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## Language intervention in the school years: a systemic approach

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### Abstract

In this paper we consider intervention for children with developmental language difficulties from a systemic approach. Much of the literature concerning intervention for language difficulties focuses on child and therapist. Our argument is that it is necessary to consider the child in the wider educational and social context. The immediate or proximal context is primarily the school and family for it is in these two settings that children spend the large majority of their time. The more distal context concerns the wider society in which the child lives. This analysis, therefore, considers not only the child and direct interventions but also the socio-political context in which the interventions occur.

**Key words:** Intervention; language, children; school.

### Abordaje sistémico de la intervención en el lenguaje durante los años escolares

En este artículo se considera la intervención en niños con dificultades madurativas del lenguaje desde un abordaje sistémico. Gran parte de la bibliografía sobre la intervención en las dificultades del lenguaje se centra en el niño y en el terapeuta. Nuestro argumento se centra en la necesidad de considerar al niño en un contexto educacional y social más amplio. El contexto inmediato o proximal principalmente está compuesto por la escuela y la familia, puesto que estos son los dos ámbitos en que los niños pasan la mayoría de su tiempo. El

contexto más distal atañe a la sociedad, en sentido amplio, en la que el niño vive. Por tanto, este análisis considera no sólo al niño y a las intervenciones directas, sino también al contexto sociopolítico en el que tienen lugar las intervenciones.

**Palabras clave:** Intervención; lenguaje; niños; escuela.

### Background

Language pervades all aspects of learning and development. When children experience delays or difficulties with language and communication they are at risk: not just academically but also in terms of being healthy, safe, enjoying and achieving, making a positive contribution and securing economic well-being (Every Child Matters five key objectives, <http://www.everychildmatters.gov.uk/>). How we support children's language competence and minimise the barriers posed by language learning difficulties is central to raising achievement and expectations (Balls, 2007). Meeting such aspirations requires that legislation and support systems are firmly grounded in an understanding of the children's needs and the factors that affect the success or otherwise of the interventions that are implemented (Dockrell, Stuart and King, 2006).

To be effective, interventions need to take into account the different contexts in which the child is functioning and the ways in which the difficulties the child is experiencing interact with these learning environments. Language interventionists need to know how best to maximize the positive effects of significant others and pedagogy on language learning to help each child achieve their potential. Thus interventions

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need to be considered within the wider context in which the child develops in relation to the specific patterns of strengths and needs presented by a child.

Bronfenbrenner (1979) has tried to specify more precisely what the nature of environmental influences on development might be. In this theory the environment is envisioned as a series of nested structures that extend beyond the immediate setting. Each level is thought to impact on the child and their subsequent development and is directly relevant to our understanding of evidence based interventions. These levels are called the microsystem, the mesosystem, the exosystem and the macrosystem (figure 1).

The *microsystem* for children includes the places they inhabit, the people who live with them, the things they do together and their direct experiences. Interventions are generally targeted at individual children or groups of children working within a particular microsystem. In the current case the main microsystems are the classroom and family. If there is speech and language therapy support in a clinical setting then this too will be a microsystem. Ideally, special provision should be designed as *mesosystem* models, (links between microsystems) so that, for example, clear links are set up between what the child experiences at home and what is occurring in school or a link is established between what is occurring in therapy and what is occurring in the classroom. Partnership between key people in the child's life is, therefore, an important component of the

most successful early interventions. The *exosystem* concerns the support provided by the extended family, friends and the local community. The last level of Bronfenbrenner's model which is directly relevant to intervention is the *macrosystem*. It is not a specific environmental context but refers to the ideology and values of a culture, which affect decisions made at other levels of the model. Educational and social policies at national and local authority level are relevant here. The issue of whether children with learning difficulties should be educated in mainstream schools is determined by a complex set of educational and economic factors, which reflect the values of a particular culture at a particular time (Lindsay, 2007).

