Research Brief

DFE-RB172a
ISBN 978-1-78105-031-6
November 2011

Better communication research programme: 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?

Margaret J. Snowling[1], Charles Hulme[1], Alison M Bailey[1,2], Susan E. Stothard[1], and Geoff Lindsay[3]

[1] University of York; [2] City of York Local Authority, Centre for Reading and Language, University of York;

[3] Centre for Educational Development, Appraisal and Research, University of Warwick

Background

It is well-established that language skills are amongst the best predictors of educational success. Consistent with this, findings from a population-based longitudinal study of parents and children in the UK indicate that language development at the age of two years predicts children's performance on entering primary school.[1] Moreover, children who enter school with poorly developed speech and language are at high risk of literacy difficulties[2] and educational underachievement is common in such children.[3,4] Whatever the origin of children's problems with language and communication, the poor educational attainment of children with language learning difficulties is an important concern for educational policy.
The research to be reported here addressed the question of whether teacher assessment and monitoring could be used to identify children with language difficulties in need of early interventions.

The research reported here, part of the Better Communication Research Programme, addressed the question of whether teacher assessment and monitoring could be used to identify children with language difficulties in need of early interventions. The findings have important implications for Government proposals for implementing the recommendations of the Tickell Review[5] of the Early Years Foundation

[1] Roulstone et al. (2011)
[2] Stothard et al. (1998)
[3] Conti-Ramsden et al. (2009)
[4] Dockrell et al. (2011)
[5] Tickell (2011) http://www.education.gov.uk/tickellreview

Stage (EYFS), in particular the proposals for a simplified framework and assessment process. The government undertook a consultation on the Tickell Review which ended 30 September 2011.

Key Findings

- Children with poor language and literacy development at 5 years are at substantial risk of low achievement at 7 years.

- A revised version of the Early Years Foundation Stage Profile focussing on Communication, Language and Literacy is highly predictive of children's literacy at the end of Key Stage 1.

- The research supports the recommendations of the Tickell Review to shorten the EYFSP and for a manageable system of teachers monitoring children's progress over the early years, supported by a valid and reliable tool.

Aims of the Study

The overarching aim of this study was to investigate whether teacher assessment at the end of the Early Years Foundation Stage (EYFS) around 5 years, based on ongoing observation, provides a valid measure of children's current development and their educational attainments in future years. In addition, the study investigated which factors, both within the child and within the environment, place a child at risk of language and literacy difficulties.

Methodology

We used data from three cohorts of children (*N* = 5378) entering all 50 maintained primary schools[6] within one local authority in a 3-year period from September 2006 to July 2009. We followed the progress of all of these children in acquiring literacy skills with data available on pupil progress through the 'Phonic Phases' (validated as good measures of attainment in separate studies[7]).

Cohort 1 (entering September 2006) was assessed against the Foundation Stage Profile (FSP); longitudinal data include end of National Curriculum levels at the statutory end of KS1 assessment, and language and literacy data derived from individual assessment of a representative sample followed up in Year 3 during March 2011.

---

[6] Excluding one special school

[7] Snowling et al. (2009); Snowling et al. (2011)

Cohorts 2 and 3 (entering 2007 and 2008 respectively) were assessed on the Early Years Foundation Stage Profile (EYFSP) instead of the FSP. Data are available for Cohort 2 for two years and Cohort 3 for one year.

In addition, assessments were carried out with samples of the children. At school entry, individual assessments of language were conducted with *Language Links.* In Year 3, group administered assessments were conducted of receptive vocabulary (*British Picture Vocabulary Scale 3)*; listening comprehension (*York Assessment of Listening Comprehension*); spelling (*British Ability Scales: Spelling Scale*); and arithmetic (two 'one minute' arithmetic tests).

In addition, individual assessments were carried out of reading comprehension (*York Assessment of Reading and Comprehension*: YARC) and single word reading (*Single Word Reading Test: SWRT*, part of the YARC); together these produced measures of reading accuracy, reading rate and reading comprehension.

Findings

1. Does a child's language development as measured against the previous Foundation Stage Profile (FSP)/Early Years Foundation Stage Profile (EYFSP)[8] correlate with performance on objective language tests administered during Early Years?

- The EYFSP total score was predicted by the Language Link total score recorded some nine months earlier (r = .62), shortly after school entry and the prediction of the EYFSP Language and Literacy scale was slightly higher (r = .63).
- It can be concluded that the EYFSP provides a valid measure of understanding of spoken language.

2. Do the scales of the Early Years Foundation Stage Profile provide measures of the abilities they purport to assess?

We collected pupils' data from the EYFSP from the cohort of 1658 children entering 38 schools in September 2009. The EYFSP (as used at the time) comprised 13 scales within 6 areas of learning with a total of 117 items.

