students used some form of signed communication, although only 29% had access to a signing interpreter

It is clear from the studies that have surveyed Itinerant Teachers of the Deaf, students who are enrolled in mainstream schools, and other stakeholders such as parents and classroom teachers, that the group of students with hearing loss in question are heterogeneous, and it would be foolish to try to espouse otherwise (Antia, 2002; Byrnes et al., 2002; Hyde & Power, 2004; Luckner & Miller, 1994; Power & Hyde, 2002). This makes it difficult for services that provide itinerant support, the Itinerant Teachers of the Deaf, and classroom teachers to have a one-size-fits-all approach. However, what is evident is that

there are similarities within the group that can offer guidance to service provision and adaptations that can be made to promote better inclusion for these students.

Academic success for students with hearing loss has been a topic of discussion for many years. Many studies have been conducted in the recent past into the academic and reading levels of students with significant hearing loss with concerning results. However, with clear legislative guidelines, the introduction of new born screening, earlier detection of hearing loss, and most significantly the developments in hearing technology, have resulted in students with hearing loss being able to access educational opportunities not available to them before (Luckner & Howell, 2002). In the past decade a few studies have investigated students with hearing loss' academic progress in mainstream school compared to their hearing peers. Power and Hyde (2002) asked 143 Itinerant Teachers of the Deaf to report on their students' level of participation in the regular classroom, in particular relating to curriculum. The results of this study reported that 66% of the students were academically competitive with their hearing peers

In response to the question regarding academic competitiveness for students with hearing loss, Antia et al., (2009) conducted a longitudinal study over 5 years with 197 students who attended mainstream schools. It was noted that the students in this study had access to Itinerant Teachers of the Deaf and in some cases interpreters. The fact that they had additional support was not cited as a variable, but was noted as an important factor that needed to be considered when discussing the results. The researchers indicated that there were many interrelated variables that influenced the students with hearing loss' academic achievement at school. Such variables included teacher- rated communicative competence, parent involvement, degree of hearing loss, preferred mode of communication, amount of exposure to mainstream education and student-rated classroom participation.

A summary of the results in Antia et al.'s (2009) study indicated that between 67% and 77% of the students were in the normal range academically, similar to the findings of Power and Hyde (2002). An additional 20% of students were in the below average range by the end of the study, this percentage being close to the 16% of students in a normal distribution. However, a very small percentage of students (3% - 7%) achieved in the above average range, far below the 16% which is a normal distribution. Overall, the study

found that students with hearing loss, regardless of the severity of their hearing impairment, were capable of achieving academic competitiveness with their hearing peers, albeit half a standard deviation below. What was of particular note however, was their cautioning that students with hearing loss may be at risk for achieving lower than their potential. Students who communicate with good spoken language may appear to be in less need of assistance, and their needs for access overlooked. One recommendation (Antia et al.) was that all students with hearing loss, regardless of severity, be monitored and service provided as necessary. Another recommendation was that Itinerant Teachers of the Deaf continue to provide support to the students in the traditional areas of communication, language, literacy and self-advocacy. In addition, it was recommended they maintain their consultative and collaborative activities with classroom teachers to ensure the classroom environment and activities promote the inclusion of the students. In other words, while the results of Antia et al.'s study, and the one carried out in Australia by Power and Hyde, indicate academic achievement for students in mainstream schools is improving, this does not justify a reduction in the support provided by Itinerant Teachers of the Deaf. The better option is to ensure that services are flexible in terms of the amount and constitution of the support service offered.

It appears that students with hearing loss generally achieve at reasonable levels academically when in the mainstream school environment, but there remains a question about their ability to develop socially and have meaningful relationships with their hearing peers (Bat-Chava & Deignan, 2001). Wauters and Knoors (2007) refer us to what we know about all children's social development, and state that friendships provide the context for social, emotional and cognitive development. Children with mutual friends display more sociable and prosocial behaviours and have higher self-esteem.

Much of the discussion in the literature about social interaction points to ease of communication relating to the deaf child's ability to speak clearly. In the recent past, studies have reported that students who have severe-profound hearing loss have more positive social relationships with their hearing impaired peers. It is suggested this is because they understand each other's communicative difficulties, and make the necessary adjustments, either by signing or other means (Byrnes et al., 2002; Nikolarazi & Hadjikakou, 2006). Wauters and Knoors (2007) found that the children in their study, whose spoken communication was clear, scored equally in peer acceptance as their

hearing classmates. However, the difference was that the students with hearing loss appeared to be involved in a network without having any real friendships, and demonstrated a higher level of socially withdrawn behaviour, sought help more often, and were more likely to be bullied.

There have been a number of studies that looked at the psychosocial presentations of included deaf or hard of hearing students and the impact the home and school environments had on their development (Hung & Paul, 2006; Kent & Smith, 2006; Wauters & Knoors, 2007). Some studies draw delineation between the pathological or medical model of deafness, and the cultural and environmental impacts that significant hearing loss has on the person's ability to develop and function successfully in their community. For some deaf or hard of hearing adolescents and adults, acceptance into the Deaf community helps them develop a sense of identity. For others being part of the hearing world is their preferred option.

The study conducted by Hung and Paul (2006) regarding acceptance of student with hearing loss by their hearing peers partially responds to this issue. The results of their investigation provide some guidance in the area of developing positive social interactions between students with and without hearing loss. In particular, they suggest that contact with peers which involved equal status, shared goals and active cooperation, may improve the positive attitudes of hearing students towards those with hearing loss. In practice therefore, enhancing the contact experiences between hearing and hearing impaired peers, and working towards building relationships, will foster acceptance and promote the development of positive friendships. Engaging both groups in collaborative group activities within the classroom was seen as important, but they also emphasised the equal importance of the activities being extended to non-classroom activities. An additional finding of Hung and Paul was the influence that the school leaders' acceptance and positive attitudes had on classroom teacher, students, administrative personnel and the student with hearing loss. In essence, they point to the importance of educators as being a positive example to all people involved in the educational process.

A study by Kent and Smith (2006) provided some insight into the feelings of normalcy and acceptance of a group of adolescent students who wore hearing aids and attended mainstream school. The data captured the participants' voice which told varying stories of

feelings of embarrassment, experiencing harassment by others, feeling different, and above all wanting to be "normal". For some of the students this meant not having to wear hearing aids, but others were able to accept their difference as long as their peers accepted them as they were. The conclusions the researcher drew from examining the data, was that for students to confidently wear their hearing aids, and for them to be able to perceive this as normal, depended on acceptance by peers. Kent and Smith explain that a sense of identity comes from attachment to a chosen peer group and that this attachment has a "normalising" effect. Of note, in the context of this project, is the caution that the researchers' emphasise, namely that it is of the responsibility of the Itinerant Teachers of the Deaf, and classroom teachers, to pay close attention to social environment and relationships of their students. It may be that these relationships are a major factor in their well-being and progress. Wauters and Knoors (2007) support this notion, and reiterate that the differences between hearing students and those with hearing loss need to be remembered. They stress that teachers need to be sensitive to the behaviour of the children in their classes, and promote social skills development in students with hearing loss. At the same time they need to ensure the hearing children give them the opportunity to display appropriate behaviours.

An investigation into self-esteem and coping strategies of college students with hearing loss was conducted by Jambor and Elliot (2005). The findings echoed Kent and Smith (2006) and Bat Chava and Deignan (2001), and noted that by belonging to a group with which they could identify impacted positively on the student's self-esteem. Jambor and Elliot emphasised the importance of the school setting on a student's developing self-esteem, and suggested an ideal educational environment would be one where they attend school with hearing children, but also have the opportunity to develop relationships with other children with hearing loss.

Antia (1999) and Konza and Paterson (1996) point out that while classroom teachers may have the main responsibility for the education of the students, they are unlikely to have the skills necessary to fully understand the issues regarding deafness. There has been some debate in the literature about the role of the Itinerant Teachers of the Deaf, and the most effective way of supporting students, without compromising the inclusive nature of the educational environment. A number of seminal studies (Antia, 1999; Antia et al., 2002; Hyde & Power, 2004; Luckner & Miller, 1994) point to the importance of close

collaboration between the Itinerant Teacher of the Deaf and the classroom teacher, and the importance of the Itinerant Teachers of the Deaf providing professional development. There has been some discussion about whether there was a place for withdrawal in an inclusive setting, with inconclusive results. An investigation into parent satisfaction of Itinerant Teachers of the Deaf services in rural and regional areas in Australia was conducted by Checker, Remine and Brown (2009). The results indicated a high level of satisfaction with their service and rated the elements of their work in terms of importance. The indications were that parents highly valued the Itinerant Teachers of the Deaf's specialised teaching (particularly one-on-one), and the information they provided the classroom teacher and the school staff about the implications of hearing loss for their children's education. The trend in some states of Australia to provide a purely consultative service to the school was not supported by the parents in the Checker, Remine and Brown study. While the scope of Project 3 did not include the parents' perceptions of the service provide to the students in this study, this is an area that warrants further investigation

Lynas (1999) reported on an investigation that aimed at identifying the "the right methods" for Itinerant Teachers of the Deaf to support students in the mainstream. She found that the Itinerant Teachers of the Deaf's work was an essential to the educational well-being of the children in the study. She also explained that apart from the work that they did that directly involved teaching the students, there was a significant amount of indirect support occurring. The nature of the typical practices of an Itinerant Teacher of the Deaf's work is examined in depth in Project 1. The conclusions to the Lynas (1999) study however, were inconclusive in identifying a set of "right methods" to support students with hearing loss. She described the practices of the Itinerant Teachers of the Deaf as existing in many different forms, and their choices of support methods were selected in response to the often complex requirements of the student and the educational setting. Lynas (1999, p.120) described their work as pragmatic, and suggested that the Itinerant Teacher of the Deaf's practices could be 'developed bit by bit in light of experience and insight', rather than a prescriptive set of guidelines.

Regarding the aspects of an Itinerant Teacher of the Deaf's work with included students with hearing loss, the literature offers little insight from the students' point of view, yet it appears that the nature of the Itinerant Teacher of the Deaf's work may well be responsive to the school environment as well as the individual student's needs. The

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following presentation of the outcomes of the third research project in the portfolio, which is about the students’ perceptions of helpfulness with respect to the Itinerant Teachers of the Deaf’s practices, aims to shed some additional insights into what the students gain from having them present throughout their school years.

Background to the Study

When the research commenced in 2007, there were 71 students with hearing loss attending mainstream independent schools in Sydney. These students were, at the time, receiving support from an Itinerant Teacher of the Deaf provided by the Royal Institute for Deaf and Blind Children (RIDBC) at least twice each week. It was this group of students that was targeted for the project. A further 53 students were receiving a consultancy service – between 1 and 4 visits annually from the same group of Itinerant Teachers of the Deaf (this group was not included in the group targeted for the research).

Significance of the Study

A search of current and past literature failed to identify any research that gathered and examined the point of views of students with hearing loss about the support they received from an Itinerant Teacher of the Deaf. In an era of the inclusion of this population into regular classrooms, and the advent universal new born screening for hearing loss, improved hearing technology, early intervention and resultant improvements in the development spoken language, it was timely for the recipients of Itinerant Teacher of the Deaf's services to have their say in matters pertaining to their education (Rice & Lenihan, 2005).

The concept of giving "voice" to a group that is recognised as somewhat marginalised was the original purpose of this research project. Lincoln and Guba (2000) expand on the notion of voice as being an outcome of participatory research where the text, oral or written, not only exposes the researcher's voice, but the participants' as well. Stringer (2004) describes the intent to give voice to participants of research as being important, as it generates a body of ideas and concepts that are intricately linked with experience. These ideas and concepts inform and give validity to consensually decided-upon actions. It is hoped that by sharing the views of the students in this study, consideration of the emerging ideas will be given to future models of service delivery for specialist support. It is a small study with a group of students who may be considered privileged in their school placements. Enrolment in an independent school in Sydney presupposes that the students come from, at least, a middle socio-economic background. Further studies into larger groups of students from a range of backgrounds would be helpful to expand the information offered here.

The Research Project

The Project examines the thoughts and perceptions that students with hearing loss have about the helpfulness of the practices offered by their Itinerant Teachers of the Deaf in a range of contexts. The project gathered information about the students, and sought to establish what the students like best and what they like least about having an Itinerant Teacher of the Deaf. In all, 23 students between the ages of 8 and 17 years old (grades 3 -12) responded to the invitation to participate.

Research Questions

The questions the project sought to answer were:

1. Which of the Itinerant Teacher of the Deaf’s practices are most helpful for students with hearing loss?
2. What do students with hearing loss like the most about having an Itinerant Teacher of the Deaf?
3. What do students with hearing loss like the least about having an Itinerant Teacher of the Deaf?

Method

The data collection instrument, a questionnaire, collected mainly quantitative data. The use of two open-form questions gained limited qualitative data in the form of an opinion in the positive and negative (best and worst) from the participants. The questionnaire used a choice of three graded statements, and one neutral statement, about the levels of perceived “helpfulness” of various aspects of an Itinerant Teacher of the Deaf’s work.

Permission was sought from the Children’s Services Manager and the Ethics and Research Committee of RIDBC to conduct the research and to access the database that contained the names, ages and home addresses of students who received support from RIDBC School Support Services (HI). Parents were sent the questionnaire and a request for permission for their children to participate. Only students in grades 3-12 were included in the study as it was believed that by this stage they would be able to independently read the instructions and respond to the questionnaire.

An explanatory letter and accompanying questionnaire was sent to the parents of students who were identified as being in grades 3 to 12, and received visits from an Itinerant Teacher of the Deaf. The parents were asked to pass on the questionnaire to their children, the return of the questionnaire serving as parental permission for the children to participate. Parents were asked to assist their children if necessary with understanding the questions, but were instructed not to intervene in their children's responses.

While retaining the same format and content of the 5 sections, there was one version sent to students in grades 3-6 which used simpler language, and a second version sent to students in grades 7-12. The presupposition was that students in years 7-12 could cope with slightly more complex language. A small group of students with significant hearing loss in grades 4, 5 and 6 had earlier acted as a test group to ensure the questionnaire was accessible to students in this age bracket. These students were not included in the main research project.

To prevent any issues of power and authority that may have been perceived by the students or their parents because of the researcher's status as Manager of the RIDBC School Support Service (HI), the return address for the completed questionnaires was the principal supervisor's address at the University of New England.

In all 45 questionnaires were sent to students in grades 3 -12. Initially 17 were received. After one month, a reminder letter was sent to all the recipients, which prompted a further 6 students to respond. The final tally was 23 completed questionnaires constituting a return rate of 51%.

The Questionnaire

The questionnaire consisted of 5 Sections. Instructions were provided on the front page. The Instructions included information about the content of each section and how to respond to each of the statements in each section (see appendix). The students were asked to tick the box next to the most relevant response for their experience with an Itinerant Teacher of the Deaf's support:

I do not need help from my Itinerant teacher

My Itinerant teacher sometimes helps me

My Itinerant teacher helps me a lot

I don't know

Section 1 General Information

This section gathered general information about the students' gender, age and current grade at school, and how long they had been receiving an Itinerant Teacher of the Deaf's support. They were also asked two open form questions:

1. What is the *best thing* about having an Itinerant Teacher?
2. What is the *worst thing* about having an Itinerant teacher?

Section 2 Hearing Aids, Cochlear Implants and FMs

This section contained 5 statements that asked about the Itinerant Teacher of the Deaf's practices:

1. Checking the students' hearing aids and/or cochlear implants.
2. Teaching the student how to check their personal hearing device/s.
3. Teaching the student to use their listening skills.
4. Teaching the students to use good speech.
5. Encouraging the student to wear the FM.

Section 3 The Itinerant teacher's work at school

This section contained 4 statements that asked about the direct and indirect support given to the students, the classroom teacher and the school. Some examples of the type of support that may be offered were included to assist the students to answer the questions about:

1. The ITD taking a small group of students that contained the student with hearing loss. Some examples included discussion groups, reading groups or working on a group project.
2. The ITD showing the class teacher how to adjust their classroom practice to accommodate the student with hearing loss.
3. The ITD providing professional in-service to all the staff about having a student with hearing loss in their classroom.

4. The ITD providing the class teacher with resources aimed at supporting the student with hearing loss. For example captioned videos, DVDs or pictures.

Section 4 The Itinerant teacher working with the students in and out of the classroom

This section contained 6 statements that asked about the direct support given to the student with hearing loss both in class and on an individual basis. The statements related to the following aspects of the Itinerant Teacher of the Deaf's work:

1. The ITD taking notes for the student in class.
2. The ITD providing the student with work that is modified to make it simpler for the student to understand
3. The ITD explaining the language of the work given in class. This may occur either in the mainstream classroom or in a separate tutorial session one-on-one with the student.
4. The ITD teaching the student vocabulary to assist their understanding of new topics.
5. The ITD assisting the student to improve their reading skills
6. The ITD assisting the student in tests and exams. This may include oral interpreting or providing a modified form of the assessment.

Section 5 The Itinerant teachers helping with friendships

This section contained 4 statements that related to the work an Itinerant Teacher of the Deaf may do to facilitate the development of positive relationships with class peers. The statements related to the following aspects of the Itinerant Teacher of the Deaf's work:

1. The ITD teaching the student about making friends and helping them sort any problems they may have with other students.
2. The ITD helping the student meet and mix with other students in their peer group.
3. The ITD organising social activities where the students can meet other students around the same age who are also hearing impaired.
4. The ITD working with the student's hearing peers to promote understanding about communicating effectively with the student with hearing loss.

Results: Project 3

The Participants

The students targeted were in grades 3 to 12 (NSW education system) and enrolled full time in an independent school. All had a hearing loss greater than 60dB (RIDBC Admissions Policy, 2007) and had no other known disabilities. The profiles of the students are in Table 1A and Table 1B.

Section 1 (part 1) Student profiles

Table 1A Grades and gender of students

Student grades	Total number of students in each grade n=	Male	Female
Grade 3	2	0	2
Grade 5	2	1	1
Grade 7	8	5	3
Grade 8	2	0	2
Grade 9	4	1	3
Grade 10	1	1	0
Grade 11	1	0	1
Grade 12	3	2	1
Totals	23	10	13

Table 1B Length of time with an Itinerant Teacher of the Deaf’s support

Less than 1 year n=	2 to 3 years n=	4 to 5 years n=	5+ years n=
3	4	1	15

Section 1 (part 2) – What students liked the best and the least about having an Itinerant Teacher of the Deaf

The students' responses are organised in the following tables (Tables 2A and 2B) by grade, gender and length of time the student has had an Itinerant Teacher of the Deaf (ITD) supporting them at school:

Table 2A The Best thing about having an ITD

ID	Grade	M/F	Length of time with ITD	Response
1	3	F	2-3 years	My Itinerant teacher gives me birthday and Christmas presents
2	3	F	2-3 years	She helps me learn and helps the teachers learn about my hearing
3	5	F	5+ years	She helps me lots and gives me hints on how to improve with my work
4	5	M	5+ years	Helps you learn in the classroom and encourages you to try new things
5	7	M	5+ years	Helps me with really hard stuff
6	7	F	5+ years	The best thing is that he/she helps you when you need it
7	7	M	Less than 1 year	She is nice and friendly. She helps me and makes sure that everything is going well
8	7	M	5+ years	She makes things a lot clearer and easier to understand
9	7	M	Less than 1 year	They are always there for you when you need help
10	7	M	5+ years	They inform you on the bits that you may have missed out on. It is very handy when they do that sometimes
11	7	F	5+ years	If you need help and the teacher is busy they can help you and can help me when I miss out on something
12	7	F	2-3 years	They make sure that I have heard the teacher and do I have my FM?