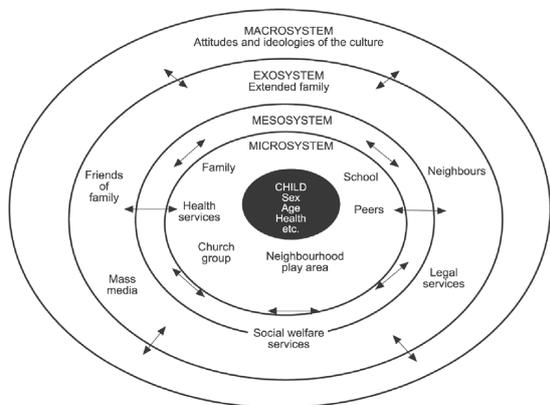
More recently this model has been enhanced by the inclusion of the *chronosystem* (see also Wedell, 2005). This system encompasses the dimension of time as it relates to a child's environments. Elements within this system can be either external, such as moving school (Dockrell and Lindsay, 2007), or internal, such as the physiological changes that occur with the aging of a child. As children get older, they may react differently to environmental changes and may be more able to determine how that change will influence them (Palikara, Lindsay and Dockrell, in press). Recent work illustrates how the needs of children with language learning difficulties may change over time. For example, the primary need for children may change over time and educational context (Dockrell, Lindsay, Palikara and Cullen, 2007).

An understanding of these contextual factors also helps interpret variation in a child's performance and should create a sensitivity to the fact that:

- a) It is possible to be misled if children's language is not examined in a variety of contexts and
- b) That intervention in isolation from real-life situations and functions can be seen as counter-productive.

### Individual children and the chronosystem

It is now clearly established that there is variability in both the criteria and procedures used to identify children with SLCD (Lahey, 1990; Kamhi, 1998) which affects the nature of the population. Subtypes of lan-



Source: Dockrell and Messer (1999, p. 139)

Figure 1

A systemic analysis of environmental influences on children's development

guage difficulties have been identified in clinical groups (Rapin and Allen, 1987), and by standardized assessments (Conti-Ramsden, Crutchley and Botting 1997). Test use can alter a child's eligibility to services (Cole et al., 1992; Dockrell and Law, 2007) but the extent to which these reflect valid clinical groupings with implications for educational interventions is less clear. The importance of subgroups for educational provision is further questioned by the significant movement between groups over relatively short periods of time (Conti-Ramsden and Botting, 1999). Children's difficulties are not restricted to oral language and include problems with literacy (Stothard, Snowling, Bishop, Chipchase, and Kaplan, 1998), numeracy (Cowan, Donlan, Newton and Lloyd, 2005) and problems that are indirectly related to the children's performance in the classroom such as poor motor coordination (Hill, 2004), and social emotional and behavioural difficulties (Lindsay, Dockrell and Strand, 2007).

These relationships may clearly be seen from data from our longitudinal study of children identified at 8 years as having primary language difficulties, frequently referred to as specific language impairment (SLI) or specific speech and language difficulties (SSLD) (see Dockrell, Lindsay, Letchford and Mackie 2006). A sample of 59 children was identified by professionals (speech and language therapists, special educational needs co-ordinators and educational psychologists) within two contrasting local authorities (LAs), one urban the other rural. The sample was supplemented by 10 children from regional residential special schools for children with primary language difficulties resulting in a total sample of 69.

Assessment of these children at mean age 8.3 years confirmed they had SLI (see Dockrell and Lindsay, 1998; Dockrell, et al., 2007). At age 8.3 years these children had language scores substantially below mean despite non-verbal ability within the average range. To facilitate comparisons between tests, all scores have been translated into z scores, where the mean is 0 and a standard deviation (*SD*) = 1. For example, these children had a mean score of  $z = -1.12$  for receptive vocabulary (British Picture Vocabulary Scale (BAS; Dunn et al, 1997). Understanding of grammar was even lower: mean  $z = -1.45$  (Test of Reception of Grammar (TROG); Bishop, 1989) Narrative production was lower still: Mean  $z = -1.55$ . (Bus Story: Information scale; Renfrew, 1997) whereas non-verbal ability was within the average range (mean  $z = 0,77$ ). At the same age, these children also

had substantial literacy difficulties: Individual Reading Analysis (IRA: Vincent and de la Mare, 1990) accuracy  $-0,94$ ; comprehension mean  $z = -1.24$ .

