The Characteristics and Extent of Participation of Deaf and Hard-of-Hearing Students in Regular Classes in Australian Schools

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A national randomly selected survey of a sample of deaf and hard-of-hearing students included in regular classes from kindergarten to high school in Australian preschools and schools was conducted via a questionnaire to itinerant teachers working with such students. This article reports the analysis of a questionnaire that surveyed the demographic characteristics of such students and a set of characteristics of their behavior in their placement in terms of "participation" in aspects of regular class activities. These aspects were level of integration, academic participation, level of independence, and social participation. Data are reported and analyzed in terms of the above demographic and participatory characteristics of the students. We consider comparisons with comparable reports from the United States and Great Britain and discuss implications for deaf and hard-of-hearing students included in regular classes.

This article reports a study of the characteristics of deaf and hard-of-hearing students integrated into regular classes in Australian schools. Some clarification of the terms "integrated," "mainstreamed," and "inclusion" is required here, as these terms are used differently by researchers, commentators, and education authorities (Marston, 1996; Powers, 1996b, 1996c; Stinson & Antia, 1999). Foreman (2001) and Ashman and Elkins (1998) describe "integration" as referring to a student's attendance at a less segregated setting than a special school—which could include a special education class in a regular school or a regular class. "Mainstreamed" is described as being enrolled in and participating in a regular class. Mainstreamed students may or may not be "included." "Inclusion" is often described as the outcome of a process whereby schools attempt to provide for the personal, social, and learning needs of *all* their students. Powers (1996b, 1996c) declared that in England "inclusion is an attitude not a place"; students could be "integrated" without being "included" and inclusion would need to "extend the scope of the ordinary school" (p. 37).

While Ashman and Elkins and Foreman define these terms with some specificity, there is more frequently overlap among the use of the terms by practitioners and researchers. In the reviews of previous studies included in this article, we therefore use the terms of the original researchers. In reporting our own methods and results, we usually use the term "integrated" to refer to students in regular classes being supported by itinerant teachers.

The overwhelming majority of deaf and hard-of-hearing students in Australia attend regular schools and are placed in regular classes (e.g., 85% of them in Queensland; the other 15% are almost all in units in regular schools, G. Lawrence, personal communication, September 1998). Eighty-five percent is higher than that for most English-speaking countries; for example, for the United States, Holden-Pitt and Diaz (1998) report that in the 1996/1997 school year 38% of deaf and hard-of-hearing students were not integrated at all, 22% were integrated part-time (1–15 hrs/wk, presumably mainly from specialist resource rooms or classes), and only 40% fulltime (≥16 hours/week). Schildroth and Hotto (1996)

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reported that students placed in regular classes for some or all of their educational program increased in numbers from 20% to 54% from 1975/1976 to 1992/1993. In most cases of full-time integration, these students are the only hard-of-hearing students in their class and often in their school.

Almost all of Australian students in regular classes are visited by an itinerant teacher of the deaf and hard of hearing. The number of visits to these students by the itinerant teacher can range from once per semester to three or four times each week, depending on the determined level of support required to maintain the student in the regular setting.

In most Australian states, there is a formal system, often called "ascertainment," of determining placement (regular class, special unit in a regular school, special school for deaf students, or a school for students with multiple disabilities are the most common options) and recommended level of support. An "ascertainment committee" (the name varies from state to state) usually consists of a teacher of the deaf and hard of hearing, a representative of the setting(s) being considered for placement, the parents, and specialist advisers as required (psychologist, speech or language pathologist, otologist, audiologist, etc.).

Few reports of the work of itinerant teachers in Australia are available. Roberts and Rickards (1994) provided a self-report study of students graduated from an Australian auditory-oral early intervention program. They found their students report themselves to be effective users of amplification using speech as their major means of communication. Winn (1995) reported that in one state the approval rating of the work of itinerant teachers by school principals was high. Ninety-eight percent of principals said that the service met their expectations and added to the value of the education of deaf or hard-of-hearing students in their schools. Higgs (1998) discussed a "collaborative consultation without pullout model [i.e., working with the regular classroom teacher rather than direct tutoring of the deaf or hard-of-hearing student]" in one state and claims that more direct "pullout" teaching may be required if deaf students are to obtain maximum benefit from itinerant support. Paterson and Truscott (1995) described both partial integration from oral schools and a private school's itinerant service that reported the successful use of a mixture of collaboration with the regular class teacher and pullout direct instruction for the student. Konza and Paterson (1996) commented on the professional "loneliness" of itinerant teachers and suggested ways in which this could be overcome.