[8] The Early Years Foundation Stage (EYFS) replaced the Foundation Stage (FS) in September 2008. http://nationalstrategies.standards.dcsf.gov.uk/node/83972

The analyses of data from a whole cohort on the previous EYFS allowed consideration of: (1) How well each item of the profile taps what it purports to measure (i.e, do all the items in one scale tap the same underlying ability)? (2) Whether the scales are independent from one another (e.g., does the Communication, Language and Literacy Scale test something different from the Problem Solving, Reasoning and Numeracy Scale, as it is supposed to do)?

- Analysis of the EYFSP by factor analysis produced a 6 factor model: Language, Literacy, Mathematics, Social, Physical and Creative Development. In terms of the EYFSP, this means that there was validation for six of the scales (the scales are not independent of each other).
- The Language scale correlates very strongly with all of the other scales, suggesting it is a fundamental ability associated with progress in all other domains of development.
- In addition, there were very strong correlations between the Literacy and Mathematics scales and each of these factors correlated strongly though to a lesser degree with Social, Physical and Creative Development.

3. Does the previous Early Years Foundation Stage Profile predict future progress in language and literacy as measured by school-based assessments? Which scales are the best predictors of educational attainments?

We used data from the EYFSP for Cohorts 1 and 2, and from Phonic Phases assessments as predictors of subsequent performance. As outcomes we used data from the End of Key Stage 1 statutory assessment when pupils are assessed in Reading, Writing and Mathematics. We also validated the findings using Phonic Phases as outcomes. At the time of data collection, the implementation of phonics teaching in this LA's schools (after Rose, 2006) included systematic assessment of basic phonic skills on a regular basis during the first 3 years of instruction (Phonic Phases). The current data set included ratings of phonics progression from each term during the first 3 years in school; here data were used from the third term in Reception (Phonics-R) and the third term in Year 1 (Phonics-Y1).

- There were moderate to strong correlations between EYFSP scores and KS1 attainments (see Table 1 below).

Table 1. Correlations between EYFSP scale and total scores with attainments in KS1 two years later.

	Personal, Social and Emotional	Communication, Language and Literacy	Problem solving, reasoning and numeracy	FSP-total
KS1Reading	.47	.71	.66	.51
KS1Writing	.48	.69	.63	.49
KS1Mathematics	.46	.66	.65	.48

- Neither the *Total score* nor the score for *Personal, Social & Emotional Development* correlated well with later attainments.
- There were strong correlations between the *Communication Language and Literacy* and the *Problem solving, reasoning and numeracy* scales and later Literacy and Mathematics attainments.
- The highest correlations were between CLL-total and both Reading and Writing at the end of KS1. However, there was still about 50% variability in attainment unexplained. Figure 1 shows the variation in the *Communication, Language and Literacy* score at 5 years for each level of KS1 reading at 7 years.

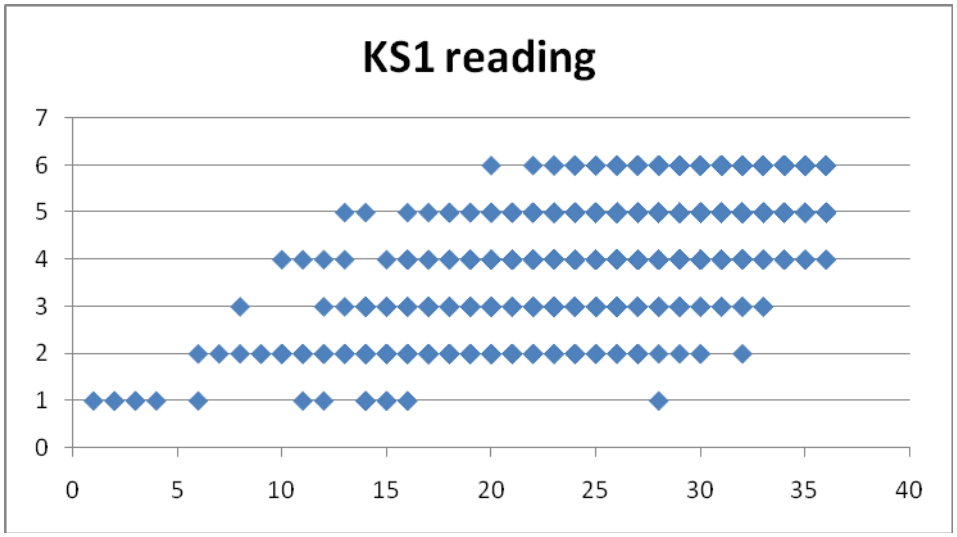

Figure 1. ***Relationship between previous EYFSP –Communication, Language and Literacy score (CCL-total) at end of Reception year and KS1 Attainments in Reading***

Note: 1: working towards level 1, 2: level 1, 3: level 2c, 4: Level 2b, 5: level 2a, 6: level 3

To consider which of the *Communication Language and Literacy scale* constituent scores was the best predictor of later outcome, we conducted correlations between these and KS1 attainments (see Table 2).