13	8	F	5+ years	Itinerant teachers help explain to me difficult vocabulary
14	8	F	2-3 years	The best thing is getting a little extra help and advice
15	9	F	5+ years	After a long term relationship with my ITD helping , I'd have to say it would be the way in which my ITD understands my problems and helps me with them
16	9	M	5+ years	They are helpful if you need to ask about something you didn't understand in class
17	9	F	4-5 years	She organises stuff for me for exams
18	9	F	5+ years	They are very helpful and explain things you need to know. They are always there for you
19	10	M	5+ years	Help with my exams, talking to teachers, help me with my study skills
20	11	F	5+ years	Helps me and makes sure the teacher understands that I need more help than other students
21	12	F	Less than 1 year	Everything, she helps me in any subject
22	12	M	5+ years	Helps me with tests and assignments
23	12	M	5+ years	Getting help with special provisions for exams. Notetaking in class

Table 2B The worst thing about having an ITD

ID	Grade	M/F	Length of time with ITD	Response
1	3	F	2-3 years	I miss out on class work when I go out with my Itinerant teacher
2	3	F	2-3 years	No response
3	5	F	5+ years	Sometimes we have to go into the quiet room but I want to do the activity with my group
4	5	M	5+ years	They want you to do more work, sometimes it can be embarrassing in the classroom
5	7	M	5+ years	Nothing

6	7	F	5+ years	The worst thing is when he/she is away
7	7	M	Less than 1 year	Nothing really
8	7	M	5+ years	She has to follow me to my classes for an hour
9	7	M	Less than 1 year	I sometimes for some reason feel weird when they come
10	7	M	5+ years	Can get annoying sometimes and embarrassing especially in a new class but soon everyone gets used to it
11	7	F	5+ years	It doesn't bother me
12	7	F	2-3 years	That sometimes they think I'm stupid
13	8	F	5+ years	Itinerant teacher sometimes annoys me but not much
14	8	F	2-3 years	There isn't a "worst" thing, however I do get embarrassed if she talks to me in class
15	9	F	5+ years	I can't think of anything. I suppose it could be watching my ITD have such a busy lifestyle and barely ever having a moment to "stop and smell the roses..."
16	9	M	5+ years	Nothing
17	9	F	2-3 years	It's annoying
18	9	F	5+ years	Students in your class are always looking at the ITD and wondering why they are there. Saving a seat for her
19	10	M	5+ years	Nothing bad
20	11	F	5+ years	They sit next to me in class which can be embarrassing
21	12	F	Less than one year	Nothing
22	12	M	5+ years	It sometimes makes me feel a bit embarrassed in the classroom to need help in front of the other students
23	12	M	5+ years	Sometimes I feel embarrassed to have someone with me in the class

Analysis Section 1

The "best" thing about having an Itinerant Teacher of the Deaf

The students, without exception, were able to express positive things about having an itinerant teacher. The comments indicated that the students believed the Itinerant Teachers of the Deaf were valuable in terms of assisting them in a number of ways; in fact 18 students (78%) used the words 'help' or 'helpful' in their response. It was unclear from a number of the comments whether the help was primarily in the classroom, or outside in a tutorial situation, but it could be extrapolated by the responses that the Itinerant Teacher of the Deaf was a presence in both situations.

Comments such as 'helps me learn'; 'gives me hints on how to improve with my work'; 'helps me with really hard stuff'; 'makes things a lot clearer and easier to understand'; suggest that the students understand and accept that they need the Itinerant Teacher of the Deaf's help in order to remain academically competitive with their peers.

There is also evidence that the Itinerant Teachers of the Deaf took on a remedial role when the student missed out on something that was delivered in class time or had difficulty with the complexity of the language. Comments such as 'they inform you on the bits that you may have missed out on'; 'help explain difficult vocabulary'; 'they are very helpful and explain things you need to know'.

Some comments indicated that the best thing about having an ITD was their presence in the classroom. For example, 'helps you learn in the classroom and encourages you to try new stuff'; 'if you need help and the teacher is busy that can help you and can help me when I miss out on something'; 'she helps me in any subject'; 'they make sure I have heard the teacher and do I have my FM?'. One grade 12 student appreciated the Itinerant Teacher of the Deaf's presence in the classroom to take notes for him.

Other responses indicate the more personal relationships that the students and the Itinerant Teachers of the Deaf develop. In particular, one student explained that the relationship was long term; 'after a long term relationship with my ITD helping, I'd have to say it's the way in which my ITD understands my problems and helps me with them'. Other students commented on the nature of the Itinerant Teacher of the Deaf as being

'nice and friendly'; and one younger student in grade 3 enjoyed the fact that the Itinerant Teacher of the Deaf knew when it was her birthday and gave her a present.

As the students progressed through the grades, the nature of the thing that they regarded as the 'best', related to more academic factors, and indicated the pressure of assessment. These comments were peculiar to students in grades 9, 10, 11 and 12. Such comments included 'she organises stuff for me for exams'; 'helps me with study skills'; 'helps me with tests and assignments'.

Some of the comments about the 'best' aspects the Itinerant Teacher of the Deaf's work related to indirect support. For example, 'helps the teacher learn about my hearing'; '[the ITD] makes sure that the teacher understands that I need more help than other students' and; 'getting help with special provisions for exams'.

Many of the students' remarks indicated that the Itinerant Teacher of the Deaf was a helpful presence, and was responsive to their particular needs. For example, 'they are always there for you when you need help'; 'they are always there for you'. These comments also indicate the personalised nature of the support offered by the Itinerant Teachers of the Deaf.

The "worst" thing about having an Itinerant Teacher of the Deaf

Of note in this section, was the number of responses (n = 9 representing 39%) that indicated that there was nothing negative about having an Itinerant Teacher of the Deaf. One year 9 girl who indicated earlier that she had a long term support relationship with her Itinerant Teacher of the Deaf expresses concern about him/her, 'I suppose it [the worst thing] could be watching my ITD have such a busy lifestyle and barely ever having a moment to stop and smell the roses'. One grade 7 girl thought the worst thing was 'when s/he is away'. Also within this group were a few comments that suggested ambivalence, 'nothing bad' and, 'it doesn't bother me'.

The younger children in grades 3 and 5 didn't like being taken out of their classes for individual work. Comments included, 'I miss out on class work when I go out with my Itinerant teacher', and, 'sometimes we have to go into the quiet room but I want to do the activity with my group'. One year 5 student believed the Itinerant Teacher of the Deaf was making him do extra work.

From grade 5, the comments regarding embarrassment about the Itinerant Teacher of the Deaf's presence in the classroom increased. Nine students (39%) mentioned being embarrassed or feeling 'weird' when they came to support them. Indicative comments included, 'I do get embarrassed if she talks to me in class', 'students in your class are always looking at the ITD and wondering why they are there'. Senior students in grades 11 and 12 indicated the Itinerant Teacher of the Deaf's presence in class was particularly embarrassing for them. For example, 'they sit next to me in class which can be embarrassing', 'it sometimes makes me feel a bit embarrassed in the classroom to need help in front of other students,' and, 'sometimes I feel embarrassed to have someone with me in the class'.

A few students wrote comments that indicated that the Itinerant Teacher of the Deaf's presence was 'annoying', but the comments did not indicate this was a personal analysis of the Itinerant Teacher of the Deaf's behaviour, more a factor of their presence in the classroom. Such comments included, 'she has to follow me to my class for an hour', '[it] can get annoying sometimes and embarrassing especially in a new class, but soon everyone gets used to it', and, 'the itinerant teacher annoys me sometimes but not much'.

There was only one comment that indicated a negative response to the Itinerant Teacher of the Deaf's behaviour towards them indicated by this response, 'that sometimes they think I am stupid'. This student was in year 7 who ironically said that the 'best' thing was that the Itinerant Teacher of the Deaf made sure she heard what the teacher said and asked her if she had her FM. It may indicate that the student, while realising she needs help; she interpreted this help as an indication that the Itinerant Teacher of the Deaf thinks she is 'stupid'. Perhaps also the student is trying to develop some independence, which is typical of this age group.

Summary Section 1

In general, the students appeared to appreciate the Itinerant Teacher of the Deaf's presence and recognised they needed their support in order to remain academically competitive with their class peers. Secondary students indicated they found the Itinerant Teacher of the Deaf's support became more directed towards academic support as assessments became more important to them. A number of comments indicated that the students had developed a more personal relationship with their Itinerant Teacher of the

Deaf than with their classroom teacher/s, and appreciated the individualised understanding they had about their particular needs.

The consultative and collaborative nature of the Itinerant Teacher of the Deaf's practices in relation to the classroom teachers appeared to be important. The students wanted the classroom teachers to be told that they had specific needs. No doubt this relates to the fact that if accommodations are in place the student can get on with the business of being one of the class, without being disadvantaged by ignorance.

From what was presented, it was clear some students did not like being taken out of class or having an Itinerant Teacher of the Deaf working alongside them in class, particularly as the students got older. However, there was evidence that younger children preferred the support to be in class, and while older students reported feeling embarrassed or annoyed by the Itinerant Teacher of the Deaf's presence, particularly when they are in the classroom. However, they appeared to tolerate their presence as they conceded it was of some help to them.

Overall the students reported more positive than negative aspects of having an Itinerant Teacher of the Deaf support them, particularly regarding the assistance they give the students so that they can remain academically competitive.

Section 2 Hearing Aids, Cochlear Implants and FMs

The students were asked to assess the helpfulness of the Itinerant Teacher of the Deaf's activities with respect to hearing devices they have.

Section 2.1 The Itinerant Teacher of the Deaf checks the student's hearing aids and/or cochlear implants

Table 2.1 Level of help student's required checking hearing devices

Don't need help	ITD sometimes helps	ITD helps a lot	Don't know
16	6	1	0

Analysis Section 2.1

The majority of students across grades 3-12 (n=16 representing 70%) did not need an Itinerant Teacher of the Deaf to check their personal hearing device/s. An examination of the students' profiles who reported they needed their help sometimes were 2 students in year 3, 2 students in year 7 (one who had less than 1 year with an ITD), and 2 students in grade 12, (one with 5+ years with an ITD and the other with less than 1 year with support from an ITD). The student who needed help a lot was a student who was in grade 11 with 5+ years with an Itinerant Teacher of the Deaf's support.

It is hard to speculate why the students in grades 11 and 12 needed help from an Itinerant Teacher of the Deaf to check their hearing device/s, as it would be expected that they would be independent by this stage. It could however be that their devices were new, or possibly that the pressure of senior years were such that they needed to have their devices in perfect working order. This information is somewhat at odds with reports from the Itinerant Teachers of the Deaf in Project 1, when it was indicated that the Itinerant Teachers of the Deaf actively encouraged independence in this area from their students.

Section 2.2 The Itinerant Teacher of the Deaf teaches the students to check his/her own hearing aids and/or cochlear implants

Table 2.2 Level of helpfulness - teaching students to check their own hearing devices

Don't need help	ITD sometimes helps	ITD helps a lot	Don't know
19	2	1	1

Analysis Section 2.2

The majority of students (n = 19 representing 83%) were confident that they could check their own hearing devices without the Itinerant Teacher of the Deaf’s help. The two students who needed their help to learn how to check their own hearing devices sometimes were the same grade 12 students who responded required them to check their hearing aids/CI in the previous section. The student who needed a lot of help to learn how to check their HA/CIs was in grade 3, and was most likely just developing the confidence to be independent of adults.

Section 2.3 The Itinerant Teacher of the Deaf teaches the student to use listening skills

Table 2.3 Level of helpfulness – teaching students listening skills

Don't need help	ITD sometimes helps	ITD helps a lot	Don't know
3	16	2	2

Analysis Section 2.3

The majority of students reported needing the Itinerant Teacher of the Deaf’s assistance (n=19, representing 83%) to learn to use their listening skills at least some of the time. Only two students believed themselves to be entirely independent in this area, one student in grade 8 who had had 2-3 years with an Itinerant Teacher of the Deaf, and one grade 7 student, who had the support of an Itinerant Teacher of the Deaf for 5+ years.

The majority of students (n=17, representing 74%) believed they needed help sometimes from the Itinerant Teacher of the Deaf to develop their listening skills. The two students who needed the most help were the two grade 3 students who are likely still developing their skills. Two students, both in secondary school, were unsure.

Section 2.4 The ITD teaches the students to use good speech

Table 2.4 Level of helpfulness – teaching students to use good speech

Don't need help	ITD sometimes helps	ITD helps a lot	Don't know
8	7	7	2

Analysis Section 2.4

In order to explain these results, which were fairly evenly spread, the profiles of the participant students were examined. It was however, not possible to fully explain in terms of trends, except that it was noted that the eight students who reported that they did not need help from an Itinerant Teacher of the Deaf to use good speech, were all in grade 7 and above.

The students who needed help sometimes (n=7) and those who assessed they needed a lot of help from the Itinerant Teacher of the Deaf (n=7) were scattered across grades 3 to 9. It could be assumed that this activity met an individualised need based on the intelligibility or clarity of their speech. It should be remembered that all of these students had a hearing loss that had been assessed as being 60dB or greater, so it is not surprising that these students need assistance in this area.

Section 2.5 The ITD encourages the student to use their FM

Table 2.5 Level of helpfulness – encourages the student to use their FM

Don't need help	ITD sometimes helps	ITD helps a lot	Don't know
3	8	11	1

Analysis Section 2.5

Almost one half of students (n=11 representing 48%) indicated that their Itinerant Teacher of the Deaf encouraging them to wear their FM helped them a lot, and a further 35% (n=8) reported they sometimes needed help or encouragement in this area. The three students who did not need to be encouraged (either because they consistently wore it or didn't have one) may have been very independent in this area. Judging by the same participants' responses to the other questions in this section, it appears that the most independent

students were in grades 7, 9, and 12, and all had 5+ years support from an Itinerant Teacher of the Deaf.

This question is really asking how much the Itinerant Teacher of the Deaf encourages the student (or perhaps reminds them) to use their FM systems. Considering that the Itinerant Teachers of the Deaf would be very aware of the benefit of using an FM system to ameliorate the effects of distance, reverberation and background noise (see Linking Paper) their vigilance in this area would not be surprising.

Summary Section 2

It appears that by Year 5, the majority of the students in the study were independent from adults both in having their hearing aids and/or cochlear implants checked by the Itinerant Teacher of the Deaf. The majority of students did not need them to teach them how to check their own hearing device/s either. However, there were still some students who used the Itinerant Teacher of the Deaf's help sometimes and in a few circumstances a lot. This is not surprising in young children, but for older students these reports may indicate that they had received a new hearing device and were still getting used to it. One such scenario would be if a student has recently received a cochlear implant.

With respect to the Itinerant Teacher of the Deaf teaching the student to use their listening skills, students across all grades, with few exceptions, found they needed help at least some of the time. The younger children needed the greatest amount of help which is not surprising given their youth.

The majority of students, again spread broadly across the grades, found the Itinerant Teacher of the Deaf's skills to help them develop their speech helpful in equal numbers 'sometimes' or 'a lot'. Considering the students in this study had hearing impairments greater than 60dB, the student's speech may well need some assistance from a specialist with speech teaching skills. However, as the student progresses through secondary school and assessments often include oral presentations, the Itinerant Teacher of the Deaf may have helped the students with their speech in specific contexts rather than formal speech therapy.

With the exception of a few students, most found the Itinerant Teacher of the Deaf encouraged them to use their FM. Itinerant Teachers of the Deaf have a good

understanding of the effects of noise, distance and reverberation on the students' ability to access information in the classroom, so it is not unexpected that this would be the case. However, what is interesting is that even senior students still found this a helpful part of the Itinerant Teacher of the Deaf's work. This may indicate that students continue to be resistant to the use of these devices, possibly because FMs are quite visible. Recently a parent whose son has a hearing loss, and was in Grade 9, revealed that her son rejected his FM because of its visibility even though the receiver was small and fitted onto his behind the ear device. Apparently, the act of giving the transmitter to the teacher was enough to cause embarrassment. J. Smith (personal communication September 10, 2010). So, it may actually be that the Itinerant Teacher of the Deaf reminds the students to wear the FM and checks on the devices use when they are present. The Itinerant Teacher of the Deaf may also take responsibility for showing the classroom teacher the function of the FM, saving the student having to do so, which might have added to the embarrassment they felt.

While it appears that the majority of the students found the Itinerant Teacher of the Deaf's support helpful, it was evident that the level of support varied from student to student irrespective of age. This emphasised the responsive and individualised nature of the support that was given to each student.

Section 3 The Itinerant Teacher of the Deaf’s work within the mainstream school

The students were asked to assess the helpfulness of the Itinerant Teacher of the Deaf’s activities with respect to direct support within the classroom, or indirectly in a consultative or collaborative manner with the classroom teacher and other staff.

Section 3.1 The Itinerant Teacher of the Deaf helps the student in the classroom by taking a small group of students

This section relates to the practice some Itinerant Teachers of the Deaf may choose to use, by working with a small group of students containing the student with hearing loss so they can assist the student with hearing loss while working alongside their hearing peers. The small group may be a reading group, a discussion group or a group that has a particular task to work on jointly with other students.

Table 3.1 Level of helpfulness – working with a small group of students

Don’t need help	ITD sometimes helps	ITD helps a lot	Don’t know
7	10	3	3

Analysis Section 3.1

The seven (30%) students who did not need help in this area were all in grades 7 -12. Almost half of students (n=10 representing 44%) found the Itinerant Teacher of the Deaf helpful sometimes by working with them within a small group of their classmates. The profiles of this group were evenly distributed across all grades and the length of time they had the support of an Itinerant Teacher of the Deaf. The three students who found this type of activity helped them a lot were in grades 3, 5 and 7. It is likely that this type of activity is found more often in the lower grades. Three participants were unsure.

Section 3.2 The Itinerant Teacher of the Deaf informs the classroom teacher how to make adjustments to their teaching strategies to assist the student access information

This section relates to the indirect support an Itinerant Teacher of the Deaf offers the student by providing consultative advice to the classroom teacher. Activities may include ensuring the teacher uses strategies that maximise opportunities for the student to access spoken information For example, facing the student when speaking and using a clear

speaking voice. Classroom teachers may also be encouraged to provide written representation of class work including using the whiteboard, a Smart board, overheads, PowerPoint etc. The Itinerant Teacher of the Deaf usually demonstrates the function and use of an FM system and explains its value in improving the signal (teacher’s voice) to noise (background sounds) ratio (SNR).

Table 3.2 Level of helpfulness – provide the classroom teacher with information

Don’t need help	ITD sometimes helps	ITD helps a lot	Don’t know
1	8	14	0

Analysis Section 3.2

All except one student (year 7 student who had an Itinerant Teacher of the Deaf support for less than 1 year) found his/her practice of providing information to the teacher about how to assist the student helpful sometimes (n=8 representing 35%), whereas n=14 (61%) found this practice by their Itinerant Teacher of the Deaf helped them a lot. This agrees with three of the students’ responses in Section 1 about what they liked most about having an Itinerant Teacher of the Deaf.

In terms of trends according to age, there was no clear pattern, the spread of responses that found this practice helpful sometimes, or a lot of help, was fairly evenly distributed. Similarly, there didn’t appear to be any relation to the amount of time the students had received support from an Itinerant Teacher of the Deaf.

Section 3.3 The Itinerant Teacher of the Deaf provides professional development to all staff at the school

This section refers to a form of indirect support referring to the Itinerant Teacher of the Deaf’s practice of offering professional development sessions to school staff. This may occur in a session as part of a dedicated staff development day, at a school staff meeting, or out of teaching time. It will generally occur in the school where the student/s is enrolled. The amount of time allocated to these sessions may vary, which affects the depth of information that could be covered. From personal experience and referring to information gained from the Itinerant Teachers of the Deaf in Project 1, the main issues covered relate to those which impact most severely on the students’ academic progress. Most likely the

content will include general information about deafness and the Itinerant Teacher of the Deaf may use a hearing loss simulator to demonstrate the impact of hearing loss on receptive spoken language. Issues relating to language and literacy development and possibly social development may be explained. Ideas about how to adjust the reduce background noise and adjust teaching strategies may be included, and if time allows they may demonstrate the function of hearing devices the student/s use. The Itinerant Teacher of the Deaf may also use audio-visual aids or interactive workshops to promote understanding.

Table 3.3 Level of helpfulness – professional development for mainstream staff

Don't need help	ITD sometimes helps	ITD helps a lot	Don't know
1	4	17	1

Analysis Section 3.3

Almost 75% of the students (n=17) found the practice of whole school staff development about issues to do with hearing impairment helped them a lot, with a further 4 students (17%) finding this practice helpful sometimes. Only one student (grade 9 with 5+ years support from an Itinerant Teacher of the Deaf) did not believe this helpful for her. One student did not know.

Section 3.4 The Itinerant Teacher of the Deaf provides the classroom teacher with resources

This is an indirect form of support to the student with hearing loss, and generally means that the Itinerant Teacher of the Deaf provides visually supportive materials that aim to provide access to information for the student. For example this may be providing a captioned version of videos/DVDs if the classroom teacher does not have one. Other resources that enhance the student’s opportunity to gain meaning from class work may also be provided.