More research on itinerant services and their students is available in North America and the United Kingdom. Luckner and colleagues (Luckner, 1991; Luckner & Miller, 1993, 1994; Luckner, Rude, & Sileo, 1989; Yarger & Luckner, 1999) have provided extensive details on aspects of itinerant services in the United States. In 1994 Luckner and Miller reported on a large survey of itinerant teachers and their students. They found that direct instruction of students was the most frequently adopted tactic of their itinerant teachers, followed by consulting with regular teachers, simply monitoring students' progress in regular classrooms, adapting classroom materials to the needs of deaf students, conducting assessments, mounting in-service programs for regular teachers, and attending conferences on the deaf student's progress, in that order of frequency. They found that 71% of their respondents worked mainly with a pullout model (the deaf students serviced spent 80% of their time in the regular classroom), 15% worked with the deaf students in the regular classroom, and only 4% team-taught with the regular teacher. Eighty-two percent of their respondents believed that their model was effective for developing deaf students and 91% were satisfied with their own role. Most (75%) felt that the regular teacher understood the needs of the deaf student, and 85% considered that the placement of the deaf student in a regular classroom was educationally appropriate.

Earlier, Luckner (1991) had reported that itinerant and regular teachers valued consultative models, but found many practical difficulties in implementing them, lack of time and scheduling difficulties being the main problem for both the regular and itinerant teachers. The itinerant teachers also felt that they had had insufficient training in how to implement consultative models. Yarger and Luckner (1999) confirmed these findings; the teachers surveyed valued direct teaching over consulting and again mentioned the time and scheduling difficulties.

A number of studies have examined the process of "team" or "co-teaching" one or more deaf students in

regular classes where the teacher of the deaf and the regular class teacher work together for longer periods of time in the classroom, both teaching the deaf and hearing students. Kluwin (1999) and Luckner (1999) examined co-teaching situations and found generally satisfactory outcomes. Kluwin concluded that deaf students in such situations were not socially isolated or lonely and they did not possess poorer self-images than their hearing peers. Luckner found positive attitudes toward the co-teaching model in the schools he surveyed. Respondents commented favorably on the benefits of high exposure of the deaf students to satisfactory role models of academic and social behavior, especially for speech and language, and felt that the challenge to professional skills development among teachers was stimulating.

Studies are also available of the academic progress and social inclusion of deaf students in regular classes, notably by Kluwin (1993) and Geers (1990) in the United States; Capelli, Daniels, Durieux-Smith, McGrath, and Neuss (1995) in Canada; and Lynas (1986), Powers (1996a, 1996b, 1996c), and Cameron (1981) in England. Kluwin, in an extensive study of integrated deaf students' academic and social status over 5 years, found that the "regularly mainstreamed" students made the most progress and were most likely to be in academic as opposed to vocational streams in their settings. He described a combination of pressure to emulate hearing peers academically and socially and exposure to challenging academic content as being largely responsible for these effects. Geers found somewhat contradictory results in her survey in that early integrated students appeared to do well socially and academically, but also that separate special education throughout elementary school may improve the success rate in mainstream high school placements. She thought that successful academic integration may be the result, not the cause, of well-developed language and reading skills, these skills having been previously developed in special school settings. Some young deaf adults interviewed by Gregory, Bishop, and Sheldon (1995) evinced a similar view of the benefits of early separate schooling as a good preparation for later integration.

