



Speech and Language Baseline Measures Stoke-on-Trent

2005



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1) Executive Summary

Speech and language baseline measures were recorded in four Sure Start programmes in 2002 and 2005, that is, Abbey/Bucknall, Blurton, Longton and Shelton/Cobridge/Hanley. These assessments demonstrate that the Sure Start target of reducing by 5 percentage points the number of children requiring specialist intervention for speech and language has been achieved.

The key findings are:

- An improvement, by 10.4 percentage points, of children with comprehension and word finding delay within normal limits has been achieved.
- 41.0% of children in 2005 have language ability within normal limits, compared to 30.6% in 2002.
- The first language spoken by children has a direct influence on the levels of comprehension and word finding delay found.
- 53.8% of children who speak English as their first language in 2005 have language ability within normal limits, compared to 7.5% who have English as an additional language.
- Contact with Sure Start can help to reduce the incidence of comprehension and word finding delay in children.

The Sure Start programmes in Stoke-on-Trent have made improvements in the speech and language ability of children and should continue to work towards further reducing the incidence of comprehension and word finding delay in children.

2) Introduction

In the year 2000 Sure Start set a national target to reduce, by 5 percentage points, by 2004, the number of children with speech and language problems requiring specialist intervention.

The drive behind reducing the number of children requiring specialist intervention from Speech and Language Therapists is to raise educational and social aspirations and abilities of children.

In Stoke-on-Trent the initial survey was carried out in the Stoke North Sure Start Area in 2001. This survey was used as a model for all those in Stoke-on-Trent which took place after it. Speech and Language Baseline Measures were assessed in Abbey/Bucknall, Blurton, Longton and Shelton/Cobridge/Hanley in 2002. In 2005 these were repeated to establish if there had been a reduction in the number of children requiring specialist intervention.

This report will concentrate on the finding of the four Sure Start programmes assessed in both 2002 and 2005 as they are comparable and demonstrate the work that has been carried out.

The assessment in Stoke North was repeated in 2004. The 2004 assessment is now being used as the baseline figure for that area. This is because the 2001 assessment acted as a trailblazer for Stoke-on-Trent and it is unfair to use these figures as representative of children's ability. It is fair, though, to use the 2001 assessment to consider any changes in children's ability between 2001 and 2004 in the North Stoke Sure Start area.

A sixth assessment was conducted in 2003 in the Bentilee Sure Start or Sure Start 4U programme. This assessment is due to be repeated in 2006.

It had been recognised, by 2000, that there was an underlying 10% of children who had a need for speech and language therapy (Law, 2000) due to genetic or medical issues. This is significant as it establishes a minimum level of children who would be requiring specialist intervention.

Also of concern in Stoke-on-Trent is the high level of deprivation. That is, Locke and Peers (2002) demonstrated that children from an economically deprived background could be at considerable risk of language delay. This is significant for Stoke-on-Trent which, in 2004, was ranked as the 18th most deprived local authority out of 354, nationally (Office for National Statistics).

The consequences of Law's and Locke and Peers' work for the Stoke-on-Trent Sure Start Speech and Language Baseline Measure are enormous. That is, the closer the number of children who are within normal limits is to 90% the better the children's ability, support and assistance given to children is. This is important given that the 2002 figure for children who were within normal limits for comprehension and word finding ability in the four Sure Start

programmes assessed was 30.6%. This means that if an improvement to 35.6% of children within normal limits for comprehension or word finding delay in the Sure Start programmes assessed is gained then the 5 percentage point improvement has been achieved.

3) Assessment Methods

The assessment methodology was consistent in each of the four Sure Start programmes assessed. The assessment methodology was formulated during the 2001 assessment in North Stoke Sure Start.

All assessments were carried out on children aged no younger than three years and six months and no older than four years. The assessments were carried out on children who:

- Lived in a particular Sure Start Programme geographical area, and
- Attended a nursery setting that fell in the geographical footprint of that Sure Start Programme.

Parental permission was gained for all children who took part in the surveys.