Table 3.4 Level of helpfulness – providing resources for the classroom teacher

Don't need help	ITD sometimes helps	ITD helps a lot	Don't know
6	5	6	6

Analysis Section 3.4

The spread of the responses in each category was fairly even across grades and amount of time the students had an Itinerant Teacher of the Deaf's support. Compared to previous sections the number of students that responded 'I don't know' was high. This most likely indicates that the Itinerant Teacher of the Deaf and classroom teacher collaborated about resources they provided, without the students being aware. However, none of the students in grades 11 and 12 found this practice helped them a lot, two of the grade 12 students found the practice helped sometimes and one didn't need this type of help. The students in the primary grades either did not know (n=2), found it helpful sometimes (n=1) or did not need this type of help (n=1).

Summary Section 3

It appears that the Itinerant Teacher of the Deaf's practice of providing the student with indirect support by working alongside a group which is made up of the student and a few of their class mates, was regarded as more helpful by students in primary and early secondary grades. Most likely this reflects the incidence of group work occurring more often in these grades.

The Itinerant Teacher of the Deaf's consultative practice of informing the classroom teacher about the student's specific needs, and providing the staff with information about hearing impairments in professional development was found to be very helpful for the majority of students across all the grades. Considering the highly positive response to this aspect of the Itinerant Teacher of the Deaf's work it could be assumed that the imparting of knowledge results in accommodations and adjustments being made for the student. This in turn, takes the pressure off the student having to, either advocate for themselves (or have their parents do so), or suffer in silence. Whatever the accommodations are, it would appear that the students were more comfortable with this scenario, no doubt because it made it easier for them to blend in and be one of the group. Referring to the students' comments about the Itinerant Teacher of the Deaf's presence being embarrassing in Section 1, it appears that practices that the Itinerant Teacher of the Deaf use that promote inclusion indirectly are the most valued by them. As with most students, they likely want to just blend in with the other students. While it appears that the students in this study recognise and appreciate that they need direct assistance, they highly value the indirect support that helps accommodate their needs without them being present.

With respect to the Itinerant Teacher of the Deaf providing resources for the classroom teacher which may help them to access more information in class, the mixture of responses indicates that the students often were unaware of what was provided by them. There is no real pattern to the students' responses in terms of grades, which likely indicates a lot of the negotiation about alternative resources occur between the Itinerant Teacher of the Deaf, and the classroom teacher. However, in the case of some more obvious resources, such as a captioned version of a DVD, the student may recognise it as an accommodation for them and find it helpful.

Section 4 The Itinerant Teacher of the Deaf providing direct support to the student either in the classroom or in individualised sessions

This section relates to practices an Itinerant Teacher of the Deaf may use to provide additional assistance to the student with hearing loss to improve their access to information or to promote better understanding. The Itinerant Teachers of the Deaf recognise that the student may have difficulty understanding all the information that is covered in class, so they may take notes for the student to review at a later time. The student may have a language delay or language deficit which may prompt the Itinerant Teacher of the Deaf to provide a modified form of the class work that is easier to understand. They may explain the language and concepts of the school work to the student either in class, or in individualised sessions. Some may use the technique of introducing the vocabulary of a new topic so that the student will be familiar with the words when they encounter them in class. The student may well have difficulty with reading as a result of language delay/deficit directly relating to their hearing loss, so in these cases the Itinerant Teacher of the Deaf may use some time with the student to work on improving their reading ability.

As students progress through secondary school, and more particularly in senior school (grades 9-12), they are likely to encounter assessment tasks and examinations, both school based and state-wide external exams. It often becomes the Itinerant Teacher of the Deaf's responsibility to alert the school to the student's right to access special provisions in exams (for external exams in NSW a formal application with evidence of hearing impairment and its effect on the student's ability to comprehend written English is required). Additionally, the Itinerant Teacher of the Deaf may introduce their students with severe to profound hearing loss to special provisions (oral/signed interpreting, extra time etc.), in school based assessments so that the student will learn to use them effectively in senior grades when assessments become more competitive.

Section 4.1 The Itinerant Teacher of the Deaf takes notes for the student in class

This section refers to the practice of manually taking notes (hand written/laptop), if their student has difficulty accessing information in class. It is a practice most likely used with secondary students.

Table 4.1 Level of helpfulness – taking notes in class

Don’t need help	ITD sometimes helps	ITD helps a lot	Don’t know
7	4	10	3

Analysis Section 4.1

The students who found that the Itinerant Teacher of the Deaf taking notes in class helped them a lot (n=10 representing 44%) were all from secondary grades ranging from grades 7 – 12. Additionally, the students who found that taking notes was helpful sometimes (n=4 representing 17%) were in the secondary grades. The primary students either did not need this type of help, or were unsure about it. Other students, who did not need help or stated they did not know, were scattered throughout the secondary grades.

Section 4.2 The Itinerant Teacher of the Deaf provides work that is easier to understand than the class work

This section refers to the practice an Itinerant Teacher of the Deaf may use if the student is demonstrably struggling with the work that is presented in class. The question refers to work that is of similar content to the class work but is modified using simplified language and concepts.

Table 4.2 Level of helpfulness – providing work at an easier level

Don’t need help	ITD sometimes helps	ITD helps a lot	Don’t know
14	6	3	0

Analysis Section 4.2

The majority of students did not need the Itinerant Teacher of the Deaf to provide modified work for them (n=14, representing 61%). However 6 students (26%) did find this type of help sometimes, with the students scattered across the grades (1 grade 3, 1 grade 5, 2 in

grade 7 and surprisingly, 2 in grade 12). The three students who found the practice of providing modified work helped them a lot were two students in grade 7 (1 with 5+ years with support and the other with less than one year); and the grade 11 student (5+ years with support).

It is difficult to ascertain any trend, but due to scattered nature of the responses across the students’ profiles, it is most likely that the Itinerant Teacher of the Deaf provides this type of assistance to particular students who they have been assessed as requiring it.

Section 4.3 The Itinerant Teacher of the Deaf explains language that the student finds hard to understand

The practice of assisting students with the development of language is part of the core business of a trained Teacher of the Deaf (see AATD 2010 “*Competences for Teachers of the Deaf*”). For students included in the mainstream classroom, it is probable that the Itinerant Teacher of the Deaf will intervene in response to individual student’s needs. The Itinerant Teacher of the Deaf’s support is usually limited to a few hours per week, so responding to the students’ language development needs requires a good relationship with both the classroom teacher and the student. This relationship helps them target the particular area the student is having difficulty with in the time they have available. The Itinerant Teacher of the Deaf will most likely formally assess the students language in order to develop an individualised teaching/support program.

Table 4.3 Level of helpfulness – explains language that is hard to understand

Don’t need help	ITD sometimes helps	ITD helps a lot	Don’t know
5	7	10	1

Analysis Section 4.3

The majority of students found that the Itinerant Teachers of the Deaf’s practice of helping them to understand complex language was either something they found helpful sometimes (n=7 representing 30%) or that it helped them a lot (n=10 representing 44%).

The students who responded that they did not need this type of help were scattered, 1 grade 3 student; 2 grade 7 students (with 2-3 and 5+ years with ITD support); 1 grade 8 student (2-3 years ITD support) and 1 year 9 student (5+ years ITD support).

The student who responded that they ‘did not know’ was in grade 3, likely due their youth they may not be sure what constituted this form of intervention.

It is again difficult to determine any definite trends, however it was noted that four of five grade 10-12 students found this very helpful. In spite of this, the varied profiles of the respondents suggest that the Itinerant Teacher of the Deaf, in consultation with either the student or the class teacher, or in response to their own assessment and most probably all three, provide this intervention according to individual student’s requirements. What is evident, however, is that the students recognised that the Itinerant Teachers of the Deaf’s assistance in this area was valuable and necessary for them to remain academically competitive with their peers.

Section 4.4 The Itinerant Teacher of the Deaf teaches the student vocabulary for new topics

This section refers to the practice an Itinerant Teacher of the Deaf may use to introduce new vocabulary to the student when a new topic is commenced (or prior to) in class. This practice presumes they have a collaborative relationship with the classroom teacher as they will require access to the class program. It also assumes that the Itinerant Teacher of the Deaf is confident with their understanding of the curriculum, acquired through experience or by reviewing the subject matter themselves prior to introducing it to the student.

Table 4.4 Level of helpfulness – teaching vocabulary for new topics

Don’t need help	ITD sometimes helps	ITD helps a lot	Don’t know
9	7	5	1

Analysis Section 4.4

Nine respondents (n=9 representing 39%) did not need the Itinerant Teachers of the Deaf’s help to learn new vocabulary, and one student (grade 3) was unsure.

Of the students who found this intervention helpful seven (30%) found it helped them sometimes, and five (22%) found it helped them a lot. In grades 10-12 two students didn’t need this help but two grade 12 students found it helped sometimes, and the grade 11 student found it very helpful.

As with previous parts of this Section, the spread of responses in the three main categories (excludes I don’t know) does not follow any particular trend according to grade or length of time with an Itinerant Teacher of the Deaf’s support. It is therefore most likely that the Itinerant Teacher of the Deaf is responding to the individual student’s assessed needs.

Section 4.5 The Itinerant Teacher of the Deaf helps the student to improve their reading skills

The practice of assisting the development of literacy is an implicit part of a Teacher of the Deaf’s battery of skills, and one that is closely tied to the students’ language development. Often this area is misunderstood (personal experience and personal communication with professional Teachers of the Deaf) by classroom teachers. Many Itinerant Teachers of the Deaf have witnessed classroom teachers who believe that the student who can’t hear well, will be able to learn through reading. What is misunderstood is the close link of poor literacy skills with many factors of hearing impairment (severity of loss, age hearing loss detected, and age of aiding and early intervention among other factors), potential consequential language delay, phonemic awareness etc.

Table 4.5 Level of helpfulness – improving reading skills

Don’t need help	ITD sometimes helps	ITD helps a lot	Don’t know
13	5	4	1

Analysis Section 4.5

Over half (n=13 representing 57%) of the students did not need help from an Itinerant Teacher of the Deaf to assist them to improve their reading. Five students (22%) found the Itinerant Teacher of the Deaf sometimes helped them and a small number (n=4 representing 17%) found this practice helped a lot.

The profiles of the five students who found this practice was helpful sometimes, were scattered across the grades (grade 3, grade 7 and the 3 grade 12 students). The four students who found it helped them a lot were similarly spread (1 in grade 5, 2 students in grade 7, and the grade 11 student). It seems that the senior students used this aspect of the Itinerant Teacher of the Deaf’s support more often than other grades, but this may be

a function of the volume and complexity of the curriculum they needed to absorb, often independently from text. The spread of the other students who found the Itinerant Teacher of the Deaf helped them improve their reading across the grades was more likely a response to their particular needs.

Section 4.6 The Itinerant Teacher of the Deaf helps the student in tests and exams

This section refers to the practice of an Itinerant Teacher of the Deaf either supporting a student in a test situation (providing special provisions such as oral interpreting); modifying the language of the assessment task questions; providing alternative formats for assessments (for example a listening task where a DVD may be provided instead of an audition only tape); and/or advocating for the student by encouraging the school to provide special provisions for the student (refer NSW Board of Studies online for full range of special provisions available to students with hearing loss). It may also be the Itinerant Teacher of the Deaf who alerts the school about the need to apply to the NSW Board of Studies for special provisions for external examinations (School Certificate and Higher School Certificate).

Table 4.6 level of helpfulness – special provisions in assessments

Don't need help	ITD sometimes helps	ITD helps a lot	Don't know
4	5	11	3

Analysis Section 4.6

The number of students who found support from the Itinerant Teacher of the Deaf in tests and exams, helpful at some level was across all the grades except the two grade 3 students. The students who did not need help in this area were in grade 3, 1 in grade 7 and 1 in grade 12. Not surprisingly, given that more formal assessments are more likely to be encountered in higher grades, the majority of students in grades 9 -12 found this practice very helpful (7/9), with only one student (grade 12) not needing any help and one grade 9 student finding it helpful sometimes.

Three students in grade 7 (two who only had ITD support for less than 1 year) did not know about this practice, which may be because they had not yet had experience with an Itinerant Teacher of the Deaf assisting them with tests and exams.

Summary Section 4

It appears that these students see themselves as academically competitive with their classmates, albeit with support. They report generally that they don't need the Itinerant Teacher of the Deaf to help them much in the areas of reading and providing easier work. However, there were a small number of students that found this practice helpful, notably in the senior secondary years, suggesting that it may be the complexity of the language in the text rather than reading itself that may have motivated this response. It may also be the case however, that the Itinerant Teacher of the Deaf embed literacy-related activities amongst the work they do with the students either working on particular tasks or class assignments. Reed (2003) found that Itinerant Teachers of the Deaf often in their work immersed their students in literacy, so it is likely that the students do not recognise that the Itinerant Teacher of the Deaf is actually assisting them to develop their reading skills.

Some practices were more strongly related to the students' grade especially the use of an Itinerant Teacher of the Deaf as a note taker. As the volume of work increases in secondary and senior secondary years, it appears that the students struggle to keep up and find the Itinerant Teacher of the Deaf helps them to remain competitive. Also, in the secondary grades the classroom teacher may no longer provide as much scaffolding for poorer learners. In the senior years classroom teachers are under pressure to teach the curriculum content in order to meet the expectations of curriculum content and assessments required at this stage. The Itinerant Teachers of the Deaf in Project 1 made reference to this aspect of their work in the semi-structured interviews. They all reported that they took notes if they had secondary students and saw it as an important part of their work. They explained that in secondary school there was an increase in pace and content delivered verbally, and the students had to adapt to a number of class teachers.

Section 5 The Itinerant Teacher of the Deaf helping the student develop social skills and with making friends

It has been noted in the literature that the students with hearing loss may have difficulty communicating in social situations which could negatively affect social skill development and the development and maintenance of positive relationships with their peers. Luckner and Muir (2002) refer to research that point out that social skills are more of a reliable predictor of adult adjustment than either intelligence or academic achievement. They go onto explain that having a friend means a child has someone to play with, to learn from and teach, to be nurtured and nurture. Friends help stretch beyond families and help children prepare for adult life. They are role models, they help define who they are and provide a haven from the stresses of daily life.

Other students in the school as well as staff need to be aware of a child's deafness and what this means to him/her. If students with hearing loss are to become members of a classroom, misconceptions and stereotypical beliefs need to be dispelled. This may require more than ordinary efforts being made by the teachers and other professionals to improve and facilitate interactions that occur both within and outside the classroom (Antia, Stinson 7 Gaustad 2002).

The Itinerant Teachers of the Deaf's role in assisting the students in this area may be one of observer, intervening when there is noticed problem. However, considering the close relationship the Itinerant Teacher of the Deaf appears to have with the student compared to the classroom teacher, they may be more attuned to any issues the student may be having socially. In Project 1 the area of social development was an area with which the Itinerant Teachers of the Deaf were concerned. Similarly the classroom teachers in Project 2 had some awareness of the potential difficulties students with hearing loss may face socially, and made some efforts to facilitate relationships between the students with hearing loss and their classmates. Notably however, their interventions did not extend beyond the classroom.

Section 5.1 The Itinerant Teacher of the Deaf helps the student to learn about making friends and assists the student to resolve difficulties that may be encountered

This section refers to the practice an Itinerant Teacher of the Deaf may use to assist the student to develop social skills that may be impaired by communicative difficulties.

Table 5.1 Level of helpfulness – social skills and friendships

Don't need help	ITD sometimes helps	ITD helps a lot	Don't know
15	5	2	1

Analysis Section 5.1

Most of the students (n=15 representing 65%) reported that they did not need the Itinerant Teachers of the Deaf’s help to develop social skills and friendships or help sorting out problems with friends.

Five students found the Itinerant Teachers of the Deaf’s assistance in developing friendships and resolving problems with friends helpful sometimes. These students were scattered across the grades (1 in grade 5, 2 in grade 9 and 1 student in grade 10). Only two students found the Itinerant Teacher of the Deaf’s assistance in this area helped them a lot (2 students in grade 7). All the students who found the Itinerant Teacher of the Deaf helpful either sometimes or helped a lot had long term experience with their support (2 students had 2-3 years support from an Itinerant Teacher of the Deaf, and five students had 5+ years support from an Itinerant Teacher of the Deaf). This suggests that the students and Itinerant Teacher of the Deaf had developed a close enough relationship to permit them to assist in this somewhat sensitive area. This is not to suggest that the students who reported that they did not need help didn’t have trusting relationship with their Itinerant Teacher of the Deaf. These students may have developed good social connections. As most socialising occurs outside class it is possible that the Itinerant Teacher of the Deaf was not privy to what happens socially with the student, and it may not occur to the student to seek any help form an adult even if they did have difficulties. Without further information it is not possible to provide an accurate account of the type of issues the students had and what the Itinerant Teacher of the Deaf actually did that helped them. It would be fair to say however, considering the spread of responses, it is likely to be

a personalised type of support. Notably, none of the senior students (grades 11 and 12) needed help; presumably they have developed their friendships and are likely to be more adept at developing and maintaining friendships. This final point is reiterated by the responses from the Itinerant Teacher of the Deaf in Project 1, who only intervened when necessary, and stated that the older students were often more settled socially.

Section 5.2 The Itinerant Teacher of the Deaf provides information to the classroom teacher about the difficulties a student may have developing friendships

The consultative and/or collaborative practices an Itinerant Teacher of the Deaf employs are mainly focused on imparting information about the impact of hearing loss on a child’s academic and social development. The information about particular issues a student with hearing loss may encounter in developing positive social connections may be handled in a general way in staff development sessions, or may be as a result of observations made with respect to a particular student.

Table 5.2 Level of helpfulness – informing the classroom teacher about social skills and friendships

Don’t need help	ITD sometimes helps	ITD helps a lot	Don’t know
19	1	1	2

Analysis Section 5.2

Very few students reported needing the Itinerant Teacher of the Deaf to inform the teacher about how to assist them to meet and mix with other students. The only students who needed assistance from the I Itinerant Teacher of the Deaf were two students in year 7, notably the same students who found them helpful in Section 5.1. It was no doubt an area that these two students need particular help in, and could be as result of moving to a new school for the secondary grades, or need some help settling in to a different school situation. Both these students had more than 5+ years’ experience of support, so likely had developed a relationship with a particular Itinerant Teacher of the Deaf, and they were confident enough to seek or accept their help.

Two students in year 9 did not know if the Itinerant Teacher of the Deaf discussed social development with the classroom teacher.

Section 5.3 The Itinerant Teacher of the Deaf facilitates social events so that the students on their caseloads and of similar age have the opportunity to meet each other

At the time of this study it had been a practice of the Itinerant Teachers of the Deaf employed by RIDBC School Support Services (HI) to organise social days throughout the year for their students of similar ages to meet each other. These days had been held in host schools or at venues such as a zoo or park for younger children. The students were invited through their parents who had the responsibility of bringing them to the venue and picking them up. From time to time parents were invited to get together in a nearby location to get to know each other. The days were somewhat structured with some free time, and often used outside facilitators such as the Theatre of the Deaf to provide activities to “break the ice”, and performances designed to promote awareness and communication skills.

Table 5.3 Level of helpfulness – organising social days

Don’t need help	ITD sometimes helps	ITD helps a lot	Don’t know
12	7	3	1

Analysis Section 5.3

Just over half of the students reported not to need this type of help; presumably this meant they chose not to attend the social days that were organised. There were no particular trends according to grade, although no student from grades 11 and 12 found it helpful. This is not surprising as most probably by the time the students were in their senior school years they are comfortable with their situation. Students in this age bracket are also usually more autonomous than younger students and have started to attend social events with school, friends outside school or sporting activities independent of adults.

The students who found social days with other students with hearing loss helpful sometimes (n=7 representing 30%) or helped them a lot (n=3 representing 13%) were spread across grades 3 – 9. Considering that the Itinerant Teachers of the Deaf target these grades when they are organising social days this trend is expected. However, the

mix of responses across the grades indicates that it is a personal choice whether they attend, or they may have attended and it wasn’t for them. The student who was unsure was in grade 3 and may not have yet had the opportunity to experience one of the social days organised.

