Language Approaches Used With Deaf Pupils in Scottish Schools: 2001–2004

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In this article we address "language approach" data as a key variable in quantitative, large-scale research on educational achievement, focusing on our work for the Achievements of Deaf Pupils in Scotland (ADPS) project. The complexity of approaches is addressed, with a particular focus on a "no-exclusion" model of service. In this context 3 years of language-related data are discussed, using constructions of language variables that take into account the variability in deaf pupils' hearing loss levels, types of provision, and professional practice. We see this as a necessary first step toward offering a nuanced context for understanding patterns in the educational outcomes among the ADPS population to be reported in a later article. The ADPS data on language approach can reveal general patterns at macro levels: our analysis suggests that, in Scotland, the extent and quality of British Sign Language/English provision may be determined more by local factors than by linguistic requirements and that ostensibly responsive policies can mask a limited spectrum for pupils and their families. However, the ADPS data are insufficiently sensitive to detailed and local variations to reflect the full complexity of language situations over time—a situation which represents an ongoing challenge for all long-term, large-scale studies.

Deaf children's acquisition of language has always been a central issue in deaf education; understanding the complex relationships between deafness, language, and cognition poses an ongoing challenge for academics and professionals (Marschark, 2006). Over the years, any one of a number of particular pedagogic strategies, aimed specifically at supporting language acquisition by deaf pupils and their access to school education, may have been favored and formally implemented at the pupil, school, service, or local authority level. We begin by describing strategies, or approaches, used in the United Kingdom and major influences on the choice of approach adopted at both service and individual levels, suggesting that a "no-exclusion" model offers the optimal chance to assimilate and exploit all elements of rapidly developing knowledge and opportunities. This and an exploration of the constraints of large-scale studies in addressing the complexities of language data provide the context within which 4 years of relevant data from the Achievements of Deaf Pupils in Scotland (ADPS) project will be analyzed.

The authors are grateful to Emily Healy for her meticulous data management, to Katie Williams for comments and advice, and to the journal's peer reviewers for helpful suggestions. The authors acknowledge financial support from the Scottish Executive Education Department for the data collection and from Moray House School of Education for support in writing this article. No conflicts of interest were reported. Correspondence should be sent to Marian Grimes, Department of Educational Studies, The University of Edinburgh, Simon Laurie House, Holyrood Road, Edinburgh EH8 8AQ, UK (e-mail: marian.grimes@ed.ac.uk).

Language Approaches and Deaf Education

Types of Approach

In the United Kingdom, approaches have been predominantly monolingual, with a focus on the development of spoken English for communication and as a means of instruction. Simplistically speaking, a monolingual "nonvisual/visual continuum" exists, with approaches strongly emphasizing auditory over visual modes of English at one end and those including the use of manually coded modes at the other.

doi:10.1093/deafed/enm026
Advance Access publication on July 16, 2007

In terms of "oral" approaches which exclude the use of manual cues, Watson reported, in 1998 (p. 71), a general move away from structured "traditional forms of oralism" toward a greater focus on enhancement of the kind of pragmatic acquisition and development experienced by hearing children. The degree to which the gleaning of visual information from the lips (and faces) of speakers is encouraged depends on how far individual professionals adhere to the view that capitalizing on this visual cue hinders the maximization of audition (e.g., the "natural aural" approach). Although there has been a wealth of complex and conflicting evidence on the effect of visual cues on the development of spoken language, recent evidence relating to operation timing and to the usage of cochlear implants suggests optimism for the unraveling of these complexities (Marschark & Spencer, 2006, p. 14).

A further step along the visuality continuum sits the "cued speech" program, which uses a series of specially created handshapes near a speaker's lips to cue phonemes. As with other highly specialized systems, employment of cued speech has been concentrated in a few services and there has been little tradition of using cued speech in Scotland.

Most other manually coded modes of English use sign vocabulary "borrowed" from the lexicon of British Sign Language (BSL). The degree to which they aim to encompass grammatical nuances of spoken English varies from those which add artificial grammatical signifiers (e.g., the Paget Gorman system, once common in north-east Scotland, but now little used) to variants of sign-supported English (SSE), which add few, if any, of such artificial signifiers. The term "total communication" (TC) has been commonly used to indicate the use of SSE (Lynas, 1994, p. 36). This, in fact, was the definition of TC used by Jordan in 1986, when he referred to a more widespread use of TC in Scotland than in England.

In contrast to approaches on the monolingual continuum, the notion of a "sign bilingual" approach, fully exploiting both English and BSL as separate languages, is a more recent phenomenon. It began to emerge in the early 1990s, following, among other things, growing evidence of the completeness of BSL as a language. In this case, the focus is on both English and BSL as planned languages of communication and instruction, requiring equal value to be placed on each language and associated culture. Dominance of one or the other language is designed to be dependent on aptitudes and preferences gleaned from assessment and observation, and SSE may be used in a specifically targeted sense (Pickersgill & Gregory, 1998; Swanwick & Gregory, 2007).

The dichotomy between the more child-centered, philosophical-stance version of TC and the narrow SSE version has existed for decades (Spencer & Tomblin, 2006). However, the same term continues to be used for both. In a recent overview of U.K. "language approaches" used with deaf children, Gregory (2005) indicates that TC is used in both monolingual and bilingual contexts: that is, the use of the term does not intrinsically indicate whether or not BSL is used. Although a "sign bilingual" approach is distinguishable by the manifestation of a strong, underpinning cultural–linguistic philosophy (Pickersgill & Gregory, 1998), the difference between it and a definition of TC which includes BSL may, in practice, appear blurred.

For more detail on the full spectrum of approaches currently used in within the United Kingdom, see British Association of Teachers of the Deaf (BATOD, 2006b), Gregory (2005), and Gregory, Knight, McCracken, Powers, and Watson (1998, section 2). See also Marschark, Schick, and Spencer (2006) and Marschark and Spencer (2006) for a historical review covering the United States as well as the United Kingdom.

Although the biennial survey conducted by BATOD (2006c) has consistently shown a predominance of monolingual oral approaches among deaf children in England since 1998, Fortnum, Marshall, Bamford, and Summerfield demonstrated, in 2002, that the majority of these children have less than severe hearing loss [HL]. They reported that a TC approach predominated among pupils with a greater than severe HL. In this case the definition of TC was broadened to include a "full spectrum of language modes including BSL, but concentrating on the use of sign support alongside spoken English" (Fortnum et al., 2002, p. 126). This definition thus suggests a child-centered approach, but with a monolingual bias. In terms of bilingual approaches, Branson and Miller (2002) note that pedagogies based on sign

language or including sign language as an appropriate target language for deaf people—that is, sign bilingual pedagogies—have not historically been widespread in the United Kingdom. Certainly, the proportions of pupils reported in the BATOD surveys as using a sign bilingual approach are relatively small (e.g., 4% in the England 2003 survey; BATOD, 2006c).

Variation among the spectrum of language approaches for deaf children map onto variations of language and communication policies implemented by individual services and schools. Baker and Knight noted, in 1998, an overall trend toward TC among the "policies" of U.K. schools and units for deaf children. They offered three different definitions of TC to respondents and found that there was a general preference for the version which was child centered, but which placed equal value on BSL, and therefore veered toward a more explicitly bilingual definition. It should be noted that this study excluded visiting services for pupils in individual mainstream placements, a growing category within specialist provision for deaf children, following the increasing adoption of the "inclusion agenda" by local authorities over recent years.

It may appear that "philosophical-stance TC" or sign bilingual local authority policies could encompass all individual approaches along the monolingual continuum as well as encompassing the bilingual option—across the spectrum of school placements. In order for a full linguistic spectrum of choice to be offered, challenges relating to the provision of particular environments would need to be met, from rich acoustic environments to rich BSL environments. Before returning to this point, some of the key influences on choice of approach will be briefly explored.

Influences on Choice of Approach Adopted at Individual and Policy Levels

Conceptualizations of deafness. Even though all language approaches are designed to be used by professionals to facilitate children's language development and access to school education, differences in approaches have often seemed less motivated by strictly educational concerns and have appeared more typically to reflect particular underpinning conceptualizations of deafness (see, e.g., Young et al., 2006, p. 331). If deafness is viewed solely as a medical deficit, then it is unlikely that a bilingual individual approach or overall policy will be developed and offered; if it is seen primarily as a linguistic issue, then a bilingual approach or policy is more likely. Brennan argued in 1999 that a de facto oral approach prevails in the United Kingdom and that a major reason for this is because the former conceptualization is commonplace. Furthermore, recent work indicates that advancements in technology relating to amplification and early diagnosis may increase the likelihood that professionals and parents whom they advise hold the "deficit" view (Young & Tattersall, 2007).