These children have so far been followed up until the first year after compulsory education ends in the UK (at 16 years). This pattern of impaired language and educational attainment has persisted. For example, at 11 years the mean z scores for BPVS ( $-1.20$ ) and TROG ( $-1.22$ ) indicated the children continued to have language difficulties despite normal non-verbal ability (mean  $z = -0,54$ ). Literacy scores were also substantially below the normal: single word reading accuracy (BAS Word Reading mean  $z = 1.39$ ); reading accuracy for text (Neale Analysis of Reading Ability (NARA); Neale and Whetton, 1997) mean  $z = -1.46$ ); reading comprehension (NARA) mean  $z = 1.74$ ; and spelling (BAS Spelling) mean  $z = 1.25$ .

By the time these children reached the end of compulsory education (16 years) this pattern still pertained. Language scores indicated continuing problems in language understanding (Clinical Evaluation of Language Fundamentals (CELF); Peers et al, 1999) (mean  $z = -1.16$ ) and comprehension of vocabulary (mean  $z = -1.28$ ). The only score in the normal range was that for understanding of grammar (TROG mean  $z = -0,23$ ) but this reflected a ceiling effect on the test. Literacy scores continued to indicate substantial difficulties: single word recognition mean  $z = -1.82$ , reading comprehension mean  $z = -1.60$  and spelling mean  $z = -1.68$ .

Patterns of performance vary over time in terms of linguistic skills (Law, Boyle, Harris, Harkness and Nye, 2000), nonverbal ability (Botting, 2005) and academic attainment (Dockrell et al., 2007, Young et al., 2002). As children develop, earlier problems in areas such as phonology and morphosyntax may improve; however, more detailed testing may show problems with higher-level language. In UK post-sixteen educational contexts difficulties with basic skills (literacy and numeracy) serve as barriers to future educational and occupational opportunities (Dockrell et al., 2007).

The relative importance of these factors will vary over the educational phases and with respect to the curricular demands being placed on the children and should relate to the nature of the interventions provided for the children and young people. For example, early oral language difficulties may be overcome to varying degrees but the associated literacy difficulties become more important as curricular

demands increase during the late period of primary school and, in particular, the period of secondary education. By the end of compulsory education, the pupils in our longitudinal study achieved a lower level of educational attainment in the General Certificate of Secondary Education (GCSE) typically taken during the last year of compulsory education (16 years) in England. Young people typically take a number of different subjects which may be passed at grade A\*- G, the target grades (level 2) being A\*- C. 'Entry level' qualifications, the first level in the national qualifications framework, are also available to students expected to perform below foundation or level 1 (below grade C at GCSE). The young people in our sample, two thirds of whom had a statement of special educational needs at that time, achieved a mean of 5 GCSEs. The majority achieved qualifications at level 1 (grade D-G). One in eight, however, achieved five GCSEs at level 2. This is a substantially lower level of success than the national average: 12.5% vs 63.4% nationally achieved five GCSE grade A\*-C in the year in question (2005). Hence, despite general cognitive ability in the normal range, these young people's academic achievement was limited. Furthermore, whereas 73% of the young people achieved a GCSE pass in mathematics, only 42% achieved a GCSE pass in English with only 15% achieving a level 2 in English.

Further analyses revealed that these levels of achievement were related to young people's language abilities even after non-verbal ability was taken into account. Non-verbal ability was itself a predictor of GCSE success, using total points scores as a measure ( $r = 0,31$ ,  $p = 0,15$ ) but was a less important predictor than most of the language and attainment tests administered at 16 years (table 1). For example, language understanding ( $r = 0,48$ ) was comparable to reading comprehension; measures of writing (Wechsler Objective Language Dimension (WOLD); Rust 1996) and numeracy (BAS Quantitative Reasoning) had even higher levels of correlation ( $r = 0,57$ ). Multiple regression analyses confirmed the importance of the attainment measures. For example, in examining the prediction of total GCSE points score, non-verbal ability was entered first followed by writing, then numeracy and language comprehension. A significant model emerged ( $R^2_{adj} (2,57) = 17,491$ ,  $\beta < 0,0005$ ,  $R^2_{adj} = 0,37$ ) which included writing ( $\beta = 0,341$ ,  $p = 0,16$ ) and numeracy ( $\beta = 0,346$ ,  $\beta = 0,15$ ).