The surveys were all carried out in the first term of the academic year. This is because it is suspected that spending time in a nursery setting helps a child to develop speech and language ability (Cooper, 2002).

Two tests were used to assess the language ability of children:

- The Reynell Developmental Language Scales 3 Comprehension scale was used to assess comprehension levels.
- The Renfrew Word Finding Vocabulary Scale was used to assess vocabulary levels.

These tests are able to assess a child's ability to understand language and look at expressive vocabulary.

The Reynell Developmental Language Scales 3 Comprehension scale and Renfrew Word Finding Vocabulary Scale were used in the initial baseline studies of 2002. This means that the results of the two studies are comparable.

The assessment carried out in North Stoke in 2001 initially included the Edinburgh Articulation Test to survey children's speech ability. The Edinburgh Articulation Test was dropped from the baseline assessments after being attempted in two settings. This was because "*...many of the children did not have the vocabulary to name the pictures spontaneously*" (Cooper, 2002).

4) Results and Analysis

4.1) Results of 2005 Survey

4.1.1) Abbey/Bucknall

The results found in the Abbey/Bucknall Sure Start programme came from an assessment of children from four settings. The results found are held in Table 1.

	Number	Percent
Intake assessed	42	40%
Boys	27	64%
Girls	15	36%
Comprehension delay	14	33%
Word Finding delay	19	45%
Comprehension or Word Finding delay	23	55%

Table 1 – Summary of results from Abbey/Bucknall Sure Start

Nineteen children were identified as being 'Within Normal Limits'. Of these twelve were boys and seven were girls. Within the population this means that 45% of the surveyed children displayed the comprehension and word finding ability that is consistent with their age. These figures also show that 44% of the boys and 46% of the girls were within normal limits.

4.1.2) Blurton

Blurton Sure Start has three settings that were assessed in 2005. The results are in Table 2.

	Number	Percent
Intake assessed	31	30%
Boys	15	48%
Girls	16	52%
Comprehension delay	4	13%
Word Finding delay	10	32%
Comprehension or Word Finding delay	13	42%

Table 2 – Summary of results from Blurton Sure Start

Eighteen children were identified as being 'Within Normal Limits'. Of these ten were boys and eight were girls. Within the population this means that 58% of the surveyed children displayed the comprehension and word finding ability that is consistent with their age. These figures also show that 67% of the boys and 50% of the girls were within normal limits.

4.1.3) Longton

Four settings were assessed for the Longton Sure start Assessment. The results are held in Table 3.

	Number	Percent
Intake assessed	38	22%
Boys	24	63%
Girls	14	37%
Comprehension delay	19	50%
Word Finding delay	23	61%
Comprehension or Word Finding delay	24	63%

Table 9 – Summary of results from Longton Sure Start

Fourteen children were identified as being 'Within Normal Limits'. Of these eight were boys and six were girls. Within the population this means that 37% of the surveyed children displayed the comprehension and word finding ability that is consistent with their age. These figures also show that 33% of the boys and 42% of the girls were within normal limits.

4.1.4) Shelton/Cobridge/Hanley

Shelton/Cobridge/Hanley Sure Start had four settings that contributed towards the assessment. Their results are in Table 4.

	Number	Percent
Intake assessed	33	24%
Boys	20	61%
Girls	13	39%
Comprehension delay	17	51%
Word Finding delay	23	70%
Comprehension or Word Finding delay	25	75%

Table 4 – Summary of results from Shelton/Cobridge/Hanley Sure Start

Eight children were identified as being 'Within Normal Limits'. Of these four were boys and four were girls. Within the population this means that 24% of the surveyed children displayed the comprehension and word finding ability that is consistent with their age. These figures also show that 20% of the boys and 31% of the girls were within normal limits.