Language preferences and skills among professionals. A further influence on adoption of specific approaches is the impact of individual language preferences and skills among the teaching staff themselves. For various reasons, including the constantly developing range of approaches, it is perhaps not surprising that skills and knowledge gaps have been identified among the profession in relation to some language programs. In the late nineties, Watson (1998, p. 70) described how idiosyncratic oral approaches had developed as a result of teachers wishing to adopt an oral approach but "lacking a precise methodology to follow, (they) have developed their own strategies, often using elements of other approaches." With respect to TC, both Spencer and Tomblin (2006, p. 173–174) and Baker and Knight (1998, p. 79) describe how professional/parent limitations in sign skills are significant in the degree to which a more bilingual version of the approach—that is, one encompassing the use of BSL—could be adopted.

Educational policy. Policy drives, such as the inclusion agenda, mentioned above, can also exert pressure on language approaches adopted by services. In terms of inclusion, the influence is indirect, in so far as it has directly affected the nature of placement choices available. Thus, in 1983, there were 13 schools for deaf children in Scotland; by 1994 there were 9 (BATOD, 1984, 1995), and by 2001 there were only 5 (ADPS, unpublished data). A "presumption" of mainstreaming

for "all" children became legally binding in Scotland in 2000 (Scotland, 2000).

As part of this general shift, the nature of unit provision has become more complex. In 1986, Jordan described units as "partially hearing units," reflecting the fact that most profoundly deaf pupils were in schools for deaf children. However, one effect of inclusion has been that it became more likely that pupils with severe and profound losses would make use of unit provision. Furthermore, Jordan reported on methods of communication used with "whole classes" within units, thus indicating the separateness of provision from the rest of the school (Jordan, 1986). It is now more often than not expected that deaf pupils, in schools with units attached, will be taught within the regular classes in the main part of the school as far as is possible. Significantly in this respect, researchers from the ADPS project had to change wording of an option about pupil school placement in annual surveys from "unit or resourced base attached to mainstream school" to "mainstream school with unit or resourced base attached," in order to respond to teachers' difficulty in completing the initial version. Thus, the population using the services provided units is more diverse and services within units are likely to be more individualized.

This overall shift has meant that the main language of curriculum delivery for most deaf children is spoken English, whether or not it is then translated into BSL (or enhanced by manual cues) by specialist staff.

The underlying conceptualizations of deafness, as described above, directly affect views on language aspects of the inclusion framework. Brennan (1999, 2003) suggests that the enshrinement of children's rights in international inclusion policy and legislation should provide the drive to ensure that all deaf children have a right to access BSL, as part of a right to linguistic (and cultural) access. However, she argues that a more superficial definition prevails, which has the effect of restricting rather than widening this opportunity: "While the broader social inclusion agenda gives recognition to linguistic and cultural diversity, educational inclusion too often means linguistic exclusion in relation to deaf children" (Brennan, 2003, p. 672).

Effect on Educational Outcomes

The belief that one approach over another will enhance educational outcomes is undoubtedly a key factor in the choice of approach adopted at individual and policy levels. However, the relationship between approaches and outcomes—in particular, pupil attainment—is not only complex but also often controversial and highly contested. No one approach has been proven to be, in itself, the solution to the problem of the general underachievement of deaf pupils (Marschark & Spencer, 2006, p. 16–17; Marschark et al., 2006, p. 9). Despite many claims to the contrary, it has been demonstrated that the basis for claiming superiority of approaches which specifically exclude signing, per se, has been consistently weak (Marschark & Spencer, 2006, p. 4; Powers, Gregory, & Thoutenhoofd, 1998, p. 132; Young et al., 2006, p. 327). Also, there are persisting concerns over what used to be described as "oral failures" (Lynas, 1994, p. 29)—individual children who are transferred from oral to signing programs because of lack of linguistic and cognitive progress. At a recent Scottish conference, one Australian delegate referred to "the late-arrival phenomenon," relating to an effect of the routinized adoption an auditory–oral approach following cochlear implantation (Leigh, 2006). In cases where the implant has turned out, later into the placement, to provide insufficient aural support for successful oral or monolingual pedagogy, the typical effect is a delay in the acquisition of both spoken and a signed language. Leigh suggests that these delays can be avoided by challenging the tacit connection between implantation and monolingualism; that is, by applying principled "sign-inclusive" models.

By contrast, it is acknowledged that there is some way to go in fully understanding and addressing developmental challenges inherent in the mental crossovers between signed and spoken languages (Marschark et al., 2006, p. 15). Some scholars have also noted specific language development challenges, in relation to crossovers between spoken and manual modes of English, among cochlear-implanted pupils. These findings have yet to be explored and corroborated, but tentative explanations have been put forward (Burkholder & Pisoni, 2006; Geers, 2006).

New Developments

Bearing in mind these complexities, the potential for offering a rich spectrum of linguistic options to deaf children and their families, to match individual aptitudes and abilities, has arguably never been higher. Recent developments in technology, particularly in cochlear implantation and digital hearing aid systems, have substantially increased the potential of spoken language development through audition. During the same period, research into sign linguistics and, in 2003, the recognition of BSL as an official language of the United Kingdom have increased the potential for BSL to be a positive linguistic option for U.K. deaf children and their families, in addition to English. In Scotland, deaf pupils can both receive examination questions in BSL and sign their responses. Also, the advent of Universal Newborn Hearing Screening has raised expectations that early diagnosis and early intervention will also enable early support for age-appropriate language development among deaf children—spoken and signed. This is all taking shape within a legislative and policy context which is progressively more respectful of the rights of parents to make choices about their child's education (see, e.g., Scottish Executive, 2005a, p. 14), within a multilingual environment (Scottish Parliament, 2003; Scottish Executive, 2005b).

The Potential of No-Exclusion Service Provision

Taking all this into consideration, the application of any narrow language approach to all deaf pupils in a class, school, or area is being questioned anew. Knoors (2006) has argued for a no-exclusion service provision for deaf children and their families, which would take into account the wide diversity of strengths and weaknesses of individual language learners, by exposing them to rich opportunities to develop both sign and spoken language. In this model, a "prolonged multilingual development" would be viewed as an enrichment rather than a disadvantage and children's linguistic aptitudes and abilities could be nurtured through ongoing assessments and quality service provision tailored, as far as possible, to the individual pupil. This model does not imply that monolingual approaches are restricting in themselves. Instead it recognizes that using a monolingual approach should be the outcome of a well-informed "choice from a menu of options" on a per-case basis; within a no-exclusion model of service provision, a monolingual approach therefore cannot be a de facto, default implementation for all. In this model, the most crucial feature is the breadth and depth of linguistic opportunities within which the child and his or her family can proactively make an informed choice, whatever that choice is—and whether or not the approach changes over time. As Gregory (2006) recently stated, in relation to the same issue among cochlear-implanted children, "It is not the choice that the child makes that it important, but their opportunity to make a choice."

Arguably, Hyde's concept of "open futures," as cited by Young et al. (2006, p. 333), also implies access to the full cultural and linguistic spectrum in order to keep options open, thus taking sociocultural issues into account as well as attainment and offering an alternative conceptualization to a deficit model. The availability of services with well-resourced, accessible bases in the provision of BSL and English modes is essential to this model. As already suggested, it could be argued that the more child-centered, bilingual definition of TC, and sign bilingual policies, are applicable in broad terms, assuming that it is possible to provide quality environments and services to meet individual requirements—and that it is possible to assimilate research advances in resolving contested issues (such as the place of visuality within aural/oral approaches).

In summary, the picture of language approaches used with deaf children in Scotland and the rest of the United Kingdom is largely within a monolingual framework, complex, and historically controversial. While opposing pressures to favor one approach over another still exist, so also do new opportunities to offer a wide linguistic spectrum of approaches within policies at service and local authority levels, in order to optimize individual potentials. The belief that language approach is a significant independent variable in educational outcomes leads research studies to place high value on language approach data. However, investigating the complex reality of language approaches used among large populations of deaf children is challenging, both in terms of meaningful definition and in

terms of isolating the effect of individual approaches and policies.

Next, a contextual overview of other large-scale studies will describe ways in which other large-scale surveys have attempted to address some of the main challenges of collecting and reporting on language approach data.

