Understanding speech, language and communication needs: Profiles of need and provision (2012)

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EXECUTIVE SUMMARY

The Better Communication Research Programme (BCRP) was commissioned as part of the Better Communication Action Plan[1], the government's response to the Bercow review of services for children and young people with speech, language and communication needs (SLCN). This had recommended a programme of research 'to enhance the evidence base and inform delivery of better outcomes for children and young people' (p.50)[2]. This is one of four thematic reports which synthesize the findings from the 10 technical reports that report the results from individual BCRP projects; there are also two interim reports and a report of the BCRP as a whole (see Appendix 1 for full details).

This thematic review draws together evidence from a number of the BCRP projects to extend our understanding of the needs of and support provided for pupils with SLCN. In line with frameworks used by health and education services, we first consider how the BCRP studies contribute to our understanding of what constitutes *quality first teaching* and then explore the implications of the studies for understanding and supporting the needs of pupils with SLCN[3] and those with autism spectrum disorders (ASD).

Key Findings

- The SLCN category should be reviewed as it is problematic in terms of reliably identifying groups of pupils with language learning needs and establishing their profile of difficulties.
- Monitoring oral language skills over time is necessary to target support and intervention and reduce variation in identification and prevalence rates across schools and local authorities.
- Our results highlight the importance of profiling individual pupils' strengths and needs and of using these to personalise learning and education plans, rather than diagnostic category of needs.

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[1] https://www.education.gov.uk/publications/eOrderingDownload/Better_Communication.pdf

[2] Bercow, J. (2008) The Bercow Report: *A review of services for children and young people (0-19) with speech, language and communication needs*. Nottingham: DCSF. https://www.education.gov.uk/publications/eOrderingDownload/Bercow-Report.pdf

[3] We use 'speech, language and communication needs' (SLCN) where this category of primary need is appropriate (e.g. the national statistics) and 'language impairment' (LI) where the research focused this subgroup, children with SLCN but who have average or above average nonverbal ability.

Detailed Findings

The term 'speech, language and communication needs' (SLCN)

The term speech, language and communication needs is problematic because

- The term is used in different ways by different people, that can be confusing and it does not help dialogue across different professionals or with parents.
- The DfE descriptor of SLCN does not do justice to the various types of SLCN (e.g. stammering etc.) that exist within the term.
- Teachers tend to focus on the SLCN category rather than looking at each child's individual profile of needs, strengths and weaknesses to guide their teaching approaches.
- Identification of needs is important because needs, rather than a diagnostic category, should determine resources applied to supporting the child.

Effective teaching

- Effective teaching for language requires both effective classroom management and teaching followed by targeted or specialist support of oral language skills when required. This needs to be done in conjunction with regular monitoring and setting targeted oral language objectives as required by the pupils.
- Once effective classrooms for oral language are in place, schools are in a stronger position to become effective oral language learning environments and to identify pupils with more pronounced language learning needs, i.e. those with SLCN.
  - All children need effective opportunities to develop their language skills in mainstream settings, and where settings are struggling to provide these opportunities support and training will be required.
  - Children who fail to progress at the expected rate in effective settings will require further evidence informed targeted or specialist support which is timely and monitored. The specialist support and interventions used need to be based on principles that have been shown to be effective.
- Social disadvantage has its impact very early in schooling. Children from the most disadvantaged backgrounds may need additional support in Early Years to ensure a secure foundation for language and literacy development.

- There will be a significant minority of pupils who will not respond, at the level expected, to effective teaching and these pupils will require additional targeted or specialist evidence informed interventions.

Speech language and communication needs

Speech, language and communication needs are associated with a number of factors:

- Gender is associated with the greatest increase in risk for both SLCN and ASD, with boys overrepresented relative to girls 2.5:1 for SLCN and over 6:1 for ASD.
- Birth season effects are strong for SLCN but not ASD. Pupils who are summer born (May-August) and therefore the youngest within the year group are 1.65 times more likely to have identified SLCN than autumn born (September-December) students.
- There is a strong social gradient for SLCN, with the odds of having identified SLCN being 2.3 times greater for pupils entitled to free school meals (FSM) and living in more deprived neighbourhoods. For ASD the socio-economic gradient is less strong but still important (the odds are 1.63 greater for pupils entitled to FSM).
- Having English as an additional language is strongly associated with being designated as having SLCN, but not ASD,
- There is a substantial reduction in the proportion of pupils with SLCN at School Action Plus over Key Stages 1 and 2, suggesting that for many pupils SLCN identified in the early years of primary school are temporary and transient.
  - This applies to both those pupils for whom English is an additional language and those for whom it is their first language.
- Both SLCN and ASD are associated with low achievement but pupils with SLCN are lower achieving compared to those with ASD.
- Ethnic over- and under-representation for both SLCN and ASD is pronounced:
  - the odds of a pupil of Asian heritage having ASD are half those of a White British pupil;
  - The odds of a child in one of the Black groups having SLCN are almost twice as high as a White British pupil.

Language impairment and Autism Spectrum Disorders

Analyses of results from several studies indicated considerable variation *within* these groups and overlap *between* the groups.

- Pupils with language impairment (LI) and ASD showed poorer performance on verbal than nonverbal measures of cognitive ability in both receptive (understanding of) language and expressive language, although pupils with ASD typically showed better structural language skills (e.g. vocabulary and grammar) than those with LI.
- Pupils with ASD had greater difficulties with the social use of language but these problems were also evident for pupils with LI
- Overall it was the characteristics of the individual pupils which were impacting on their specific learning needs not classification as either LI or ASD.
- The additional support provided by schools and speech therapy services was influenced by classification: children with ASD received disproportionately more support than those with LI with similar needs.
- There was little evidence of the use of specialist packages in educational contexts. By contrast teachers reported particular strategies for teaching and learning which were used to differentially support pupils' learning needs.
- **Together these results highlight the importance of considering individual pupils' strengths and needs and focusing on these to personalise learning and education plans, rather than a diagnostic category of needs.**

Implications

Policy
- The DfE should consider improving the SLCN descriptor to give a clearer indication of the various types of needs it encompasses.
- The definition of English as an additional language (EAL) in the School Census is not a measure of competency in English. The DFE might give consideration to the collection of national data on pupils' stage of competency in English to allow clearer interpretation of the impact of limited English competency on identification of SLCN and ASD.
- Local authorities should be mindful of their duties under the Equalities Act and should monitor the over- and under-representation of pupils from different minority ethnic groups in the identification of SEN. LAs with particularly high levels of disproportionality should further investigate the practices in their area.
- There is a need to raise awareness of ASD among Asian communities, improve outreach and review the extent to which the services are configured appropriately for access by ethnic minority groups.

Practice

- Monitoring oral language skills over time is necessary to target support and intervention and reduce variation in identification and prevalence rates across schools and local authorities.

- School systems need to be aware that social disadvantage has its impact very early in schooling. Children from the most disadvantaged backgrounds may need additional support in Early Years to ensure a secure foundation for language and literacy development

- Schools should be sensitive to distinguishing between the English language learning needs of pupils for whom English is an additional language and the special educational needs associated with developmental language impairments.

- A systematic approach to providing *'quality first'* language environments in school provides the basis for supporting teaching and learning and for providing more targeted and specialist interventions when required for pupils most in need of additional resources and support.

- Some pupils continue to experience language difficulties throughout primary and into secondary school, so there is a need for continued monitoring of language difficulties in older children for whom interventions may be critical for enhancing effective communication in everyday life. This monitoring should include both grammar and morphology (the structure of words) and the social use of language as these have differential effects on progress and attainment.

- Schools and support services, in particular the speech and language therapy services, should review the evidence on effective interventions in out 'What Works' study and collaborate to develop the implementation of evidence based interventions.

- Teachers should make appropriate allowance for age within a year group when evaluating children's language ability, especially in reception and Year 1.

- Classification as having either LI or ASD influenced the additional support provided; schools should therefore ensure that provision is made on the basis of individual need not category of need

- Together these results highlight the importance of considering individual pupils' strengths and needs and use this to personalise learning and education plans.

Research

- The research agenda should take into account the substantial overlap of characteristics and needs of children and young people with LI or ASD
- Future areas for research to improve provision for children and young people with SLCN and ASD should include:
    a. The long term profiles of needs of children with LI or ASD
    b. Methods for developing and embedding evidence based practice
    c. The reasons for both the levels and variations in ethnic disproportionality in SLCN and ASD, and how to address these
    d. It is important to establish why, despite their lower levels of language and academic performance, pupils with LI are likely to attract fewer resources than pupils with ASD.

1.   INTRODUCTION

The Better Communication Research Programme (BCRP) was commissioned as part of the Better Communication Action Plan[4], the government's response to the Bercow review of services for children and young people with speech, language and communication needs (SLCN). This had recommended a programme of research 'to enhance the evidence base and inform delivery of better outcomes for children and young people' (p.50)[5]. This is one of four thematic reports which synthesize the findings from the 10 technical reports that report the results from individual BCRP projects; there are also two interim reports and a report of the BCRP as a whole (see Appendix 1 for full details).

In this section we first consider the importance of oral language for children's development. We then explore the main conceptual framework used in England, based on a continuum of services to meet a continuum of needs, and the variation in terminology used by different services, namely 'universal', 'targeted' and 'specialist' support often known as Waves 1, 2 and 3. We then consider the term 'speech, language and communication needs' and explore how its use varies substantially, leading to confusion.

We also explain our own use of SLCN or 'language impairment' (LI) in the report. Finally we explore the specific issue of the variation within and overlap between SLCN and autism spectrum disorders (ASD) and the important implications that follow.

1.1   The importance of oral language

A significant number of children enter formal education with reduced levels of proficiency in oral language (Chaney, 1994; Locke, et al 2002; Whitehurst, 1997); some of these children will have difficulties that endure into adolescence and adulthood (Beitchman, et al., 1996; Botting, et al., 2001). The importance of language and communication for later academic achievement and health and well-being is now well-established. Providing effective support and identifying children in need of additional or targeted interventions is important for raising attainments and reducing disadvantage for all children and young people.

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[4] https://www.education.gov.uk/publications/eOrderingDownload/Better_Communication.pdf

[5] Bercow, J. (2008) The Bercow Report: *A review of services for children and young people (0-19) with speech, language and communication needs*. Nottingham: DCSF.
https://www.education.gov.uk/publications/eOrderingDownload/Bercow-Report.pdf

Oral language development is central to a child's ability to access the curriculum and develop literacy skills (Bowman, et al., 2000; Muter et al., 2004). Language ability at ages three and four predicts later reading comprehension through secondary school (NICHD, 2005; Verhoven et al., 2011), and later language ability builds directly on earlier competencies in oral language. Children whose oral language is compromised through disadvantage or specific language learning difficulties are, therefore, at risk of literacy difficulties and academic failure (Bishop & Snowling, 2004; Conti-Ramsden, 2008; Dockrell, et al., 2011; Snow et al., 1998).

Major challenges remain about the ways in which the nature and extent of children's language learning needs are identified, the most effective and efficient ways of addressing these needs, and the implications for resources and planning. In this thematic report we draw on a number of the BCRP reports to further consider these issues. In line with frameworks used by health and education services (for more information see below), we first consider how the BCRP studies contribute to our understanding of what constitutes effective teaching for language and communication and then explore the implications of the studies for understanding and supporting pupils with particular language learning needs.

