In this book, we have primarily been concerned with children's written language difficulties. A recurring theme has been that the manifestations of these difficulties are diverse: they may be obvious, they may be hidden; they may be specific or reflect more general learning difficulties; they may occur in isolation or in combination with language or visuospatial problems. In all cases, however, these difficulties can, if left unattended, cause significant educational underachievement and untold damage to children's confidence and self-esteem. We reflect here upon four main questions. First, what is the relationship between spoken and written language difficulties?; second, which children are at risk of literacy problems?; third, how can such children be supported?; and fourth, who should deliver interventions?

What is the relationship between spoken and written language difficulties?

Reading this book should leave the practitioner in no doubt that oral language skills are the foundation of reading and writing. However, the relationship between spoken and written language difficulties is not straightforward. As all who practise clinically will know, pure reading disorders are rare: different language skills interact to produce a spectrum of reading outcomes. Moreover, bidirectional links between oral and written language mean that literacy can itself transform spoken language. On a positive note, learning to spell can improve speech perception and production; on the down side, the oral vocabulary of poor readers may fail to keep pace with their development.
We have seen that, at the very least, we must consider spoken language abilities as comprising three sets of subskills. For simplicity, we will refer to these as speech, understanding and expressive language. In the same way, we can consider written language as comprising at least three sub-skills, namely reading as a ‘decoding’ process, reading for meaning, and writing, in particular spelling. Arguably, these spoken and written language processes have reciprocal links with one another. In particular, adequate speech seems necessary for the development of decoding and spelling skills, language comprehension feeds reading comprehension, and expressive language will be intricately linked with the development of writing ability.

There is no doubt that when individual children are considered, these relationships can be complex and difficult to decipher. The current manifestation of a ‘reading’ problem, sometimes referred to as a reading profile, will depend upon the interaction of a number of factors including:

• the age of the child and the developmental ‘stage’ that he or she has reached;
• the precise nature and pervasiveness of the child’s speech or language difficulty;
• the severity of the child’s phonological processing difficulties, including his or her current levels of phonological awareness;
• the extent to which the child has been able to compensate using intact skills;
• the amount and type of intervention the child has received.

It follows that, among children with reading difficulties, there is considerable heterogeneity, although usually without clear subtypes. It is essential to bear in mind that the ways in which the different language skills combine and interrelate is not clear cut, and there can be many modifying factors at the level of individual children. Figure 15.1 is an elaboration of the ‘spectrum’ discussed in Chapter 1 (p. 13). In this figure, we aim to show in more detail how the spectrum of literacy disorders relates to spoken language difficulties.

In the model, the horizontal axis represents phonology and the extent to which it is intact, from left (intact) to right (impaired). The vertical axis, in contrast, represents a dimension of meaning – semantics – from high (intact) to low (impaired). We propose that a child’s position in this two-dimensional space determines the nature of the literacy difficulties that he or she experiences.

Normal readers occupy the centre portion of the model, individual variation in normal populations being associated with differing levels of phonological and semantic skills. Moving from the left, children have been described who have good phonology for their age and exceptional reading
talent; these children have been referred to as precocious readers (Stainthorp and Hughes, 1995). In contrast, children who have good phonology but difficulties with the semantic aspects of language occupy the lower part of the figure and are referred to in this book as ‘poor comprehenders’. In extreme form, such children are described as ‘hyperlexic’; they have a disorder of reading that is seen most commonly in children with autism-spectrum disorders (Nation, 1999).

On the right of the model are the reading disorders that most commonly attract the term ‘dyslexia’. The core of these problems is poor phonology, be it obvious, as in children with persisting speech difficulties, or hidden, as in the classic child with dyslexia who may also have subtle and unidentified speech difficulties. In our view, the phonology dimension is continuous, and the severity of the phonological processing problem will determine whether the child falls at the extreme end (where we expect children with specific speech difficulties, such as developmental verbal dyspraxia), to the left, as in developmental ‘phonological’ dyslexia, or more

Figure 15.1 Dimensional classification of reading and language abilities.
centrally, as in children with the reading profile often described as ‘surface’ dyslexia. Finally, the lower portion of this space is occupied by children with general reading problems (sometimes referred to as ‘garden-variety poor readers’). In addition to their phonological problems, these children have semantic processing impairments: they experience problems both with decoding and with reading comprehension skills.