In a sociometric study in Canada, Capelli et al. (1995) found that deaf and hard-of-hearing students integrated into regular classrooms "received significantly lower likability and social preference ratings from their classmates than . . . [a comparison group of] normally hearing children" (p. 203) and "perceived themselves to be less socially accepted than the normally hearing children" (p. 203), but that the hearing and hearing-impaired students did not differ on measures of "social anxiety" and "perception of self-competence." These differences appeared not to be related to degree of hearing loss or social status. However, "high social status" students rated themselves higher on "global self-worth." There also appeared to be few age differences in the deaf and hard-of-hearing group. Older deaf and hard-of-hearing students scored higher on only a few of their measures than the younger students, possibly indicating that experience in regular classes did not seem to have had any integrating effect.

In England, Powers (1996b) examined the results of mainstreamed deaf students at grade 11 (when the English system has a national examination). Grade 11 examination results of deaf and hard-of-hearing students were generally lower than the national hearing student average, particularly for students achieving a high number of A–C grades (14% versus 44%), though differences were less marked at lower levels of achievement. Greater hearing loss, earlier age of onset of loss, lower socioeconomic status, hearing status of parents, nonuse of English at home, and presence of additional handicapping conditions were most closely correlated with lower examination results. Cameron (1981) in a study of deaf students included in regular classes in Britain found that hard-of-hearing students "occupied a position of neutrality" (p. 28) on sociometric analyses though they were chosen significantly less often than hearing peers as seating, work, and play companions, supporting the similar sociometric findings of Capelli et al. (1995).

In an early study, Lynas (1986) found that deaf and hard-of-hearing students were generally well-accepted by their hearing teachers and classmates, and most teachers were prepared to make special considerations for the deaf and hard-of-hearing students, but that "the majority of teachers made only minor modifications to their teaching practices" (p. 242). Generally speaking, most hearing students were prepared to assist their deaf and hard-of-hearing classmates in various ways. Deaf and hard-of-hearing students appeared to be liked or disliked on "normal criteria": "friendliness, attractive-

ness, generosity, liveliness, aloofness" (p. 244), though there was some evidence of occasional name-calling and ostracism. Interviews with her sample of integrated students at a later age found them to be satisfied with the "preparation for life" that an integrated education had given them. In a later study Gregory, Bishop, and Sheldon (1995) found the views of deaf graduates of integrated education to be more equivocal, with some reporting teasing, harrassment, and ostracism by hearing peers. Gregory and Bishop (1989) had earlier found that communication difficulties between classroom teacher and deaf students impeded learning.

Despite the above research in England, little is known about the personal characteristics of Australian students receiving itinerant teacher support and the extent of their "participation" in their regular classes. This project therefore examined these variables in the context of a larger investigation of Australian itinerant teacher services.

Method

In order to investigate the work of itinerant teachers of the deaf and hard of hearing in Australia, a questionnaire was constructed (adapted in part from one used in the United States by Luckner & Miller [1994]). The questionnaire consisted of four sections, two of which are relevant for this study. One of these two sections attempted to build a picture of the personal characteristics of randomly selected "sample students" who were receiving support from the itinerant teachers. The second section examined the level of "participation" of those same students in their classroom activities, based on a system devised by Mirenda (1998). The two remaining sections asked about the training, experience, and work setting of the itinerant teachers, as well as the characteristics of their work. For information on the teachers themselves obtained from that part of the survey, see Hyde and Power (2002).

Administrators of all itinerant teachers of the deaf and hard-of-hearing services in Australia (eight from state and territory departments and four from Catholic and non-Catholic independent schools) were contacted and asked to provide a list of their teachers and their work addresses. The level of support for the project was high, and we received such lists from all services. Questionnaires were then mailed to all the teachers with the request to complete the questionnaire and return the completed form in the reply-paid envelope provided. After two months nonrespondents were followed up with a second questionnaire. The response rate was high, with a total of 143 of 151 teachers eventually responding with completed questionnaires (94.7%). All the teachers were hearing, 86% were women, all were fully qualified as teachers of the deaf and hard of hearing, and, because of the structure of Australian teacher training, all also had qualifications at one or more levels of regular teaching. They were a very experienced group: 94% of them had a minimum of 5 years' experience as itinerant teachers and 80% had also been regular classroom teachers before training as teachers of the deaf and hard of hearing. The 143 included almost all the itinerant teachers then working in Australia and data provided may be considered representative of the demographic characteristics and level of participation of the students whom they support.