 The BCRP reports that examined models of teaching and learning (Communication Supporting Classrooms)[6] and early years provision[7] and the 'What works' report[8] inform our conceptual framework and provide a structure for providing effective teaching for language and communication. Analyses of the national data sets[9, 10] provide information about the profiles of all children in England who received additional support for SLCN and ASD through statements and at the School Action Plus level of need. Data from the prospective

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[6] Dockrell, J. E., Bakopoulou, I., Law, J., Spencer, S., & Lindsay, G. (2012). *Developing a communication supporting classrooms observation tool.* London: DfE.

[7] Snowling, M. J., Hulme, C., Bailey, A. M., Stothard, S. E., & Lindsay (2011). *Better communication research project: Language and literacy attainment of pupils during early years and through KS2: Does teacher assessment at five provide a valid measure of children's current and future educational attainments? DFE-RR172a.* London: DfE.
https://www.education.gov.uk/publications/eOrderingDownload/DFE-RR172a.pdf

[8] Law, J., Lee, W., Roulstone, S., Wren, Y., Zeng, B., & Lindsay, G. (2012). *"What works": Interventions for children and young people with speech, language and communication needs.* London: DfE.

[9] Meschi, E., Mickelwright, J., Vignoles, A., & Lindsay, G. (2012). *The transition between categories of special educational needs of pupils with speech, language and communication needs (SLCN) and autism spectrum disorder (ASD) as they progress through the education system.* London: DfE.

[10] Strand, S., & Lindsay, G. (2012). *Ethnic disproportionality in the identification of speech, language and communication needs (SLCN) and autism spectrum disorders (ASD).* London: DfE.

study[11] complement analyses of national data sets by providing detailed information about the nature of pupils' language learning needs, how these needs impact on other areas of functioning (behaviour, mental health) and access to the curriculum and the ways in which support for pupils with language learning needs is provided in mainstream settings. Finally, data from the prospective study and the survey of SLTs[12] speak to the ways in which pupils' needs can be met and how these interventions can be developed.

1.2 Planning services for children with language learning needs

There are a number of prerequisites for planning and developing services for children and young people with SLCN. These include:

1. an awareness of children who are at risk of experiencing language learning difficulties,
2. the identification of children who require additional support in language learning,
3. consideration of the ways in which language learning difficulties impact on other aspects of development,
4. provision of appropriate and effective support, and
5. accurate monitoring of progress to ensure that appropriate and timely instructional adjustments are made

Services for children with SCLN from health (mainly speech and language therapy) and education are conceptualised in terms of providing a *continuum* of services to meet the *continuum* of needs that these children experience. The terminology used to define this continuum of services differs by providers. Speech and language therapy (SLT) services tend to use the terms universal, targeted and specialist services[13]. *Universal* services are intended to ensure that all children have appropriate early language and communication opportunities and *targeted* services give additional support, in a meaningful, functional context, to those who are vulnerable in terms of their communication. *Specialist* services support those with *specific* speech, language and communication needs, delivered in the

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[11]Dockrell, J., Ricketts, J., Palikara, O., Charman, T., & Lindsay, G. (2012). *Profiles of need and provision for children with language impairment and autism spectrum disorders in mainstream schools: A prospective study.* London: DfE.

[12]Roulstone, S., Wren, Y., Bakopoulou, I., & Lindsay, G. (2012). *Exploring interventions for children and young people with speech, language and communication needs: A study of practice.* London: DfE.

[13] RCSLT Position Paper *Supporting Children with Speech, Language and Communication Needs within Integrated Children's Services*. (Gascoigne 2006, and also see Gascoigne 2009). • *Draft Guidance on Partnership Working between AHPs and Education: Working together to improve outcomes for children and young people*. Scottish Government 2009.

place most appropriate for the child's learning and involving those who spend the most time with the child.

In a similar way the SEN Code of Practice (2001)[14] describes a 'graduated response' to identifying and meeting special educational needs (SEN). Effective teaching involves teaching and learning opportunities to allow for progression in meeting specified learning objectives for all children (universal). Targeted support involves additional and, usually, time-limited interventions provided for pupils who need additional support to work at age-related expectations. Specialist support describes provision for a minority of children where targeted interventions have been tried but not worked or where, for some special circumstance targeted interventions were not appropriate. At this level it is necessary to provide highly tailored interventions to support progress and may include one to one or specialist interventions. It is worth noting that outside of the UK similar frameworks are used but employ different terminology, e.g. 'tiers' in the US (Stewart, et al., 2005).

Irrespective of terminology, there are three important principles that underlie both SLT (health) and educational frameworks:
- Effective classroom teaching and learning for oral language skills, targeted and monitored interventions as required. All children need to be provided with effective opportunities to develop their language skills in mainstream settings, and where settings are struggling to provide these opportunities support and training will be required.
- Children who fail to progress at the expected rate in effective settings will require further evidence informed targeted or specialist support which is monitored and timely.
- The targeted and specialist support and interventions used should to be based on principles that have been shown to be effective.

1.3   Defining speech, language and communication needs (SLCN)

Terminology related to language learning needs is both complex and confusing. The term SLCN is used in two different ways in educational contexts. The Bercow Review[15] used SLCN as a broad and inclusive term to cover *all* children with speech, language and

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[14]https://www.education.gov.uk/publications/standard/publicationDetail/Page1/DfES%200581%202001

[15] Bercow, J. (2008) The Bercow Report: *A review of services for children and young people (0-19) with speech, language and communication needs*. Nottingham: DCSF. https://www.education.gov.uk/publications/eOrderingDownload/Bercow-Report.pdf

communication needs including those with primary difficulties with speech, language and communication and also those for whom these needs are secondary to other developmental factors such as hearing impairment or cognitive impairment. This breadth of use is not consistent with the classification systems used by the UK Department for Education (DfE) to identify SEN; in this case SLCN has a narrower primary focus on speech, language and communication but excludes, for example, children with autism spectrum disorders (ASD), sensory impairments, more general cognitive difficulties, or primary behaviour difficulties. Differences in the groups of pupils to which the term refers have implications for prevalence data and service development. **The use of the term SLCN in this report reflects the narrower definition used by the DfE i.e. primary difficulties with speech, language and communication**.

We also use the term 'language impairment' (LI) when reporting the results of our prospective study: children with SLCN who had at discrepancy between their language levels and non-verbal ability levels.

Further confusion arises as the term SLCN (in either of its potential uses) is not recognised internationally within educational research arenas and is not used in experimental or clinical work or in research studying the profiles and progress of children with language learning needs. **These differences in terminology impact on communication across professional groups, the implementation of research evidence for targeted interventions and add confusion for parents.**

Researchers and SLTs describe a further cohort of children that is a narrower subset within the SLCN group, those with *specific language impairment* (SLI), although again the exact terminology has varied. These children are considered to have primary language difficulties that are not associated with any other developmental difficulty including ASD, hearing impairment or other neuro-developmental impairment (Bishop 1997; Leonard, 1998). For SLI, nonverbal ability is typically within the average range and children are excluded from this group on the basis of lower than average levels of nonverbal ability. However, specific criteria vary across research studies and in practice, (Dockrell & Lindsay, 2008; Dockrell et al., 2006; Lindsay, et al., 2005a).

Within SLI there have been attempts to differentiate between children with different profiles of language problems. These further subdivisions are controversial (Tomblin & Zhang, 2006). For example, it is argued that expressive language disorders rarely occur alone (Leonard, 2009). Distinguishing between specific difficulties with vocabulary and grammar

particularly in the early stages of development is challenging (Fenson, et al., 1994; Bates, et al., 1995; Bates & Goodman, 1997) and children have been reported to move from one diagnostic group to another and these changes have been difficult to explain in theoretically meaningful ways (Conti-Ramsden & Botting, 1999). There are further questions about whether children with SLI form a qualitatively distinct group or are best understood as the lower end of the normal distribution (Dollaghan, 2011).

The criteria used to identify children with language difficulties is an important issue that requires further study (Bishop & Snowling, 2004; Rice et al., 2004) and will also determine which children are identified and how resources and therapy are allocated.

1.4. Overlap between language impairment and autism spectrum disorders

In line with the broad definition employed in the Bercow Review[16], a range of children experience language learning needs. Of particular relevance to the BCRP are pupils with ASD. This group of pupils with SEN are identified on the basis of communication (and other) needs but many additionally experience clinically and educationally relevant oral language difficulties (e.g., Kjelgaard & Tager-Flusberg, 2001). Recently, potential overlap between SLI and ASD cohorts has been a matter of considerable debate (Williams et al., 2008). SLI is primarily associated with language impairments related to grammar and morphology (the structure of words within a language) whereas language difficulties among children and young people with ASD are characterised by difficulties with the social use of language and stereotyped and repetitive behaviour. There is, however, increasing evidence that the boundaries between the two disorders are not clear (Bishop, 2003), with some pupils with ASD experiencing marked difficulties with grammar and morphology aspects of language (Boucher, 2012; Kjelgaard & Tager-Flusberg, 2001) and pupils with oral language impairments demonstrating features of ASD (Leyfer, et al., 2008). One central theme of the BCRP has been to explore similarities and differences between these two groups of pupils with SEN.

Language skills in ASD are very variable. At an individual level, some individuals with ASD have little or no expressive language while others do not appear to experience difficulties with language. Despite considerable variation, group studies have revealed that the social use of language is universally poor and in terms of other aspects of language, semantic

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[16] Bercow, J. (2008) The Bercow Report: *A review of services for children and young people (0-19) with speech, language and communication needs.* Nottingham: DCSF.
https://www.education.gov.uk/publications/eOrderingDownload/Bercow-Report.pdf

processing (the understanding of meaning) tends to be particularly impaired whereas articulation and grammar are relatively spared (Boucher, 2012). It has also been argued that comprehension is weaker than expression in ASD. However, Kjelgaard and Tager-Flusberg (2001; see also Jarrold et al., 1997) found no differences between expressive and receptive tasks that indexed higher order knowledge of grammar and semantics (meanings). Kjelgaard and Tager-Flusberg also identified a subgroup of individuals with ASD with profiles that mirror SLI.

Therefore, language skills in ASD can resemble those in SLI. In addition, language in this group can be independent of general cognitive ability (IQ) as in SLI. Furthermore, in ASD speech production is often preserved and there is some indication that pupils with ASD are better at sentence repetition than those with SLI (Whitehouse, Barry & Bishop, 2008). **Thus pupils with ASD are at risk of language difficulties but typically do not have problems with speech.**

Autism features have also been documented in samples of pupils with SLI (Bartak et al., 1975; Bishop, et al., 2000; Conti-Ramsden & Botting, 2004). In a recent study it was found that 41% of an SLI sample met ASD criteria for social communication impairments on measures commonly used to diagnose ASD (Leyfer et al., 2008). Pupils with SLI in this study showed difficulties in social behaviours including not showing appropriate interest in other children and failing to spontaneously imitate actions. However, repetitive and compulsive behaviours were seen rarely in SLI. Overall, the evidence suggests that there is significant overlap between the SLI and ASD populations. This gives rise to important policy and practice issues including the extent to which these groups of children manifest similar or different patterns of difficulties in educational contexts, whether their similar or differing needs require different patterns of professional input and the extent to which the groups follow similar or different developmental trajectories.