4.1.5) Collective Result

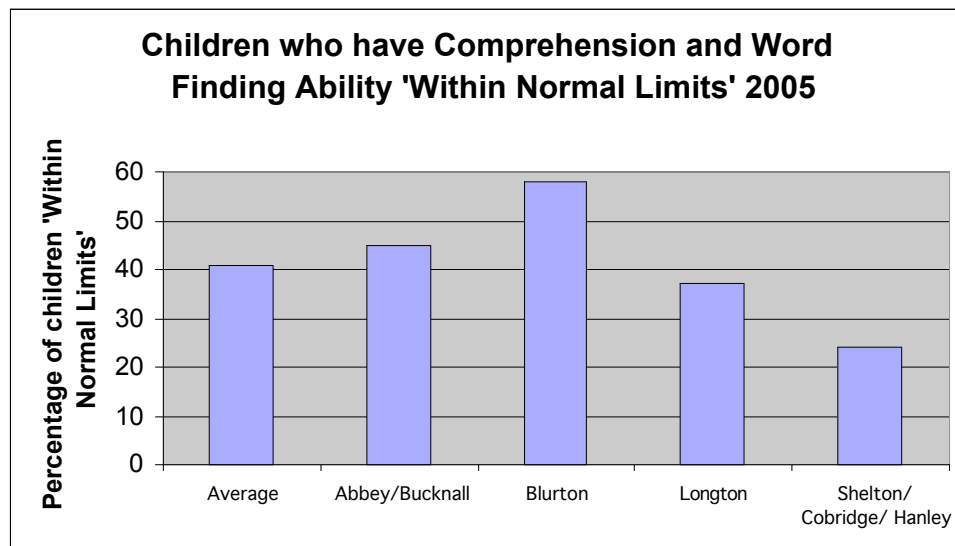
Table 5 shows the collective results gained by the four Sure Start programmes assessed.

Fifty-nine children were identified as being 'Within Normal Limits'. Of these 34 were boys and 25 were girls. Within the population this means that 41% of the surveyed children displayed the comprehension and word finding ability that is consistent with their age. These figures also show that 40% of the boys and 43% of the girls were within normal limits.

	Number	Percent
Intake assessed	144	28%
Boys	86	60%
Girls	58	40%
Comprehension delay	54	38%
Word Finding delay	75	52%
Comprehension or Word Finding delay	85	59%

Table 5 – Summary of results from the four Sure Start Programmes assessed

Graph 1 shows how the four programmes compare against each other and the average score for children who have comprehension and word finding ability that is within normal limits.



Graph 1 – Children who have Comprehension and Word Finding Ability 'Within Normal Limits' 2005

4.1.6) First Languages spoken by Children

Not all children assessed spoke English as their first language. Table 6 shows the first language spoken by the children assessed and their ethnic groups.

Ethnic Group	White: British	Asian or Asian British Pakistani		Asian or Asian British Bangladeshi	White: Other White
		Punjabi	Urdu		
First Language	English	Punjabi	Urdu	Bengali	Russian
Abbey/Bucknall	42	0	0	0	0
Blurton	31	0	0	0	0
Longton	22	10	6	0	0
Shelton/Cobridge/Hanley	9	19	3	1	1
Total	104	29	9	1	1

Table 6 – Ethnic Groups and First Languages spoken by children assessed in 2005

Table 7 shows how the ethnic groups for the assessment compare with Stoke-on-Trent as a city and with England and Wales in the 2001 census.

Ethnic Group	2005 Speech and Language Assessment	2001 Census Stoke-on-Trent	2001 Census England and Wales
White: British	72.2%	93.6%	87.5%
Asian or Asian British Pakistani	26.4%	2.6%	1.4%
Asian or Asian British Bangladeshi	0.7%	0.2%	0.5%
White: Other White	0.7%	0.8%	2.6%

Table 7 – Ethnic Groups assessed in 2005 compared with census data for Stoke-on-Trent and England and Wales

The high numbers of children who do not speak English as their first language will have an effect on the results. This is because both the Reynell Developmental Language Scales 3 Comprehension Scale and the Renfrew Word Finding Vocabulary Scale only use children who speak English as their first language for standardisation.

The abilities of the children assessed in 2005 can be seen in Table 8 which details children's ability according to their first language.