All data were coded and subjected to statistical analysis using CROSSTABS in the SPSS system. Of the possible 143 responses for each question, almost all data were codeable and missing data will not be reported except where the numbers make them relevant.

In order to obtain a profile of students receiving itinerant teacher service as deaf or hard-of-hearing students in Australian regular schools, as part of the survey we asked each of our 143 respondents to alphabetize the list of students whom they supported, go down the list to the fourth student, and use that student as a "sample" student and complete a questionnaire on the personal characteristics of that student and the extent of his or her participation in their class. We asked the respondents to report only on one student to reduce the task demands (the questionnaire was lengthy) and to ensure as high a response rate as possible. Full data are not available on the number of deaf and hard-of-hearing students in regular classes in Australia. We believe the number to be about 7,000, so the 143 students in our sample represent approximately 2% of such students. However, the nature of the method of selection of the sample was such that we feel that we obtained a reasonably accurate profile of the average characteristics and participation of students receiving services for hearing impairment in Australian regular schools.

Results

Demographic Characteristics of the Students

Most of the students were girls (59%). The age distribution of the students seemed to be somewhat skewed toward younger children, with the exception of the preschool age (roughly 3 to 5 years), which represented only 6% of the students in the sample. This may well be because there are extensive early intervention programs for deaf and hard-of-hearing students in Australia that are usually separate from regular preschools, so these students may be being catered to by the staff of special services for deaf and hard-of-hearing students rather than by the itinerant teachers. This 6% is therefore probably a substantial underestimate of the number of students in this age group in Australian regular placements at preschool age. As noted, the sample is somewhat skewed toward the younger end of the age range. Twenty-seven percent of students reported are between 5 and 8 years of age, 34% between 9 and 12 years of age, 17% between 13 and 15 years of age, and 16% over 15 years of age. In Australian schools' grade structure terms, this means that 33% of these students are in high school and 61% in elementary school. This imbalance could be due to the fact that in the Australian grade structure there are eight grades in preschool and elementary school and five in high school, numbers of deaf and hard-of-hearing students transfer to units at high school age, and retention rates of deaf and hard-of-hearing students are likely to be somewhat lower beyond compulsory schooling age (16 years in most states and territories).

The distribution of hearing loss among the sample is of particular interest. Only 7% of the students are reported to have a mild hearing loss (between 15 and 40 dB). Thirty percent have a moderate loss (41–70 dB), 32% a severe loss (71–90 dB), and a somewhat surprisingly large 32% are reported as having profound hearing losses (greater than 90dB). It has often been considered in Australia that children with profound losses are mostly found in educational programs in special education units or schools for the deaf, so it is significant that just short of a third of the students reported to be receiving itinerant teachers services in regular classes are in the profound hearing loss range.

Teachers were also asked to report on the family status of the sample student. A surprisingly high 22% of students were reported as being from an indigenous Australian background. Given that indigenous Australians represent slightly less than 2% of the Australian population (Australian Bureau of Statistics, 1996), this may reflect a higher than normal incidence of hearing impairment in Australian indigenous children. It is well known that indigenous Australian children are very prone to middle ear disease. Neinhuys and Burnip (1988) reported that 25%–30% of all Aboriginal schoolchildren are likely to be suffering a significant hearing loss (i.e., a loss exceeding 25dBHL at 1 and 4 KHz in the better ear) at any one time, and this likely accounts for these rather high numbers, as such students would be included in the lists from which our itinerant teacher respondents drew their sample student. This supposition is supported by the fact that the state and territory that have high indigenous Australian populations, namely, Queensland and the Northern Territory, have the highest percentages of indigenous Australians in the sample (30% and 33%, respectively).