Table 1 Relationships between standardized measures at age 16 and total points achieved in General Certificate of Secondary Education national tests controlled for non-verbal ability

Competency assessed	Age 16 points
Language understanding	0.48**
Language grammatical comprehension	0.21
Vocabulary comprehension	0.44**
Single word reading	0.46**
Reading comprehension	0.48**
Spelling	0.40**
Writing	0.57**
Numeracy	0.57**

\*\*  $p < 0.01$

Compared with the relative stability of language and literacy profiles, the domain of behavioural, emotional and social difficulties (BESD) tends to show greater variability. For example, the young people in our longitudinal study showed decreasing levels of hyperactivity over the period 8-16 years, as indicated by their teachers' ratings on the Strengths and Difficulties Questionnaire (Goodman, 1997). The proportion rated as having an 'abnormal' level decreased from 47% at 8 years to just 3% at 16 years. Conduct problems, however, showed a difference by age, with significantly higher levels at 16 years than either 8 or 12 years. More of the sample were judged to have peer problems also, with a significant increase between 8 and 16 years. There was also a trend for emotional symptoms, rising for 10% of the sample (8 years) to 18% at 16 years but this was not statistically significant.

When considering the microsystem, therefore, it is important to distinguish different elements of the child's profile. As demonstrated here, different trajectories over time among a sample of children with SLI may be expected both within a domain (for example, literacy) and between a domain (for example, BESD). It is also important to take into account the different microsystems, in particular the home and the school. For example, not only do behavioral, emotional and social difficulties vary over time, they also differ depending upon the setting and rater. Lindsay, Dockrell and Strand (2007) have shown how parents and teachers differ with respect to their judgement of the behavioral,

emotional and social difficulties of children with SLI, and that these differences also differ over time. Lindsay et al argue that this variation is a function of the child's behaviour not simply of intrinsic dispositions, or of absolute levels and types of BESD. Rather, behaviour is both shaped by the context and is a function of the raters' perceptions of BESD, in this case parents and teachers. As shown in figure 2, parents' and teachers' Total Difficulties scores on the SDQ differ for our longitudinal sample not only over time but also between parents and teachers. Whereas teachers rated fewer children as having 'abnormal' scores on the SDQ between 8 and 12 years (35% reducing to 17%) parents rated more children 'abnormal' over this period (37% increasing to 52%).

### Mesosystem

A complicating factor in meeting the needs of children with SLCD is the necessary interplay between health and education professionals. These differences will vary both within countries and between different countries. For example, in the UK, and England in particular, effective collaboration between the key agencies to provide for the children's needs is advocated but there are significant difficulties achieving this (Dockrell et al, 1997; Dunsmuir, Clifford and Cook, 2006). Major decisions on provision, facilities or patterns of practice, are typically not taken collaboratively (Palikara, Lindsay, Cullen and Dockrell, 2007). Some of these problems reflect different underlying philosophies. The conventional view of SLT practice places greater emphasis on factors within the child, while educational models focus on the influence of the learning environment. For example, Dockrell et al, (2006) carried out a national study of educational provision for children with SLI

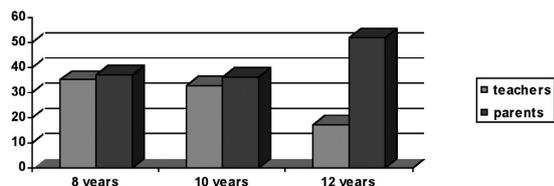


Figura 2 Percentage of children rated by teachers and parents with 'abnormal' total difficulties scores on the Strengths and Difficulties Questionnaire at 8 – 12 years

in England and Wales. Interviews with local authority special educational needs officers and with head of speech and language therapy services revealed a fundamental difference in approach. Whereas SLTs sought a diagnosis of a child's difficulties, the SEN officers, and the local authorities, sought an analysis of the child's needs, not a diagnosis. Differences in approach between the major systems of education and health are likely to undermine attempts to provide a coherent, co-ordinated and collaborative 'seamless' system of provision.