1.5   The report

Section 2 explores the early identification of children's additional needs and the implementation of a universal (Wave 1) service for pupils designed to prevent or ameliorate SLCN in its broadest sense. We report the use of our Communication Support Classroom Observation Tool as a practical aide to teachers, SLTs and others. We also summarise the universal interventions found to be promising in our *What Works* review.

In Section 3 we examine the results of two types of studies of children with additional language learning needs. First we examine the national data on all children in the state education system in England to provide a large scale perspective. Second, we report the findings from our prospective study of children with language impairment or autism spectrum disorders. Reference to other BCRP reports are given as footnotes.

2. SUPPORTING EFFECTIVE TEACHING FOR LANGUAGE IN SCHOOLS

In this section we focus on the provision of a universal service for pupils designed to prevent or ameliorate SLCN. All children have language learning needs and these should be supported and developed in school settings. However, there are certain factors which impact on the language levels of children when they enter formal schooling and these in turn impact on services and models of service delivery. It has been argued that both the number of children identified with SLCN and the association between social disadvantage and poor language skills (Al Otaiba & Fuchs, 2006; Farkas & Beron, 2004; Vasileya et al., 2008) have increased the demand on services, calling for a re-examination of the ways in which children with SLCN are supported across health and education services (Bercow, 2008; Boyle, et al., 2007; Lindsay, et al., 2008, 2010).

This strategic approach to targeting language learning needs early with universal provision is the first phase in a systematic approach to reduce the impact of lower language competence on attainments in school. Only when children have been provided with appropriate language learning environments to develop their language and communication skills at school and at home, can financial and professional resources be allocated in cost effective and efficient ways.

 The importance of fostering good oral language skills in educational contexts is well established. Oral language skills are the cornerstone of literacy skills; both reading and writing (National Reading Panel Report, 2000; Shanahan, 2006) and difficulties with oral language skills foreshadow later literacy skills (Dickson, 2011). Moreover certain kinds of talking such as discussing, collaborating and problem solving help children with academic subjects (Resnick, et al., 2010). Establishing effective language learning environments can provide both support for literacy (Snowling & Hulme, 2011) and the basis for managing talk to enhance learning (Resnick et al., 2010).

Providing effective oral language environments which foster good communication skills is, however, challenging, requiring practitioners that both understand the ways in which children develop their receptive and expressive language skills, and are able to support their development in the classroom context.

Once effective classrooms for oral language are in place, schools are in a stronger position to become effective oral language learning environments and to identify pupils with more pronounced language learning needs, i.e. those with SLCN

Two projects from the BCRP contribute to addressing issues related to an effective language environment. Work by Snowling and colleagues[17] has detailed the ways in which children's language development in the early years can be reliably monitored while the development of the communication supporting classroom tool[18] provides professionals with the means of profiling the ways in which oral language is supported in reception and Key Stage 1 classrooms. Together these projects provide complementary evidence at child and class level about features of an effective language environment.

2.1. Early identification

Early identification of children's additional needs is important and Snowling et al[19] have shown that that if teachers are appropriately trained they can make valid judgments about children's language and literacy abilities at age five. These judgements need to be guided by a well validated, reliable measure, such as the Early Years Foundation Stage Profile (EYFSP) and assessments at the end of Early Years can be used to identify children who are at risk of educational difficulties.

Our analysis of the EYFSP data indicated that a revised shortened form of the EYFSP could be used to support monitoring, provided that it is used within a system of regular monitoring over time[20]. A screening tool based on the EYFSP would only account for around 50% of the differences between children and as such a substantial number of children would not be identified if 'one off' screening was used. This report identified key behaviours in the areas of language and literacy which can be sampled without placing undue burdens on practitioners and as such could be used to identify children who are at risk.

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[17] Snowling, M. J., Hulme, C., Bailey, A. M., Stothard, S. E., & Lindsay (2011). *Better communication research project: Language and literacy attainment of pupils during early years and through KS2: Does teacher assessment at five provide a valid measure of children's current and future educational attainments? DFE-RR172a.* London: DfE.
https://www.education.gov.uk/publications/eOrderingDownload/DFE-RR172a.pdf
[18] Dockrell, J. E., Bakopoulou, I., Law, J., Spencer, S., & Lindsay, G. (2012). *Developing a communication supporting classrooms observation tool.* London: DfE.
[19] Snowling et al. (2011) ibid
[20] Snowling et al. (2011) ibid

Regular monitoring is preferable because one-off screenings of aspects of development, including language and reading, have limited power to predict later performance as children's developmental trajectories vary. It follows that early identification should be developed into a system of formative assessment that builds on and extends teachers' understanding of language and communication.

Our research was made available to the Tickell Review of the Early Years Foundation Stage (EYFS)[21]. Following the Tickell Review the Early Years Foundation Stage Profile is being revised to become shorter and more focused.

2.2.   Communication supporting classrooms

Monitoring progress needs to be embedded within educational contexts that provide opportunities for children to improve their ability to talk and communicate more effectively. The research evidence reviewed for the communicating supporting classrooms (CsC) project allowed us to identify three main areas which captured the research literature and were, therefore, included as dimensions in the CsC Observation Tool:

- *Language Learning Environment – the physical environment and learning context.* This dimension lists what is available within the environment. Many of the items are semi-permanent features of the classroom reflecting the infrastructure to support language learning or aspects refer to how the teacher manages the learning environment.
- *Language Learning Opportunities – the structured opportunities to support children's language development.* This dimension is indicative of the opportunities for language learning that are available in the classroom such as group work.
- *Language Learning Interactions – the ways in which adults in the setting talk with children.* This includes techniques used by adults to acknowledge the children's needs (such as getting down to the child's level, pacing language used, confirming contributions), to support them in developing their language skills (such as labelling, using appropriate open-ended questions), to encourage non-verbal communication (such as praising good listening skills), to direct language learning (such as commenting), and to model language responses (such as scripting).

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[21] Tickell, C. (2011). *The early years foundations for life, health and learning.* www.education.gov.uk/tickellreview

These three dimensions are all important. However, they are not of equal importance. It is unlikely that a strong environment could compensate for a lack of opportunities to develop oracy skills and appropriate pedagogy to support these skills. One hundred and one reception and Key Stage 1 classrooms were observed using the tool as part of the feasibility study. As Figure 1 shows, significant differences were found across the three dimensions of the CsC Observation Tool. Overall, a large number of the classrooms scored highly on the *Language Learning Environment* dimension indicating that classrooms had captured many of these key features. Scores for the *Language Learning Opportunities* and *Language Learning Interactions* were lower and this pattern was consistent across the three year group observed.

Analysis of the *Language Learning Opportunities* dimension revealed that small group work facilitated by adults occurred significantly more often than other activities; nonetheless recording of this opportunity was low and varied significantly across settings. In contrast interactive book reading, whose efficacy has a strong research base, occurred significantly less often than all other language learning opportunities. This pattern was the same across year groups. The reduced number of opportunities requires consideration as understanding how to talk and work effectively in groups is rare amongst primary school children (Mercer, 2000).
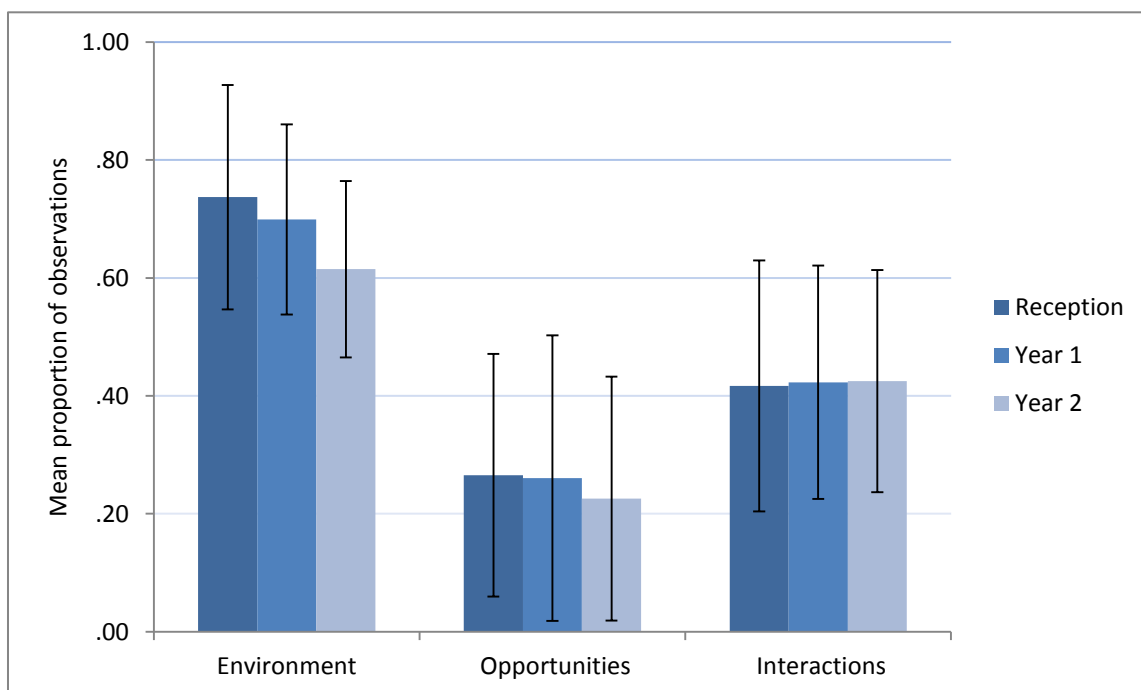

Figure 1: Mean (+/- 1 standard deviation) Proportion Score for CsC Observation Tool Dimensions for the Three Year Groups

Analysis of the *Language Learning Interactions* dimension revealed that a number of interaction behaviours occurred regularly across the observation period (using children's names, using natural gestures, confirming, imitating, using open questioning, pacing and pausing) whereas other behaviours which have been shown to support oral language development were much less frequent (extending, modelling, encouraging use of new words, using contrasts, supporting listening skills, encouraging turn taking, scripting, praising nonverbal communication, providing clear language choices).

Observations to assess feasibility of the use of the CsC Observation Tool were carried out collaboratively with practitioners, including SENCOs, speech and language therapists and teachers. Practitioners unanimously found the tool helpful, accessible, easy to use and, with guidance, reliable in the recording of classroom features that support communication. The study provided evidence for using the CsC Observation Tool in schools to support training, identify Local Authority INSET training needs and monitor the impact of interventions.

2.3. Implications for effective teaching and monitoring

As we have argued, effective teaching for language and communication requires both appropriate monitoring of children's progress and good classroom organisation in order to maximise language development. In addition, organisation and monitoring needs to be complemented by fine tuning adults' oral language in interactions with children. The importance of adult language is further highlighted in the What Works review[22]. This review identified five 'interventions', which are aimed at quality first teaching or universal provision. These are presented in Table 1 with the level of evidence to support these approaches indicated[23]. Programmes differed in their primary language focus, target age group and varied markedly in the level of evidence which supported their use.

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[22] Law, J., Lee, W., Roulstone, S., Wren, Y., Zeng, B., & Lindsay, G. (2012). *"What works": Interventions for children and young people with speech, language and communication needs.* London: DfE.