As expected, the majority of the students are from English-speaking background families (60%). Fifteen percent of the students are reported as having a non-English-speaking background family, which may mean that a language other than English is spoken in the home, compounding the problems of these children needing to learn via English in the regular school classroom. A surprisingly small proportion of these students come from deaf families; only 1% from oral or signing deaf or hard-of-hearing families are currently placed in regular schools according to the data made available to us.

It has often been held that many deaf or hard-of-hearing students have multiple disabilities and that this compounds their difficulties in learning. Relatively few of these deaf or hard-of-hearing children in regular classrooms have multiple disabilities (only 26%). It is likely that students with a disability in addition to their deafness are retained in special education units or special schools rather than in regular school placements. The data can be broken down into the type of disabilities manifest in these students. Eleven percent of them are reported as having an intellectual impairment in addition to their hearing impairment, 3% a learning disability, 12% vision impairment, 9% to have behavior problems in addition to their impaired hearing, and

68% of the relatively small number with multiple disabilities have more than two disabilities.

Characteristics of Student Participation in the Regular Class

Considerable discussion has occurred in education of the deaf and hard-of-hearing circles about what constitutes "successful" integration of the deaf child into the regular classroom. It has been argued, for example, that the main goal of inclusion of hard-of-hearing students in regular classes should be "social"; that is, the major objective of such placement is to enable the student to be within a "normal" context of socializing with hearing peers and age mates (for an overview, see Stinson & Antia, 1999). This approach has tended not be so concerned with whether the student is succeeding academically. On the other hand, some commentators have argued that there is little point to a student being only socially integrated; it is necessary also that the student be at least maintaining a reasonably close approximation to the age for grade levels expected of students with whom they are socially integrated (Stinson & Antia, 1999). Some deaf or hard-of-hearing people themselves, reflecting on their integrated school experiences, have argued that even though they were successful academically, they felt lonely and isolated in a regular classroom because they felt that other students did not understand their needs and were unable to communicate well with them so that they were not socially integrated (Gregory et al., 1995; Leigh, 1999).

Our data on the "sample student" provide some evidence on the extent to which these students are integrated into and work in the regular class. Eighty-one percent of our students spent over three-quarters of their time in the regular class. Our teacher respondents in 78% of cases considered the student's current regular class placement "to best meet [the student's] needs," and similarly 75% of them thought that their services "effectively met" the needs of the students.

Various characteristics of the successfully integrated student have been mentioned in the literature (Stinson & Antia, 1999). These include self-confidence, intelligible speech, getting along well with others, having good study skills, and receiving peer acceptance. Our sample students were rated quite highly on these variables—61% were said to be self-confident, 67% had intelligible speech (this variable was not further described in the survey), 64% got along well with others, and 79% were well accepted by their peers. A perhaps surprisingly low 33% were said to have good study skills.

"Participation" in the Regular Classroom

As noted, there has been considerable debate in the field about whether deaf and hard-of-hearing students are best placed in regular classes and the nature of "success" in this context. To further explore this issue with these students, we asked itinerant teacher respondents to complete a survey of "patterns of participation" (following Mirenda, 1998) on the "sample" students.

Mirenda has described a set of patterns of participation in regular classrooms that accounts for both social and academic aspects of such integration discussed in the deaf and hard-of-hearing education literature. His system is therefore particularly suitable for analyzing this situation for integrated deaf and hard-of-hearing students. Mirenda provides four aspects of a framework for description of participation in regular classrooms:

- three levels of integration (full, selective, none),
- four levels of academic participation (competitive, active, involved, none),
- three levels of independence (complete, independent with support, assisted), and
- four levels of social participation (competitive, active, involved, none).

A full description of the categories is provided in the Appendix.

Characteristics of Deaf and Hard-of-Hearing Students' Participation in Regular Classrooms

As for the level of integration of the students into the regular classroom, because of the definition of the sample, no students were excluded from the regular classroom. It was reported that two-thirds of the sample students were regarded by their reporting teachers as fully integrated into an "age-appropriate regular classroom for the entire school day." Thirty-four percent were regarded as only selectively so present, receiving

occasional educational services "in other settings." It is likely, given the nature of Australian itinerant services for deaf and hard-of-hearing students, that this would be on an individual withdrawal basis to some setting within the school. It is not likely to be a separate withdrawal room or a special education unit. It would appear that most are regarded by their teachers as fully integrated into the regular classroom for the entire school day or a substantial proportion of it.