Language Approaches in Surveys of Deaf Pupil Populations

There have been few large-scale surveys of deaf pupil populations to date, notable examples being the annual survey by Gallaudet Research Institute (GRI) in the United States and the biennial survey by the BATOD in the United Kingdom. In addition, the Medical Research Council undertook snapshot studies of the U.K. population in 1998 and 1999. These included data on language and communication approach, as a fundamental factor in a deaf pupil's educational situation and a key variable for researching outcomes (GRI, 2006; BATOD, 2006c; Barton, Stacey, Fortnum & Summerfield, 2006; Fortnum et al, 2002; Stacey, Fortnum, Barton & Summerfield, 2006).

The variety in categorization of approaches used by these studies and the way in which they have changed over time (see Appendix A) create challenges in making comparisons between survey data. However, in themselves, these varieties and changes highlight key issues, including the complexity of distinguishing between languages and language modes—and between philosophies and methods—where variations are blurred or have been rendered ambiguous by different interpretations developing over time. They also appear to demonstrate the problems inherent in achieving a balance between, on the one hand, the desire to reflect the complexity of language situations in the most meaningful way and, on the other hand, reducing this complexity to a formal range of categorizations that is needed for statistical analysis—and designing survey instruments that are sufficiently transparent to evoke high response rates. As a factorial concept, language approach is therefore necessarily a construct of much reduced complexity, relative to what it is supposed to represent.

Thus, although the 2000 and 2003 BATOD surveys made efforts to clarify languages and modes of TC and sign bilingualism by deconstructing and reconceptualizing component elements (e.g., by creating "BSL-dominant" and "English-dominant" versions of the sign bilingual approach), complaints from teacher respondents about prohibitive complexity have led to the most recent survey's reversion to a simpler, but arguably more superficial, categorization. Although GRI's reported categories of language and communication have remained constant for the last few years, they too provide a relatively basic indication of languages and communication modes used with pupils.

Therefore any long-term research study of a large deaf pupil population is faced with the considerable challenge of defining language approaches in a way which accurately represents their range and complexity and the way these change over time, while at the same time maintaining enough simplicity to maximize survey response rates.

The rest of this article focuses on the annual survey undertaken by the ADPS project.

The ADPS Project

The ADPS project was established by Mary Brennan in 2000 to track the educational achievements of Scottish deaf pupils. The project aimed to explore a wide range of influencing factors from different educational angles. The main core of the ADPS project is an annual national survey of school pupils and preschool children—the only annual, national, longitudinal database in Europe of deaf children which, unlike other similar surveys, will enable overtime tracking of both individuals and cohorts. These data have been supplemented with "one-off" teacher, family, and specialist services'/schools' surveys and some qualitative study in the form of pupil and former pupil interviews. This article will mainly focus on selected data from the pupil survey and will also refer to relevant data from the teacher and service surveys.

It is intended that further publications will address issues of language approach and educational outcome with regard to ADPS data. We undertake here the prior task of describing the complexities of the language and communication data itself. This includes most notably the interface between individual approaches and service policies, using selected data from

the pupils survey, with reference also to relevant data from the teacher and service surveys. It also features a particular focus on the extent to which ADPS data record clearly bilingual elements in service provision (as part of manifest policy interest in the development of no-exclusion models by services).

Method

The National Pupil Survey

Five annual surveys of individual pupils have, to date, been undertaken (2000–2005), using paper questionnaires as research instruments. The content of the questionnaires was devised in consultation with a wide variety of interested groups. Respondents are teachers of deaf children.

It was decided to define the target population, referred to as Group A, by the level of service received, rather than by the level of HL, in recognition of the fact that mild and unilateral HLs can sometimes impact on learning (Most, 2004) and also that conventional audiometric descriptors (BATOD 2006a) can be misleading in functional terms (Brett, 2003). The research team were aware that this was not without its drawbacks, as the level of service, particularly for children with milder losses, could conceivably be resource led rather than needs led: a child with a mild or unilateral loss could be classed as Group A in an area with more resources than in another area which may only provide an annual monitoring service to the same child. There was also a remote possibility that a pupil with a significant HL could be excluded from Group A because of lack of requirement for any access services or regular monitoring. However, it was decided, on balance, that the following definitions of the target populations would provide the best compromise:

- "Group A" pupils, who either attended a school for deaf pupils, a mainstream school with a unit for deaf pupils, or were visited by a teacher of deaf children twice a year or more;
- "Group B" pupils, who were visited once a year or less (i.e., they may have been on a "monitoring list"; no individual records were established for these pupils and aggregated data were restricted to: population, type of placement, and HL level.)

Teacher commitment, personal follow-up, and a rolling program of local presentations undoubtedly contributed to the high response rates obtained: an average of 96% of possible Group A questionnaire returns in the first 4 years.

The Service Survey

A survey of all deaf education services in Scotland was undertaken in 2005, in the form of questionnaires completed by service heads/coordinators. The content, including the range of types of language and communication policies, was devised in collaboration with BATOD and the Scottish Heads of Services Forum. Types of services included were the following: schools for deaf children, units or resourced bases for deaf children attached to a mainstream school, and mainstream visiting services. Due to variations between the ways in which local authorities organize and manage services, types/combinations of services which are administratively autonomous vary among regions (e.g., in one authority a visiting service will be responsible for both unit provision and mainstream visiting services—in another authority, a similar unit may be managed separately from the local visiting service). The ADPS definition of administrative autonomy was devised by discussion with key individuals in local authorities. Appendix B shows the nature of individual services.

The Teacher Survey

In 2003, ADPS questionnaires were completed by individual teachers of deaf children about themselves. Content was devised in collaboration with the BATOD. A section on qualifications and current training was included, with specific questions relating to qualifications in language and communication. A total of 255 of a possible 311 were returned (82%), which included responses from both full-time and part-time staff.

ADPS Language and Language Approach Data, 2001–2004

Definition of language approaches. The content of language approach-related survey questions was devised

Table 1 Language approaches used in schools

Type of approach	Languages/language modes included
No data	No data
Spoken/written English only	Spoken English and written English
BSL/English bilingual	Spoken English, written English, and BSL
TC/a (combining English and SSE)	Spoken English, written English, SSE
TC/b (combining English and signed English)	Spoken English, written English, signed English or Paget Gorman
TC/c (combining either TC/a or TC/b with some use of BSL)	Spoken English, written English, BSL, SSE, and/or signed English or Paget Gorman
Simplified/augmented systems (any combination including Makaton, Signalong, and/or a symbol system)	Makaton, Signalong and/or symbol system; may also include any combination of spoken English, written English, SSE, signed English, Paget Gorman, and/or other (e.g., body signs)

Note. Five pupils were reported as being exposed to other languages/modes at school as follows: Gaelic, Swedish, Punjabi, Danish Sign Language, and finger spelling.

by the research team in consultation with teachers of deaf children. Approaches were thus defined as those relevant within Scotland. In order to address likely ambiguity over the term "total communication," as explored in the Types of Approach section, above, separate definitions were created, which distinguished between monolingual versions of TC and those with a sign bilingual element.

The construction of the language approach variables from the data collected is described later in this section.

2000/01 National Pupil Survey data. The first year of language/language mediums data has not been reported in this article even though, in that year, respondents were asked about the language policy of the service and the languages/language mediums used with the pupil. This was due to apparent inconsistencies in responses to both questions. In terms of policy, more often than not, different teachers from the same service reported different versions of their language policy. Although this meant that the data could not be used as definitive descriptions of individual policies, the service questionnaire to heads of service enabled this to be largely rectified. It is worth noting here because the inconsistencies among the responses is a salient finding in its own right, providing new insights into an apparent lack of shared understanding between teachers and managers about the policies of their service. Inconsistencies relating to languages/language mediums are explained in Appendix C.

Construction of Language Variables

From the second year of the National Pupil Survey, further minor changes were made to the questions relating to language and communication at school, partly reflecting development in thinking and partly to harmonize with the BATOD questionnaire in Year 3. For the reporting below, these responses have been harmonized, using intervening database scripts that order the responses according to fixed sets of values. Service Survey respondents were also asked to indicate any changes to language policy since 2000, thus enabling relevant policies to be applied, within the database, to individual pupils between 2000 and 2005.

Two discrete variables pertaining to language and communication are constructed for this study: the language situation applied to the pupil within the classroom, as indicated by the National Pupil Survey respondent (Table 1); the specific language policy that operates within the service that supports the pupil, as confirmed by the Service Survey respondent (Table 2).