First Language	English	Punjabi	Urdu	Bengali	Russian
Within Normal Limits	56	2	0	1	0
Comprehension Delay	27	17	8	0	1
Word Finding Delay	36	10	9	0	0
Comprehension or Word Finding Delay	48	27	9	0	0

Table 8 – Findings of the 2005 Assessment according to first language

These results show that for those children who speak English as their first language 53.8% are within normal limits, compared to 41.0% found across the entire assessment. It also reveals that 11.8% of Punjabi speakers and 100% of Bengali speakers are within normal limits.

4.2) Analysis

4.2.1) Introduction

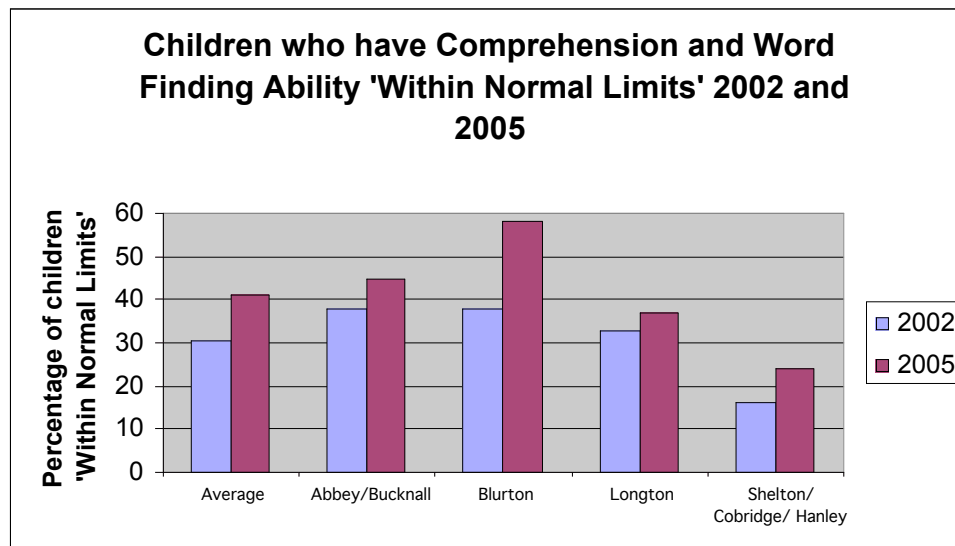
The analysis will compare the results gained in 2005 against those from 2002. The purpose is to show where changes have occurred and to suggest reasons for this. Table 8 shows how the two assessments differ.

	2002	2005
Intake assessed	24.6%	27.7%
Boys	41.7%	59.7%
Girls	58.3%	40.3%
Comprehension delay	45.1%	37.5%
Word Finding delay	63.9%	52.1%
Comprehension or Word Finding delay	69.4%	59.0%

Table 8 – Comparison of results 2002 and 2005

These results show that in 2002 30.6% of children had comprehension and word finding ability within normal limits. This rose to 41.0% in 2005. This represents an increase of 10.4% percentage points or 34%. Within this figure 35.0% of boys were within normal limits in 2002 compared to 39.5% in 2005. Girls saw an increase from 27.4% of girls within normal limits in 2002 to 43.1% in 2005. These figures show that girls have had a greater increase in ability than boys. This reflects literature that suggests that speech and language difficulties are significantly more dominant in boys (Locke and Peers, 2002).