We must emphasize however, that we are not committed to the view that children can be easily subgrouped or that they will show stable patterns of reading impairment. Their position in this two-dimensional classification is prone to change with development and as a consequence of intervention.

Which children are at risk of literacy problems?

The causal relationships between children’s underlying cognitive and linguistic abilities and their reading and spelling skills have been the subject of a great deal of research, much of which has been discussed in the foregoing chapters. It is not our purpose to review the findings here. However, what practitioners cannot afford to ignore are vulnerability factors, both intrinsic and extrinsic to the child.

We have not had much to say about the role of environmental factors in relation to reading failure. It is well recognized that there is a relationship between socioeconomic status and reading skill, and that the mother’s educational level is a particularly potent factor in explaining between-child differences in reading achievement (Phillips and Lonigan, 2005). Children from disadvantaged families often need support with the development of oral language as a prerequisite to learning to read (Locke, Ginsborg and Peers, 2002), as well as more direct support with literacy. More often than not, their parents also benefit from support (Hannavy, 1993). Support with family literacy may include encouragement to parents to read with their children, to instill an interest in books, as well as more direct help, if appropriate, to improve their own reading skills (Hannon, 1995). Notwithstanding this, even children who are socially advantaged may be ‘at risk’ of reading difficulties, particularly if they have one or more of the following:

- a family history of reading, speech or language problems;
- a history or presence of speech problems;
- spoken language difficulties;
- poor phonological awareness for their age.

Such children need an assessment of their language-processing difficulties, as well as their strengths, in order to set up individualized educational plans to support their needs.
What kinds of support and intervention do these children need?

The majority of children with speech and language impairments are now educated in mainstream schools. The move towards inclusive education has been associated with a decline in the practice of withdrawing individual children for ‘therapy’ or the ‘remediation’ of reading problems in favour of a more ‘consultative model’ of working by specialist teachers – speech and language therapists and educational psychologists whose role is to advise and train others, for example assistants, to work with children in the classroom or in small groups (Law et al., 2002). Research suggests, however, that it is essential for some children to receive direct and intensive help if they are to make progress. This is particularly the case for children with persisting speech difficulties (Law et al., 1998) and for children with severe reading difficulties.

A speech and language therapy service to a school will ideally combine the consultative model of working with direct but collaborative hands-on intervention with children most in need. This is a complex process that requires both expertise and careful planning. This book has brought together many examples of good practice in the field and offers those working within the ‘consultancy model’ and/or a direct-intervention model a variety of ways of supporting children’s reading and language needs; these include techniques for supporting children in the classroom and in small-group interventions, as well as more individualistic approaches.

On the face of it, a ‘staged’ approach to intervention makes good sense – first try to accommodate the child’s needs in the classroom, and then provide support in a small group, before moving to one-to-one teaching or therapy. Clinicians should, however, bear in mind that this approach is not always appropriate; if a child’s difficulties are severe, or very complex, it may be best to begin with one-to-one input and later aim to phase this out as the child progresses through small-group to mainstream support. There are no formulaic answers – indeed, every child is different. As this book makes clear, establishing a child’s current educational needs requires:

- detailed assessment;
- observation of the child in a range of settings;
- an analysis of the response to intervention(s);
- monitoring of progress;
- regular review.