Results

Language Approaches Used With Pupils in Schools

Table 3 details basic demographic information about the Group A pupil population. The data have been analyzed descriptively in order to best capture and present the complexities of variations in language provision for deaf pupils.[1]

Figure 1 shows that the vast majority of pupils in ADPS Group A are exposed to spoken/written

Table 2 Language policy of service

Policy description	Notes
No data	
No specific policy	Either specifically stated or implied that the service responds to all language/communication requirements of individual pupils
Spoken/written English monolingual	Spoken English only, with pragmatic use of lipreading as a visual cue; no use of signs
Specifically natural aural	Spoken English, with specific emphasis on optimizing children's residual hearing; use of everyday interactions; lipreading not encouraged; no use of signs
Specifically structured oral	Specifically structured, systematized teaching of spoken English; encourages use of the visual cue of lipreading as well as residual hearing; no use of signs
BSL/English bilingual	Declared use of both BSL and English as languages of instruction and communication; the differences between the two languages are recognized
TC/a	Combining English and SSE
TC/b	Combining English and signed English
TC/c	Combining either TC/a or TC/b with some use of BSL
Other	Relates to two anomalous situations, pertaining to less than 15 pupils per year

English only at school, with Total Communication C (TC/c) being the next most common approach. There was little change to the pattern over the 3-year period, although there was a slight increase in the proportion exposed to a BSL/English bilingual approach.

Within the following analysis, only children with bilateral HL were included. Across the 3 years, an average of 13% of the total population were excluded because they either have a unilateral HL or because no information was reported on HL level. HL levels of pupils were cross-tabulated with the language approach used at school (Table 4).

As can be seen from Table 4, the vast majority of pupils with mild/moderate HLs and just over two thirds of severely deaf pupil, were in spoken/written English-only situations. Similarly, around three quarters of pupils in spoken/written English-only language situations had mild and moderate HLs. The biggest proportion of pupils in BSL/English bilingual situations were profoundly deaf. A larger proportion of profoundly deaf children used TC/c compared to BSL/English bilingual, although the gap between the two approaches narrowed after 2001/02. About one quarter of profoundly deaf pupils were in spoken/written English-only environments. Although the largest proportion of severely deaf pupils are in spoken/written English-only situations, the small percentage in BSL/English bilingual contexts increased slightly over the period, at the expense of the percentage in TC/c situations. The numbers were relatively small for TC/a, but the largest group in this language environment was pupils with cochlear implants. However, among this group, the proportion using English-based sign systems (TC/a and TC/b) declined slightly over the 3 years, whereas the use of BSL/English bilingual approaches among this group increased across the 3 years.

The number of cochlear-implanted pupils in the largest language approach category (English-only language situations) places them "in between" the profoundly deaf and the severely deaf pupils, but with respect to the second largest category (TC/c), their number is more akin to the number of profoundly deaf pupils. The number of cochlear-implanted pupils in BSL/English bilingual situations is much more like the number of severely deaf pupils in BSL/English situations, including the increase in their number across the 3 years. The number of cochlear-implanted pupils in English-only situations and in BSL/English bilingual situations rose by a comparable percentage increase across the 3 years, and in that pattern the cochlear-implanted pupils are unique.

Tentative "pairing" patterns seem to emerge from the language situations of cochlear-implanted, profoundly deaf, and severely deaf pupils across the 3 years, and these are summarized in Table 5.

Table 3 Basic demographic information on the ADPS Group A school population 2001–2004

	2001/02	2002/03	2003/04
Gender (%)			
Male	54.9	55.1	54.5
Female	45.1	44.9	45.3
Age in years (mean)	11.13	11.31	11.61
Hearing loss[a] (%)			
Within normal limits	1.3	1.2	0.9
Unilateral (mild)	2.3	2.0	2.0
Unilateral (moderate)	2.7	2.6	2.1
Unilateral (severe)	0.8	0.7	0.6
Unilateral (profound)	0.6	0.5	0.4
Bilateral (mild)	22.8	21.9	20.8
Bilateral (moderate)	28.4	29.6	30.4
Bilateral (severe)	15.1	14.3	13.9
Bilateral (profound)	11.5	10.6	11.3
Cochlear implant[b]	9.0	10.1	11.5
Unknown	5.4	6.6	6.2
School level (%)			
Primary	59.3	56.5	52.1
Secondary	40.7	43.5	47.9
Placement type (%)			
"SEN" placement[c]	8.8	8.0	6.4
F/T mainstream school	65.6	62.9	62.4
F/T mainstream school with HI unit	14.7	16.8	17.2
F/T school for deaf children	8.3	9.6	10.8
Split placement	2.0	2.2	1.0
Unknown	0.5	0.5	2.3
N	1,382	1,293	1,121

[a]The most widely used system for categorizing HL levels has been used, as recommended by the BATOD (2006a).

[b]See Grimes (2005) for an account of why cochlear-implanted pupils are treated in this context as a separate group.

[c]This refers to placements in schools and units for children with learning difficulties.

HI unit = unit for hearing impaired pupils; SEN = special educational needs; F/T = full time.

Language Policy of the Service

Figure 2 shows that there has been little change over the past 3 years in the distribution of pupils among the variety of service policies across Scotland. The largest proportion of pupils (45%) are served by services whose policies fall within the TC/c category. More than half of all pupils are served by policies that include the use of BSL to some extent. Approximately 16% of pupils are supported by services whose language policies exclude the use of signing and another 19% by services that have no specific language/communication policy.

When language approach used at school with individual pupils is cross-tabulated with language policy (Table 6), some expected patterns emerge. In particular, hardly any children use BSL or forms of TC at school where service policies are natural aural or spoken/written English monolingual (isolated cases within the English monolingual situations were children reported as having learning difficulties).

However, there are arguably less predictable patterns evident among language approaches used with pupils who are served by other types of policies. For example, there is a marked similarity between services which have "no specific policy" and those whose policies are "spoken/written English monolingual," in terms of the high proportions of children exposed to spoken/written English only (over 90%).

The proportions of children who were actually using the approaches which directly matched the overall service policies are relatively small for TC/a, TC/c, and BSL/English bilingual services (Table 7). However, the same table shows that, within BSL/English bilingual services, the percentage of pupils who were exposed to BSL/English approaches did increase slightly over the 3-year period. The use of spoken/written English-only approaches with individual pupils was dominant among the TC/a, TC/b, and BSL/English services, with respective proportions decreasing in relation to the strength of sign bilingual element in the policy.

It could be assumed that this dominance would relate to high proportions of mild or moderately deaf pupils—a group less likely to use BSL or manually coded English. Column 3 in Table 7 shows that there was indeed a relationship between the decreasing proportion of spoken/written English-only approaches and the level of HL of the pupils: the stronger the sign bilingual element of the policy, the more likely it was that those exposed to spoken/written English-only approaches would be pupils who had mild or moderate (i.e., less significant) HL.

A fuller exploration of the relationship between language policies, individual language approaches, and HL levels among TC/c and BSL/English bilingual services is shown in Table 8.