Section 5.4 The Itinerant Teacher of the Deaf indirectly assists the student with hearing loss to develop friendships by helping hearing students to develop appropriate and inclusive communication strategies

This section refers to the practice of including hearing students in information sessions to assist them to develop some understanding and empathy for their classmates with hearing loss. The class teacher may facilitate a class information session specifically addressing the issue, or information may be introduced by the Itinerant Teachers of the Deaf as part of the curriculum (e.g. Science), and in some cases it may be directly addressed to the student’s social group or peers.

Table 5.4

Don’t need help	ITD sometimes helps	ITD helps a lot	Don’t know
14	5	4	0

Analysis Section 5.4

As in previous sections, over half of the students reported they did not need their Itinerant Teacher of the Deaf to help them by informing their peers about how to better communicate with them. This may indeed be genuine, although it is possible that individual students do not want their hearing loss to be discussed with their peers, preferring to work it out themselves. Except for one student in grade 10, who found this intervention helpful sometimes, students from grades 9-12 reported that they did not need the Itinerant Teacher of the Deaf to help them. Most likely this was because they were established in peer groups and more comfortable communicating with established contacts or friends.

The nine students who found the Itinerant Teacher of the Deaf helpful at some level in this area were spread across grades 3–8 with the four students finding it helped a lot in the more junior grades (1 student in grade 3, 1 student in grade 5 and 2 students in grade

7). Within the group of students who found them either helpful sometimes or helped a lot, the majority had over 2 years with an Itinerant Teacher of the Deaf's support.

Summary Section 5

Considering the emphasis and concern the Itinerant Teachers of the Deaf reported about their students' social skill development in Project 1, and the examples they cited about students having significant issues in this area, these results were surprising. It appeared on the surface that the students involved in this study were well established socially and in the main did not need a lot of help in this area. The students however, who did reveal they needed the Itinerant Teacher of the Deaf's support in making friends or resolving issues were mainly in primary or junior secondary grades (grades 3-8), and still may be having a few problems making and maintaining friendships.

While it appeared that individual students accepted assistance from the Itinerant Teacher of the Deaf on an individual basis, very few reported finding their practice of informing the classroom teacher about issues they may face helpful. This finding is strikingly different from the three other areas that asked the students about Itinerant Teachers of the Deaf providing information and resources to the classroom teachers/staff, where they found their intervention very helpful. With respect to the Itinerant Teacher of the Deaf informing classmates about strategies they could use to better communicate with the students with hearing loss, the seven students who found their interventions helpful at any level were spread across grades 3 to 9, suggesting this was an individual choice that related to their own particular circumstance.

The ten students who found meeting other students with hearing loss helpful to developing friendships were in grades 3 - 9, likely reflecting these students' opportunities to access the activities organised by the Itinerant Teachers of the Deaf. Again the level to which they found the activity helpful appeared to be individualised, as not all students in these grades had the same experience.

Once the students had reached senior grades they did not appear to need any assistance from their Itinerant Teacher of the Deaf in any form. As was explained by the Itinerant Teachers of the Deaf in Project 1, they were less likely to need to intervene in the students' social development at this age, either because it was not necessary or academic interventions took priority.

While it may well be that the majority of students who participated in this study are well adjusted socially, considering the Itinerant Teachers of the Deaf's reports in Project 1, and the amount of research that examines this area, it should not be assumed that they do not have difficulties. A number of possibilities could be postulated, including that the students were embarrassed to reveal any issues, they don't want adults to be interfering in their social lives, or they do not see their behaviour socially as problematic, whereas an adult may have a different view.

Outcomes and implications for practice

Outcomes - hearing devices

Although the majority of the students in the study had developed independence in checking and maintaining their personal hearing devices, there were still instances where students across all grades found the Itinerant Teacher of the Deaf helpful. However, very young children were not included in this study, and the findings from Project 1 indicated that the Itinerant Teachers of the Deaf spent a lot of time in the early years encouraging independence in their students to manage their hearing devices. In Project 2 the classroom teachers reported they didn't have the skills in this area, and a number did not believe it was their role to intervene with a student's personal hearing device.

Implications for practice - hearing devices

Audiology is a science, and as part of their training an Itinerant Teacher of the Deaf learns a great deal about the subject (University of Newcastle, 2010). They play a significant role in assisting young children and students in various individualised circumstances across all grades to develop the skills necessary to manage their hearing devices. They also support them in the context of an inclusive classroom by monitoring and intervening when necessary to ensure the students have optimal access to sound.

A suggestion for future practice is:

- In order to provide the support the students and classroom teachers need, it is essential that the Itinerant Teacher of the Deaf have regular opportunities to learn about the devices that their students may have. The onus is on the Itinerant Teacher of the Deaf to access this information as part of their ongoing professional development, but they would also benefit from workshops provided by the device suppliers and audiologists.

Outcomes - the FM system

It is important that the FM system is treated in a different way to the student's personal hearing devices, because the student in partnership with the classroom teacher has a significant role to play in its effective use. The majority of students found it a very helpful component of the Itinerant Teacher of the Deaf's practice to encourage them to wear the FM, which suggests that they do not independently choose to do so. This may reflect a

reluctance to wear the device, or that the responsibility for providing the classroom teachers with training in its use does not lie with them. Regardless, it seems that the Itinerant Teachers of the Deaf's role is assessed as important in this area by the students. The concern here is what happens when the Itinerant Teacher of the Deaf is not present?

Implications for Practice – the FM system

Some suggestions for future practice are:

- Significant effort, at the earliest possible opportunity in the school year, needs to be put into the classroom teacher's training in the FM's function and practical application. The Itinerant Teacher of the Deaf is not present at the school all the time, and it seems the students have not developed confidence in using the FM, possibly because they find it makes them look different or they are embarrassed by its use. The classroom teacher is the best placed to make important decisions about when and how to use the FM to maximise the benefit for the student and as such the responsibility should remain with them.
- Students need to take some responsibility for the use and maintenance of the FM system. Whilst it is understandable that they want to blend in with the other students, the benefits of the FM are clear (Toe, 1999). Ownership of its use needs to be encouraged by the Itinerant Teacher of the Deaf and classroom teachers. Access to demonstrations with and without the FM in noise may help the student realise its benefit, particularly if it is explained in the spirit of being academically competitive.

The Itinerant Teacher of the Deaf's work within the mainstream school

Outcomes – indirect support

The students found the indirect support the Itinerant Teachers of the Deaf offered through providing formal and informal training to the classroom teachers and mainstream staff of significant assistance to them. A clear majority across all grades, over 90%, found the Itinerant Teacher of the Deaf's work in informing the classroom teacher about how to assist them as an individual of benefit to them at some level. This finding was reiterated by the outcomes of Project 1 where the Itinerant Teachers of the Deaf believed it was a very important to essential part of their role to provide

staff development to mainstream staff, and collaborate with classroom teachers about individual students. Similarly in Project 2, it was apparent that the classroom teachers recognised the Itinerant Teacher of the Deaf's special knowledge and wanted to have training in areas they were not confident in.

The Itinerant Teacher of the Deaf's practice of taking a small group, which included the student with hearing loss, was more likely to be helpful in primary and junior secondary grades, with a few students in other grades finding it sometimes helped them. A similar result was found when the Itinerant Teacher of the Deaf provided the classroom teacher with resources that may help them learn new information, although the group of students who found this practice helpful was more evenly spread.

Implications for practice – indirect support

Clearly, the Itinerant Teacher of the Deaf's expertise is recognised by both the students and the classroom teachers. The dissemination of their knowledge is an essential component when developing an inclusive environment for students with hearing loss. In recognition of this finding the following suggestions for future practice include:

- Staff development provided by the Itinerant Teacher of the Deaf is an essential part of the process of inclusion for deaf and hearing impaired students. Therefore, every effort must be made to ensure they are given time to provide this support to schools. Due to the Itinerant Teachers of the Deaf's reports that they are sometimes thwarted in their efforts by the school (Project 1), and the outcomes of Project 2 which revealed the classroom teachers are not always accessing training opportunities, it must become a mandatory component of the inclusion process. The onus is on the management of the itinerant service to ensure the leaders of the mainstream schools understand their responsibility to all the stakeholders in the inclusion process. It would be a positive practice to negotiate an agreement from the mainstream school to allocate sufficient time for this to occur.
- The collaborative efforts of an Itinerant Teacher of the Deaf and the classroom teacher are valued by both the students and classroom teachers (Project 2). The Itinerant Teachers of the Deaf in Project 1 believed it to be an essential

component of their work. A determination of the individual students needs early in the year and a clear understanding of each of the educators' roles will assist in the development and subsequent implementation of an individualised plan. Negotiation of regular times to meet will assist the two professional educators to work collaboratively. The onus is on the mainstream school to recognise the importance of having time to meet and in an ideal situation will release the classroom teachers from their regular duties to attend to this matter. This point should be raised in early discussions with the school and the itinerant service management.

- Clear written guidelines for mainstream schools could be developed to assist the schools to prepare for, and maintain, an inclusive context for the student.

Direct support for the student in class and in one-to-one tutorial sessions

Outcomes – direct support

The results suggest that the type of support offered to students directly was determined by individual factors and influenced by the grade the student was in. Notetaking by the Itinerant Teacher of the Deaf was found to be helpful by secondary students, a result that was supported by the evidence in Project 1, where it was revealed that they took notes regularly in class. The majority of students appeared to find the Itinerant Teacher of the Deaf's practices that helped them access the mainstream curriculum included explanation of language and organising special provisions in exams. However, most students rejected alternative easier work. The Itinerant Teacher of the Deaf teaching reading and vocabulary was regarded as helpful by individuals across grades, suggesting that some students had more difficulty with language and literacy than others. It is reasonable to assume that some students' access to the curriculum may have only been possible with support from an Itinerant Teacher of the Deaf.

Implications for practice – individual support

The amount and style of support an individual student receives is obviously determined by their unique requirements. A suggestion for future practice in this matter is:

- Thorough assessment of the student's needs should include aspects of language and literacy as well as their ability to access information in the classroom context. Level of hearing loss will be a significant influence, but more indefinable factors may need to be determined by observation, conversation and an investigation of previous educational performance.
- Rather than a service that determines support level based purely on severity of hearing impairment, an assessment of communicative competence and academic performance may be a better predictor of what the student will need. This suggestion has implications for time and significant effort, but may in the longer term have greater integrity in terms of inclusive practice.

Audition and speech training

Outcomes- listening and speech

Most of the students found the Itinerant Teacher of the Deaf helped them sometimes to learn to use their listening skill. It is difficult without further information about what constituted this help. However, the Itinerant Teachers of the Deaf in Project 1 reported that they usually concentrated their efforts in teaching audition to very young children, and this was mainly to assist them to cope with listening in noise. Given this information, it is likely that what the students are referring to is helping them gain the information they missed in class through either not hearing clearly or not understanding. This idea is supported by the statements quite a few students made about the best aspect of having an Itinerant Teacher of the Deaf was helping them when they missed information or when it was hard to understand.

Teaching speech skills is a core element of an Itinerant Teacher of the Deaf's repertoire of practices. However, the Itinerant Teachers of the Deaf revealed in Project 1 that they concentrated their efforts in this area with very young students, or those who presented with poor speech skills; it was not practiced in a general sense. The students who responded that they found the Itinerant Teacher of the Deaf helped sometimes or a lot, ranged in grades between 3 and 9, senior students reporting they didn't need help in this area. However, it is likely that the level of help was influenced by the individual student's particular circumstances. As with audition, it is not clear what the students needed help in,

but unlikely that it was in a therapeutic sense. It seems most probable that the Itinerant Teacher of the Deaf assisted them if they had articulation errors, or had an oral presentation to make.

Implications for practice - listening and speech

Both audition and speech development are important considerations for a student with hearing loss, and form fundamental parts of the individual plan developed by an Itinerant Teacher of the Deaf. However, the level to which they are attended to would appear to be influenced by each student's presentation and ability to manage in the school environment. Considering the scope of practices that the Itinerant Teachers of the Deaf employ, and the pressure on students to access the curriculum, it would be most practical for them to integrate the teaching of these two skills within this context, as they report doing now. When developing the plan for the student, audition and speech are two important elements, but it may not be useful to teach these skills in isolation, rather as part of developing communicative competence in a range of contexts, including social situations.

Social Skills

Outcomes – social skills and friendships

While the majority of the students reported not needing help in this area, it would be unwise to assume that they did not experience difficulties from time to time. Further investigation into this area is warranted to ascertain exactly how well the students are coping socially, and to identify any age groups or scenarios that may pose particular problems.

Implications for practice - social skills and friendships

Social skill development is an area that requires careful assessment and sensitivity. It would not seem reasonable that the Itinerant Teacher of the Deaf alone take responsibility for any issues that arise. However, they may be in a better position to counsel the student due to the closer relationship they appear to develop.

It is clearly an area that needs to be addressed according to the Itinerant Teachers of the Deaf in Project 1, an assertion that is supported by Bat-Chava and Deignan (2001), Byrnes et al. (2002) and Wauters and Knoors (2007). However, any intervention that may

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appear necessary needs to be supported by the important adults in the student's life. Importantly this group should include parents and class teachers for it to be effective, and any plans implemented in a highly sensitive manner.

Conclusions

Throughout the conduct of the three studies that formed the Doctor of Education Research Portfolio it became increasingly clear that the vast majority of the factors the participants identified as positive catalysts for the successful inclusion of deaf and hard of hearing students relied on strong and affirmative relationships between people. The Itinerant Teachers of the Deaf, the classroom teachers and the students who chose to participate in this study, relied on these relationships to share and gain information, prepare and receive responsive educational plans, and promote a culture of acceptance that created a safe and supportive environment within which to work and learn.

The outcomes of Project 1 indicated that the Itinerant Teachers of the Deaf (ITD) were often the most significant source of information that guided the mainstream staff in their efforts to include the student through consultation and collaborative practice. However, they were sometimes thwarted in their efforts by time constraints, unwilling mainstream staff, and schools that did not embrace the primary responsibility for the education of the student. It was apparent that the Itinerant Teachers of the Deaf needed to be better supported in their work to include students successfully. Itinerant service administrators perform a vital role in promoting the acceptance of responsibility from mainstream school leaders and classroom teachers, and serve to pave the way for the Itinerant Teachers of the Deaf. Professional development for mainstream staff is undeniably an essential component of the support offered by an Itinerant Teacher of the Deaf. Not only does this provide a platform for them to develop a collaborative and professional presence within the school, but it provides an opportunity for them to establish an identity as a supportive partner in the inclusive process.

The classroom teachers in Project 2 clearly sought further information about the impact of deafness, and wanted their training to be continuous, building on what they already knew. It seems that even the classroom teachers who had a high level of experience with students with hearing loss did not always develop more than a basic understanding of some aspects of hearing loss and its implications for their students. The students who participated in Project 3, irrespective of their grade and above all other interventions the Itinerant Teachers of the Deaf offered, valued their indirect support that informed the school and classroom teacher about their needs in the classroom. These findings further

emphasis the need for initial generalised professional development that provides important contextual information to mainstream staff, and the maintenance of learning opportunities accessed through collaboration with the Itinerant Teachers of the Deaf that builds on this initial understanding. The ongoing information offered through collaboration appeared to be much more valuable for the classroom teacher if it was specific to the student in their class. Similarly, the classroom teachers in this study welcomed constructive criticism about the adjustments they made to the classroom environment and their teaching strategies.

Lack of time may well be the most significant factor that limits the opportunities available for professional development and ongoing consultation and collaborative events between the Itinerant Teacher of the Deaf and the classroom teacher. While it is ideal that the school make concessions for the classroom teachers to have time to develop their understanding and skills, specialist services may find developing training packages that use formats that recognise adult learning principles, and can be accessed independently, may go some way to filling the void. As time is reported as a constant problem in this study, as well as in previous research (Foster & Cue 2009; Luckner & Muir, 1994; Race, 2005, and others), and it creates frustration for both the specialist educator and the classroom teachers (DEEWR 2007), careful planning would appear to be a professionally practical way to address this problem. The development of realistic and sustainable plans for both mainstream staff training and individualised programs for the students requires time and careful assessment using both formal and informal methods. Time allocation for these important stages in the planning process at the commencement of the year may well save time and frustration in the longer term. Of course, this presupposes that the school will be willing to be collaborative partners in this process, but it will no doubt be up to the Itinerant Teachers of the Deaf to lead the way.

In terms of direct support to the student, the participants in Projects 2 and 3 acknowledged the Itinerant Teachers of the Deaf's specific knowledge pertaining to the development of communicative competence which included language development. The aspects of the Itinerant Teachers of the Deaf's practice that assisted the student to access the curriculum, and be as academically competitive as individually possible, were the elements that featured predominately as being the most helpful. On the other hand, the Itinerant Teachers of the Deaf often felt pressured by the lack of time to fulfil the

expectations from the classroom teachers and students. As a result, they sometimes believed they deviated from their primary role that focused on teaching elements of communication relating to their expertise, and tutored the students areas pertaining to the understanding of curriculum content. These pressures appeared to be the main catalyst for the creative manner in which the Itinerant Teachers of the Deaf expanded their range of teaching skills, or as Foster and Cue (2009) refer to it, their "toolbox". The context for a lot of the Itinerant Teachers of the Deaf's teaching appeared to be the curriculum, which in actuality makes a lot of sense considering the students' mainstream placement, but places a lot of stress on the Itinerant Teachers of the Deaf to have the knowledge and skills to meet the needs of the broad range of students' ages and abilities they are expected to support.

The students that participated in Project 3 were very clear about what aspects of the Itinerant Teacher of the Deaf's support assisted them the most. The articulation of their answers to each part of the investigation indicated that they are well aware of their needs in accessing the curriculum. Their responses also illustrate a positive reaction to the Itinerant Teacher of the Deaf's presence in the school and an appreciation for their assistance. These students in the main, rejected modifications to the difficulty of the class work, and preferred the Itinerant Teacher of the Deaf's assistance in areas relating to understanding the language concepts presented in class.

As the students moved through the grades, the difficulty they faced accessing the curriculum no doubt related to the volume and complexity of the required understanding. As a consequence the Itinerant Teacher of the Deaf's assistance by notetaking and explaining unfamiliar language was rated as being very helpful by secondary students. This aspect of the Itinerant Teacher of the Deaf's practice reflects their specialist knowledge of language development and the difficulties the students faced remaining academically competitive, as such was regarded as an important aspect of their work. It would be very difficult for untrained personnel, without a specific knowledge of language development and the deleterious impact deafness can have, to provide an individualised education program, but there may be opportunities for trained note takers to relieve the burden on the Itinerant Teacher of the Deaf's time. This has implications for resource allocation, which becomes the responsibility of the school. Volunteers who are willing to take on some training and responsibility may well be a solution.

Most of the students rejected any type of intervention with respect to developing friendships, possibly because they regarded themselves as socially well adjusted. While this may be the case for the students that responded to this study, social skill development and being attached to a positive peer group is a good predictor of inclusion and is therefore an important element that has a direct bearing on the students' well-being (Wauters & Knoors, 2007). This seems to be an area that needs further investigation, not necessarily to prove that the students do really need help, but to find out what factors are influencing these responses. Optimistically, it may be that these students are socially managing well, and if so it would be informative for inclusive practice to establish how this is occurring in this population.

Inclusion for deaf and hard of hearing student is a complex issue, requiring dedication and a preparedness by educators to be flexible and responsive to the student's needs. A one-size-fits-all approach is not likely to meet the needs of all students (Byrnes et al., 2002), and in recognition of this confirmation from the current study, care needs to be taken about increasing the Itinerant Teacher of the Deaf's caseloads which would reduce the time available for individual students and their teachers. Schools and classroom teachers are not sufficiently prepared through pre-service or in-service training to deal independently with deaf and hard of hearing students, making the presence of the Itinerant Teachers of the Deaf an essential resource in the schools. This final statement is supported by all three research projects and to ignore the voices of the Itinerant Teachers of the Deaf, classroom teachers, and most importantly the students, would be detrimental to the progress of inclusion.

Future Research

While not included in the portfolio of research, it is recognised that the perspectives of parents is important as they are intrinsically involved in the educational process for students with hearing loss (Foster & Cue, 2009). Luckner and Miller (1994) emphasise the particularly important role parents play as strong advocates for their children, and suggest that it is, in part, the family's attitude towards their child's hearing loss that has an impact on their confidence and success, academically and socially. It has been noted by Foster and Cue that parents and Itinerant Teachers of the Deaf communicate more frequently than parents and classroom teachers do about the progress of the student.. Checker,

Remine, and Brown (2009) note that parents have strong opinions about the type of support their child receives from an Itinerant Teacher of the Deaf in the context of the classroom.