With regard to more specific approaches, this book has emphasized the powerful influence of training in phonological awareness on subsequent reading achievement. Following a great deal of research, the combination
of training in phoneme awareness with systematic reading instruction has proven the most effective approach to the development of basic reading and spelling skills. However, the type of intervention that works best will inevitably depend on:

• the age of the child;
• the child’s current levels of phonological processing;
• whether speech and language difficulties persist and, if these are being managed, whether the child has ongoing speech and language therapy needs and whether these are being met;
• the integrity of the other skills that contribute to reading, namely visual and semantic skills;
• the persistence of spelling and writing difficulties;
• the child’s self-perception, behaviour and attention;
• the child’s network of support and carry-over to the home environment.

The research literature cannot yet tell us precisely which of a number of related interventions work best with individual children. It is perhaps over-optimistic to expect it to do so. In general, it is known that children with better phoneme skills and better letter knowledge at the outset of reading intervention tend to respond best to such interventions when progress is defined in terms of gains in reading accuracy. However, verbal IQ is a stronger predictor of progress in reading comprehension in such programmes. But this should not surprise us: approaches that focus on the development of decoding and spelling can be expected to have a relatively small effect on reading comprehension (except in so far as improvements in decoding free up attentional capacity to the benefit of comprehension). Nor will such approaches be sufficient to help children in the classroom if they also have memory problems or problems of organization. It is important for professionals to consider all the areas in which a child experiences difficulty and to plan support in each of these along the lines suggested in this book.

Taking stock of the evidence, both empirical and clinical, it is our firm belief that a mix of approaches is best, with different types of input needed to address different issues. We cannot envisage an intervention programme that does not include one-to-one text reading, that does not encourage language interaction between children, and that does not expect children also to have classroom ‘survival’ skills! We also favour highly structured, cumulative, multisensory approaches to the teaching of reading, spelling and writing skills that follows phonetic-linguistic principles (e.g. Alpha to Omega by Hornsby and Shear, 1976), with book reading being an essential part of the practice to ensure that links made between print and phonology are reinforced but not overemphasized, and that the child has access to language beyond single words.
In a similar vein, children with language needs are best taught to write words not just in isolation, but also in sentences to dictation; the sentences should initially be simple in structure, only later including more complex grammatical forms such as negatives, questions and passive voice. Finally, good programmes embody the idea of ‘distributed practice’ — children should be encouraged to do a little practice each day, maybe two or three times, and ‘errorless learning’ — children should never be expected to know anything that has not already been taught.

All of these features of an intervention programme can help to ensure its success, but the role of skilled teachers and therapists in delivering the programme must not be underestimated. Indeed, systematic research on the teaching of literacy shows that differences between teachers have more powerful effects on children’s learning than do the programmes they teach (Snow and Juel, 2005). Professionals have an important role not only in helping the children in their care, but also in training others in the multiprofessional team to identify, assess and, where appropriate, intervene to support children’s oral and written language development.

Who should deliver intervention?

It is not coincidental that the contributors to this book cover a range of disciplines: teachers, speech and language therapists, educational and clinical psychologists, and researchers. Reference is also made to occupational therapists, physiotherapists, paediatricians, ear, nose and throat surgeons, audiologists, linguists and various assistants. All have their role to play alongside parents and carers in the management of children with spoken and written language difficulties. Who is involved and when depends on the child’s age and presenting symptoms. The management team changes over time depending on how the child’s difficulties unfold. Inevitably, however, the face-to-face delivery of a language and literacy intervention programme will fall to the teacher, the therapist and their assistants.

It has traditionally been educationists who have been most responsible for the management of children with specific learning difficulties at school. However, the emphasis on the centrality of phonological processing skills to the normal and atypical development of literacy has led to a closer working relationship between teachers and speech and language therapists (Popple and Wellington, 1996). Together, they can investigate the causes of a child’s speech and language difficulties, assess the child’s communication skills in the classroom/school setting and observe the impact of any spoken language difficulties on access to the curriculum and on literacy development in particular.
The role of the speech and language therapist however, does not include teaching reading and spelling, which is traditionally and rightly the teacher’s domain. Rather, the therapist’s role is one of ensuring that the underlying oral language skills that contribute to literacy development are in place and, if not, in promoting these. Speech and language therapists are well placed to work on the prerequisites for literacy development. Arguably, this is particularly true as they are likely to encounter the future, but yet undiagnosed, dyslexics in their preschool groups. These groups provide an ideal opportunity for early identification and training of children at risk of later literacy problems. Similarly, speech and language therapists involved in Sure Start programmes or ‘language enrichment’ programmes have an ideal opportunity to influence the literacy development of a wide range of children, many with multilingual backgrounds, who may be disadvantaged when starting school if not supported in the early years.