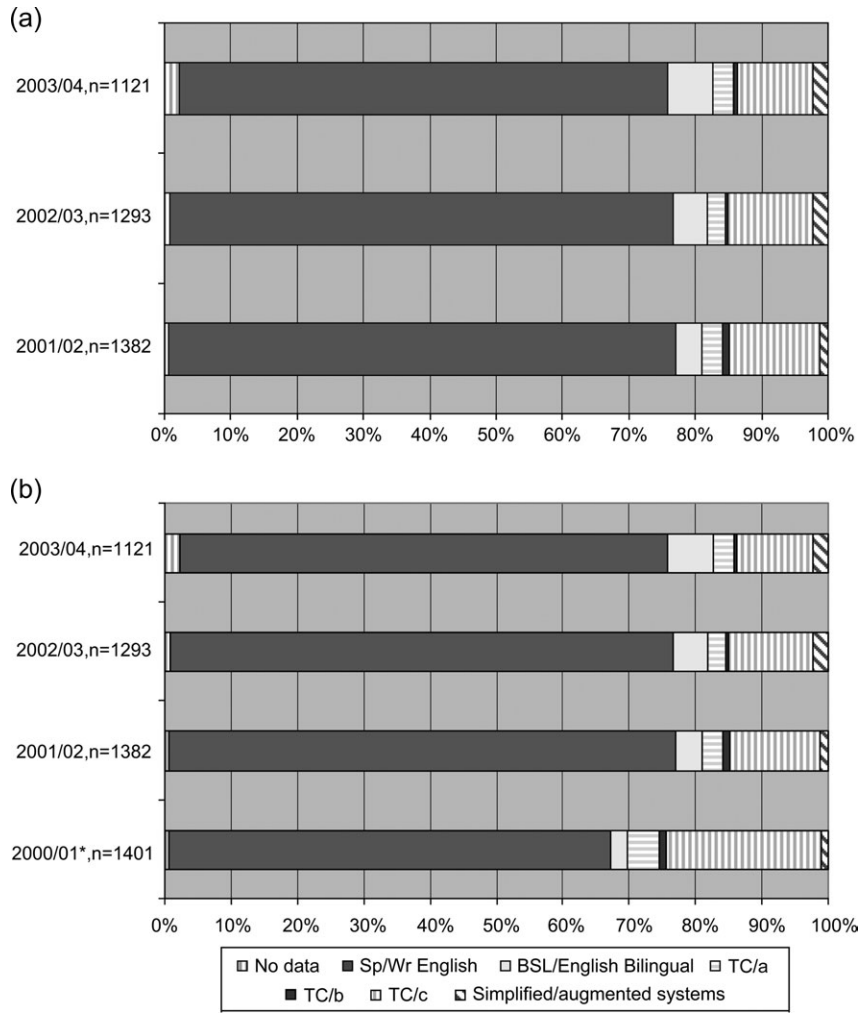

Figure 1 (a) Distribution of language situation at school, by year of survey (%). (b) Distribution of language situation at school, by year of survey.

Table 8 shows that most severely deaf, profoundly deaf, and cochlear-implanted pupils in BSL/English bilingual services used BSL to some extent at school. However, this applied to significantly fewer pupils among the same HL groups in TC/c services. Smaller proportions across all three HL groups were exposed to spoken/written English only in BSL/English bilingual compared to TC/c services.

Some caution is needed in drawing conclusions from these comparisons between TC/c and BSL/English bilingual situations, due to the influence of the fact that two of five sign bilingual settings were specialist school/unit provisions (see "Nature of services" column in Table 9), which are more likely to be selected by parents of profoundly deaf children who use BSL.

A finding which is not subject to this caution is the fact that significantly more pupils were exposed to a TC/c approach than a BSL/English bilingual approach within both policy contexts and across the HL level groups—with the exception of profoundly deaf pupils in BSL/English bilingual services, where slightly more pupils were exposed to BSL/English approaches.

Teacher Language Qualifications

In order for teachers to fully understand a language, use it for instructional purposes, and be meaningfully involved in its assessment, it is to be expected that they will be demonstrably competent in that language.

Table 4 Bilateral HL levels of pupils by individual language situations at school, 2001–2004

HL level	Cohort	Spoken/written English only, % (*N*)	BSL/English bilingual, % (*N*)	TC/a, % (*N*)	TC/b, % (*N*)	TC/c, % (*N*)	Simplified/ augmented systems, % (*N*)	No data, % (*N*)	Total, % (*N*)
Bilateral (mild)	2001/02	98.4 (310)	0.0 (0)	0.3 (1)	0.3 (1)	0.0 (0)	0.6 (2)	0.3 (1)	100 (315)
	2002/03	96.8 (274)	0.0 (0)	0.4 (1)	0.7 (2)	0.4 (1)	1.1 (3)	0.7 (2)	100 (283)
	2003/04	94.0 (219)	0.4 (1)	0.9 (2)	0.9 (2)	0.9 (2)	1.7 (4)	1.3 (3)	100 (233)
Bilateral (moderate)	2001/02	90.6 (356)	1.8 (7)	1.8 (7)	0.3 (1)	3.1 (12)	2.0 (8)	0.5 (2)	100 (393)
	2002/03	88.8 (340)	1.6 (6)	2.3 (9)	0.5 (2)	2.3 (9)	3.9 (15)	0.5 (2)	100 (383)
	2003/04	86.5 (295)	1.8 (6)	1.5 (5)	0.3 (1)	2.9 (9)	3.8 (13)	3.5 (12)	100 (341)
Bilateral (severe)	2001/02	67.3 (140)	2.9 (6)	3.8 (8)	1.4 (3)	22.6 (47)	1.0 (2)	1.0 (2)	100 (208)
	2002/03	64.9 (120)	4.3 (8)	4.3 (8)	0.0 (0)	22.7 (42)	2.2 (4)	1.6 (3)	100 (185)
	2003/04	67.3 (105)	9.6 (15)	6.4 (10)	0.6 (1)	11.5 (18)	3.2 (5)	1.3 (2)	100 (156)
Bilateral (profound)	2001/02	25.8 (41)	21.4 (38)	5.0 (8)	0.0 (0)	46.5 (70)	1.3 (2)	0.0 (0)	100 (159)
	2002/03	25.5 (35)	29.9 (41)	3.6 (5)	0.0 (0)	38.7 (53)	1.5 (2)	0.7 (0)	100 (137)
	2003/04	27.6 (35)	29.9 (38)	3.1 (4)	0.0 (0)	37.8 (48)	0.8 (1)	0.8 (1)	100 (127)
Cochlear implant	2001/02	40.0 (50)	2.4 (3)	14.4 (18)	5.6 (7)	36.8 (46)	0.0 (0)	0.8 (1)	100 (125)
	2002/03	46.9 (61)	4.6 (6)	8.5 (11)	1.5 (2)	36.9 (48)	0.8 (1)	0.8 (1)	100 (130)
	2003/04	46.5 (60)	8.5 (11)	9.3 (12)	1.6 (2)	31.8 (41)	1.6 (2)	0.8 (1)	100 (129)

English-Based Language Qualifications

As has already been demonstrated, the curriculum for most Scottish deaf children is delivered in English, and one can assume that this is imparted via competent users of English. The ADPS teacher survey did not explicitly elicit information on actual qualifications in English, but did ask for details of qualifications and recent training in language/linguistics and in areas relating to accessing spoken language (audiology and lipreading/teaching lipreading). Only three teachers reported specific training/qualifications in language/linguistics—in the form of delivery of spoken language assessments (Derbyshire Language Scheme and Reynell Development Language Scales). One teacher reported a qualification in teaching speech-reading and 13 had training/qualifications in audiology. The data do not show noncertificated training undertaken more than a year ago. Therefore, overall, the data are not a good indicator of the level of knowledge and skills among teachers in assessing and delivering the curriculum via English. It is also the case that other professionals, in particular speech and language therapists, are likely to specialize in assessments and monitoring of spoken language development.

Table 5 HL level pairings and individual language situations at school

Pairing of groups of pupils	Language situation where frequency of that approach is common to the pairing
Profoundly deaf and severely deaf pupils	TC/a
Profoundly deaf and cochlear-implanted pupils	TC/c (slightly more profoundly deaf pupils)
Cochlear-implanted and severely deaf pupils	BSL/bilingual

In terms of accreditation in the use of manual coded systems to support spoken English (such as the use of signed English or SSE), a clearer picture emerges. Respondents were asked to specify the system and to detail qualifications and recent training.

There are a limited number of types of accreditation in the use of manually coded English systems. A total of 18 teachers reported some level of certification in such systems, as follows: 10 in signed English (accredited by the Working Party in Signed English); 6 in the Paget Gorman system; 2 in Makaton, and 1 in both Makaton and Paget Gorman. Almost two thirds of these staff (11) were concentrated in two local authorities and one school for deaf children. The remaining seven teachers were the only representatives of their services to report sign system qualifications. Only one teacher of the 11 "no specific policy" services had one of these qualifications—in Signed English.

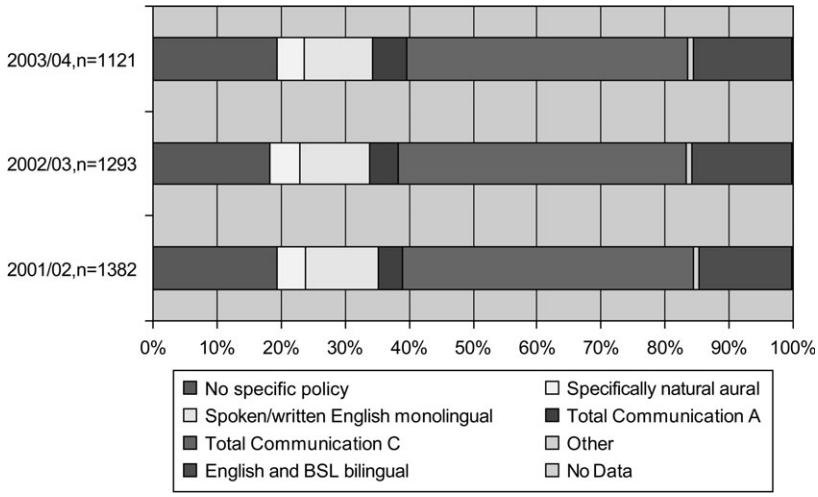

Figure 2 Distribution of Group A pupils among language policies reported by Scottish educational services for deaf children, 2001–2004.