[23] Law, J., Lee, W., Roulstone, S., Wren, Y., Zeng, B., & Lindsay, G. (2012). *"What works": Interventions for children and young people with speech, language and communication needs.* London: DfE

Table 1 Universal interventions identified in the 'What works review'

Programme	Focus	Key features	Intended for use by	Key Stage	Evidence base
Living Language	Vocabulary and grammar	Monitoring on a weekly basis	Teachers /LSAs	Preschool /primary	Indicative
Talking time	Vocabulary, comprehension and narrative skills	Informed by specific needs of children in the classrooms	Teachers /LSAs	Preschool	Moderate
Teaching children to listen	Develop good listening skills	Whole school approach	School staff	Primary	Indicative
Thinking together	Developing children's thinking and learning using talk as a tool for thinking	Emphasises the importance of both teacher–pupil and pupil–pupil talk	Teachers	Primary /secondary	Moderate
Visual approaches to support language	Supporting children's language learning through the use of additional visual clues	Variety of techniques	Any staff	Preschool /primary	Indicative

Activities to scaffold language development need to be provided in a regular and deliberate manner. These experiences should include advanced language learning interactions that have been shown to develop oral language, including grammatical skills, vocabulary and narrative. Together, these techniques constitute high-quality verbal input by adults. It is important that all school staff should fully understand, appreciate and develop quality use of these language learning interaction techniques.

However, it is important to be mindful of two issues. Firstly, research has shown that changing teacher practices related to language use is proving difficult and it has been recommended that researchers need to look more closely at interactions in classrooms and "strive to create professional development, coaching, and curricula that result in substantial

improvements in teachers' methods of fostering language learning" (Dickson, 2011). Secondly, there will be a significant minority of pupils who will not respond, at the level expected, to effective teaching and these pupils will require additional targeted evidence informed interventions.

3.   PUPILS WITH ADDITIONAL LANGUAGE LEARNING NEEDS

Ensuring that language is embedded within the curriculum and that these skills are
monitored is the first phase in effective practice. However, for a significant number of
children these practices will be insufficient to meet their needs and additional support will be
required, either in the form of short term targeted interventions or more extended specialist
support. Two BCRP studies[24, 25] used national data sets to capture the profiles of pupils who
were recorded by schools as receiving support through a statement of SEN or at the School
Action Plus level of need for either SLCN[26] or ASD. The data used in these two studies were
collected for administrative and not research purposes[27]. As such they are determined by a
range of local factors and do not address whether the children's difficulties meet objective
measures reflecting their identified needs by the use of standardised assessments or
diagnostic criteria (e.g., DSM-IV, American Psychiatric Association, 2000; ICD-10, World
Health Organisation, 1993)[28]. These two studies are complemented by a third BCRP report
that describes a prospective longitudinal study[29] of pupils with LI and ASD. By administering
a range of measures to pupils, their teachers, SENCOs and parents, this study provides
detailed data on the profiles of these pupils and how their needs are being met by education
and health (SLT) systems.

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[24] Meschi, E., Mickelwright, J., Vignoles, A., & Lindsay, G. (2012). *The transition between categories
of special educational needs of pupils with speech, language and communication needs (SLCN) and
autism spectrum disorder (ASD) as they progress through the education system.* London: DfE.
[25] Strand, S., & Lindsay, G. (2012). *Ethnic disproportionality in the identification of speech, language
and communication needs (SLCN) and autism spectrum disorders (ASD).* London: DfE.
[26] Here the narrower DfE definition is used i.e. speech, language and communication difficulties that
are separate from ASD, sensory impairments, more general cognitive difficulties, or primary behaviour
difficulties.
[27] State schools in England are required to complete the School Census each term. This includes
specifying whether a pupil has i) special educational needs with a statement or at School Action
Plus,(where the support of outside professionals is required) in which case the category of SEN for
the primary need must be specified (e.g., SLCN or ASD); ii) special educational needs at School
Action, which are unclassified, or iii) does not have SEN.
[28] *Diagnostic and statistical manual of mental disorders IV*; *International classification of diseases*
[29] Dockrell, J., Ricketts, J., Palikara, O., Charman, T., & Lindsay, G. (2012). *Profiles of need and
provision for children with language impairment and autism spectrum disorders in mainstream
schools: A prospective study.* London: DfE.

3.1.   Insights from national data sets

3.1.1 Prevalence of speech, language and communication needs and autism spectrum disorders

We examined two types of prevalence: i) the percentage of pupils with SLCN or ASD at different times (we examined the period 2005-2011) and ii) the percentage of a cohort of pupils with SLCN or ASD followed over the period from Year 2 to Year 11 (from age 7 to 16 years).

Rates of identification of both SLCN and ASD have increased substantially over the period 2005 - 2011, from 0.94% to 1.61% of all pupils for SLCN (72% increase) and from 0.48% to 0.87% for ASD (83% increase)[30]. The reasons for these increases in reported prevalence are not revealed in the school census data but a similar trend for ASD has been noted in the research literature[31] (Fombonne, 2009) In addition to any increase in the absolute prevalence, the reasons include a broadening of the definition of ASD and an expansion of the diagnostic criteria, improved awareness, and the development of services.

Examination of prevalence by age group, using the School Census, revealed important differences between SLCN and ASD[32]. It appears that for many pupils having SLCN, identified in the early years of primary school, is temporary and transient, with identification at the level of School Action Plus (SAP) decreasing substantially from 2.7% in Year 1 to 0.6% in Year 7 and further reducing to Year 11 (Figure 2). However, this occurred mainly during Key Stages 1 and 2, with a much lower rate of decrease during Key Stages 3 and 4. Furthermore, this reduction was essentially a function of fewer pupils at SAP: the prevalence of pupils with statements where SLCN was the primary need was relatively stable at around 0.4% across the full age range (5-16 years).

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[30] Strand & Lindsay (2012) ibid

[31] Note that these are reported prevalence rates, as recorded in the national statistics. Pupils at School Action Plus shall, by definition, have had an intervention of some form by a professional from outside the school (e.g. an SLT); pupils with statements must, by law, have had a statutory assessment. However the exact nature of each assessment is not specified and so is not standard.

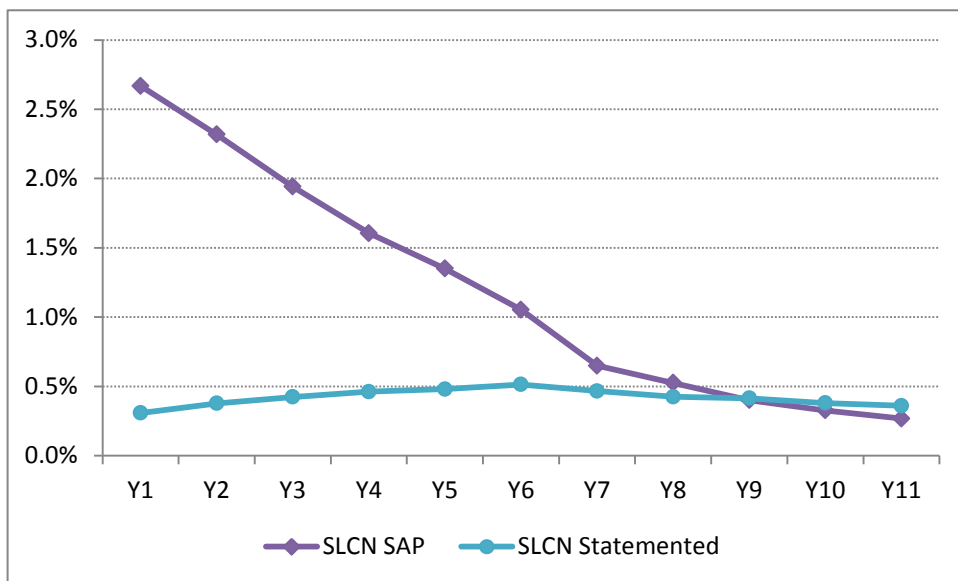[32] Lindsay, G., Dockrell, J.E., Law, J., Roulstone, S., & Vignoles, A. (2010) *Better communication research programme 1st interim report DfE-RR070. London: DfE*. (70pp). http://publications.education.gov.uk/eOrderingDownload/DFE-RR070.pdf

Figure 2. Prevalence of SLCN across year groups - 2011

Figure 3 shows the prevalence of pupils with ASD across year groups. Here we see a very different picture from that for SLCN. First, the prevalence rates are reversed compared with SLCN: there are more pupils with a statement than at SAP. Second, there is no reduction in the prevalence of pupils at SAP over Key Stages 1 and 2: in contrast to SLCN, the level of identified ASD is broadly consistent across the age range 5-16 at 0.3% SAP and around 0.6% statemented. .

In order to explore possible reasons for these differences we examined the effects on prevalence of SLCN and ASD of social disadvantage, English as an additional language (EAL) and academic achievement; we also examined prevalence (and, more particularly, disproportionality of prevalence by ethnic group) across local authorities.

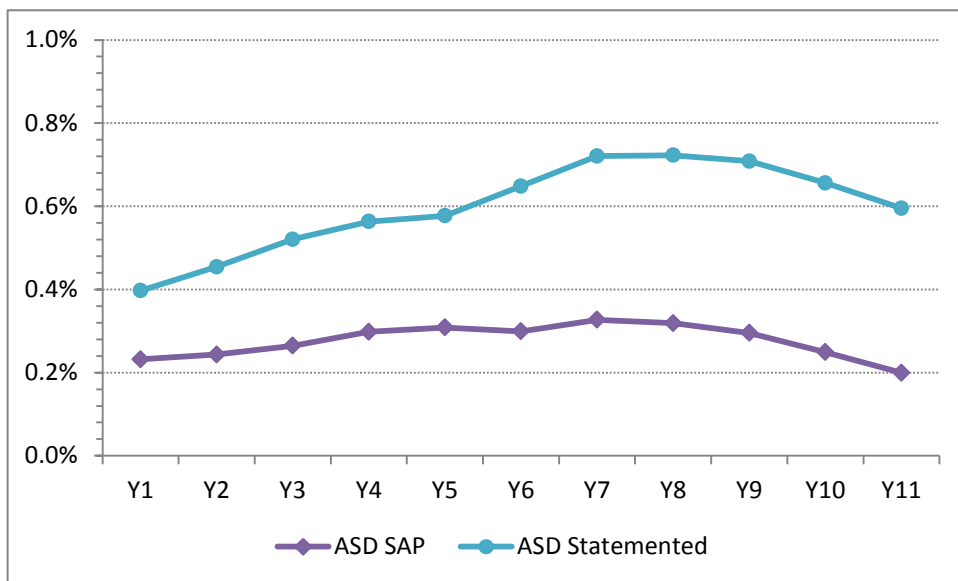**Figure 3. Prevalence of ASD across year groups - 2011**

3.1.2 Risk factors for speech, language and communication needs and autism spectrum disorders

Factors associated with increased risk of SLCN and ASD include gender, birth season effects, socioeconomic disadvantage, having English as an additional language (EAL) and low academic achievement. The nature of these increased risks is set put in Box 1.