Traditional speech and language therapy activities designed to improve a child’s intelligibility can easily be adapted to target spoken and written language skills simultaneously. Sound–letter matched picture cards and activities, such as found in the Nuffield Dyspraxia Programme (Williams, 2004), can be used for a range of activities involving both speech production and letter–sound matching. There is a wealth of phonological awareness activities that can be linked to more explicit literacy activities (e.g. Metaphon; Howell and Dean 1994; and see Gillon, 2004, for a useful review). Therapy techniques that comprise a gesture to remind the child of how a sound is produced (e.g. Cued Articulation; Passy, 1993a, 1993b), can be linked with the written letter and can help to promote phonological awareness in some children with speech difficulties. Other techniques using segmentation blocks, beads or colour coding have also been incorporated successfully into therapy and teaching programmes (Lindamood and Lindamood, 1998). The emphasis in all these approaches is clearly to provide multisensory scaffolding opportunities for the child to compensate for specific processing weaknesses.

However, not all future dyslexia will be ‘caught’ by the speech and language therapy service in the early years. Subtle speech and language difficulties may go unnoticed or not be considered a priority for referral when there are children with more severe language and behaviour problems to deal with. Speech and language therapists have an important role here in training staff and carers in what to look out for and when to refer. Collaborative working with early years staff on promoting speaking, listening, communication and basic phonological awareness is a worthwhile aim for any speech and language therapy service for this age group.

Once at school, children are in the hands of the teacher, but the role of the speech and language therapist continues to be one of promoting communication skills and identifying underlying speech and language processing weaknesses that are interfering with educational progress. The
child’s spoken and written communication skills (including social skills training and self-esteem development) are a key part of the speech and language therapist’s work and can be linked directly with the aims and objectives of the school curriculum. Programmes and approaches such as those described in this volume fit well with speech and language therapy activities, and there should not be a divide between what and how materials are used by professionals.

The success of a child’s teaching and therapy programme clearly hinges on collaborative working between individuals and increasingly on how well trained and supported assistants are to deliver an intervention programme on an intensive basis. When working with children with spoken and written language difficulties together, professionals should aim to:

- **identify**, through a knowledge of developmental norms and recent research, children who are at risk of literacy problems;
- **analyse** a child’s speech, language and literacy difficulties, using phonetic and linguistic tools as appropriate;
- **explain** why a child presents with speech, language and literacy difficulties, with reference to theoretical, processing and social models;
- **understand** a child’s difficulties in the context of any medical conditions;
- **plan** an effective literacy intervention programme, taking into account any speech and language difficulties that are contributing to the child’s educational progress;
- **advise** parents, carers and colleagues on how a child’s difficulties might best be managed in a range of contexts;
- **collaborate** with parents, carers and colleagues on the implementation and practicalities of a child’s intervention programme;
- **train** others to identify children at risk as early as possible and throughout the school years;
- **support** assistants and others to work effectively and intensively with individual or groups of children with persisting speech, language and literacy difficulties in and out of the classroom setting;
- **research** into the nature, identification and remediation of spoken and written language difficulties to ensure that children receive the appropriate support and intervention to meet their needs.

This book represents the collaborative work of a range of professionals working with children with speech, language and literacy difficulties. It reflects a growing knowledge-base on the relationships between spoken and written language difficulties, the impact of genetic and environmental factors, the identification of at-risk children, and the importance of structured and intensive teaching and therapy. More than ever before, the research agenda now needs to focus on evaluating the best ways of delivering intervention programmes and on who can do this most effectively.