It may be that staff have "cascaded" training to colleagues, as training courses in manually coded English tend to be only a few days in length and based on the first language of the trainee. Therefore, again, there may be some level of underreporting of knowledge and skills.

Table 6 Relationship between language policy of the service and individual language situations at school, 2001–2004

Language policy of the service	Cohort	Spoken/ written English only, % (*N*)	BSL/ English bilingual, % (*N*)	TC/a, % (*N*)	TC/b, % (*N*)	TC/c, % (*N*)	Simplified/ augmented systems, % (*N*)	No data, % (*N*)	Total, % (*N*)
No specific	2001/02	92.2 (247)	0.4 (1)	3.0 (8)	0.0 (0)	3.4 (9)	0.7 (2)	0.4 (1)	100 (268)
policy	2002/03	92.8 (220)	1.7 (4)	0.8 (2)	0.0 (0)	3.0 (7)	1.3 (3)	0.4 (1)	100 (237)
	2003/04	88.0 (190)	2.3 (5)	1.9 (4)	0.0 (0)	3.2 (7)	1.9 (4)	2.8 (6)	100 (216)
Spoken/written	2001/02	96.2 (152)	0.0 (0)	0.0 (0)	0.6 (1)	0.6 (1)	2.5 (4)	0.0 (0)	100 (158)
English	2002/03	92.2 (130)	0.7 (1)	0.0 (0)	0.0 (0)	0.7 (1)	5.7 (8)	0.7 (1)	100 (141)
monolingual	2003/04	85.7 (102)	0.8 (1)	0.0 (0)	0.0 (0)	0.8 (1)	2.5 (3)	10.1 (12)	100 (119)
Specifically	2001/02	98.3 (59)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.7 (1)	100 (60)
natural aural	2002/03	98.4 (60)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.6 (1)	100 (61)
	2003/04	100 (49)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	100 (49)
English and	2001/02	51.0 (102)	11.5 (23)	2.5 (5)	0.0 (0)	33.5 (67)	1.5 (3)	0.0 (0)	100 (200)
BSL bilingual	2002/03	55.7 (113)	17.7 (36)	1.0 (2)	0.0 (0)	23.6 (48)	1.5 (3)	0.5 (1)	100 (203)
	2003/04	50.6 (86)	22.1 (38)	1.7 (3)	0.0 (0)	22.1 (38)	2.9 (5)	1.2 (2)	100 (172)
TC/a	2001/02	79.6 (43)	3.7 (2)	5.6 (3)	1.9 (1)	7.4 (4)	0.0 (0)	1.9 (1)	100 (54)
	2002/03	78.6 (44)	1.8 (1)	10.7 (6)	0.0 (0)	5.4 (3)	3.6 (2)	0.0 (0)	100 (56)
	2003/04	80.0 (48)	1.7 (1)	10.0 (6)	0.0 (0)	5.0 (3)	3.3 (2)	0.0 (0)	100 (60)
TC/c	2001/02	71.6 (449)	3.7 (23)	4.1 (26)	1.8 (11)	17.2 (108)	1.0 (6)	0.6 (4)	100 (627)
	2002/03	70.7 (412)	3.4 (20)	4.5 (26)	1.0 (6)	17.5 (102)	2.2 (13)	0.7 (4)	100 (583)
	2003/04	70.1 (344)	5.7 (28)	4.5 (22)	1.2 (6)	15.5 (76)	2.4 (12)	0.6 (3)	100 (491)
Other	2001/02	30.8 (4)	46.2 (6)	7.7 (1)	0.0 (0)	7.7 (1)	7.7 (1)	0.0 (0)	100 (13)
	2002/03	30.2 (3)	30.2 (3)	0.0 (0)	0.0 (0)	30.3 (3)	10.0 (1)	0.0 (0)	100 (10)
	2003/04	45.5 (5)	27.3 (3)	0.0 (0)	0.0 (0)	27.3 (3)	0.0 (0)	0.0 (0)	100 (11)

Table 7 Selected individual language situations among TC/a, TC/c, and BSL/English bilingual services: average percentages over 3 years (2001–2004)

Language policy of service	Column 1—average % (*n*) of pupils where school language situation matches service policy	Column 2—average % (*n*) of pupils exposed to spoken/written English approach at school	Column 3—% of column 2 who have bilateral mild or moderate HL[a]
TC/a	9% (5) exposed to TC/a approach	79% (45)	60
TC/c	15% (95) exposed to TC/c approach	71% (402)	77
BSL/English bilingual	15% (32) exposed to BSL/English approach	52% (100)	88

[a]Among those for whom HL levels are known.

BSL-Based Language Qualifications

Similar information was requested in relation to BSL accreditation, with the added request for details of any certification in teaching BSL.

Although there have been other specifically Scottish training and qualifications available, the BSL qualification awarding body most commonly used currently awards four levels of qualification in BSL (http://www.cacdp.org.uk/). The fourth level has not been easily accessible in Scotland and there have been few opportunities to study for Stage 3, which is roughly equivalent to university entrance-level qualifications such as Advanced Highers in Scotland and A Levels in the rest of the United Kingdom. In order to interpret between one language and another, specialist interpreting knowledge and skills are also required. A further qualification addresses these competencies.

Table 9 shows that, overall, the level of BSL qualifications of teachers of deaf children in Scotland is low. In 2003, only 11 of the 255 respondents were qualified at advanced level, four of whom were BSL/English interpreters (one of whose qualification had "lapsed"), and seven of whom were qualified to Stage 3 level (with a further two in training for this level). All these teachers were employed by services within the TC/c and BSL/English bilingual categories, which covered 60% of the Group A pupils.

The table reveals situations where the same language policy covers all services within a whole local authority. This applies to 27 of the 32 Scottish local authorities. More than one policy was reported among services in each of the five remaining authorities.

Teachers in only three of the nine no specific policy local authorities reported qualifications as high as Stage 2 level and, in each case, this applied to two teachers. In comparison, three of the 11 TC/c local authorities had at least one teacher at advanced level, with only one showing a maximum of Stage 1 level among respondents. Although there was a higher proportion of interpreter-level staff in the three BSL/English bilingual local authorities, the majority of

Table 8 Selected individual language situations of severely deaf, profoundly deaf, and cochlear-implanted (CI) pupils in TC/c and BSL/English bilingual services: average percentages over 3 years (2001–2004)

Service policy	Bilateral (severe)	Bilateral (profound)	CI
TC/c	Average $N = 73$ pupils per year	Average $N = 67$ pupils per year	Average $N = 94$ pupils per year
	BSL/English: 8%	BSL/English: 26%	BSL/English: 5%
	TC/c: 22%	TC/c: 47%	TC/c: 46%
	TC/a: 7%	TC/a: 16%	TC/a: 15%
	Spoken/written English: 61%	Spoken/written English: 19%	Spoken/written English: 29%
BSL/English bilingual	Average $N = 24$ pupils per year	Average $N = 41$ pupils per year	Average $N = 21$ pupils per year
	BSL/English: 26%	BSL/English: 48%	BSL/English: 15%
	TC/c: 41%	TC/c: 46%	TC/c: 66%
	TC/a: 16%	TC/a: 2%	TC/a: 2%
	Spoken/written English: 14%	Spoken/written English: 4%	Spoken/written English: 18%

Table 9 BSL qualifications among teachers in specialist educational services for deaf pupils in Scotland (2003)