As for the levels of academic participation of the students in the survey, two-thirds of the students are regarded as "competitive" with their age peers in the regular classroom. ("Academic standards are similar to other students in the regular school . . . [and] academic standards are evaluated using the same standards and methods as those used with peers.") Another 14% are considered to be "active," mostly following the regular curriculum but with some adjustment of the evaluation of standards achieved to meet the special requirements of students in one or more subject areas. No students in the sample were reported as "No academic standards are expected and no evaluation is undertaken," but 17% were regarded as being only "involved"; that is, their "academic standards are minimal, although students are involved with regular curriculum as much as possible. Progress is evaluated according to the individual's participation rather than academic standards."

For "levels of independence," that is, the extent to which the student can participate in regular classroom activities without special assistance, a little fewer than a third of the students are regarded by their teachers as being completely independent in the regular classroom and not needing more than ordinary support for their participation in academic and social activities. It is not entirely clear how teachers were responding in this context. In one sense deaf and hard-of-hearing students receiving itinerant teacher support are not "completely independent" because they are receiving such support. However, it seems likely that our respondents were replying in the context of the student not requiring "more than ordinary support" beyond some perhaps minimal level provided by the itinerant teacher. Just under half (46%) of the students are regarded as being "independent with support." Due to the nature of our survey, we are not able to detail the kind of support teachers regarded students requiring, but they may have been responding in terms of the fact that these students were receiving itinerant teacher support and it may not mean that other kinds of support were necessary for them to be independent within the classroom. Twenty-three percent of the students are reported as needing assistance in one way or another to be able to participate in the regular classroom. Again, we are unable to detail what kind of assistance this may be, but it is possible that it is merely the itinerant teachers' reflection of the fact that these students are receiving assistance from them. There is a relatively small number of students with multiple disabilities within the sample survey, and it may be that a proportion of these "assisted" students are multiply disabled and require special assistance beyond that needed for their hearing impairment.

For "levels of social participation" of these students, their itinerant teachers regard one-third of them as being "competitive" in the regular classroom situation. From Mirenda's (1998; Appendix) description, this is the highest level of social participation. Students not only participate in regular classroom social activities and the dynamics of the social groups in the classroom but they exert influence within the group to occasionally place their own values and desires within the group's consideration and they determine for themselves whether they will be involved in group activities. It would appear also that these students are often involved with other students in out-of-school activities. Another 30% of the students are regarded as being socially "active." These students are involved in the group and determine their own involvement in the group's social activities but are usually not leaders in the groups and may not exert influence over what the group decides to do and what activities it undertakes. Thirty-two percent of the students are "involved" in that they tend to be more passive in their participation and to follow along in the group activities without exerting any particular influence over what the group does. Only 4% are reported as being not involved at all in social activities or interactions with fellow students in the regular classroom.

Discussion

The very large percentage of Australian deaf and hard-of-hearing students are integrated into regular classrooms and, with the support of their regular and itiner-

ant teachers, by and large they function socially and academically just as successfully as the majority of their hearing peers; their family and ethnic characteristics do not vary significantly from those of their hearing classmates (with the exception of the notable overrepresentation of indigenous students in the sample). Most of their school time is spent in the regular classroom, some with only short withdrawals for specialist attention; their teachers tend to largely favor a "pullout model" of support rather than team teaching.

Two-thirds of the students are regarded by their teachers as rightly placed in a regular classroom for their whole school day and two-thirds are said to be at the "competitive" academic level of their hearing peers. On the other hand, as far as social integration, one-third are regarded as being well-integrated with their hearing peers and another 30% were seen as "going along with" the activities without playing a significant role in their planning and execution. These percentages are likely not to be significantly different from many of the hearing students in their classes (Capelli et al., 1995). Again, only one-third of these students are reported as being "completely independent" in their academic and social life in their classrooms, but teachers also report that 46% of them are "independent with support." Given that the survey was being completed by their itinerant teachers, the "support" likely was that given by those teachers, so the level of independence of these students may be close to 80% (i.e., 33% plus 46%).