To include the parents' perspectives on the role Itinerant Teachers of the Deaf play in the promotion of inclusion for students with hearing loss, would add another aspect to the understanding that has been achieved by this study.

The concept of giving "voice" to the students included in this study was achieved in part by the use of a questionnaire. However, it is recognised that interviewing the students may have provided further insights into the perceptions the students had of "helpfulness" of the Itinerant Teachers of the Deaf's support activities. Interviewing the students may have enabled the researcher to explore the instances where students claimed they did not need help from their Itinerant teacher; was this outcome of independence or were there other reasons?

Similarly, time constraints prevented the opportunity to interview the classroom teachers, which had a limiting effect on the understanding gained from the data. In particular, interviews could expose the reasons why some classroom teachers believed they had received sufficient training, yet they claimed to have, at times, a low level of understanding about aspects of the impact of hearing loss, and what they could include in their practice to enhance inclusion.

When reviewing the results of the study, the reader needs to be mindful that the context of this study was a small, independent provider of itinerant teacher services to students with hearing loss who attend independent schools, and the study was conducted by an individual employed by this service. It may be suggested that this study is too small to be generalised across other service providers that support students with hearing loss in mainstream schools. While it would be a major undertaking, considering the numbers of students involved in state and Catholic schools, it is feasible that a similar study could be replicated in these systems, and others provided internationally.

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Appendix

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1. Questionnaire for the Itinerant Teachers of the Deaf
2. Questionnaire for Classroom Teachers
3. Questionnaire for students: grades 3-6
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Questionnaire for Itinerant Teachers of the Deaf

Instructions

In this questionnaire you will find a range of questions which relate to your work. The first four (4) sections to the questionnaire detail aspects of your work and are grouped into the following four categories.

1. Activities you perform in your work which address the hearing loss
2. Activities you perform in your work that aim at assisting the regular classroom teacher to make the adjustments necessary to provide access to the curriculum for students
3. Activities you perform in your work that directly assist the students to access the curriculum
4. Activities you perform in your work that assists the student to develop social skills and friendships in the regular classroom.

The fifth (5th) section asks you to details factors that facilitate and those that inhibit your ability to carry out your work.

Answering the questions

In the first four sections there are two parts to each question:

a) Student age group (year in school)

Circle the age groups of students **you actually perform** these activities with. You may circle more than one age group.

If you **do not** use or perform this activity at all, circle (N/A)

b) This is a rating scale that asks you to make a judgement about how effective the activity is in promoting inclusion for a student with hearing loss in a regular classroom.

Circle the **most applicable** word.

Unimportant some importance unsure very important essential

Section 5 asks you to briefly describe the factors that enhance and those that inhibit your ability to do your work with the students you work with.

I would like to request your participation in a follow-up interview. If you are willing to participate, please sign the consent section on the attached information sheet and return it to me. Please retain a copy of the signed consent for your records.

Section 1

Activities you perform in your work that address the student's hearing loss

1. Acoustics in the classroom (student positioning, acoustic treatment of surfaces)

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

2. Auditory Training (one-on-one individual training)

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

3. Hearing device checks (Hearing Aids, Cochlear Implants, FM systems)

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

4. Use of hearing device training for students (Hearing Aids, Cochlear Implants, FM systems)

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

5. Adapting Classroom materials (providing visual aids, captioned videos/DVDs etc)

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

6. *Speech Training (one on one)*

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

7. *Note taking for student because the student will not be able to hear the content of the lesson.*

Student age group (year in school)

K-2 3-6 7-9 10-12

Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

8. *Are there any other activities that you perform in your work that aim at addressing the hearing loss students' you work? Please describe these activities below and indicate their importance to the students' inclusion in school.*

Section 2

Activities you perform in your work that aim at assisting the regular classroom teacher to make the adjustments necessary to provide access to the curriculum for students

1. *Team Teaching (reading groups, conducting classroom activities)*

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

2. *Consultation with the classroom teacher/s on a casual and regular basis.*

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

3. *Formal staff development*

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

4. *Obtaining resources for the classroom teacher to use (captioned videos etc)*

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

5. *Are there any other activities that you perform in your work that aim at assisting the teacher to make the adjustments necessary to provide access to the curriculum for students? Please describe these activities below and indicate their importance to the students' inclusion in school.*

Section 3

Activities you perform in your work that directly assist the students to access the curriculum

1. *Note taking for the student in class.*

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

2. *Curriculum support (modifying texts, preparing alternative materials).*

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

3. *Academic tutoring outside the classroom aimed at teaching content.*

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

4. *Pre-teaching language and vocabulary prior to lessons.*

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

5. *Are there any other activities that you perform in your work that directly assist the students to access the curriculum? Please describe these activities below and indicate their importance to the students' inclusion in school.*

Section 4

Activities you perform in your work that assists the student to develop social skills and friendships in the regular school

1. Direct teaching of social skills that assist the students in developing relationships with other children.

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

2. Supporting the classroom teacher's efforts to facilitate relationships with other children, but having no direct involvement (consultation).

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

3. Providing opportunities for students to meet other students with a hearing loss on special activity days.

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

4. Facilitating discussion groups/activities within the context of the schools that assist students to make friendships.

a. Student age group (year in school)

K-2 3-6 7-9 10-12

b. Rating of importance for effective inclusion in the regular classroom

Unimportant some importance unsure very important essential

5. *Are there any other activities that you perform in your work that you perform in your work that assists the student to develop social skills and friendships in the regular school? Please describe these activities below and indicate their importance to the students' inclusion in school.*

Section 5

Significant factors that inhibit or enhance your work in promoting inclusion of hearing impaired students in regular class rooms

Part 1

Consider the various aspects of your day to day work. Consider the practices you use that you believe will facilitate inclusion for your students. List and briefly explain **the 3 most helpful conditions** that occur in regular schools that allow you to carry out your work effectively.

Part 2

Consider the various aspects of your day to day work. Consider the practices you use that you believe will facilitate inclusion for your students. List and briefly explain **the 3 conditions** that occur in regular schools **that prevent or impair** your ability to carry out your work effectively.

End of Questionnaire

Thank you for participating. Please place this completed questionnaire in the provided envelope and return it to Ruth Price. *Do not put your name on this questionnaire.*

If you are willing to participate in a follow-up interview include a signed copy of the information/consent.

Questionnaire for Classroom Teachers

Instructions

In this questionnaire you will find a range of questions which relate to the knowledge and understandings you have developed in the time you have had students with hearing impairments in your class/es.

There are 6 sections that relate to:

- General information about your experience of having hearing impaired students in your class
- Aspects of your knowledge of hearing impairment and hearing devices
- The implications of significant hearing impairments for children within the regular classroom
- The implications for professional development from teachers of the deaf

Section 1	General information
Section 2	Audiological Issues
Section 3	The development of spoken language
Section 4	Classroom adjustments and modifications
Section 5	Adjustments and modifications to teaching techniques
Section 6	Social aspects of inclusion in regular classrooms for students with a hearing impairment

In Sections 2 - 6 you are asked to:

- a) Rate your understanding or competence.
- b) Identify your current level of training and your needs for training/further training.
- c) Identify the techniques you have used or what adjustments you have made when you have had hearing impaired students in your classroom.
- d) Comment on what you believe the Teacher of the Deaf's role is in supporting you and the hearing impaired student.

When you have completed the questionnaire please seal it in the self-addressed envelope provide and return it to Ruth Price by **2nd December 2005**.

Thank you for your time.

Ruth Price

Section 1 General Information

1. Do you currently have, or in recent years had a student/s with hearing impairment in your classroom?

Yes /No

2. What age/grade bracket does your student/s come into (circle age bracket/s below)

K -2

3-6

7-9

10-12

3. How many years' experience have you had teaching hearing impaired children in your class?

Less than 1 year

1-3 years

3-5 years

+5 years

Proceed to Section 2

In the next section you will be asked to rate your knowledge, understanding and skill proficiency in areas pertaining to hearing loss.

The following definitions will help you with your answers:

A *poor understanding* means you believe your knowledge is inadequate or insufficient.

A *basic understanding* means you believe your knowledge contains the essential components.

A *sound understanding* means you believe your knowledge to be substantial and solid.

Section 2 Audiological Issues

This section relates to your ***levels of proficiency in troubleshooting and the function of hearing devices*** the child/children you have in your classroom use. If you have not had a student with one of the devices stated please write N/A next to the question.

1. On the scale below rate your level of proficiency in ***troubleshooting*** a malfunctioning hearing device.

Hearing Aid

Unable to troubleshoot
Proficient

Can make simple repairs (e.g. battery)

Cochlear Implant

Unable to troubleshoot Proficient	Can make simple repairs (e.g. battery)
--------------------------------------	--

FM system

Unable to troubleshoot Proficient	Can make simple repairs (e.g. battery)
--------------------------------------	--

2. In relation to **troubleshooting Hearing Aids, Cochlear Implants and FM systems** do you believe you have had adequate training? (Circle one option from below)

- a) Yes I have received training in troubleshooting and am comfortable with my level of proficiency.
- b) Yes I have received training in troubleshooting, but need regular updates when the student/s gets new hearing devices.
- c) No I have not received any training, and see this as important.

3. In relation to your understanding **of the function** of the students/s hearing devices rate your level of knowledge about how the hearing devices work.

Hearing Aid

Poor understanding	Basic Understanding	Sound understanding
--------------------	---------------------	---------------------

Cochlear Implant

Poor understanding	Basic Understanding	Sound understanding
--------------------	---------------------	---------------------

FM System

Poor understanding	Basic Understanding	Sound understanding
--------------------	---------------------	---------------------

4. In relation to your understanding of **the function** of the student/s hearing devices, do you believe you have had adequate training? (Circle one option from below)

- a) Yes I have received training in the function of the relevant hearing device/s and am comfortable with my level of proficiency.
- b) Yes I have received training in the function of the relevant hearing device/s, but need regular updates when the student/s gets new hearing devices.
- c) No I have not received any training, and see this as important.

5. Please comment on what you see the Itinerant Teachers of the Deaf's role in relation to supporting you and the student/s with respect to the troubleshooting and function of hearing devices.

Section 3 The development of spoken language

This section relates to *your understanding of the impact of a significant hearing loss on the development of spoken language.*

1. On the scale below rate your understanding of the impact a significant hearing loss has on the development of spoken language.

Poor understanding Basic Understanding Sound understanding

2. In relation to your understanding **of the impact** of a significant hearing loss on the **development of spoken language** do you believe you have had adequate training?
(Circle one option from below)

- a) Yes I have received training about the impact of a significant hearing loss on the development of spoken language and am comfortable with my level of understanding
- b) Yes I have received training about the impact of a significant hearing loss on the development of spoken language but need regular updates.
- c) No I have not received any training, and see this as important.

3. On the scale below rate your understanding of **how to make the necessary adjustments** to cater for the language levels of the hearing impaired student/s in your class.

Poor understanding Basic understanding Sound understanding

4. In relation to your understanding of **how make the necessary adjustments** to cater for the language levels of the hearing impaired student/s in your class do you believe you have had adequate training? (Circle one option from below).

- a) Yes I have received training about making the necessary adjustments to cater for the language levels of the hearing impaired student/s in my class and am comfortable with my level of confidence.
- b) Yes I have received training about making the necessary adjustments to cater for the language levels of the hearing impaired student/s in my class but need regular updates.
- c) No I have not received any training, and see this as important.

5. Please list the adjustments you have made to cater for the language levels of students with hearing impairments in your class.

6. Please comment on what you see the Itinerant Teachers of the Deaf's role in relation to supporting you and the student/s with respect to making necessary adjustments to cater for their language levels.

Section 4 Classroom adjustments and modifications

This section relates to your understanding of the adjustments **to the classroom acoustic environment** you need to make to allow access to information delivered through spoken language and other means requiring good audition.

1. On the scale below rate your understanding of the adjustments to the classroom environment that could be made to enhance the hearing impaired student/s' access to information.

Poor understanding Basic understanding Sound understanding

2. In relation to your understanding of the **adjustments to the classroom acoustic environment** that could be made to enhance the hearing impaired student/s access to information do you believe you have had adequate training?
(Circle on option from below).

- a) Yes I have received training about making adjustments to the classroom acoustic environment that could be made to enhance the hearing impaired student/s access to information and am comfortable with my level of confidence.
- b) Yes I have received training about making adjustments to the classroom acoustic environment that could be made to enhance the hearing impaired student/s access to information but need regular updates.
- c) No I have not received any training, and see this as important.

3. Please list the adjustments you have made to your classroom environment to enhance the hearing impaired student/s access to information.

4. Please comment on what you see the Itinerant Teachers of the Deaf's role in relation to supporting you and the student/s with respect to making adjustments to the classroom environment.

Section 5 Adjustments and modifications to teaching techniques.

This section relates to your understanding of the **adjustments to teaching techniques** that could be made to allow access to information delivered through spoken language and other means requiring good audition.

1. On the scale below rate your understanding of the **adjustments to teaching techniques** that could be made to enhance the hearing impaired student/s access to information.

Poor understanding

Basic understanding

Sound understanding

2. In relation to your understanding of the **adjustments to teaching techniques** that could be made to enhance the hearing impaired student/s access to information do you believe you have had adequate training?
(Circle one option from below).

- a) Yes I have received training about making adjustments to the teaching techniques that could be made to enhance the hearing impaired student/s access to information and am comfortable with my level of confidence.
- b) Yes I have received training about making adjustments to the teaching techniques that could be made to enhance the hearing impaired student/s access to information but need regular updates.
- c) No I have not received any training, and see this as important.

3. Please list the adjustments you have made to your teaching techniques to enhance the hearing impaired student/s access to information.

4. Please comment on what you see the Itinerant Teachers of the Deaf's role in relation to supporting you and the student/s with respect to making adjustments to teaching techniques.

Section 6 Social aspects of inclusion in regular classes for students with a hearing impairment.

This section relates to the **classroom teacher's role in assisting the student with a hearing impairment to make positive relationships with their hearing peers.**

1. On the scale below rate your understanding of the **issues hearing impaired students have relating to making positive relationships with their hearing peers.**

Poor understanding

Basic understanding

Sound understanding

2. In relation to your understanding of **the issues relating to making positive relationships with their hearing peers** do you believe you have had adequate training?
(Circle one option from below).

- a) Yes I have received training about the issues relating to hearing impaired students making positive relationships with their hearing peers and am comfortable with my level of confidence.
- b) Yes I have received training about the issues relating to hearing impaired students making positive relationships with their hearing peers but need regular updates.
- c) No I have not received any training, and see this as important.

3. Please list below the techniques you have used to assist any students that have had difficulties making positive relationships with their hearing peers.

4. Please comment on what you see the Itinerant Teachers of the Deaf's role in relation to supporting you and the student/s with respect to assisting students who are having difficulty making positive friendships with their hearing peers.

Questionnaire for Students Grades 3-6

Instructions

This questionnaire asks you some questions about how your Itinerant teacher helps you when she/he is in your school.

There are five sections (parts) in the questionnaire

Section 1 This section asks some questions about you.

Section 2 This section asks some questions about how your Itinerant teacher helps you with your hearing aids or cochlear implant.

Section 3 This section asks some questions about how your Itinerant teacher helps the class teacher understand how to help you.

Section 4 This section asks questions about how your Itinerant teacher helps you with your school work.

Section 5 This section asks questions about how the Itinerant teacher helps you with friends.

Answering the questions

In each section of the questionnaire there are sentences that talk about the different work your Itinerant teacher does.

After each sentence you will see 4 statements like these:

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

Put a tick in the box next to the **one** statement that tells me about how helpful your Itinerant's work is for you.

Section 1 Information about you

Please answer these questions about yourself. DO NOT write your name on the questionnaire.

1. Male Female

2. How old are you? _____

3. What grade are you in this year? _____

4. How long have you had an Itinerant teacher?
Put a circle around **one** answer.

Less than 1 year 2-3 years 4-5 years 5 + years.

5. What is *the best thing* about having an Itinerant teacher?

6. What is *the worst thing* about having an Itinerant teacher?

Section 2 Hearing Aids, Cochlear Implants and FMs

Tick (✓) one box in all 5 questions.

1. The Itinerant teacher checks my hearing aids and/or cochlear implants.

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

2. The Itinerant teacher teaches me how to check my own hearing aid, cochlear implant.

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

3. The Itinerant teacher teaches me how to listen better.

a) I *do not need help* from my Itinerant teacher

- b) My Itinerant teacher *sometimes* helps me
- c) My Itinerant teacher *helps me a lot*
- d) I don't know

4. The Itinerant teacher teaches me to use good speech.

- a) I *do not need help* from my Itinerant teacher
- b) My Itinerant teacher *sometimes* helps me
- c) My Itinerant teacher *helps me a lot*
- d) I don't know

5. The Itinerant teacher encourages me to wear the FM.

- a) I *do not need help* from my Itinerant teacher
- b) My Itinerant teacher *sometimes* helps me
- c) My Itinerant teacher *helps me a lot*
- d) I don't know

Section 3 The Itinerant Teacher's work at schools

Tick (✓) one box in all 4 questions.

1. The Itinerant teacher helps me in group work in my classroom.

- I do not need help* from my Itinerant teacher
- My Itinerant teacher *sometimes* helps me
- My Itinerant teacher *helps me a lot*
- I don't know

**2. The Itinerant teacher shows the classroom teacher how to help me understand.
(For example - making sure the teacher faces you, writes work on the board, how to use the FM)**

- I do not need help* from my Itinerant teacher
- My Itinerant teacher *sometimes* helps me
- My Itinerant teacher *helps me a lot*

I don't know

3. The Itinerant teacher talks to all my teachers about having a deaf student in their class.

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

4. The Itinerant teacher helps my class teacher by getting different resources for them. (For example - captioned videos, DVDs, posters, pictures that help explain the work)

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

Section 4 The Itinerant teacher working with the deaf student in and out of class.

Tick (✓) one box in all 6 questions.

1. The Itinerant teacher helps me by taking notes in class.

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

2. The Itinerant teacher gives me different work to the rest of the class that is easier for me to understand.

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

3. The Itinerant teacher explains language that is hard to understand.

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

4. The Itinerant teacher teaches new words to help me understand new topics.

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

5. The Itinerant teacher helps me read better.

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

6. The Itinerant teacher helps me in tests and exams.

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

Section 5. The Itinerant teacher helping with friendships

Tick (✓) one box in all 4 questions.

1. The Itinerant teacher helps me to make friends and sort out problems I sometimes have with friends at school.

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

2. The Itinerant teacher helps my class teacher to understand how to help me meet and mix with friends.

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

3. The Itinerant teacher organises special days where I meet other deaf students.

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

4. The Itinerant teacher talks to other students about how to make it easier for me to understand them.

I do not need help from my Itinerant teacher

My Itinerant teacher *sometimes* helps me

My Itinerant teacher *helps me a lot*

I don't know

Questionnaire for Students Grades 7 -12

Instructions

In this questionnaire you will be asked questions about the work that your Itinerant teacher does when she/he is in your school. The work may be helping you with your work or talking to your teachers about things that will help you. There are five groups of questions divided into these 4 areas:

Section 1 These are general questions about your age, grade etc.

Section 2 How the Itinerant teacher helps you with your hearing aids/cochlear implants or FM and hearing well in the classroom.

Section 3 How the Itinerant teacher helps your teacher to make sure you are able to understand the work, assessments and other information.

Section 4 How the Itinerant teacher helps you with your school work, tests, exams and assignments.

Section 5 How the Itinerant teacher helps you with friends.

Answering the questions

There will be a number of sentences that talk about some of the work an Itinerant teacher might do when they are working with deaf students.

After each sentence you will see the following 4 statements. Please tick the box next to **one** statement that best describes how helpful your Itinerant's work is for you. The words will look like this:

I do not need help from my Itinerant teacher

My Itinerant teacher sometimes helps me

My Itinerant teacher helps me a lot

I don't know

Section 1 General Information

Please answer these questions about yourself. DO NOT put your name anywhere on the questionnaire.

1. Male Female
2. How old are you? _____
3. What grade are you in this year? _____
4. How long have you had an Itinerant teacher?
Circle **one** answer.
Less than 1 year 2-3 years 4-5 years 5 + years.
5. What is *the best thing* about having an Itinerant teacher?
6. What is *the worst thing* about having an Itinerant teacher?