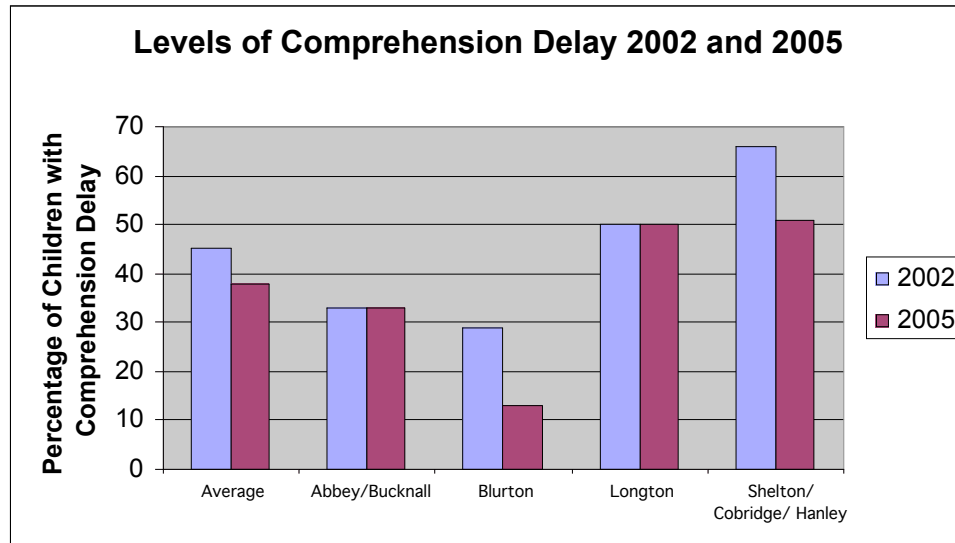
Graph 2 shows the improvements found at the Sure Start programmes and in the average levels of children who are within normal limits. It demonstrates that improvements have been found in all Sure Start programmes assessed in 2002 and 2005.



Graph 2 – Children who have Comprehension and Word Finding Ability 'Within Normal Limits' 2002 and 2005

4.2.2) *Comprehension Delay*

In 2002 45.1% of children were found to have a comprehension delay. In 2005 the incidence of comprehension delay had fell to 37.5%. This is an improvement by 7.6 percentage points. Graph 3 shows how the results for the two assessments compare.



Graph 3 – Levels of Comprehension Delay 2002 and 2005

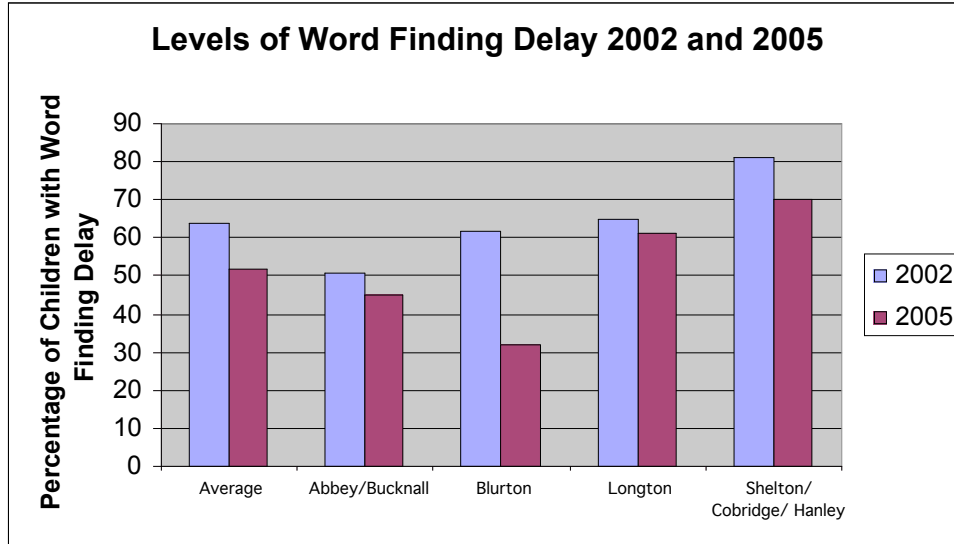
Whilst the average level of comprehension delay saw an improvement two of the four Sure Start programmes, Abbey/Bucknall and Longton, saw no movement in their levels. The remaining two Sure Start programmes both saw reductions in the incidence of comprehension delay by 16 percentage points at Blurton and 15 percentage points at Shelton/Cobridge/Hanley.

4.2.3) *Word Finding Delay*

The incidence of word finding delay saw the greatest average reduction by 11.8 percentage points from 63.9% in 2002 to 52.1% in 2005.

All four of the Sure Start programmes assessed saw reductions in the incidence of word finding delay. The greatest of these reductions was gained by Blurton who achieved a 30 percentage point reduction in word finding delay. Shelton/Cobridge/Hanley gained an 11 percentage point reduction, Abbey/Bucknall 6 percentage points and Longton 4 percentage points.