Recommendations from the different professionals for specific interventions and patterns of educational provision will reflect these different perspectives and may lead to a dichotomy between the views of education and health staff about the ways to meet the educational needs of children with SLCD. This will raise challenges for parents, who come with their own views, knowledge and expertise (Lindsay and Dockrell, 2004). The extent to which these different approaches and knowledge bases can work to the benefit of the children will depend on the way the system supports professionals and empowers parents and children.

### Macrosystem

For some time the strategic direction for children with SEN internationally has been centred on a commitment to the principle of inclusion "with a continuum of provision" being available in all local authorities to meet children's needs, for example, the Salamanca Agreement. The velocity towards an inclusive system and the nature of inclusion itself, however, has varied. The former has been shaped by resources, political will and professional commitment. Also, ironically, it has been easier to develop more inclusive systems where the previous and existing systems were less well developed. Authorities that had a traditional commitment to supporting children with SEN (eg Sheffield in the north of England) were faced with closing special schools whereas others (eg Cornwall) a very rural LA with few special schools, could focus on the development of inclusion.

There is, however, substantial debate concerning the meaning of 'inclusive education', ranging from a desire to achieve total inclusion, where every school must accept all children, to more pragmatic, developmental approaches where gradual but systematic change in provision is favoured. It is also important

to distinguish developments that are essentially ideological, based on values systems, from the evidence for particular methods and different models of inclusive practice (Lindsay, 2007).

More recently there has been a shift of focus in England to the three goals of "personalisation, inclusion, and partnership". Despite recent UK government statements the current policy on special educational needs, specifically inclusion is not clear (House of Commons Select Committee on Education and Skills 2006). The implications of these policies especially in relation to devolved budgets to schools and high stakes testing are problematic. Nonetheless it is clear that the majority of children with language and communication needs in England will be educated in mainstream settings (Dockrell and Lindsay, 2008), with a minority in integrated resources or special schools (Lindsay et al, 2005). Importantly, given the reported prevalence of children with speech language and communication difficulties this pattern of provision is unlikely to change.

Similar tensions exist in other countries. All governments must determine priorities both for children with SEN compared with typically developing children and, within the SEN group, between children with different types of SEN. An interesting development in the UK is a review of provision for children with speech, language and communication needs (SLCN) led by a Member of Parliament, not a civil servant or invited academic or practitioner (Bercow, 2008). This initiative draws upon research being undertaken by a team including the present authors to identify practices in different local authorities and health trusts, and the inter-relationships between these bodies.

Analyses to date, and as indicated above, confirm the importance of the systemic approach argued in this paper. The political process at the macrosystem level is being energized to raise the visibility of children and young people with SLCD. The crucial importance of effective practice at Mesosystem level has been identified but of fundamental importance is that the ultimate responsibility for meeting the children's *educational* needs will be located at the level of school and classroom. Given the interaction between oral language development and curricular access, mediated by literacy competence, the need for speech and language therapists and educationists to collaborate effectively is clearly fundamental.

## Intervention

### *What interventions work?*

To address the central issue of evidence based practice it is essential to consider interventions in relation to specific children and the relevant phases of development/education. Individual reviews and large scale meta analysis of speech and language therapy have been provided by others (see Boyle, McCartney, Forbes, et al., 2007; Law, Garrett, Nye, 2004). The focus here is to identify general issues and then to ask whether there is evidence that children with SLCN require different instructional approaches in order to optimise their educational development.

The notion of an early years 'quick fix' needs to be challenged. This is the position that emphasises the benefit of early intervention as the optimal, and in some cases the only, time to intervene. While admirable in itself, the danger is that too many resources will be focused on this period in the belief that intervention at this point will remediate existing difficulties and prevent later problems. There is evidence that a language focussed curriculum with regular targeted activities can be effective for a wide range of children (Rice and Wilcox, 1995), but continuity throughout the primary years will be important (see work by Biemiller (in press) for evidence related to vocabulary). There is a dearth of evidence supporting effective interventions/pedagogy in the later educational phases (but see Ebbels, van der Lely and Dockrell, 2007) and little direct evidence that a focus on language, per se, will reduce associated academic and social difficulties.