Type of language policy (average no./% pupils covered in 2001–2004)	Nature of services	Highest levels of BSL qualifications[a] of teachers of deaf children (numbers of 2003 teacher questionnaire returns/possible number of returns)
No specific policy (240/19%)	9 local authorities[b]	[1] 2 Stage 2 (2/2)
		[2] 2 Stage 1, 1 "lapsed interpreter" (7/10)
		[3] 2 Stage 1 (3/5)
		[4] 1 Stage 2, 2 Stage 1 (5/9)
		[5] 3 Stage 1 (9/10)
		[6] 2 Stage 2, 1 Stage 1[c] (5/5)
		[7] 1 Stage 2, 1 Stage 1 (5/11)
		[8] 1 Stage 1 (1/1)
		[9] 0 (0/4)
	1 preschool/primary service	1 Stage 1 (1/1)
	1 preschool/primary service	1 Stage 1 (8/14)
Natural aural (57/5%)	1 unit	0 (6/8)
	1 visiting service	2 Stage 2, 3 Stage 1 (9/9)
Spoken/written English monolingual (139/12%)	1 visiting service+	1 Stage 2, 1 Stage 1 (9/9)
	1 unit[d]	0 (1/7)
	1 unit+	1 Stage 2, 1 Stage 1 (2/2)
	1 preschool/primary visiting[d]	0 (5/5)
TC/a (57/5%)	4 local authorities[b]	[1–2] 2 Stage 2 (5/9—covering 2 local authorities)
		[3] 1 Stage 1 (1/1)
		[4] 2 Stage 1 (2/2)
TC/c (567/45%)	11 local authorities[b]	[1] 2 Stage 2, 8 Stage 1[c] (12/13)
		[2] 2 Stage 2, 2 Stage 1[c] (5/5)
		[3] 1 Stage 3, 3 Stage 2, 1 Stage 1[c] (13/13)
		[4–6] 2 Stage 3, 3 Stage 2, 8 Stage 1[c] (17/18—covering 3 local authorities)
		[7] 2 Stage 2, 4 Stage 1[c] (9/11)
		[8] 2 Stage 2, 12 Stage 1[c] (22/25)
		[9] 1 interpreter, 1 Stage 3, 5 Stage 2, 1 Stage 1 (11/11)
		[10] 1 Stage 1 (1/1)
		[11] 2 Stage 2, 2 Stage 1 (7/7)
	1 unit	1 Stage 2 (1/1)
	1 school	1 Stage 3, 4 Stage 2, 2 Stage 1[c] (17/17)
	1 school	2 Stage 2 (4/8)
BSL/English bilingual (192/15%)	3 local authorities[b]	[1] 1 interpreter; 2 Stage 2; 2 Stage 1 (8/13)
		[2] 1 interpreter; 4 Stage 1 (9/9)
		[3] 1 Stage 1 (1/1)
	1 school	7 Stage 2[c]; 7 Stage 1[c] (15/19)
	1 unit	2 Stage 3; 2 Stage 2[c]; 2 Stage 1 (8/8)

[a]Stage 1 = foundation; Stage 2 = intermediate; Stage 3 = advanced (equivalent to university entrant-level qualifications).

[b]The policy covers all the specialist educational provision for deaf children in that local authority.

[c]At least one of these is in training for the next level of qualification.

[d]Both services joined by + are located in the same local authority.

respondents in these services reported low levels of BSL qualification.

The six services that report spoken/written English or natural aural policies are concentrated in two local authorities, only one of which has any signing provision, in the form of a TC/c school. Interestingly, staff in one of the natural aural services are as well qualified in BSL as some of the TC/c services.

It may be the case that educational staff other than teachers of deaf children provide high-quality BSL

language experiences for pupils (e.g., BSL/English educational interpreters), but exploration of other ADPS data has already highlighted the low levels of BSL qualifications of staff providing access/support services to mainstreamed BSL-using pupils in 2000/01 (Grimes & Cameron, 2005).

Therefore, it appears that, certainly in terms of BSL skills and knowledge, the capacity of services to provide the kind of rich, bilingual, no-exclusion environment described earlier is generally limited. Those services that do not have TC/c or BSL/English bilingual policies (15 of which cover whole local authorities, of varying sizes) have particularly low BSL capacity among teachers.

Discussion

The findings show that 60% of Scottish deaf children were subject to service policies that included BSL, at least to some degree. Meanwhile, the vast majority of deaf pupils in Scotland access the school curriculum solely through spoken/written English. Although the data do not detail the basis for each individual choice of approach, they do show that an average of 16% of all Group A pupils were educated according to service policies which gave no access to BSL (two thirds of these pupils were severely/profoundly deaf/cochlear implanted). Only 15% of services had adopted a BSL/English Bilingual policy, and less than 10% of Group A children were reported as being individually exposed to a BSL/English Bilingual approach.

In terms of the "TC dichotomy," as described in the *Language Approaches and Deaf Education* section, above, there is more evidence of a bilingual element to Scottish deaf children's education than Jordan reported in 1986, with less than 5% of services declaring the monolingual-method version of TC as policy and a similar proportion of pupils reported as being exposed to such an approach in school. There is a confusing degree of contradiction in the fact that, in TC/a services, there were more pupils reported as using TC/c and BSL/English bilingual approaches than TC/a. This and the fact that teachers reported different versions of their own services' language policies in Year 1 suggest that there is a lack of shared understanding about the meaning and application of language/communication policies to some degree.

Most service survey respondents who opted for a no specific policy description of their language policies added an explanatory comment that the service met all language and communication requirements on an individual pupil basis. Ostensibly, it could be supposed that this is the kind of child-centered approach embodied by the philosophical-stance interpretation of TC (i.e., taking both languages and all modes into account). However, there is little comparison between the patterns of individual language approaches in the no specific policy and TC/c services: the situation of the 19% of pupils in the no specific policy services is much more akin to that of pupils in monolingual spoken/written English-only services than to that of pupils in TC/c services, with very few of these pupils reported as using BSL to any degree and with a particularly low incidence and level of BSL skills among staff.

The no-exclusion models referred to earlier, assume that pupils are served by language approaches which match their individual aptitudes and abilities by initial exposure to a rich, sign bilingual environment and full, ongoing linguistic assessment. The fact that English is the dominant language in the majority of the pupils' homes and schools, in itself provides at least the basis for optimizing a deaf child's spoken/written English environment. However, it appears that there are significant regional variations in the extent and quality of sign bilingual environments available to Scottish deaf children and their families.

Excluding regions where there was no access to BSL at all, what is not clear from the data is either the extent of use of BSL in an individual's school experience or the extent to which fully informed parent/pupil choice and bilingual linguistic assessments were used to determine a pupil's use or nonuse of BSL. No detailed data were collected on language assessments undertaken with individual pupils in schools (although ADPS attainment data shows that few pupils achieved any of the limited, which growing, range of qualifications in BSL during the period covered in this article [ADPS, 2006]).

Also, evidence of low levels of BSL qualifications among teachers of deaf children, even in TC/c and bilingual settings—and among staff supporting BSL-using pupils in mainstream schools—in itself suggests

restrictions to the richness of linguistic choices and provision available to most Scottish deaf pupils in school. The limited availability of BSL training in Scotland is likely to have been a factor in the low BSL capacity of teachers in TC/c and BSL/bilingual services. It is also possible that some teachers have BSL skills that are higher than their level of qualification suggests because of the limited opportunities for higher level assessment.

It is suggested that TC/c and, particularly, BSL/English bilingual services, have indicated some degree of "intent" to provide full linguistic choice and that, therefore, with increased opportunities to access BSL tuition and assessment, for both pupils and teachers, there is a potential for increasing the richness of BSL provision. Counteracting this may be a growing pressure for families of early-diagnosed and cochlear-implanted children to choose a spoken/written English-only language approach (see, e.g., Young & Tattersall, 2007). Local authority visiting services have a significant role to play in guiding parents toward choices in language approaches and therefore have particular significance in the no-exclusion model, as described earlier. A high proportion of visiting services have a very low BSL capacity among teachers and therefore a very weak basis for this model.

During the period of this article, however, although there was a slight increase in proportion of cochlear-implanted pupils using spoken/written English-only approaches, the language situation for Scottish cochlear-implanted children was more similar at school to that of profoundly deaf children than it was to pupils in other HL level groups.

The expectation that there would be overlap between TC/c and BSL bilingual services was borne out to some extent: for example, more children were reported as being exposed to a TC/c approach in bilingual services than to a BSL/English bilingual approach. The lack of data about the extent to which each language/mode was used, and in which circumstances, limits the extent to which the reality of these individual situations can be unraveled. Bearing in mind that the TC/c approach is a database construct, as described earlier, it may well be that a reported use of SSE, in addition to BSL and English (which triggered the categorization of TC/c), refers to the kind of structured, specific application, as may be expected within the definition of a sign bilingual approach—but the data do not reveal this level of detail. Further detail would also shed light on the extent to which the use of SSE relates more to the limited BSL abilities of staff than it does to the pupil's linguistic requirements, resembling the aforementioned arguments that teachers' limitations in BSL have, in the past, caused a general favoring of the use of SSE over BSL—"the best we can do in the circumstances" (Baker & Knight, 1998, p. 79). Certainly, the low levels of BSL qualifications among teachers would suggest that this may indeed be a significant factor. If this is the case, the effect on pupil attainment remains to be explored. Furthermore, Akamatsu, Stewart, and Mayer (2002) argue that the language and mode used are only part of the picture and that knowledge about the specific manner with which they are used in the classroom has particular significance and needs to be taken into account.