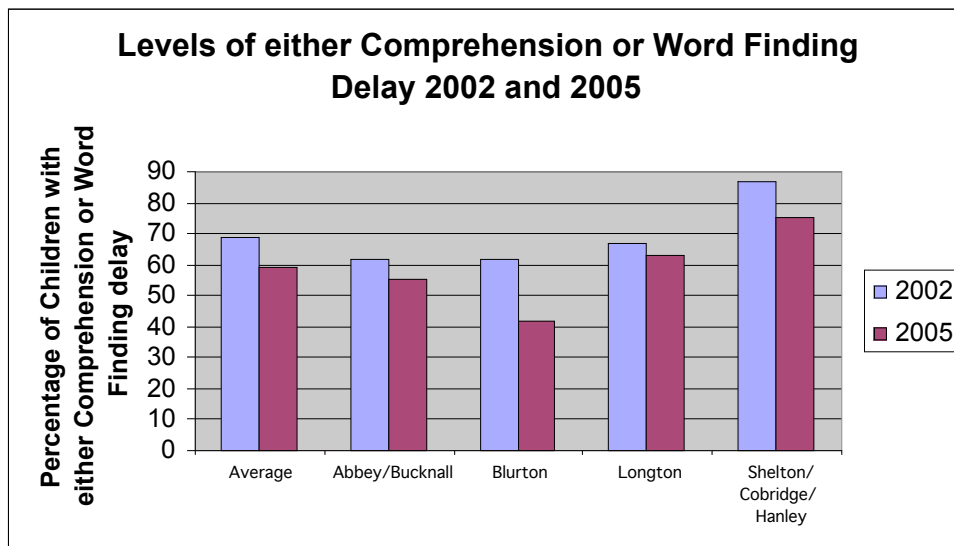
Graph 4 shows that all Sure Start programmes and the average result saw a decrease in the incidence of word finding delay.



Graph 4 – Levels of Word Finding Delay 2002 and 2005

4.2.4) Comprehension or Word Finding Delay

In common with the levels of word finding delay the incidence of either comprehension or word finding delay has decreased at all Sure Start programmes assessed and in the average. Graph 5 shows this information.



Graph 5 – Levels of Comprehension or Word Finding Delay 2002 and 2005

Blurton Sure Start programme gained the largest improvement with a decrease of 20 percentage points in the incidence of either comprehension or word finding delay. Shelton/Cobridge/Hanley gained a 12 percentage point reduction, Abbey/Bucknall 7 percentage points and Longton 4 percentage points.

4.2.5) First Languages spoken by Children

The results recorded in the 2002 assessment are incomplete and do not allow any comparisons to be drawn between the results found in 2002 and 2005.

4.2.6) Contact with Sure Start

Data relating to contact with Sure Start was collected for all children assessed. Table 9 holds the results of the investigation.

The information demonstrates that contact with Sure Start can be beneficial to improving the comprehension and word finding ability of children. This can be said as the four Sure Start programmes assessed in both 2002 and 2005 only came in to being in 2002. Therefore, the services they offer were not available to children assessed in 2002.

	Number of Children	Number of Children in contact with Sure Start	Number of contacts with Sure Start	Average contacts per child	Change in Comprehension or Word Finding Delay
Abbey/Bucknall	42	32	4368	136.5	7%
Blurton	31	26	652	25.1	20%
Longton	38	32	702	21.9	4%
Shelton/ Cobridge/Hanley	33	26	440	16.9	12%
Average	36	29	1540	53.1	10.4%

Table 9 – Number of Sure Start contacts per child in relation to changes in either Comprehension or Word Finding Delay