Box 1 Risk factors for SLCN

Gender is associated with the greatest increase in risk for both SLCN and ASD, with boys overrepresented relative to girls 2.5:1 for SLCN and over 6:1 for ASD.

Birth season effects are strong for SLCN but not ASD. Pupils who are summer born (May-August) and therefore the youngest within the year group are 1.65 times more likely to have identified SLCN than autumn born (September-December) students. Teachers need to be aware of this finding and to consider carefully whether they are making sufficient allowance for the age of the child when forming their judgements.

Socioeconomic disadvantage There is a strong social gradient for SLCN, with the odds of having identified SLCN being 2.3 times greater for pupils entitled to free school meals (FSM) and living in more deprived neighbourhoods. For ASD the socio-economic gradient is less strong (Odds Ratio (OR) =1.63) but still present.

Pupils with School Action Plus SLCN were more likely to be socially disadvantaged (28% eligible for free school meals (FSM) at age 11) compared with pupils with no SEN (14%). Those with a statement were marginally less disadvantaged (25% FSM eligibility). By comparison, pupils with ASD were only slightly socially disadvantaged as specified by FSM eligibility (14% SAP, 16% statement at 11 years).and this is equivalent to the general population. As a result the odds of a socially disadvantaged pupil being identified as having SLCN (at SAP or statement) were well over twice as high compared with non-disadvantaged pupils (2.3:1). For ASD, the odds were again higher, but at a lower level: just over one and a half times higher (1.63:1).

EAL Pupils with SLCN are also more likely to have English as an additional language (EAL) – 20% at the end of Key Stage 2 compared with 10% of the pupil population overall at this age. However, this is not the case for those with statements for SLCN where the prevalence of EAL is the same as the general pupil population. By contrast, pupils with ASD have low levels of EAL (2% School Action Plus, 4% statement).

Academic achievement As expected, pupils with SLCN and ASD have lower achievement at the end of Key Stage 2 than pupils without SEN but the discrepancy is larger for those with SLCN than ASD, both those at School Action Plus and those with statements.

In summary, the social risk factors identified from the national data sets for having SLCN, particularly at School Action Plus, include being socially disadvantaged and having EAL; By contrast, being socio-economically disadvantaged or having EAL are not such major risk factors for being identified as having ASD, though students with ASD are nonetheless more disadvantaged than pupils with no SEN. Low achievement is a risk factor for both SLCN and ASD but pupils with SLCN are lower achieving compared to those with ASD.

It appears, therefore, that SLCN is associated strongly with EAL and that an important factor in SLCN identification, at least in the younger pupils, is a conflation of SLCN and EAL, even though having EAL is not a reason for being designated as having SEN. It is also important to note that the EAL designation does not follow any analysis of language competence per se but is a measure of exposure (either at home or in the community) to another language in addition to English, *irrespective of the pupil's proficiency in English*. The association with EAL may therefore be as likely to reflect a wide range of cultural differences as much as limited competency in English. It is largely coterminous with ethnicity and ethnicity is highly related to socioeconomic disadvantage and poverty. However, as we show in Section 3.1.4 it is *ethnicity* that is the more important factor rather than having EAL.

3.1.3. Pupils that move within and across SEN categories

In a separate report we examined the destinations in terms of SEN categories of pupils who made a transition out of SLCN and ASD categories between the end of Key Stage 2 (year 6, 10-11 years old) and end of Key Stage 3 (year 9, 13-14 years old)[33]. In particular we were interested to examine whether the reduction in numbers of pupils with SLCN at secondary school was a function of their primary need being reclassified as behavioural, emotional and social difficulties (BESD). Many practitioners were concerned that these pupils with SLCN were developing BESD and that their primary needs were reclassified, as a result of which language needs were not being recognised and therefore not addressed.

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[33] Lindsay, G. & Dockrell, J. (2012). *The relationship between speech, language and communication needs (SLCN) and behavioural, emotional and social difficulties (BESD).* London: DfE.

In fact the movement from SLCN is not a characteristic of the transition to secondary school – as Figure 2 shows, this happens throughout Key Stages 1 and 2 and then levels out during secondary school for those pupils at School Action Plus (there is no reduction for those on statements). Examination of destinations of pupils that moved from School Action Plus (SAP) level of need for SLCN to another SEN category at SAP revealed that the main destinations concerned learning not behaviour: moderate learning difficulties and specific learning difficulties rather than BESD.

For both SLCN and ASD, pupils that move to another category of SEN (i.e. mainly MLD or SpLD) tend to have *lower* attainment at the end of Key Stage 2 assessments. This suggests that either the child's speech, language and communication needs are reducing, or that learning needs associated with increasing demands of the curriculum are now considered more important and becoming the primary needs. For pupils with SLCN, but not those with ASD, having EAL is associated with transition *out* of the SLCN category, either to School Action or non-SEN. This suggests that as children develop their English language ability they are less likely to be considered to have SLCN as a special educational need.

3.1.4. Speech, language, communication needs, ASD and ethnicity

In a separate study[34] we examined the prevalence of pupils identified with SLCN and ASD by ethnic group and whether there was ethnic disproportionality, i.e. over- and underrepresentation of pupils with SLCN or ASD from different ethnic groups. In these analyses we combined pupils at School Action Plus level of need and those with a statement.

As noted above, there has been a substantial increase in the reported prevalence over the period 2005-2011 of pupils with SLCN (increase of 72%) and ASD (increase of 83%). However, this overall figure masks substantial variations between different ethnic groups, with some huge increases. The most notable increases in prevalence between 2005 and 2011 are for ASD, particularly for the Black groups (Black African, 102%; Black other groups 107%; Black Caribbean, 120%) and the Asian groups (Indian, 98%; Pakistani, 98%, Bangladeshi, 166%). These increases in reported prevalence are very unlikely to represent true increases in prevalence over this period.

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[34]Strand, S., & Lindsay, G. (2012). *Ethnic disproportionality in the identification of speech, language and communication needs (SLCN) and autism spectrum disorders (ASD).* London: DfE.

We also explored the level of over- and underrepresentation of pupils with SLCN and ASD by ethnic group (known as 'disproportionality')[35]. The overrepresentation of Black, Bangladeshi and Chinese students for SLCN, and the underrepresentation of Indian, Pakistani, Bangladeshi and Other Asian students for ASD, was stable and pronounced. For example, the odds of a pupil of Asian heritage being designated as having ASD are half those of a White British pupil; the odds of a child in one of the Black groups having SLCN are almost twice as high (1.8:1).

To some extent the ethnic disproportionality for SLCN reflects the strong social gradient. After controlling for and socioeconomic disadvantage, the over-representation of Black and Bangladeshi students was substantially reduced. By contrast, however, Indian students were still significantly underrepresented for SLCN after controlling for socioeconomic disadvantage. Furthermore, adjusting for socioeconomic disadvantage had little or no impact on the under-representation of Asian students for ASD, who were still about half as a likely as White British students to have identified ASD, even after adjusting for poverty. The consistent underrepresentation across the Indian, Pakistani, Bangladeshi and Asian Other groups was, however, related to EAL. The causes of this variation are not clear but may reflect a wide range of cultural factors, and local policy and practice as much as limited competency in English[36].

Variation in ethnic disproportionality by Local Authority: There was substantial variation between LAs in the extent of disproportionality for SLCN. Overall, 36 LAs showed substantial **under**representation of Black students for SLCN whereas 56 LAs showed substantial **over**representation. In contrast there was much less variation across LAs in the underrepresentation of Asian pupils with ASD. A total of 115 LAs showed substantial **under**representation of Asian pupils and only five showed substantial **over**representation.

This consistency suggests that variation in LA policy and practice play a limited role in the underrepresentation of Asian students with ASD, but a sizeable role in the disproportionate identification of Black students with SLCN. But this still leaves open the question of why this disproportionality for Asian students with respect to ASD exists across most LAs.

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[35] Disproportionality is calculated by comparing the odds of a pupil from a particular ethnic group having a type of special educational need (SLCN or ASD in the present case) compared with the odds of a White British pupil having the same category of SEN.
[36] As noted above, the variable English as an additional language in the School Census is a measure of exposure to another language in addition to English *irrespective of the pupil's proficiency in English*

3.1.5 Conclusions from the national data sets

The national data from the School Census and the National Pupil Database provide information regarding the operation of the SEN system with respect to SLCN and ASD.

Our analyses raise questions about the current policy and practice regarding the use of SLCN and ASD as categories of primary special educational needs within schools and local authorities. In some respects the variations we report may reflect real differences in individual trajectories, as a child's balance of strengths and weaknesses, related to both within child and external factors, changes over time. In other aspects (e.g. variations in patterns of local authority ethnic over- and under-representation) variations appear to result from different policies and practice.

3.2. The prospective study: Meeting the needs of children with LI and ASD in mainstream settings

The prospective study[37] provides a basis for considering the needs of pupils who require *targeted* and *specialist support*. Pupils with language impairments (98 LI, 64 ASD) aged 6-12 years were recruited from mainstream schools or specialist resources within mainstream schools and followed up over three school years, allowing both cross sectional and longitudinal analyses[38]. Mainstream schools were targeted as most pupils with SLCN and ASD are educated in these settings (Dockrell & Lindsay 2008). Another important aspect of the project was that a diverse range of methodological approaches were used to understand the pupils' needs and the support that was provided to meet their needs. Data were obtained through direct assessments with pupils, and questionnaire and interview schedules administered to pupils and their parents, teachers and school SENCOs. Pupils were also observed during an English language/literacy lesson. This yielded information on need in terms of oral language, cognition, memory, literacy, autism features, quality of life and behaviour. Alongside data on need, the prospective study yielded information on classroom support, resources provided to pupils and parental views on their children's needs and the

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[37]Dockrell, J., Ricketts, J., Palikara, O., Charman, T., & Lindsay, G. (2012). *Profiles of need and provision for children with language impairment and autism spectrum disorders in mainstream schools: A prospective study.* London: DfE.

[38] Pupils with English as an additional language or other documented special educational needs were indentified at screening and excluded from the study.

way that these needs were being met. To our knowledge, this was the first study to take this approach.

The study complements those looking at national data sets[39, 40] by systematically collecting data that provide more detailed information on the profiles of pupils with SLCN and ASD. It also generated data on the support provided for pupils, classroom practice and the allocation of interventions and resources. The prospective study also extends previous clinical and experimental research on the overlap between SLI and ASD (for a review, see Williams et al., 2008) by specifying *where* these cohorts of pupils show differences and similarities in oral language and across a large number of other domains such as literacy, socio-emotional development and behaviour[41]. Here we synthesise the results to draw out patterns for these pupils with severe and enduring language learning difficulties with a view to informing the development of services. The study aimed to capture the ways in which language and communication needs impact on wider aspects of development and mappings between needs and the ways in which educational systems respond to these needs.

3.2.1. What were the profiles of need for pupils with LI and ASD?

In contrast to the data summaries from the national data sets no significant differences on socio-economic indices were observed between pupils identified with LI and ASD. While indices of deprivation in our sample were higher than the national average, they were commensurate with the local authorities from which the samples were taken.