Conclusion

Language and communication continue to be central, complex concerns in the education of deaf children and young people. We need to be able to unravel the complexities, including the determinants of individual pupils' language situations, in the exploration of educational and social experiences and outcomes. There is ostensibly a bilingual element to the education of a significant proportion of deaf pupils in Scotland, which is generally limited and geographically variable. Further exploration of ADPS data and more in-depth studies of language environments will help to unravel some of the complexities left unanswered. For example, in the context of advances in opportunities for the exploitation of a bilingual spectrum of modes for all deaf children, evidence that the extent and quality of BSL/English bilingual environments available to Scottish deaf children and their families may be determined more by the region in which they are educated than by their individual linguistic requirements raises issues for service development. The fact that linguistically unspecific, but ostensibly highly responsive, policies can mask a limited linguistic spectrum for pupils and their families is illuminating for policy-makers and stakeholders alike. This

is all in a climate where multilingualism is increasingly valued in educational contexts generally—but where there are undoubtedly major challenges arising from prevalent assumptions about the need for post-cochlear implant monolingual environment, the effects of inclusion policies, the wide population dispersal in Scotland outside of major cities, and the still-limited opportunities for BSL training. There is an apparent need to further clarify how the skills of teachers are mapped to the task of delivering the currently complex range of provisions.

On the other hand, large quantitative tools such as the ADPS survey instrument (and by corollary other such survey instruments) are not sensitive to exact divisions or discriminants in the combined use of various language and communication strategies. The data used for language approach constructs in large surveys are too general to record the exact character of options that are used. Although language approach has value as a (statistical) indicator of general tendencies and patterns, it cannot serve to explain notable differences between pupils, schools, or services, nor can it track gradual shifts or minor adjustments over time in the complex matrix of communication options.

The findings here demonstrate some of the challenges in pinning down both the detail of language situations and factors determining those situations, illustrating both strengths and limitations of large-scale research in tackling such complexity. As with other similar surveys, although details were pragmatically traded off against higher potential rates of returns, it is suggested that some of the general patterns revealed are valuable in themselves, by extending knowledge relevant to studies of pupil outcomes and by their pertinence to policy and practice. We therefore suggest that there is a need for general awareness of the extent of both the strengths and limitations of language approach data gained from large-scale surveys and a continued quest for optimal means of reflecting complexity of language situations and their determinants. It is intended that future ADPS outputs will further explore language as a variable in the study of pupil attainments while acknowledging the fact that the data do not cover the full complexity of pupil language situations, such as all determinants of approaches, including assessments, and the extent and nature of the use of languages and modes, particularly BSL and SSE. The notion of a creative mix of "satellite," qualitative studies to enable more detailed exploration of specific areas was the initial aspiration of the ADPS project, and it is still hoped that this may be viable option for future exploration of language situations.

Appendix A: Language approach categorization used in GRI, MRC, and BATOD surveys

Survey	Period	Description of categorization	Categories
GRI	1999–2003	Primary method of teaching	Speech only Sign and speech Sign only Cued speech Other
	2004–2005	Communication mode primarily used in teaching	As above
MRC	1998	Communication approach	Aural/oral Sign or sign bilingual TC Other signed
MRC	1999	Mode of communication used in teaching	Spoken language only BSL only BSL and other Element of SSE Element of Makaton Alternative forms

Appendix A: Continued

Survey	Period	Description of categorization	Categories
BATOD	1994	Teaching approach	Natural aural
			Structured oral
			Maternal reflective
			TC
			BSL
			Bilingual
			Makaton
			Deaf-blind manual
			Sign/objects of reference
	1996	Communication used in placement	Natural aural
			Structured oral
			Maternal reflective
			TC
			BSL
			Bilingual
			Paget Gorman
			Cued speech
			Deaf-blind manual
			Sign/objects of reference
	1998	Communication approach used in establishment	Auditory/oral
			BSL
			Cued speech
			Deaf-blind manual
			Sign bilingual
			TC
	2000	Communication approach used with child (a language approach guide was provided to assist teachers in the choice of categories)	Bilingual/auditory–oral/maternal reflective
			Bilingual/auditory–oral/natural aural
			Bilingual/auditory–oral/structured oral
			Bilingual/bimodal
			Monolingual/auditory–oral/maternal reflective
			Monolingual/auditory–oral/natural aural
			Monolingual/auditory–oral/structured oral
			Monolingual/bimodal
			Sign bilingual/BSL dominant
			Sign bilingual/English dominant
			Symbol system/Bliss
			Symbol system/Makaton
			Symbol system/Rebus
			Symbol system/sign/objects of reference
	2003	Communication approach used with child (a language approach guide was provided to assist teachers in the choice of categories)	As for 2000, with the addition of: monolingual/auditory–oral/within signed setting
	2005	Language and communication approach	Auditory–oral
			TC
			Sign bilingual
			Other
		Language forms	Written/spoken English
			BSL
			SSE
			Symbol systems
			Other

MRC, Medical Research Council.

Appendix B: ADPS Survey: administratively autonomous schools and services for deaf children in Scotland, 2005

Local authority (randomly ordered)	Nature of administratively autonomous services
1	Visiting services and secondary resourced base
2	Visiting services
3	Visiting services
4	Visiting services
5	Visiting services
6	Visiting services
7a	Preschool and primary visiting services
7b	Secondary visiting services and unit
8	Visiting services
9	Visiting services
10a	Secondary unit
10b	Visiting services
11a	Primary visiting services
11b	Visiting services and secondary unit
11c	Designated integrated primary school
12	Primary school, visiting services, and primary unit
13	Visiting services
14a	Visiting services
14b	Secondary HI Unit
15	Visiting services, primary and secondary units
16	Visiting services
17	Visiting services
18a	Visiting services
18b	Secondary unit
18c	Primary unit
18d	School (primary and secondary)
18e	School for deaf-blind children
19	Visiting services
20	Visiting services
21	Visiting services
22	Visiting services
23	Visiting services, primary and secondary units
24	Visiting services and primary unit
25	Visiting services
26a	Primary unit
26b	Primary visiting services
26c	Secondary unit and visiting services
26d	Primary school
27	Primary school for deaf children, secondary unit, and visiting services
28	Visiting services
29	Visiting services
30	Primary school, visiting services, and secondary unit
31	Visiting services
32	Visiting services, primary and secondary units
33	School (primary and secondary: national resource)

HI unit, Unit for Hearing Impaired Pupils.

Appendix C: National Pupil Survey 2000/01 language data: "question effect" of responses to the section on language/language mediums used with pupils

In terms of the range of languages and language mediums used with the pupil in school, inconsistencies proved to be due to ambiguity within the formulation of the question itself, and the wording was therefore amended from Year 2 (2001/02) onwards. However, the first-year data for this question can be used to determine the extent to which particular interpretation of the question is privileged: in fact the Year 1 error is entirely unidirectional. That is, the size of the error is almost entirely explained by respondents indicating TC that combines English with the use of a sign support system and some use of BSL in Year 1 (20.8% in Year 1 vs. a 12.1% average across the subsequent 4 years), whereas the corrected Year 2 data specifically confirm "English only" more strongly as the predominant approach used with individual pupils (66.8% in Year 1 vs. a 73.9% average across the subsequent 4 years). All other language approach categories remained pretty much stable over time, despite the apparent Year 1 error. This explanation of error appears to suggest that a number of respondents (responsible for an approximate 7% of all reported cases) seem to think that a TC approach including BSL is either supported by their service or practically implemented through their own practice, whereas subsequent clarification of the question suggests that the approach used with the particular pupil in question more consistently implies English only. Year 1 (indicated by asterisk) data are included in Figure 1b to illustrate this.

Note

1. Because the variations in language provision for deaf pupils are the key focus, bivariate statistics such as chi-squares are not presented. They cannot be used because the numbers in some of the cells are very small. Furthermore, the data are based on all deaf pupils in the population. It is unlikely, however, that an increase from 4% to 6.8% (see the case of BSL/English bilingual in 4.2.1) would result in any significant differences.

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Received November 15, 2006; revisions received April 2, 2007; accepted April 16, 2007.