Section 2 Hearing Aids, Cochlear Implants and FMs

The following activities may be some of the things an Itinerant teacher will do to help deaf students. Please put a tick beside the statement that most relates to you.

1. The Itinerant teacher checks hearing aids and/or cochlear implants.

- a) I *do not need help* from my Itinerant teacher
- b) My Itinerant teacher *sometimes* helps me
- c) My Itinerant teacher *helps me a lot*
- d) I don't know

2. The Itinerant teacher teaches students how to check their own hearing aid, cochlear implant.

- a) I *do not need help* from my Itinerant teacher
- b) My Itinerant teacher *sometimes* helps me
- c) My Itinerant teacher *helps me a lot*
- d) I don't know

3. The Itinerant teacher teaches students how to use their listening skills.

- a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

4. The Itinerant teacher teaches students to use good speech.

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

5. The Itinerant teacher encourages the student to wear the FM.

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

Section 3 The Itinerant Teacher's work at schools

1. The Itinerant teacher can help the deaf student in the classroom by taking a small group of students. (Some examples may be discussion groups, reading groups, working on a group project).

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

2. The Itinerant teacher can show the classroom teacher how to help deaf students. (Some of these things might be making sure the teacher faces the student, explain work clearly, writes work on the board, uses overheads or work on smart boards etc, and explains to the teacher how to use the FM)

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

3. The Itinerant teacher can talk to all the teachers about having a deaf student in their class and school.

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

4. The Itinerant teacher can help the class teacher by getting different resources for them. (Some examples might be captioned videos and DVDs, posters, pictures that help explain the work)

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

Section 4 The Itinerant teacher working with the deaf student in and out of class.

1. The Itinerant teacher can help students by taking notes in class.

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

2. The Itinerant teacher can provide different work to the rest of the class that may be easier to understand.

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

3. The Itinerant teacher can explain the language of school work that may be hard to understand. This may happen in class or in separate lessons

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

4. The Itinerant teacher can teach the words that the deaf student may need to understand new topics.

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

5. The Itinerant teacher can help students improve their reading

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

6. The Itinerant teacher can help you in tests and exams

a) I *do not need help* from my Itinerant teacher

b) My Itinerant teacher *sometimes* helps me

c) My Itinerant teacher *helps me a lot*

d) I don't know

Section 5. The Itinerant teacher helping with friendships

1. The Itinerant teacher can help a student to learn about making friends and sorting out problems they may have with other students.

- a) I *do not need help* from my Itinerant teacher
- b) My Itinerant teacher *sometimes* helps me
- c) My Itinerant teacher *helps me a lot*
- d) I don't know

2. The Itinerant teacher can help the class teacher understand how to help a student meet and mix with other students.

- a) I *do not need help* from my Itinerant teacher
- b) My Itinerant teacher *sometimes* helps me
- c) My Itinerant teacher *helps me a lot*
- d) I don't know

3. The Itinerant teacher can help a student meet other deaf students by organising special days.

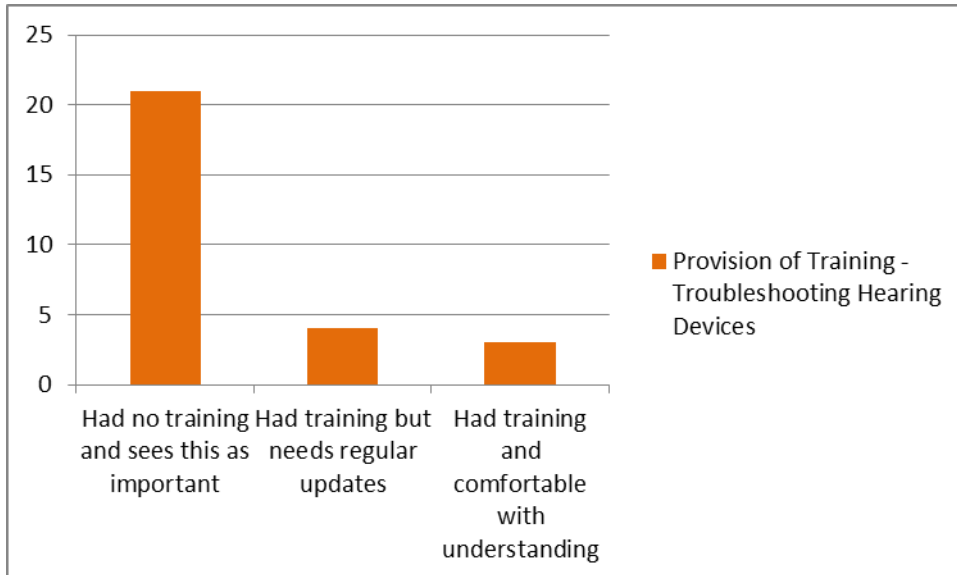
- a) I *do not need help* from my Itinerant teacher
- b) My Itinerant teacher *sometimes* helps me
- c) My Itinerant teacher *helps me a lot*
- d) I don't know

4. The Itinerant teacher can help other students to understand how to make it easier for a deaf student to understand when they are talking and playing.

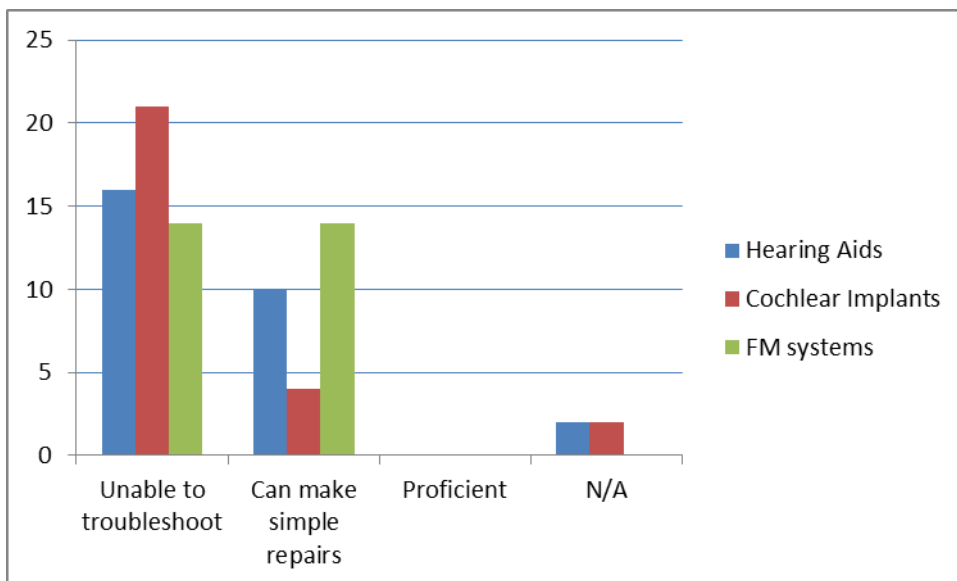
- a) I *do not need help* from my Itinerant teacher
- b) My Itinerant teacher *sometimes* helps me
- c) My Itinerant teacher *helps me a lot*
- d) I don't know

Graphs Project 2

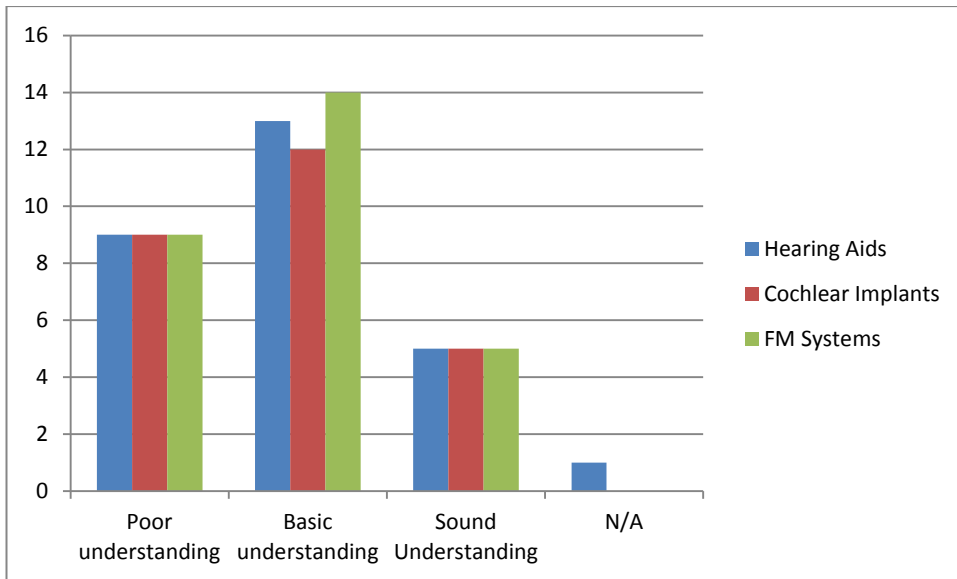
Graph 2.1



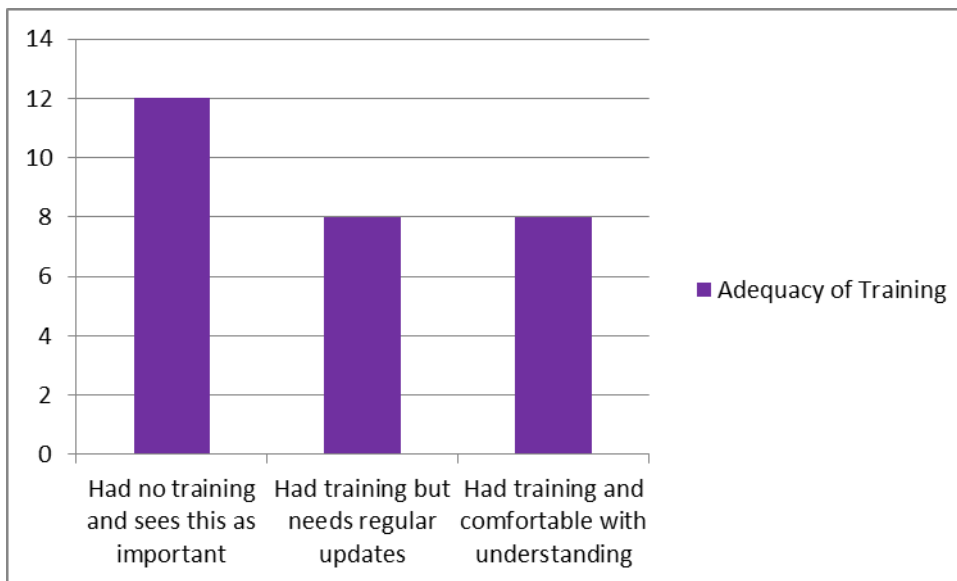
Graph 2.2



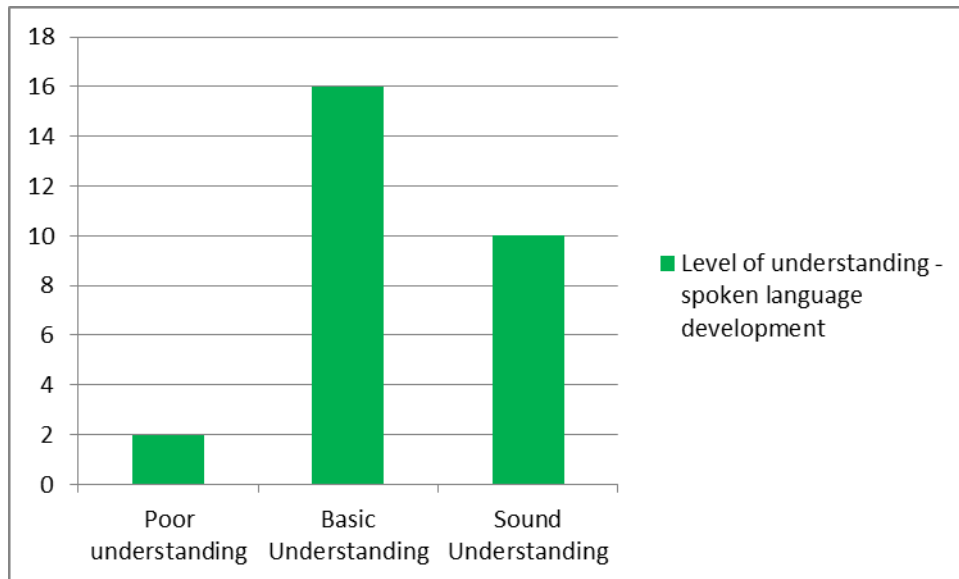
Graph 2.3



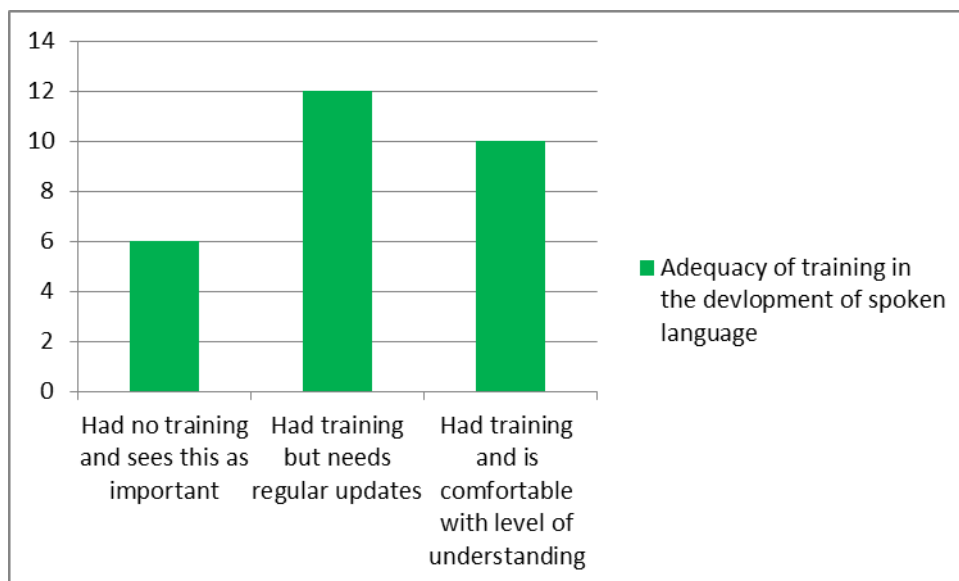
Graph 2.4



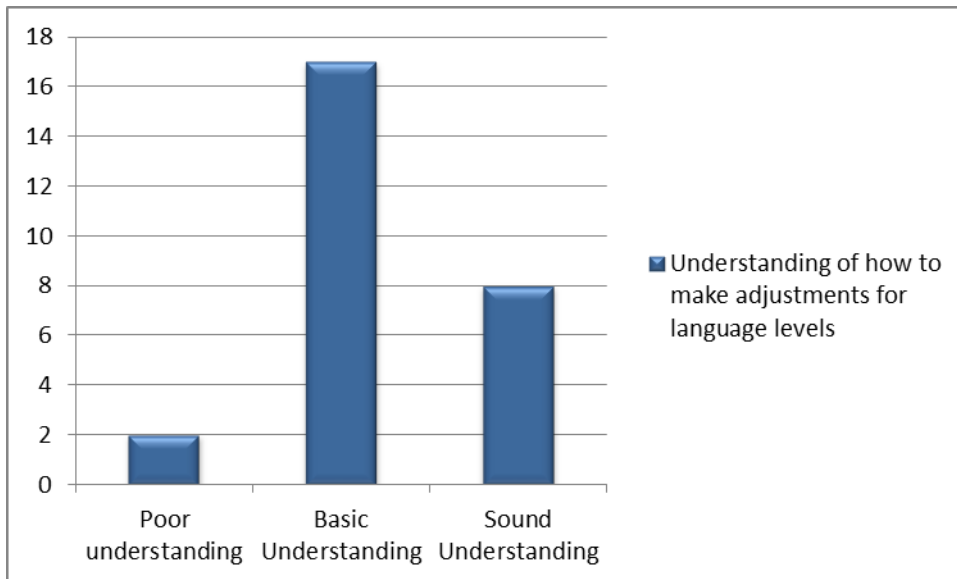
Graph 3.1



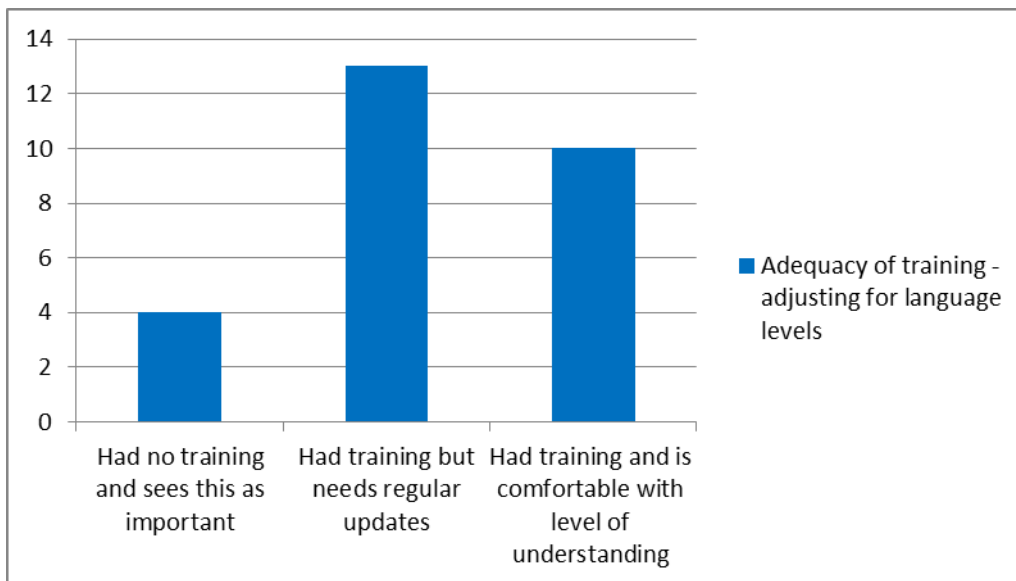
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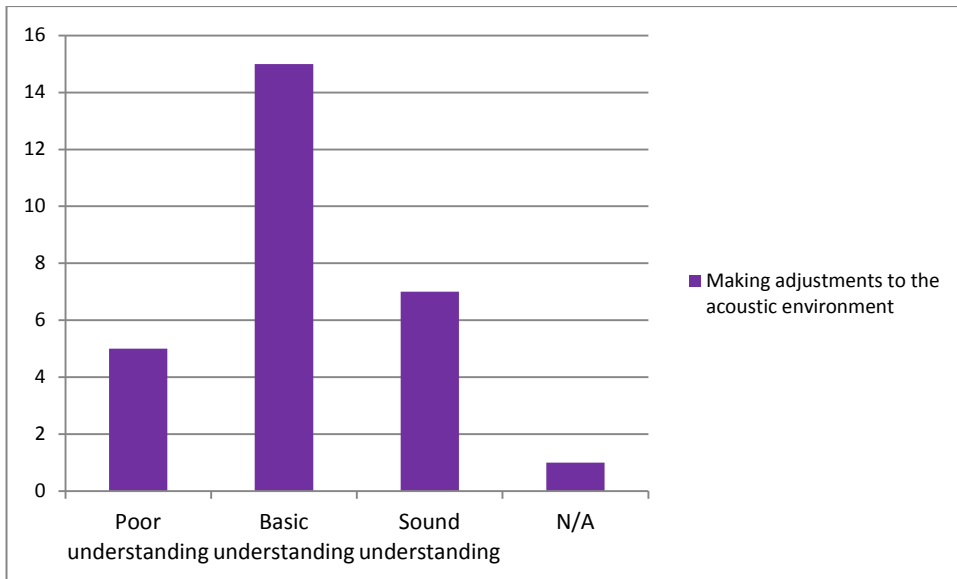
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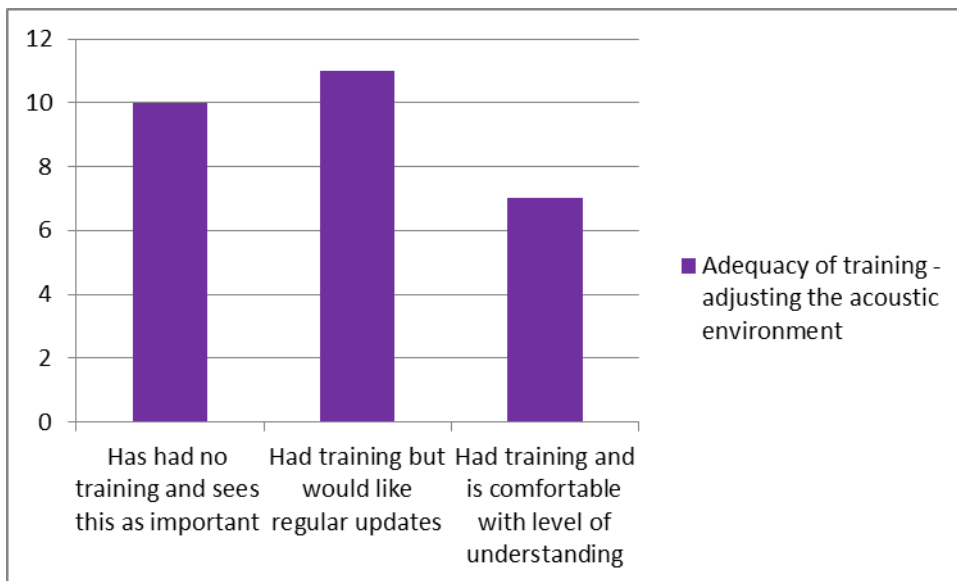
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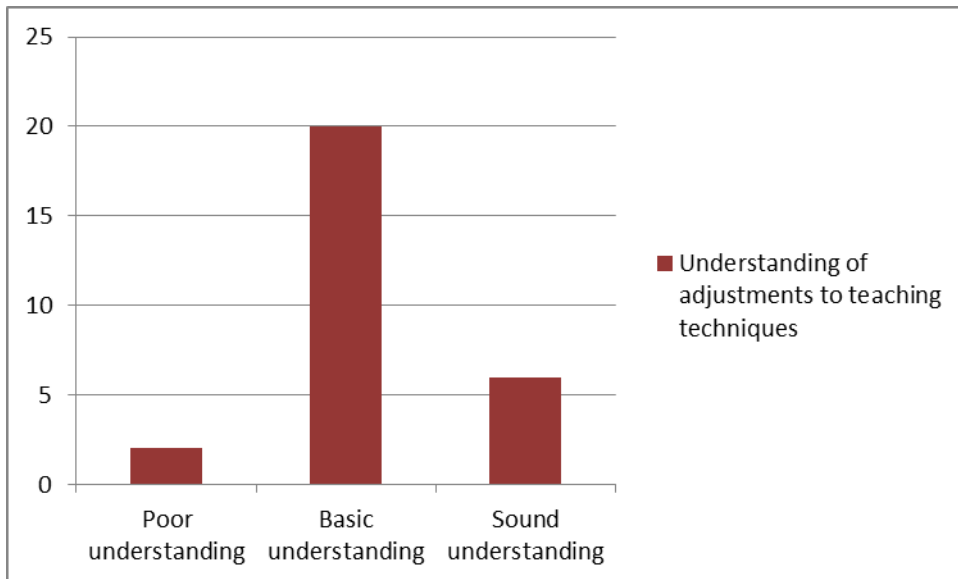
Graph 4.1