Pupils with LI and ASD showed poorer performance on verbal than nonverbal measures of intelligence. Across both receptive and expressive language, pupils with LI and ASD performed poorly, although pupils with ASD typically showed better language skills in the areas of grammar and morphology (the structure of words within the English language). As Figure 4 shows, language abilities of children with ASD showed considerable variation (scatter) as anticipated (cf. Boucher, 2012). Language in the LI cohort was less varied (more closely clustered). Both language and nonverbal measures showed stability over a period of

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[39] Meschi, E., Mickelwright, J., Vignoles, A., & Lindsay, G. (2012). *The transition between categories of special educational needs of pupils with speech, language and communication needs (SLCN) and autism spectrum disorder (ASD) as they progress through the education system.* London: DfE.

[40] Strand, S., & Lindsay, G. (2012). *Ethnic disproportionality in the identification of speech, language and communication needs (SLCN) and autism spectrum disorders (ASD).* London: DfE

[41] In order to allow comparison with published data on clinically-ascertained samples of pupils with SLI and ASD, within these cohorts the study distinguished between pupils with average (or above) nonverbal ability and those with low nonverbal ability. Here we collapse over nonverbal ability for clarity.

approximately 12 months. Thus, there was no evidence of improvement or decline over time relative to norms. Cross-sectional analyses indicated that across a number of language measures pupils with LI recruited in older year groups showed significantly poorer scores than pupils recruited in younger year groups. There was less variation by age in the ASD sample.
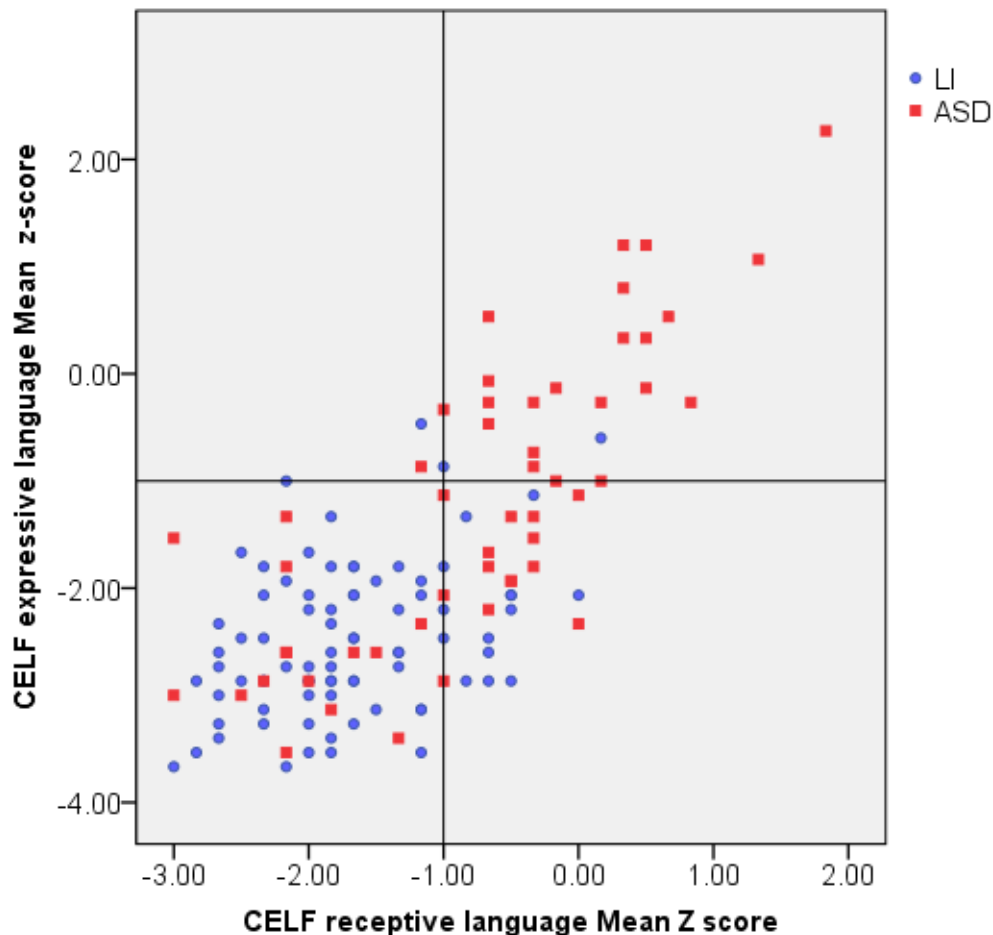

Figure 4. Relationship between receptive and expressive CELF measures for pupils with LI and ASD

A parent completed questionnaire provided additional information on the social use of language. As anticipated, the pattern of results on the social use of language was different from that observed for grammar and morphology, with pupils with ASD showing greater difficulty than their LI peers (Loucas et al., 2008). This was consistent with information from both teachers and parents who reported higher levels of social and communication impairment in the ASD cohort compared to the LI cohort. Importantly though, scores of the LI pupils were considerably elevated compared to the population norms, indicating that they also have significant difficulties in some aspects of social communication and social relating as well as showing some rigid and repetitive behaviours characteristic of ASD (cf. Leyfer, et al., 2008).
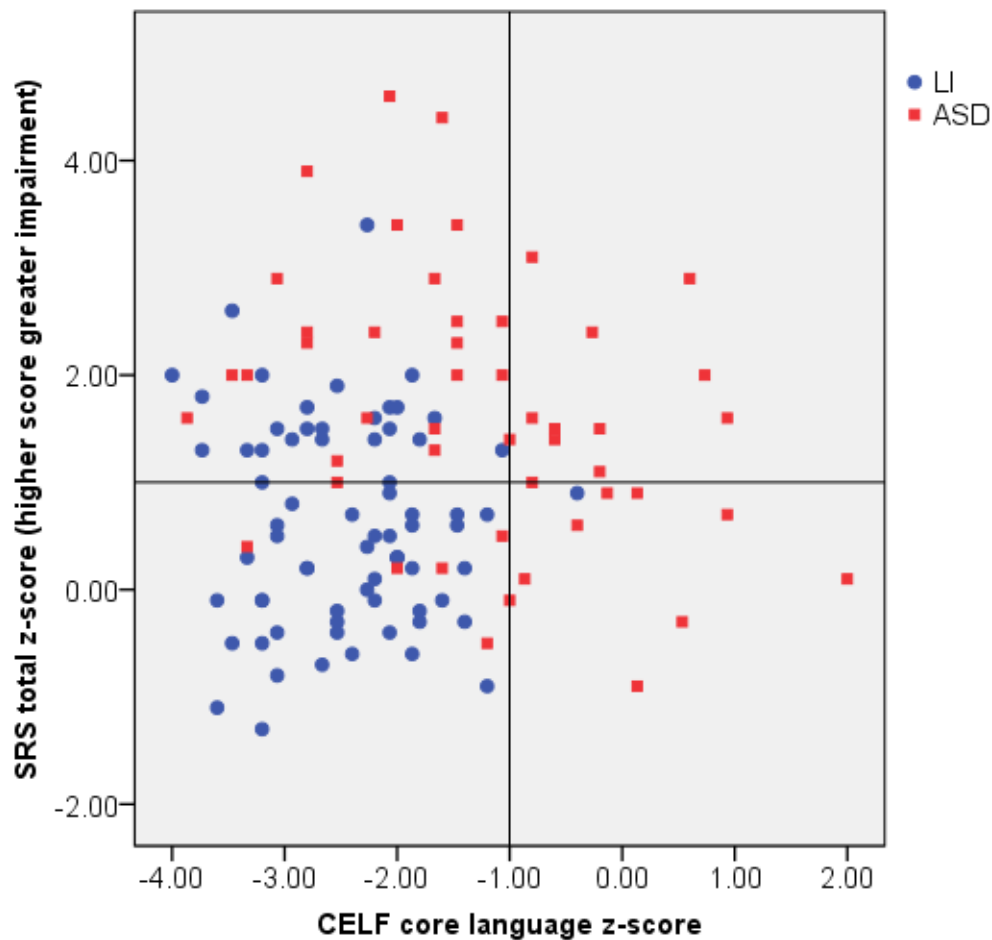
Figure 5. Relationship between CELF core language and social responsiveness score for pupils with LI and ASD

Examination of scores at an individual level shows that group means masked significant variation within the two cohorts on language (lower scores greater impairment) and autism symptomatology measures (higher scores indicate greater impairment) as well as a high degree of overlap between the groups (see also Boucher, 2012) – see Figure 5. **The variation observed highlights the importance of considering individual pupils' strengths and needs and to use this information to personalise learning and education plans.**

Depressed language scores were associated with depressed performance in other areas of cognition and poorer **academic attainment**. As expected from previous research and the analyses of the national data sets, performance on national curriculum tests was below age targets and in terms of school attainment, on average measures of progress did not differ between the cohorts. These data describe performance and do not explain these patterns.

Different settings with different support and different approaches to intervention are likely to differentially impact on progression.

Verbal and nonverbal measures of **short-term and working memory** were depressed for LI and ASD pupils and performance was equivalent across groups across domains. In contrast, performance on literacy measures indicated that in most cases pupils with LI showed a greater degree of difficulty than pupils with ASD, in line with the pattern of results for oral language (Lindgren, et al., 2009). Again, differences in cohort means masked a degree of overlap in LI and ASD distributions. In longitudinal analyses, for both cohorts word recognition scores were stable over a period of approximately 12 months but reading comprehension standard scores showed a decline.

Few studies have investigated **writing in** LI and ASD samples (for exceptions see Connelly, et al., 2011; Mayes & Calhoun, 2003). Writing was an area of difficulty for both LI and ASD cohorts. Relative to test norms, writing fluency scores were particularly depressed for LI and ASD groups and spelling scores were depressed for the LI cohort but not the ASD cohort. When pupils were asked to produce connected texts in response to a prompt, a substantial minority of pupils did not produce any connected text and for those participants who did produce written texts, they were limited and error prone.

Reports from the pupils, their parents and teachers indicated raised levels of **social and emotional problems** and professionals need to be aware of the ways in which language learning needs can impact more widely on a pupils' development. LI and ASD profiles were similar on subscales measuring emotional problems, conduct/behavioural problems and hyperactivity, with both cohorts exhibiting behavioural difficulties at school. Impoverished peer interactions and prosocial behaviours were more closely associated with the ASD than LI cohort, reflecting particular difficulties with social communication in the pupils with ASD. Notably, for the pupils with LI, social interaction with same age peers was a greater issue for older pupils (Years 5 and 7) than younger (Years 1 and 3) pupils. So while both LI and ASD groups showed elevated risks for socio-emotional difficulties, LI pupils recruited at older ages were more likely to experience difficulties in peer relationships.

Data from the prospective study complement analyses using national data sets[42], [43] by providing a more detailed profile of the pupils' needs across a range of dimensions. While language and communication difficulties in pupils with SLCN and ASD were clearly of paramount concern to schools, these cohorts were also characterised by difficulties in literacy and wider aspects of learning. Overall, pupils with ASD fared better on language measures of grammar and morphology and literacy while pupils with LI fared better on measures of social use of language, socio-emotional well-being and behaviour. However, these differences must be considered within the context of high levels of impairment in both cohorts across measures and significant overlap between cohorts on many measures.

Next we consider the patterns of support offered by the schools to support the pupils needs followed by a description of regression models that indicates important implications of having LI and ASD.