### *How intervention is provided?*

Intervention may be described as direct or indirect. The former concerns actions by specialists, SLTs for example, working directly with a child either as an individual or in a group. This optimises specialist input to an individual but is expensive and, as a scarce resource, can only aid a small percentage of children who have relevant needs. To address this logistical issue, professions have developed indirect interventions. Typically the specialist works with and through less specialised practitioners or parents. Indeed, peer tutoring for literacy and numeracy has

worked through other students guided by the specialist, typically a teacher.

In the case of direct intervention for children with SLCN, intervention is either provided for individual children for specific problems, in small groups or for whole classes. There is increasing evidence that small group work in the early years can have positive effects on children's language skills (Dockrell et al., 2006). Small group work does not necessarily imply that specialist language units are required or that groups should consist of children with homogeneous language levels. There is, however, a need to ensure that skilled staff are available to support these activities (Boyle, et al., 2007). There is sufficient general need for oral language support across educational settings that teachers should be trained and primed to use oral language as a driver in different lessons. This implies that teachers are skilled and knowledgeable about the ways in which this can be done and how this can be modified to be applicable across all educational phases.

Indirect intervention can occur through professional training. In-service provision typically focuses on knowledge transmission, and sometimes skills. A focus on knowledge alone is insufficient to alter practice, though it has an important role to play in awareness raising (Dockrell, Sylva, Huxford and Roberts, 2008). To be effective it must provide opportunities to reflect on practice, engage in dialogue, be based in actual work with participants and provide opportunities for peer observation, coaching and feedback after the training has been completed (Dockrell et al., 2008).

A second approach is that of consultation where a specialist acts as a consultant to others who work directly with the child. Unlike in-service training, the focus is usually on specific children. However, it is important to ensure that the consultation leads to effective practice. A danger is that evaluation of practice is limited to process variables concerning the consultation itself rather than the effectiveness of the outcomes of consultation in terms of child improvement (Law et al., 2002).

### *Addressing associated needs*

As we have noted elsewhere associated needs are common for children with SLCD (Dockrell and Lindsay, 2008). When considering these associated needs

it is important to draw on the extensive evidence base that exists for specific problems. High quality evidence based interventions for literacy (reading, writing and spelling) are available, although there is a lack of systematic and sustained interventions for pupils with a history of SLCN in UK further education. By corollary there are a range of interventions to support the development of numeracy. Evidence based practice to address aspects of social, emotional and behavioural difficulties is increasing (challengingbehavior.fmhi.usf.edu/resources.html).

Many of the interventions directed at addressing problems with BESD focus on aspects of language and communication and their efficacy for children with language learning needs should be examined.

### Principles

At different points in their development children with speech and language difficulties may require specialist support from speech and language therapists either directly or indirectly. It is less clear whether there is a special pedagogy for children with SLCD. Distinctive group characteristics do not necessarily mean that different approaches to teaching are required or are differentially effective. As in other areas of special need there is little reliable and valid data to support the view that children with SLCD require distinct kinds of teaching or educational programs (Lewis and Norwich, 2005). Indeed the evidence from therapy studies questions the implication that the *specific* nature of the children's language needs ought to limit access to support. Children with below average non-verbal IQ benefit as much from therapy as do children with average non-verbal abilities (Boyle, et al., 2007; Cole, Dale and Mills, 1992; Fey, et al., 1994).

There are however, a set of critical features that are applicable to all learners although different emphasis on the particular features will be required for different children and at different time points (Brown, 1988; Anderson, 1990). These principles can be applied to optimize learning but need to be linked to the individual child's learning and developmental needs and to the setting in which the teaching and learning are to take place (Lewis and Norwich, 2005). The underlying tenet is that those learning more slowly need more time to

learn and more deliberate planning to ensure progress (Reason, 1998). Lewis and Norwich have formalized a taxonomy of pedagogic strategies that are relevant to supporting the educational needs of children with SLCD (see Dockrell and Lindsay, 2008), although the content needs to be specified and directly related to the relevant educational phases.