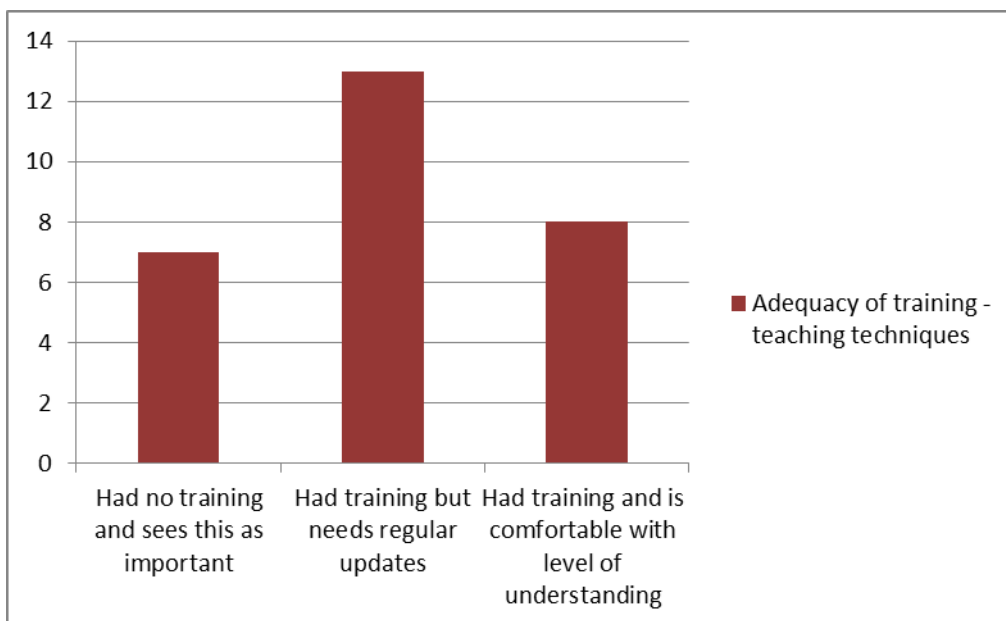
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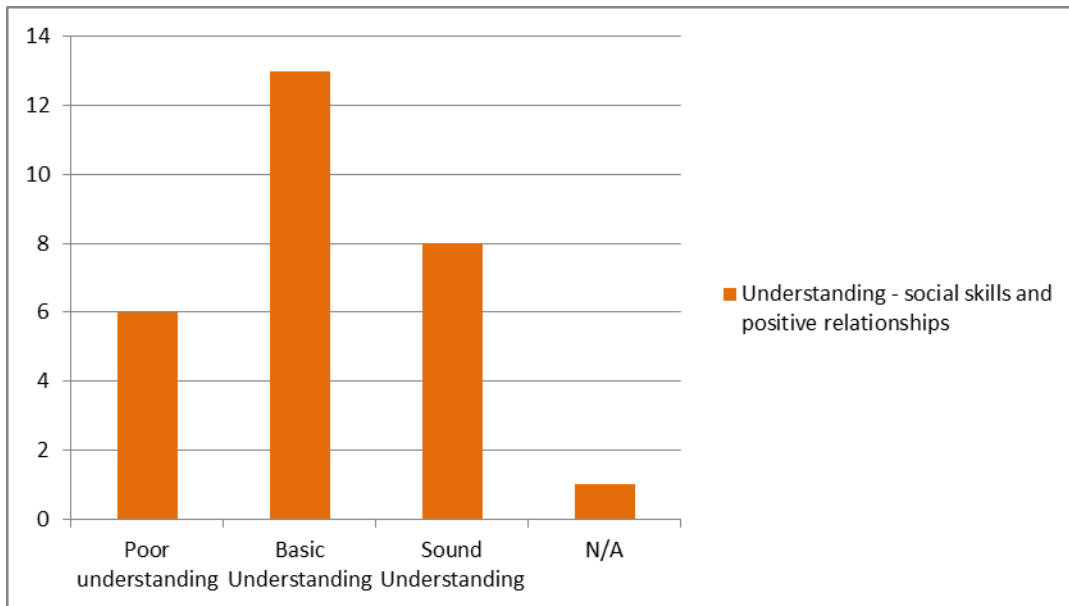
Graph 5.1



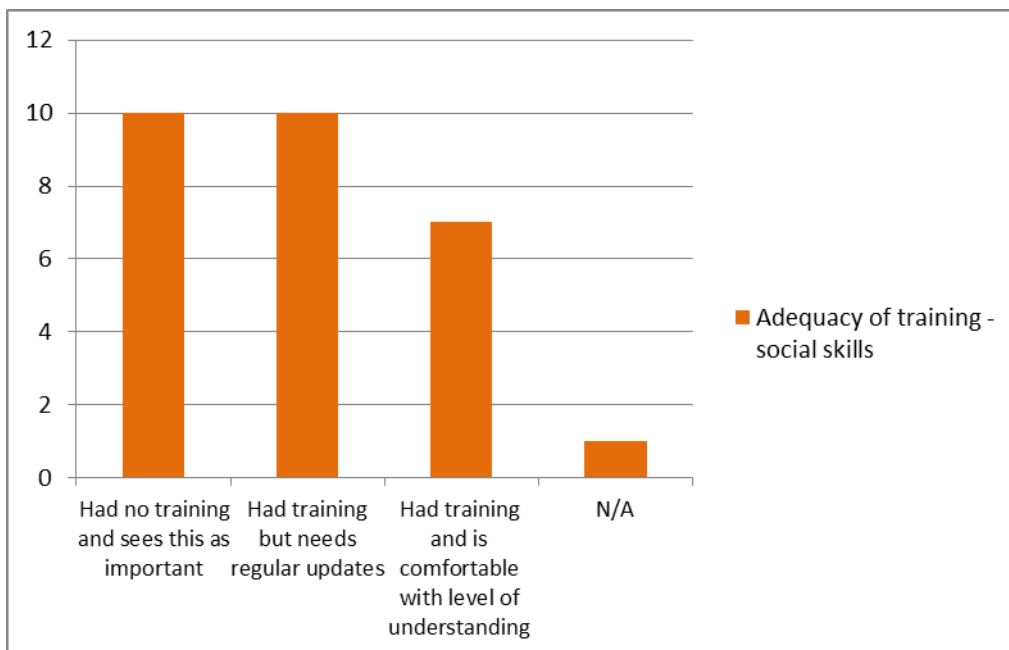
Graph 5.2



Graph 6.1

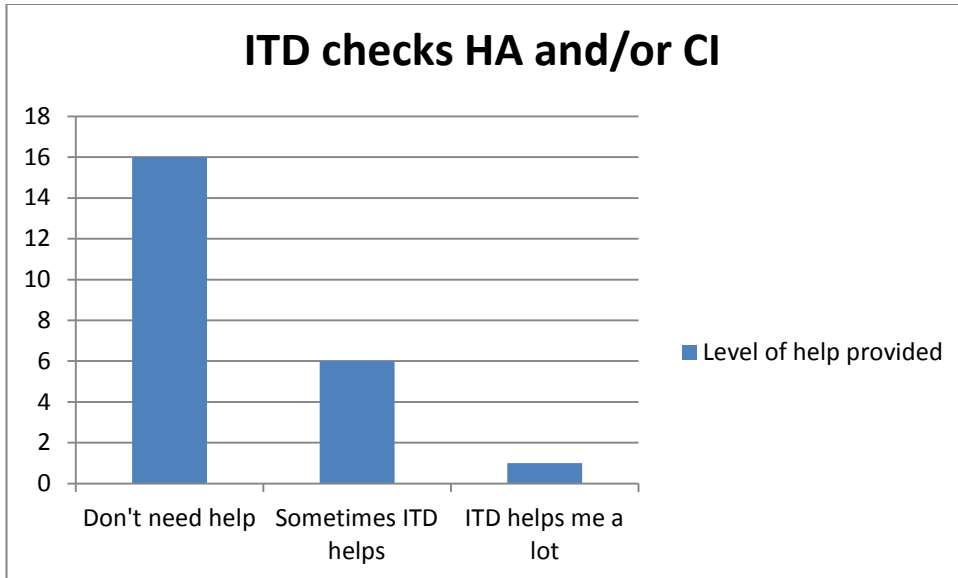


Graph 6.2

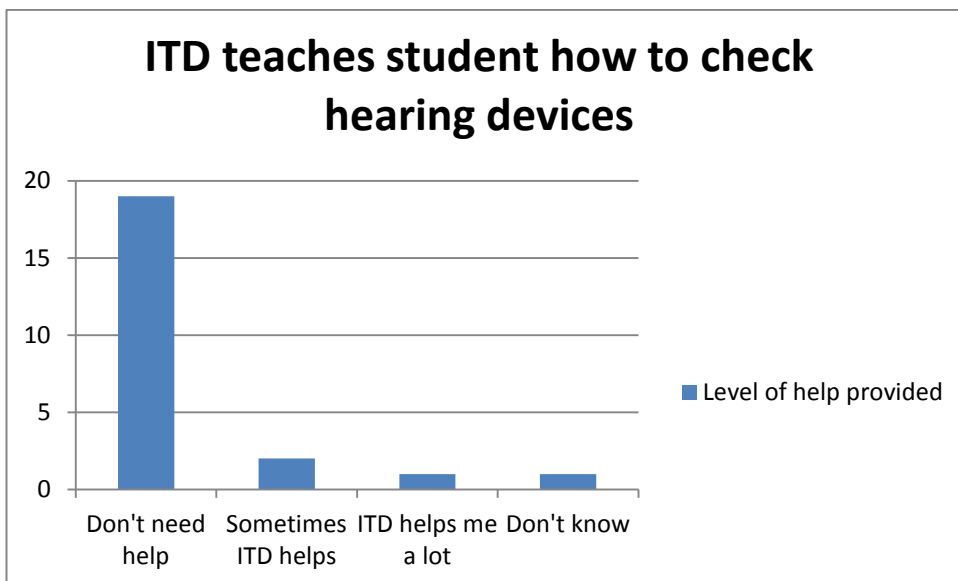


Project 3 Graphs

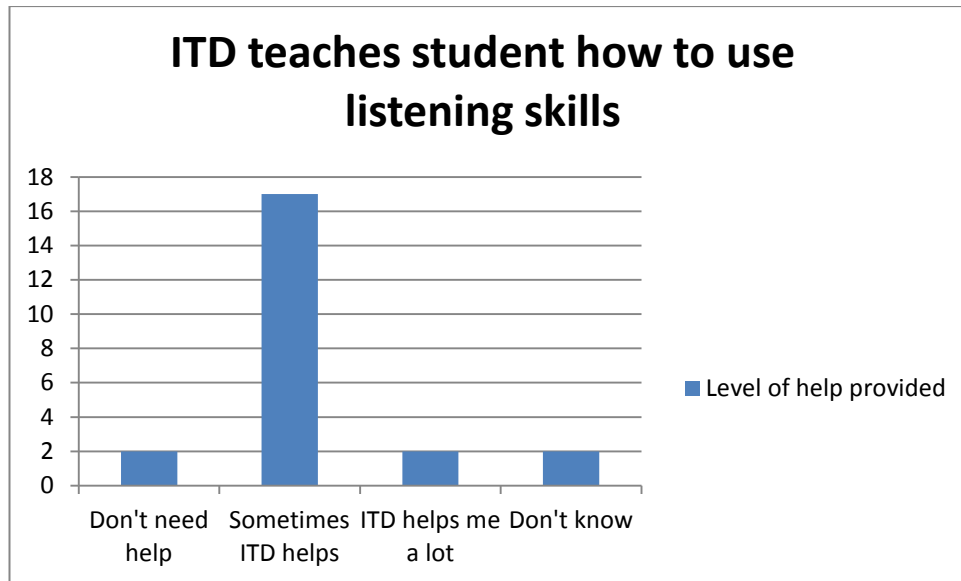
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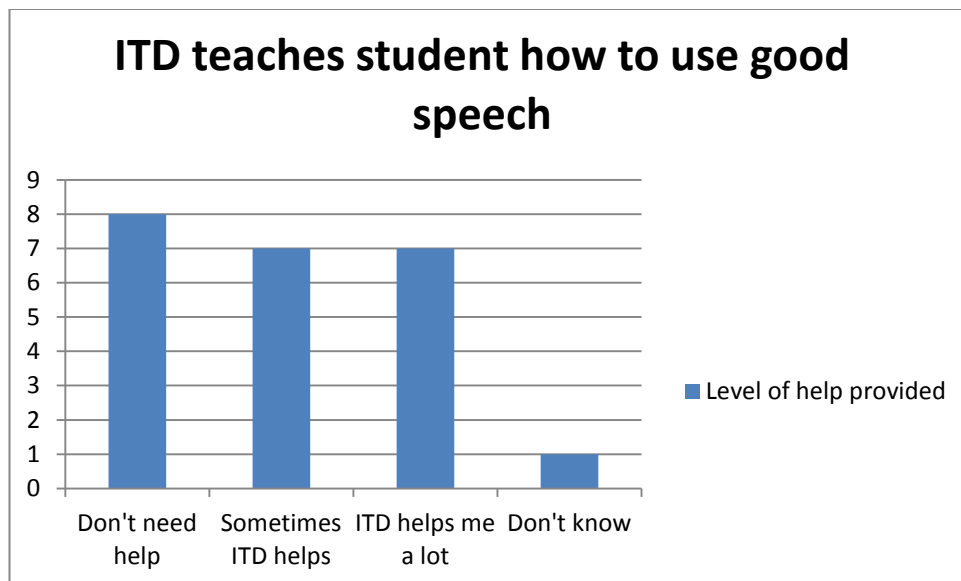
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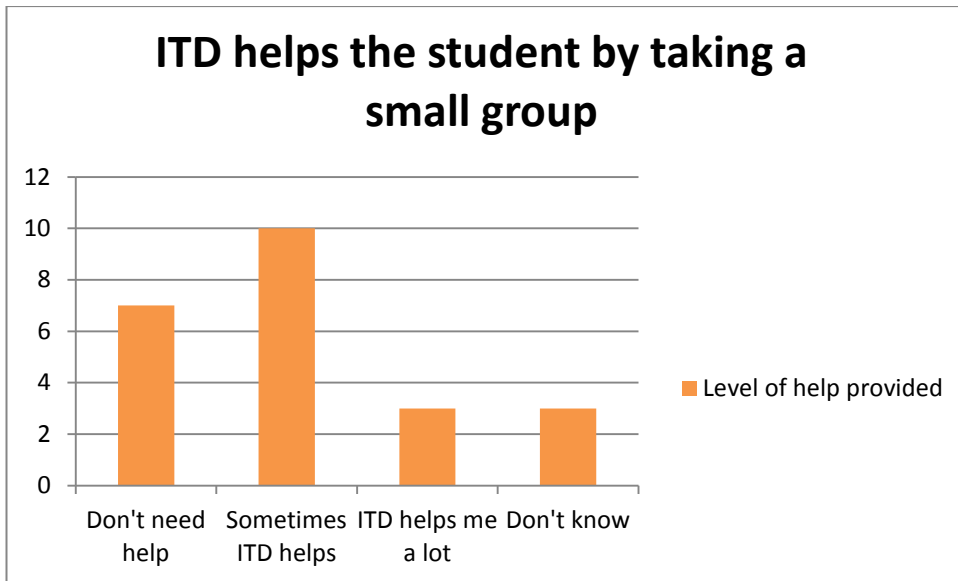
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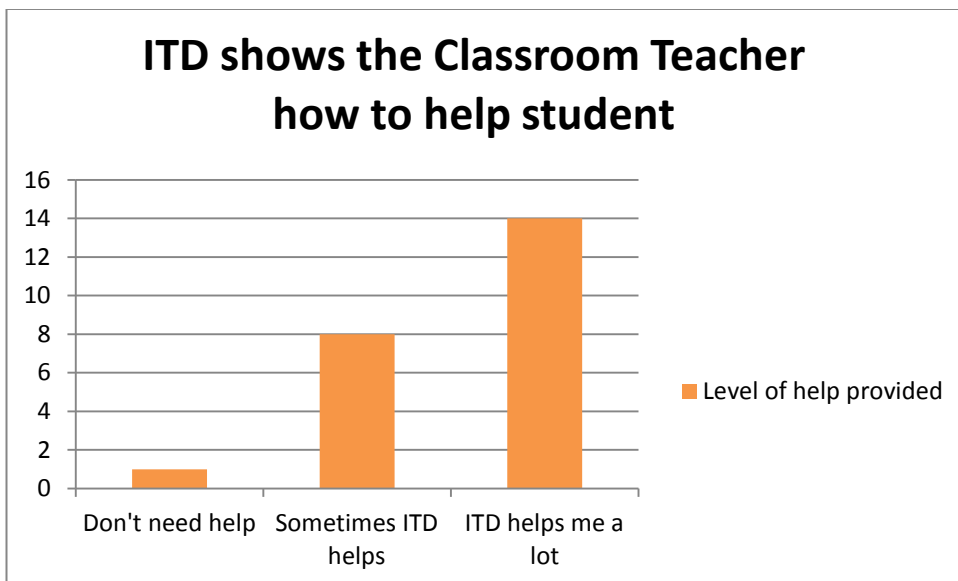
Graph 2.4