3.2.2. *What support are pupils with LI and ASD being provided with?*

There are few studies which examine the support provided to children with language impairment but to be able to predict response to intervention and model progress it is essential to capture the amount and content of pupil support. In the prospective study, pupils were mainly being educated in mainstream schools with about a fifth in specialist resource bases in mainstream schools. At the beginning of the project no pupils were attending special schools but by the end of the project (20 months later) a small number of pupils (3%) were attending special schools. Information on support was obtained from teachers, head teachers, SENCOs and parents and by observing practice in the classroom.

SENCOs and teachers reported that pupils were receiving high levels of support from learning support assistants (LSAs), with ASD pupils receiving approximately three times as much LSA time than pupils with LI. This was consistent with direct observations of LSA support in the classroom. Head teachers and SENCOs also reported engagement in administrative time to support the pupils and for a significant minority of pupils, there was

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[42] Meschi, E., Mickelwright, J., Vignoles, A., & Lindsay, G. (2012). *The transition between categories of special educational needs of pupils with speech, language and communication needs (SLCN) and autism spectrum disorder (ASD) as they progress through the education system.* London: DfE.

[43] Strand, S., & Lindsay, G. (2012). *Ethnic disproportionality in the identification of speech, language and communication needs (SLCN) and autism spectrum disorders (ASD).* London: DfE

evidence of input from speech and language therapists (SLTs). SLTs were reportedly more involved with pupils with ASD than LI and SLT provision was rare in secondary schools.

Data on involvement from professionals other than teachers, LSAs and SLTs (e.g., educational psychologists) was sparse and suggested that there was limited (reported) direct involvement for our target pupils. It is possible that SENCOs were not aware of this involvement or that the professional involvement was of a different nature, for example at a strategic school level. **Nonetheless, it suggests that the primary supports for our participants were school based and through SLT services.**

3.2.3. What is happening for pupils with LI and ASD in the classroom?

Teachers reported on their use of different strategies to support pupils' learning. There were few differences between the LI and ASD cohorts in the use of these strategies, although pupils with ASD were more likely to receive additional IT support and pupils with LI were more likely to have their preparedness for the next step monitored.

Statistical analyses of the data revealed that teachers' responses could be considered in relation to two different factors. One related to the *content* of what they taught e.g. level, and the other to how they *structured* teaching activities e.g. use of breaks.

Greater differentiation of *content* was reported for pupils with LI and there was a trend for greater levels of *structural* differentiation for pupils with ASD. These different patterns were more evident when the relationship between the factors and performance on standardised measures were considered. Higher scores on the social responsiveness scale (greater level of difficulty typically associated with ASD pupils) were associated with higher levels of *structural* modifications whereas lower scores on the language and literacy measures (poorer performance more closely associated with LI pupils) were associated with more modifications in the *content* of what was being taught.

To examine the classroom learning context for pupils with LI and ASD further, observations were carried out in English language/literacy lessons. These lessons were targeted for observation because it was predicted that the content of the lessons would be particularly challenging for these pupils with language learning needs. In consequence, it was in these lessons that the greatest levels of support and differentiation were expected. There were a number of significant differences between the LI and ASD cohorts although variation within groups was often large and there was also considerable overlap between the two cohorts.

For the majority of the observation period, pupils were in the mainstream classroom. However, pupils with ASD were significantly more likely to be working with a LSA in the classroom or to be working outside the classroom.

Prevalence of observed task differentiation by teachers and off task behaviour by pupils varied within and between cohorts. It was the pupils with ASD and lower nonverbal ability who were significantly more likely to experience curriculum differentiation at an individual level. Differences in the pupils' scores on standardised measures did not account for this variation. Overall pupils were observed to be engaged with the lessons they were in and there was little evidence of disruptive behaviour or pupils being engaged in tasks which were not relevant to the lesson.

3.2.4. How are specific interventions and resources being provided for pupils with LI and ASD?

As described in the two previous sections, the observations and data collected from teachers and SENCOs indicated that pupils were being provided with resources in terms of time with LSAs and SLTs. In addition, teachers reported that they were differentiating the curriculum for pupils and it was possible to capture some of this differentiation in the lessons that were observed. Teachers reported differentiation in terms of principles and practices of teaching – not packages or programmes. Indeed there was very little evidence of expenditure from the schools or use of specific intervention packages either for literacy or language.

Teachers' awareness of differentiation needs and their responses to the differentiation questions may reflect the emphasis that SLTs report they place on developing teacher skills[44]. Importantly though, while observing classes, only half of the teachers in the lessons observed were using specific strategies to include the pupils with significant language and literacy needs, such as use of visual aids to support what they were saying, presenting key words visually or using diagrams.

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[44] Roulstone, S., Wren, Y., Bakopoulou, I., & Lindsay, G. (2012). *Exploring interventions for children and young people with speech, language and communication needs: A study of practice.* London: DfE.

3.2.5. The impact of LI and ASD on functioning and provision at school

Pupils with ASD reportedly attracted more resources and support than peers with LI, despite showing less impaired profiles across a number of domains including language and literacy. Pupils with ASD did however show greater difficulty on a range of measures tapping social and emotional functioning. This raises the possibility that greater levels of support are more likely to be allocated on the basis of social and emotional needs than academic needs. Anecdotal evidence from the classroom observations suggested that this may be the case. However, neither oral language nor severity of ASD symptoms emerged as important factors predicting LSA support in the class. Therefore, this issue warrants further investigation. It may be that our measures of functioning did not capture the characteristics of pupils with ASD that determine allocation of resources and support. Alternatively it may be that diagnosis rather than level of need is used to allocate resources.

Regression analyses highlighted the importance of different factors in predicting reading difficulties, BESD and teacher reported classroom differentiation. **In these models classification as either LI or ASD did not account for significant variance indicating that it was characteristics of the individual pupils rather than their primary need which was impacting on their specific learning needs. In contrast classification as either LI or ASD did influence additional support.**

Characteristics of individual pupils were the most important factors predicting learning needs, rather than their category of primary special educational needs. However, level of resources was associated with category of primary need.

It is important to establish why despite their lower levels of language and academic performance pupils with LI are reported to attract fewer resources.

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4.   CONCLUSIONS

Taken together these studies point to the importance of establishing a systematic approach to identifying language learning needs so that appropriate and effective support can be provided early. The ways in which language learning can be supported in classroom settings through development of the language learning environment, language learning opportunities and language learning interactions are outlined.

The identification of pupils with significant language learning needs is problematic. The term speech, language and communication needs (SLCN) lacks precision and no single objective measure or profile of measures exists to identify target pupils. SLCN is associated with age, social disadvantage, EAL status, and ethnicity suggesting that identification is influenced by these factors. The degree of movement into and out of the SLCN category reflects the broad nature of the category and difficulties in capturing pupils' primary needs, particularly in the early stages of primary education.

Pupils with LI and ASD show several differences in their patterns of language and communication needs although there is much overlap between the groups. The profile of the pupils' learning needs, not their primary designated need, predicts their literacy, BESD and general levels of attainment. Despite these factors it is the pupil's designated need which attracts resources.

There are important policy, practice and research implications from the BCRP findings examined in this report: these are presented below.

Key Findings

- The SLCN category should be reviewed as it is problematic in terms of reliably identifying groups of pupils with language learning needs and establishing their profile of difficulties.
- Monitoring oral language skills over time is necessary to target support and intervention and reduce variation in identification and prevalence rates across schools and local authorities.
- Our results highlight the importance of profiling individual pupils' strengths and needs and of using these to personalise learning and education plans, rather than diagnostic category of needs.

Detailed Findings

The term 'speech, language and communication needs' (SLCN)

The term speech, language and communication needs is problematic because

- The term is used in different ways by different people, that can be confusing and it does not help dialogue across different professionals or with parents.
- The DfE descriptor of SLCN does not do justice to the various types of SLCN (e.g. stammering etc.) that exist within the term.
- Teachers tend to focus on the SLCN category rather than looking at each child's individual profile of needs, strengths and weaknesses to guide their teaching approaches.
- Identification of needs is important because needs, rather than a diagnostic category, should determine resources applied to supporting the child.

Effective teaching

- Effective teaching for language and communication requires both effective classroom management and teaching followed by targeted or specialist support of oral language skills when required. This needs to be done in conjunction with regular monitoring and setting targeted oral language objectives as required by the pupils.
- Once effective classrooms for oral language are in place, schools are in a stronger position to become effective oral language learning environments and to identify pupils with more pronounced language learning needs, i.e. those with SLCN.
  - All children need effective opportunities to develop their language skills in mainstream settings, and where settings are struggling to provide these opportunities support and training will be required.
  - Children who fail to progress at the expected rate in effective settings will require further evidence informed targeted or specialist support which is timely and monitored. The specialist support and interventions used need to be based on principles that have been shown to be effective.
- Social disadvantage has its impact very early in schooling. Children from the most disadvantaged backgrounds may need additional support in Early Years to ensure a secure foundation for language and literacy development.

- There will be a significant minority of pupils who will not respond, at the level expected, to effective teaching for language and communication and these pupils will require additional targeted or specialist evidence informed interventions.

Speech language and communication needs

Speech, language and communication needs are associated with a number of factors:
- Gender is associated with the greatest increase in risk for both SLCN and ASD, with boys overrepresented relative to girls 2.5:1 for SLCN and over 6:1 for ASD.
- Birth season effects are strong for SLCN but not ASD. Pupils who are summer born (May-August) and therefore the youngest within the year group are 1.65 times more likely to have identified SLCN than autumn born (September-December) students.
- There is a strong social gradient for SLCN, with the odds of having identified SLCN being 2.3 times greater for pupils entitled to free school meals (FSM) and living in more deprived neighbourhoods. For ASD the socio-economic gradient is less strong but still important (the odds are 1.63 greater for pupils entitled to FSM).
- Having English as an additional language is strongly associated with being designated as having SLCN, but not ASD,
- There is a substantial reduction in the proportion of pupils with SLCN at School Action Plus over Key Stages 1 and 2, suggesting that for many pupils SLCN identified in the early years of primary school are temporary and transient.
  - This applies to both those pupils for whom English is an additional language and those for whom it is their first language.
- Both SLCN and ASD are associated with low achievement but pupils with SLCN are lower achieving compared to those with ASD.
- Ethnic over- and under-representation for both SLCN and ASD is pronounced:
  - the odds of a pupil of Asian heritage having ASD are half those of a White British pupil;
  - The odds of a child in one of the Black groups having SLCN are almost twice as high as a White British pupil.

Language impairment and Autism Spectrum Disorders

Analyses of results from several studies indicated considerable variation *within* these groups and overlap *between* the groups.
- Pupils with language impairment (LI) and ASD showed poorer performance on verbal than nonverbal measures of cognitive ability in both receptive (understanding of) language and expressive language, although pupils with ASD

typically showed better structural language skills (e.g. vocabulary and grammar) than those with LI.

- Pupils with ASD had greater difficulties with the social use of language but these problems were also evident for pupils with LI

- Overall it was the characteristics of the individual pupils which were impacting on their specific learning needs not classification as either LI or ASD.

- The additional support provided by schools and speech therapy services was influenced by classification: children with ASD received disproportionately more support than those with LI with similar needs.

- There was little evidence of the use of specialist packages in educational contexts. By contrast teachers reported particular strategies for teaching and learning which were used to differentially support pupils' learning needs.