Inevitably there are a number of barriers to implementing some of these recommendations. There is still limited evidence examining links between oral language and the curriculum. When evidence based practices have been identified implementation and consistency, that is the maintenance of fidelity to the methods for which evidence is available, can be a challenge.

### Conclusions – developing models

Research, policy and practice evaluations indicate that it is not *where* but *how* support occurs which is crucial (Audit Commission, 2002). The first step (Tier 1) in addressing the needs of children with SLCD should be the provision of an appropriate learning environment, typically driven by an understanding of the principles of learning and the cognitive prerequisites of the task to be learnt. In these contexts support will involve integrating language learning and subject learning. There is no evidence from the current data to suggest that the children should experience a qualitatively different curriculum in the first instance. Establishing that appropriate opportunities exist for a child to learn and that the strategies are in place to support this learning is an empirical question. Appropriate methodologies are required to achieve this objective.

Where the teaching and learning contexts meet these criteria, and children have had access to such learning environments on a regular basis but difficulties persist, a second tier of intervention needs to be considered. It is necessary for interventions to be strongly associated with the target skill, based on solid evidence and matched to the educational context (Gillam and Gillam, 2006). Interventions at this stage need to be systematic, explicit and intense and monitored using the appropriate criterion referenced measures (Dockrell and Law, 2007). This supplemental

support will typically be provided in small groups or one to one settings within the mainstream education system.

Children who fail to respond following second tier interventions are likely to be in the minority but raise specific challenges. More research is required to determine how many children are non-responsive to traditional forms of interventions and why this might be so. One key issue is whether second tier interventions have been implemented in a sufficiently rigorous fashion. At Tier 3 suggestions have been made about providing appropriate support including more intensive intervention, alternative placements where staff knowledge and expertise can meet the specific needs at a specific point in time and responses to the more specialist interventions can be monitored. These recommendations require further evaluation.

There are a number of strengths of this approach for children with SLCN. It is based on children's language learning needs in the educational setting and thereby circumvents some of the problems with diagnosis. The decision about support is based on the child's progress and is therefore less susceptible to the vagaries of different service models. It also has the potential for providing clinicians with a method of allocating limited resources and it is not limited by the child's placement.

By corollary there are a number of significant challenges. The success of the approach is premised on educational staff and therapists working together and there are well documented difficulties with this. Monitoring change depends on the design of appropriate criterion based measures to evaluate change and requires reliable and valid indicators of language skills beyond the age of five. It is not clear that such measures exist. Implementing tier 1 levels of teaching is dependent on a skilled workforce and there is a well-documented gap in teachers' knowledge and understanding of the different kinds of special needs (Scruggs and Mastropieri, 1996) and SLCD in particular (Dockrell and Lindsay, 2001; Dockrell, Sylva and Huxford, 2008). Given the level of responsibility placed on teaching assistants for many pupils, their lack of training is a major concern for successful undertaking of a pedagogic role (Blatchford et al., 2004; Riggs and Mueller, 2002). There are also challenges in evaluating evidence to introduce evidence based practice at tiers 2 and tiers 3 (Gillam and Gillam, 2006; Fey, 2006).

## Conclusion

Intervening with children with speech, language and communication difficulties during the school years requires a comprehensive approach. In this paper we have identified a strategy based on the ecosystemic model originally developed by Bronfenbrenner. We have argued for the importance of the broad ranging approach to the analysis of, and hence intervention for, language difficulties. This is suggested by examples from our longitudinal study of children with specific language impairment and from our current research contributing to a review by the UK government. It is our contention that such a comprehensive approach is essential. Clinical assessment and treatment are insufficient models. Rather, intervention needs to be directed primarily at the developing child within an educational context, with speech and language therapists and educationists working closely together. We need more evidence on the most effective models for such collaborative practice, both at the child or classroom level and also at the level of service development. Finally, national government priorities are important. Children with SLCN make up a substantial minority of children whose life chances are impaired not by their own difficulties but by the lack of support needed to reach their potential. Consequently, we also argue for the central importance of the political process.

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