Table 2 Correlations between Communication Language and Literacy subscales, Phonic Assessments and KS1 attainments two years later.

	Language for communication and thinking	Linking letters and sounds	Reading	Writing	Phonics-R	Phonics-Y1
KS1Reading	.52	.69	.66	.68	.61	.73
KS1Writing	.51	.66	.63	.67	.60	.71
KS1Mathematics	.48	.64	.62	.64	.59	.66

- Both the reading and writing subscales from the *Communication, Language and Literacy* scale correlated strongly with attainments not only in Literacy but almost as much in Mathematics.
- The ratings on the subscale '*Language for Communication and Thinking*' correlated moderately with later attainments but the lower correlations are to be expected since the KS1 attainment tests focus on written and not spoken language so there is a more direct link with earlier literacy-related skills.
- As an alternative to the EYFSP scores, we examined how well teacher ratings of children's progress in phonics at the end of Reception (Phonics-R) and the end of Year 1 (Phonics-Y1) predicted their subsequent attainments in KS1 Reading, Writing and Mathematics.
- Ratings of progress in phonics were strong correlates of reading and writing attainments;
- Correlations with Mathematics were weaker.
- Thus, for predicting attainments at the end of KS1 from ratings made at the end of Early Years (Reception class), the best measures appear to be the *Communication, Language and Literacy* scale score and Phonics progress during the first three terms of formal reading instruction.

4. Does the Early Years Foundation Stage Profile predict future progress in language, literacy and numeracy, as measured by objective tests in Y3?

A sample of children from 10 schools selected at random from Cohort 2 was assessed in Year 3 on the battery of measures to assess language, literacy and numeracy skills.

- The score for *Communication, Language and Literacy* showed moderate correlations with measures of reading, spelling and reading comprehension, and somewhat weaker correlations with arithmetic, vocabulary and listening comprehension in Year 3.
- It was a slightly better predictor of later attainments than the EYFSP total score. It was also a marginally better predictor than the rating of children's progression in phonics at the same stage.

- Ratings of *Communication, Language and Literacy* predicted 34% of the variance in children's Year 3 attainments; the prediction was much better if phonics progress at the end of year 1 was also included in the model which then accounted for 47% of the variance.

5. In what ways do children making slow progress through Early Years and KS1 differ from typically achieving children on the Early Years Foundation Stage Profile?

For this set of analyses, we defined 'slow progress' as either working towards Level 1 (W) or at Level 1 in the Key Stage 1 Reading assessment. As predictors we examined the following child factors: Gender, Mother Tongue (English as an additional language: EAL) or not), Eligibility for free school meals (FSM) and Deprivation Rank obtained from postcodes (Income Deprivation Affecting Children Index: IDACI).

Three hundred and sixty children had attainments below the national expectation (10.8% of the sample), 2049 children were performing at the expected level (61.2% of the sample). To investigate what differentiated the children who were progressing slowly from the typically developing children, these two subgroups were compared. The comparisons were made retrospectively examining performance on the EYFSP, in phonics progress and on demographic variables. Children performing at above Level 2 (at Level 3) were excluded from these analyses.

The data showed that children who attain below the nationally expected level in Reading at the end of KS1 are typically characterized by delayed development of *Communication, Language and Literacy*. Moreover, their progress in phonics was poor at the end of Reception class and at the end of Year 1.

- More of the low attainers were boys, more were eligible for free school meals and more had English as an additional language as compared to those who were typically developing.
- Some 64.5% of the low attainers were known to their schools as having SEN and 7% had statements[9].

Conclusions

- Teachers can make valid judgments of children's development in language and literacy and can accurately monitor their pupils' progress in key reading skills.

---

[9] These data should be interpreted cautiously because SEN data were not collected concurrently but a year earlier (in Year 1) at a time when many schools may not yet have recorded children about whom they had concerns. Furthermore, some of these children may have been receiving support to address their additional needs.