- **Together these results highlight the importance of considering individual pupils' strengths and needs and focusing on these to personalise learning and education plans, rather than diagnostic category of needs.**

Implications

Policy

- The SLCN category should be reviewed as it is problematic in terms of reliably identifying groups of pupils with language learning needs and establishing their profile of difficulties.

- The definition of English as an additional language (EAL) in the School Census is not a measure of competency in English. The DFE might give consideration to the collection of national data on pupils' stage of competency in English to allow clearer interpretation of the impact of limited English competency on identification of SLCN and ASD.

- Local authorities and schools should be mindful of their duties under the Equalities Act and should monitor the over- and under-representation of pupils from different minority ethnic groups in the identification of SEN. LAs with particularly high levels of disproportionality should further investigate the practices in their area.

- There is a need to raise awareness of ASD among Asian communities, improve outreach and review the extent to which the services are configured appropriately for access by ethnic minority groups.

Practice

- Monitoring oral language skills over time is necessary to target support and intervention and reduce variation in identification and prevalence rates across schools and local authorities.

- School systems need to be aware that social disadvantage has its impact very early in schooling. Children from the most disadvantaged backgrounds may need additional support in Early Years to ensure a secure foundation for language and literacy development

- Schools should be sensitive to distinguishing between the English language learning needs of pupils for whom English is an additional language and the special educational needs associated with developmental language impairments.

- A systematic approach to providing effective ' language environments in school provides the basis for supporting teaching and learning and for providing more targeted and specialist interventions when required for pupils most in need of additional resources and support.

- Some pupils continue to experience language difficulties throughout primary and into secondary school, so there is a need for continued monitoring of language difficulties in older children for whom interventions may be critical for enhancing effective communication in everyday life. This monitoring should include both grammar and morphology (the structure of words) and the social use of language as these have differential effects on progress and attainment.

- Schools and support services, in particular the speech and language therapy services, should review the evidence on effective interventions in out 'What Works' study and collaborate to develop the implementation of evidence based interventions.

- Teachers should make appropriate allowance for age within a year group when evaluating children's language ability, especially in reception and Year 1.

- Classification as having either LI or ASD influenced the additional support provided; schools should therefore ensure that provision is made on the basis of individual need not category of need

- Together these results highlight the importance of considering individual pupils' strengths and needs and use this to personalise learning and education plans.

Research

- The research agenda should take into account the substantial overlap of characteristics and needs of children and young people with LI or ASD

- Future areas for research to improve provision for children and young people with SLCN and ASD should include:
    a. The long term profiles of needs of children with LI or ASD
    b. Methods for developing and embedding evidence based practice
    c. The reasons for both the levels and variations in ethnic disproportionality in SLCN and ASD, and how to address these
    d. It is important to establish why, despite their lower levels of language and academic performance, pupils with LI are likely to attract fewer resources than pupils with ASD.

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APPENDIX 1 – BCRP REPORTS

All the BCRP reports are available from the BCRP page on the Department for Education's website: http://www.education.gov.uk/researchandstatistics/research and also from the BCRP page in the CEDAR, University of Warwick website: http://www.warwick.ac.uk/go/bettercommunication

Main report

1.   Lindsay, G., Dockrell, J., Law, J., & Roulstone, S. (2012). *Better communication research programme ¨Main report*, London: DfE.

This report presents an overview of the whole Better Communication Research Programme (BCRP). It draws primarily on the thematic reports, supported by material from the technical reports. This report also considers the overall implications for policy, practice and research, and indeed, seeks to bridge the gap between this substantial research programme and the policy and practice agenda.

Interim reports

2.   Lindsay, G., Dockrell, J.E., Law, J., Roulstone, S., & Vignoles, A. (2010) *Better communication research programme 1st interim report DfE-RR070. London: DfE*. (70pp). http://publications.education.gov.uk/eOrderingDownload/DFE-RR070.pdf

This report presents interim findings from the project that had been underway between January and July 2010; best evidence on interventions; the academic progress of pupils with SLCN; economic effectiveness; the initial phase of the prospective longitudinal study of children and young people with language impairment (LI) and autism spectrum disorder (ASD); and the preferred outcomes of children and young people with SLCN, and of their parents.

3.   Lindsay, G., Dockrell, J.E., Law, J., & Roulstone, S. (2011) *Better communication research programme 2nd interim report. DFE-RR 172*. London: DfE. (131pp). https://www.education.gov.uk/publications/eOrderingDownload/DFE-RR172.pdf

This report presents interim findings of the project that had been underway between July 2010 – January 2011. Further work is reported from analyses of the national pupil data sets examining development and transitions of pupils with SLCN or ASD between categories of special educational needs, the prospective study, and parents' preferred outcomes (an online survey). In addition, interim reports from new projects include: the initial phase of development of a Communication Supporting Classroom Tool; a survey of speech and language therapists' practice regarding interventions; a study of language and literacy attainment during the early years through Key Stage 2, examining whether teacher assessment provides a valid measure of children's current and future educational attainment (led by Margaret Snowling and Charles Hulme); two studies of the relationship between SLCN and behaviour, with Victoria Joffe and Gillian Baird respectively; cost effectiveness of interventions; and the setting up of a prospective cohort study of speech and language therapy services for young children who stammer.

Thematic reports

4. Dockrell, J., Ricketts, J. & Lindsay, G. (2012). *Understanding speech, language and communication needs: Profiles of need and provision.* London: DfE.

This thematic report examines the nature of speech language and communication needs and the evidence from BCRP studies that have explained both the nature and needs encompassed by the category and the provision made to meet those needs. This report draws upon six projects (8, 9, 10, 11, 14 and 15).

5. Law, J., Beecham, J. & Lindsay, G. (2012). *Effectiveness, costing and cost effectiveness of interventions for children and young people with speech, language and communication needs.* London: DfE.

This thematic report first considers the nature of evidence based practice in health and education before reviewing the evidence for the effectiveness of interventions for children and young people with SLCN. The report also considers cost effectiveness and how it might be measured before examining the evidence of the cost effectiveness of SLCN interventions. The report draws on projects, 8, 10, 11 and 12.

6. Lindsay, G. & Dockrell, J. (2012). *The relationship between speech, language and communication needs (SLCN) and behavioural, emotional and social difficulties (BESD).* London: DfE.

This thematic report explores the relationship between SLCN and behavioural, emotional and social difficulties. . We argue that there are different patterns of relationship between SLCN and ASD, and different types of behavioural, emotional and social difficulties. The report draws on the 2nd interim report (report 3) and project reports 9, 11 and 15.

7. Roulstone, S. & Lindsay, G. (2012). *The perspectives of children and young people who have speech, language and communication needs, and their parents.* London: DfE.

The BCRP ensured that the perspectives of parents and children were explored through a number of different projects. This project explores the evidence primarily from projects 9 and 12, drawing on evidence from a series of specific studies of parents' and children's perspectives and also those of the parents in our prospective study.

Technical reports

8. Dockrell, J. E., Bakopoulou, I., Law, J., Spencer, S., & Lindsay, G. (2012). *Developing a communication supporting classroom observation tool.* London: DfE.

This study reports the development of an observational tool to support teachers, SENCOs, speech and language therapists and others to examine the degree to which classrooms support effective communication. The report comprises a review of the evidence base for developing effective communication and an account of the empirical study to develop and determine the technical qualities of the tool.

9.   Dockrell, J., Ricketts, J., Palikara, O., Charman, T., & Lindsay, G. (2012). *Profiles of need and provision for children with language impairment and autism spectrum disorders in mainstream schools: A prospective study.* London: DfE.

The prospective study was the most substantial project in the BCRP running throughout the whole period of the research. Focusing on children and young people initially 6-12 years old, we report on the nature of their abilities in language, literacy, behavioural, emotional and social development; the perspectives of the parents; the support provided as examined by classroom observations and specially created questionnaires completed by their teachers and SENCOs.

10.   Law, J., Lee, W., Roulstone, S., Wren, Y., Zeng, B., & Lindsay, G. (2012). *"What works": Interventions for children and young people with speech, language and communication needs.* London: DfE.

This report provides a review of 60 interventions for children and young people with SLCN, all evaluated against 10 criteria. The report will form the basis of a web-based resource to be developed by the Communication Trust for easy access by practitioners and parents.

11.   Meschi, E., Mickelwright, J., Vignoles, A., & Lindsay, G. (2012). *The transition between categories of special educational needs of pupils with speech, language and communication needs (SLCN) and autism spectrum disorder (ASD) as they progress through the education system.* London: DfE.

Analyses of the School Census and National Pupil Database are used to examine the transition made by pupils with SLCN or ASD over time and by age. We examine factors that are associated with transition between levels of special educational need (School Action, School Action Plus and Statement) and having no special educational need (non-SEN), including having English as an Additional Language and attainment. We also explore school characteristics associated with different transitions to other categories of SEN.

12.   Roulstone, S., Coad, J., Ayre, A., Hambley, H., & Lindsay, G. (2012). *The preferred outcomes of children with speech, language and communication needs and their parents.* London: DfE.

This report provides findings from four different studies addressing the perspectives of children and young people with SLCN, and those of their parents. Data are reported from arts-based participating workshops for children, focus groups and a survey for parents; and a systematic review of quality of life measures for children.

13.   Roulstone, S., Wren, Y., Bakopoulou, I., & Lindsay, G. (2012). *Exploring interventions for children and young people with speech, language and communication needs: A study of practice.* London: DfE.

As a complementary study to our analysis of the evidence for interventions, we also carried out an interview study of speech and language therapy managers and educational psychology service managers, on the basis of which we conducted a national survey of speech and language therapists to examine prevalence of use of the different approaches.

14.   Snowling, M. J., Hulme, C., Bailey, A. M., Stothard, S. E., & Lindsay (2011). *Better communication research project: Language and literacy attainment of pupils during early years and through KS2: Does teacher assessment at five provide a valid measure of children's current and future educational attainments? DFE-RR172a.* London: DfE. https://www.education.gov.uk/publications/eOrderingDownload/DFE-RR172a.pdf

We report a study led by Margaret Snowling and Charles Hulme which explored whether teacher assessment and monitoring could be used to identify children with language difficulties in need of early interventions. This study was conducted to inform the Tickell Review of the Early Years Foundation Stage, in particular the proposals for a simplified framework and assessment process.

15. Strand, S., & Lindsay, G. (2012). *Ethnic disproportionality in the identification of speech, language and communication needs (SLCN) and autism spectrum disorders (ASD).* London: DfE.

This report complements that of Meschi et al (number 11). Using School Census data from four years (2005, 2007, 2009 and 2011) the report examines the issue of ethnic disproportionality (i.e. over- and underrepresentation of pupils from different ethnic groups) with respect to SLCN and ASD.

16. Roulstone, S., Hayhow, R., White, P. & Lindsay, G. (2012). *Prospective cohort study of speech and language therapy services for young children who stammer.*

This prospective cohort study follows children referred to speech and language therapy services because of stammering. The study tracks the children's process through the system and their outcomes.

17. Meschi, E., Vignoles, A., & Lindsay, G. (2010). *An investigation of the attainment and achievement of speech, language and communication needs (SLCN).* http://www.warwick.ac.uk/go/bettercommunication