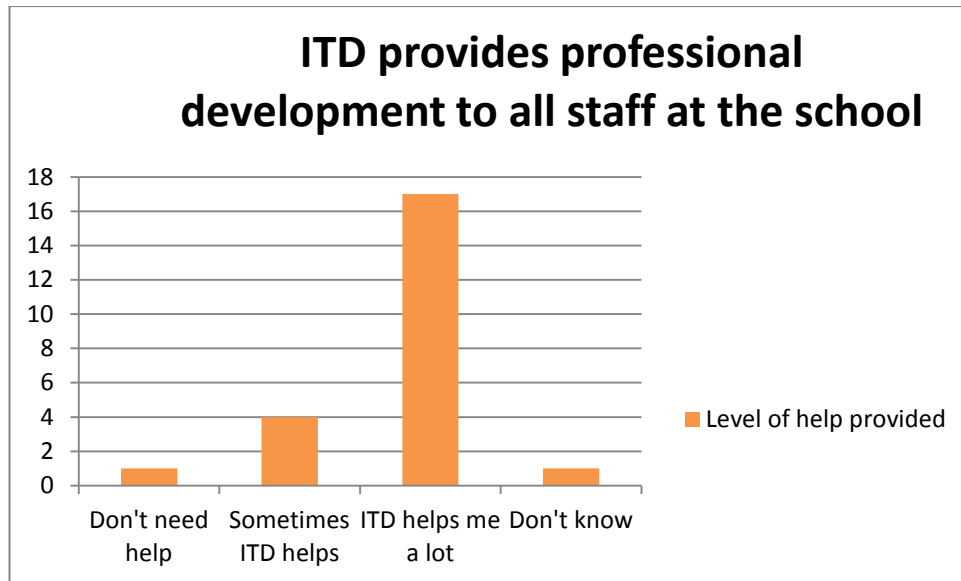
Graph 3.1



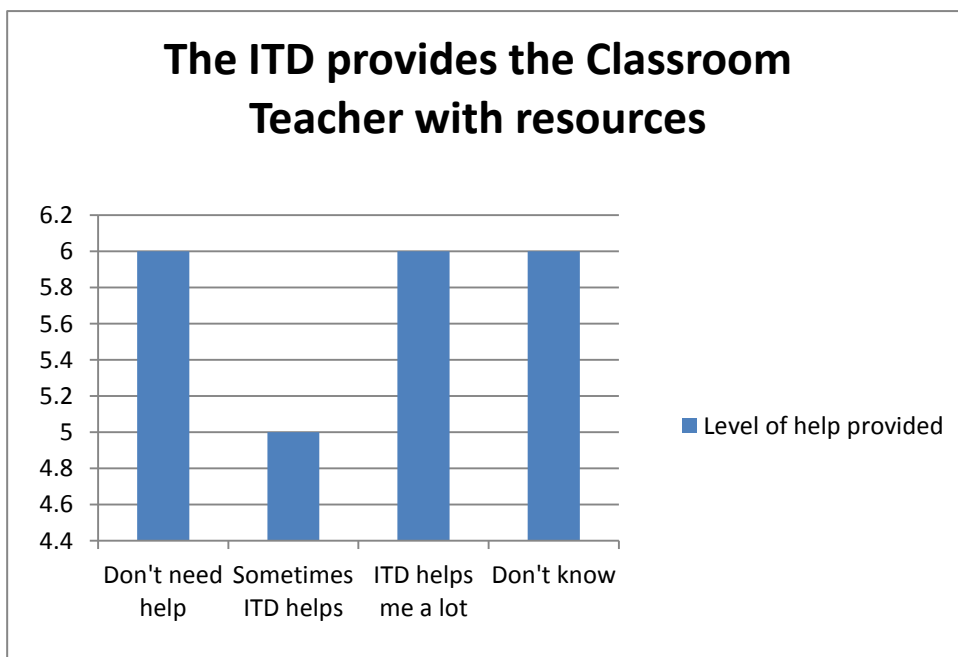
Graph 3.2



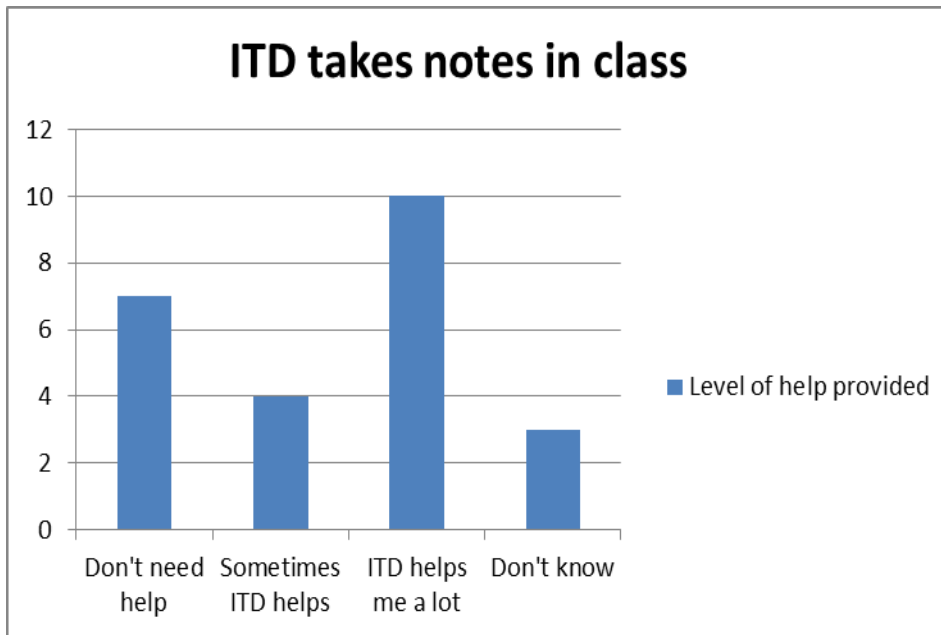
Graph 3.3



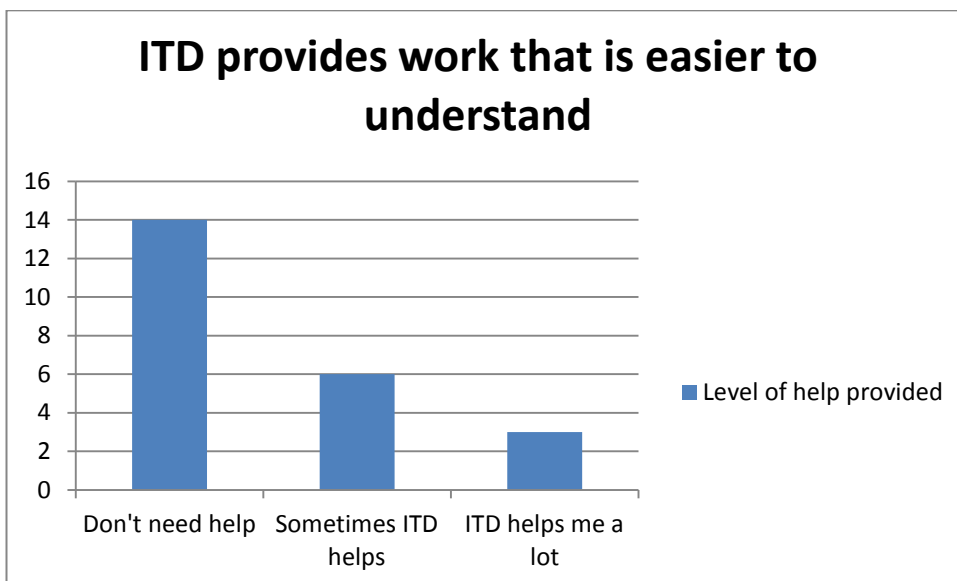
Graph 3.4



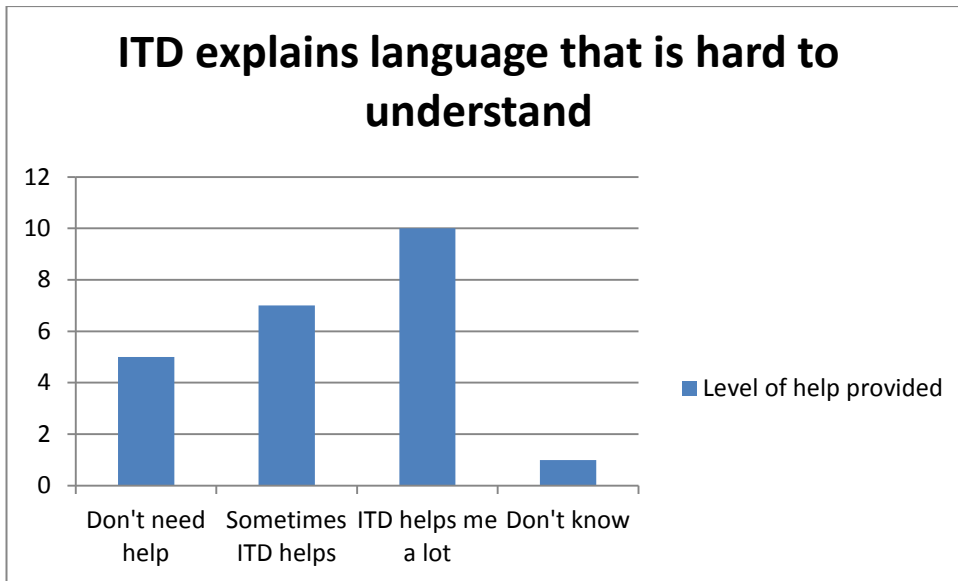
Graph 4.1



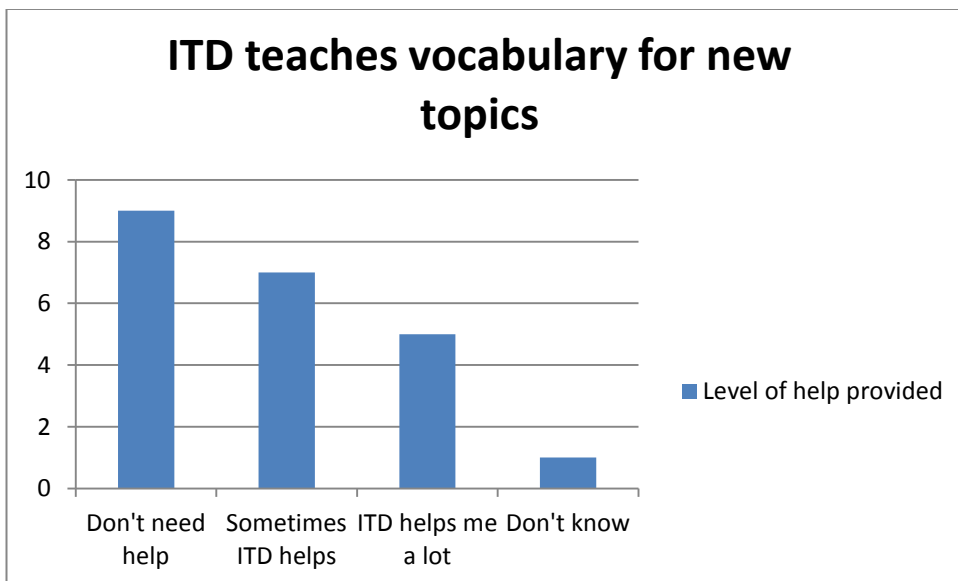
Graph 4.2



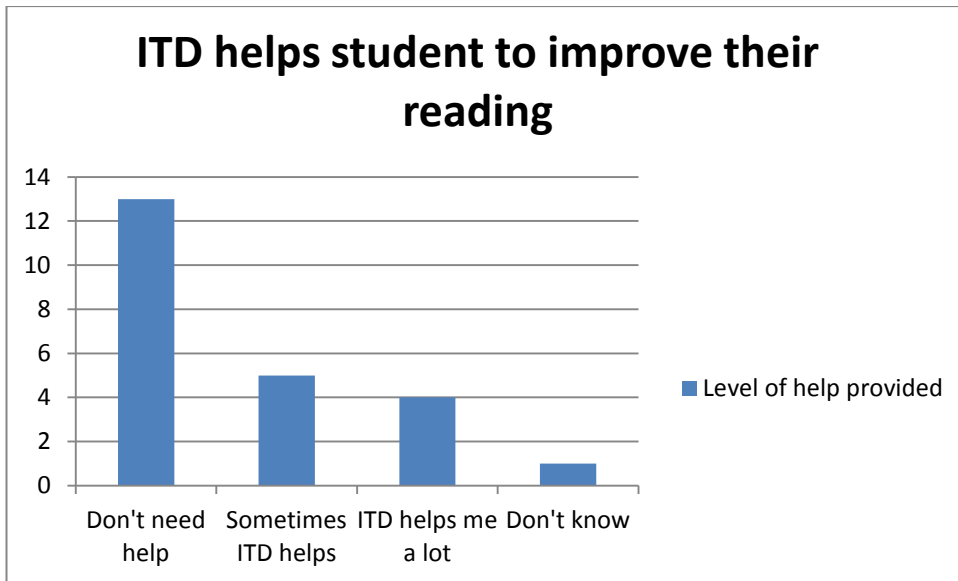
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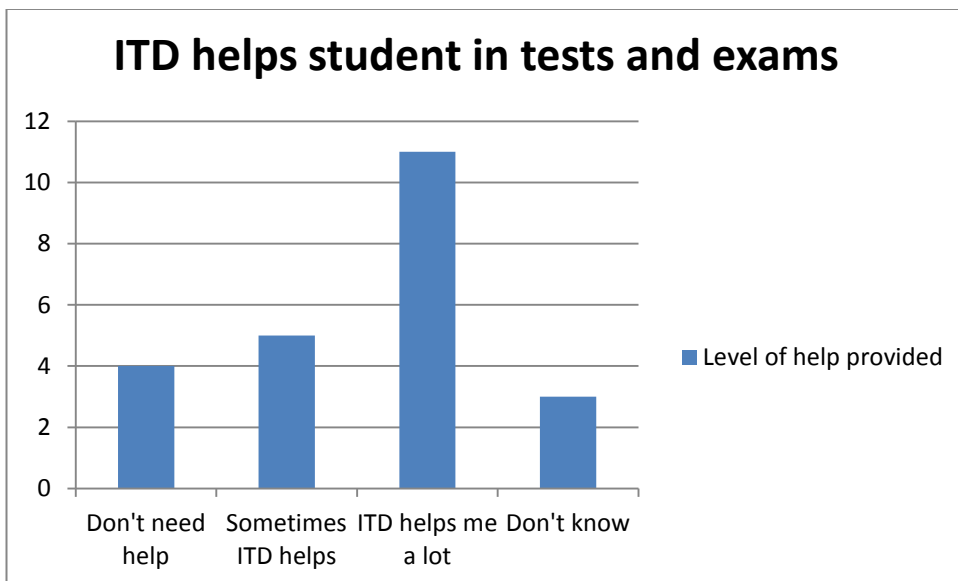
Graph 4.4



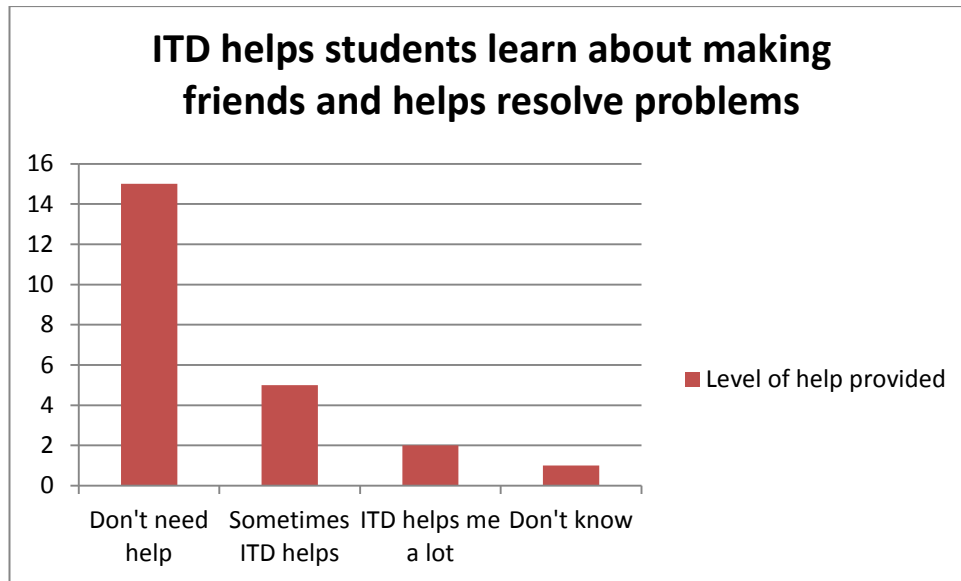
Graph 4.5



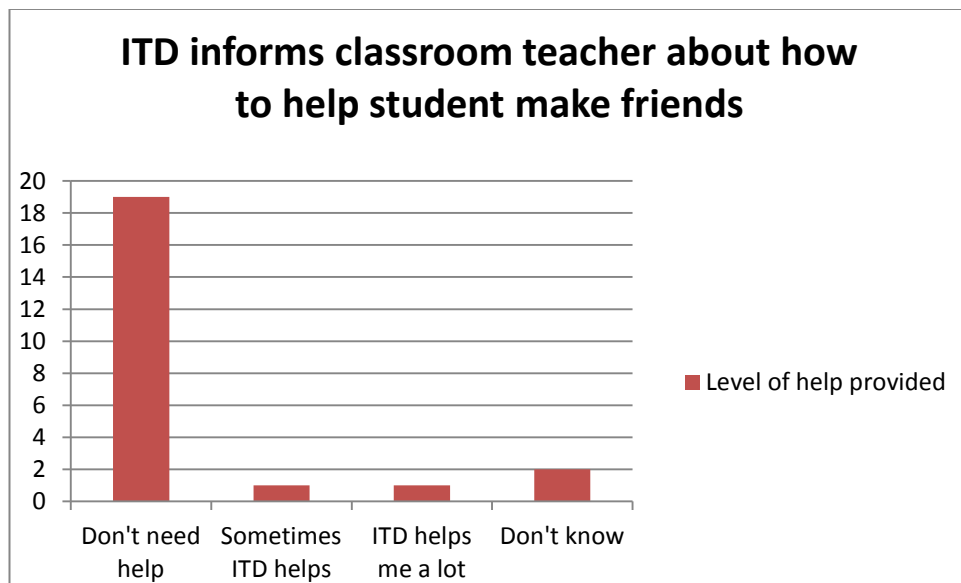
Graph 4.6



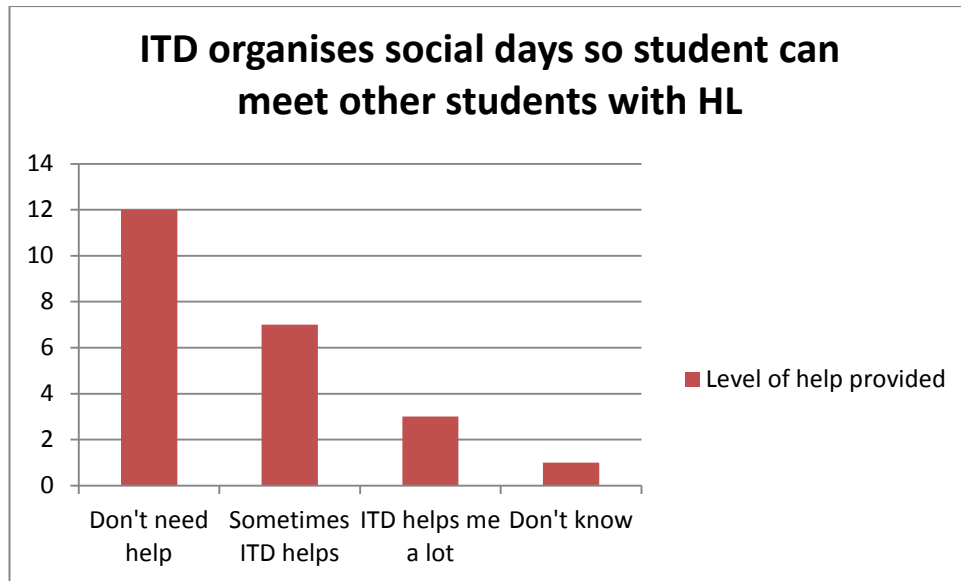
Graph 5.1



Graph 5.2



Graph 5.3



Graph 5.4