At the other end of the continuum, 17% of these students are reported as having met only "minimal" academic standards, 23% require assistance in the classroom (which may only be the support of an itinerant teacher—our questionnaire does not allow us to tell), and only 4% are reported as not being involved at all socially with their peers.

All in all, this would seem to be a reasonably satisfactory state of affairs. No doubt, more help can be given to some students functioning at the lower end of the continuum on measures of participation, but it also should be remembered that a considerable proportion of these students may well function at the lower end even if they were hearing. It is not necessarily true that their hearing loss is the only contributing factor in their adjustment to the regular classroom. More detailed research needs to be done to clarify these matters.

It is of interest to compare these Australian results with some from the United States provided by Luckner and Miller (1994), upon whose questionnaire part of our survey was based. Noticeably more integrated students in Australia were girls than was the case in the United States (USA, 43%; Australia, 59%). More Australian students were profoundly deaf (32% vs. 22%), the percentages with mild losses were about the same (USA, 5%; Australia, 7%), in the middle range moderate/severe were 72% in the USA, 66% in Australia. Presence of multiple disabilities was close (USA, 31%; Australia, 27%). Somewhat more time was spent in the regular classroom by Australian students (87% vs. 80%) and United States teachers tended to work on a "pullout" basis more than Australians (80% vs. 62%) and Australians to work more with their students in the regular classroom (20% vs. 5%). United States teachers were more inclined to the view that the services provided in the regular classroom placement were appropriate (85% vs. 78%) and that the itinerant model of support was appropriate for the student (86% vs. 76%).

These data seem to indicate that the models of support and results of regular classroom placement, despite some differences, are substantially similar in the United States and Australia. In general, these data present a reasonably encouraging picture of deaf and hard-of-hearing students who are integrated into regular classes. With appropriate support from regular class teachers and itinerant teachers of the deaf and hard of hearing, most seem to make satisfactory adjustment to academic and social life with their hearing peers. Some undoubtedly find it more difficult than others, and the data on participation in various aspects of life in regular classrooms should enable teachers and administrators to develop programs to target better development for those students in areas in which they have some difficulty in adjusting.

Appendix

Mirenda's (1998) Levels of Participation in Regular Classrooms

Levels of integration

Full

The student is present in an age-appropriate regular classroom for the entire school day. However, at times

their activity patterns may vary from those of their peers.

Selective
The student is present in the age-appropriate regular classroom for some of the day but also receives educational services in other settings such as a withdrawal room, a special education unit, or the community.

None (excluded)
The student is not in a regular classroom.

Levels of academic participation

Competitive
Academic standards are similar to other students in the regular school although the overall workload may be adjusted academic standards are evaluated using the same standards and methods as those used with peers.

Active
Academic standards are not the same as those applied to peers, and workload may be reduced and modified. Students are expected to follow the regular curriculum although academic evaluation is individualized according to the student's capabilities in each subject area.

Involved
Academic standards are minimal although students are involved in a regular curriculum as much as possible. Progress is evaluated according to the individual's participation rather than academic standards.

None
No academic standards are expected and no evaluation is undertaken.

Levels of independence

Complete
Complete independence means that the student is able to participate without assistance.

Independent with support
Students are independent once they are set up with educational equipment, technical equipment, or physically positioned in an appropriate manner.

Assisted
Students are able to be involved in an activity with physical or verbal assistance.

Levels of social participation

Competitive
Socially competitive students are actively involved in the social dynamics of the group, exert influence within the group, and determine their own involvement in social activities.

Active
Socially competitive students are actively involved in the group and determine their own involvement in social activities, but they do not usually exert influence on the group.

Involved
Socially involved students are more passive and limited in their participation and determine their own involvement in group activities, but they have very little direct influence over the group.

None
These students are not involved in social activities or interactions with regular peers.

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