- Children deemed by their teachers to be developing slowly after one year in school typically perform below national expectations in KS1 assessments.
- Groups most at risk of difficulties are boys, children with EAL and those who are eligible for free school meals. Demographic variables (Gender, Mother Tongue, Eligibility for Free School Meals and deprivation) accounted for differences between children in *Communication, Language and Literacy as measured by the previous EYFSP.* Each has an independent effect.
- Early identification of children's additional needs is important and key elements of development can be assessed at age five. Children who attained below the nationally expected level in Reading at the end of KS1 were already developing slowly at the end of Early Years and their progress in phonics was poor both at the end of Reception class and at the end of Year 1. Slow developers were typically characterized by delayed development of *Communication, Language and Literacy*.
- The best predictors of educational success are measures of language, communication and literacy. Between 45 and 51% of the differences between children in Key Stage 1 attainments can be accounted for by teachers' ratings of their *Communication, Language and Literacy* at the end of Early Years on the previous EYFSP.
- Of the previous EYFSP areas of learning, Communication, Language and Literacy is the best predictor of later attainment at KS1 and in Year 3 not only in Literacy but almost as in Mathematics.
- Ratings of progress in phonics were also strong predictors of reading and writing attainments; correlations with Mathematics were weaker.
- The current findings are in line with the proposal to reduce the number of items on the EYFSP from 69 to 17, and to split the Communication, Language and Literacy scale into 'Language and Communication' and 'Literacy'.

Implications for Policy and Practice

- The present study shows that teachers, when appropriately trained, can make valid judgments of children's development in language and literacy when guided by a well validated, reliable measure, such as the EYFSP. In addition, teachers can accurately monitor their pupils' progress in key reading skills without the need for formal tests (see also Snowling et al., 2011).
- These findings make clear that a revised form of the EYFSP could be used to support monitoring and early identification of difficulties with language and communication. However, it is important to highlight that the present findings suggest a screening tool based on the previous EYFSP can be expected to account for around 50% of the differences between children. Hence, a substantial number of children will 'fall through the net' at each screening point and additional checks on progress must therefore be made at regular intervals.
- It follows that early screening should be built into a system of formative assessment that builds on and extends teacher's understanding of language and communication

- Together the findings underline government priorities viewing Early Years as providing a critical foundation for learning. They also provide evidence relevant to current proposals for the revision of the Early Years Foundation Stage Framework (2011).
- Thus, early identification of children's additional needs is important; key elements of development can be assessed at age five; assessments at the end of Early Years can be used to identify children who are at high risk of educational difficulties; and the best predictors of educational success are measures of language, communication and literacy.
- This proposal does not imply that there is a need for large scale record keeping. Rather, the judicious choice of the key behaviours to assess, guided by an evidence-base such as the one provided here, could streamline the process and reduce work load. Moreover this does not preclude the inclusion of items that monitor behaviours which do not predict attainment but may be linked with well-being (such as aspects of physical development).

References

Conti-Ramsden GM, Durkin K, Simkin Z, Knox E. (2009). Specific language impairment and school outcomes. I: identifying and explaining variability at the end of compulsory education. *International Journal of Language and Communication Disorders*, *44*, 15-35.

Dockrell, J.E., Lindsay, G. & Palikara, O. (2011). Explaining the academic achievement at school leaving for pupils with a history of language impairment: what else do we need to know? *Child Language Teaching and Therapy, 27 (2)*, 223-238. DOI 10.1177/0265659010398671.

Roulstone, S., Law, J., Rush, R., Clegg, J. & Peters, T. (2011). The role of language in children's early educational outcomes. *Research Brief. DFE-RB 134*, ISBN 978-1-84775-945-0

Snowling, MJ., Duff, F., Petrou, A,, Schiffeldrin, J. & Bailey, A.M. (2011) Identification of Children At Risk for Dyslexia: The Validity of Teacher Judgements using 'Phonic Phases'. *Journal of Research in Reading, 43,* 157–170 DOI: 10.1111/j.1467-9817.2011.01492.x

Snowling, M.J., Stothard, SE., Clarke, P., Bowyer-Crane, C., Harrington, A., Truelove, E., Nation, K., & Hulme, C. (2009) *York Assessment of Reading for Comprehension (YARC). Passage Reading*. GL Assessment.

Stothard, S.E., Snowling, M.J., Bishop, D.V.M., Chipchase, B. & Kaplan, C. (1998). Language impaired pre-schoolers: A follow-up in adolescence*. Journal of Speech, Language and Hearing Research, 41,* 407-418.

Tickell, C., (2011), *The Early Years: Foundations for life, health and learning; an independent report on the Early Years Foundation Stage to Her Majesty's Government*, Department for Education, London. http://www.education.gov.uk/tickellreview

Additional Information

The full report can be accessed at http://www.education.gov.uk/publications/

Further information about this research can be obtained from
Catherine Newsome, 2 St Paul's Place, 125 Norfolk Street, Sheffield, S1 2FJ
Catherine.NEWSOME@education.gsi.gov.uk

This research report was commissioned before the new UK Government took office on 11 May 2010. As a result the content may not reflect current Government policy and may make reference to the Department for Children, Schools and Families (DCSF) which has now been replaced by the Department for Education (DFE).