4.3) North Stoke

4.3.1) Background

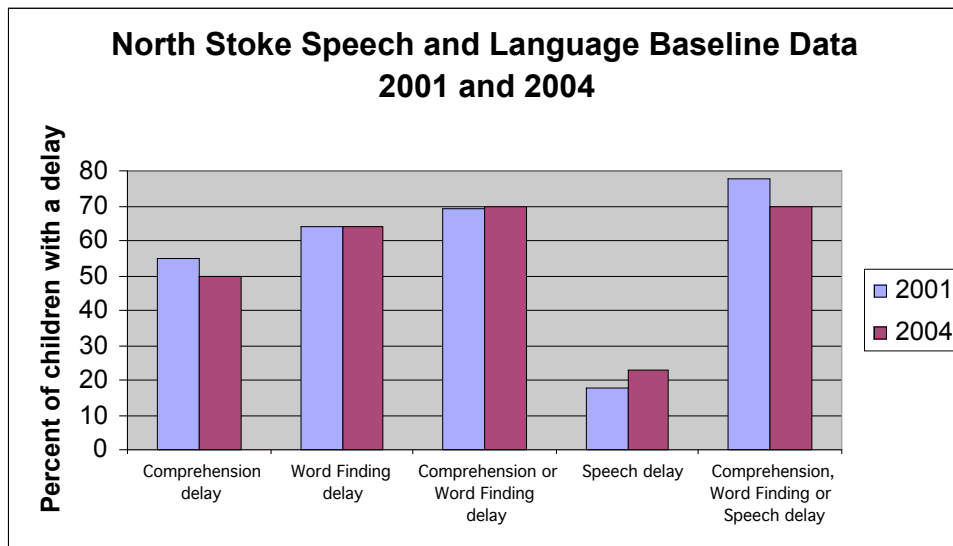
The Speech and Language Baseline Measures conducted in the North Stoke Sure Start programme were carried out in 2001 and 2004.

The assessment of 2001 was the first to be conducted in Stoke-on-Trent and can be seen as the trailblazer. This survey assessed comprehension and word finding ability as well as attempting to assess speech ability. The speech test was dropped after children in two settings demonstrated that they were unable to carry out the test. This initial survey provided results that became incomparable with the assessments carried out in Abbey/Bucknall, Blurton, Longton, Shelton/Cobridge/Hanley and later, in Bentilee.

A second assessment was conducted in 2004 in North Stoke. This assessment can be considered as a baseline and comparable with the assessments carried out in the other Sure Start programmes. The results supplied by the 2004 assessment also included an observation of the speech ability of children. This observational result can be added to the results for North Stoke.

4.3.2) Comparing North Stoke 2001 and 2004

The assessments in North Stoke gave results that were both encouraging and disappointing. Graph 6 shows how the results of the two assessments compare for North Stoke.



Graph 6 – North Stoke Speech and Language Baseline Data 2001 and 2004

The results show that there was no improvement in the incidence of comprehension or word finding delay but that there was an improvement of 8 percentage points in the incidence of comprehension, word finding or speech delay.

Table 10 shows the comparison between the two assessments.

	2001	2004
Intake assessed	33%	35%
Boys	51%	45%
Girls	49%	55%
Comprehension delay	55%	50%
Word Finding delay	64%	64%
Comprehension or Word Finding delay	69%	70%
Speech delay	18%	23%
Comprehension, Word Finding or Speech delay	78%	70%

Table 10 - Summary of results for North Stoke 2001 and 2004

The 2004 assessment for North Stoke can be considered as the baseline for that Sure Start programme and all future assessments will consider it as the point of origin.

5) Conclusion

The following conclusions can be made following the analysis of the results gathered in the four assessments of 2002 and 2005.

- There has been a 10.4%, percentage point, increase from 30.6% in 2002 to 41.0% in 2005, in the number of children with comprehension or word finding delay within normal limits in the four Sure Start programmes areas assessed. This is more than double the Sure Start target of a 5 percentage point increase. Graph 2 clearly demonstrates the improvements that have been found.
- There has been a significant shift in the number of boys and girls who are within normal limits. That is, in 2002 35.0% of boys were within normal limits. This can be related to a figure of 39.5% within normal limits in 2005. This is a change of 4.5 percentage points. However, in the same period the number of girls within normal limits increased from 27.4% in 2002 to 43.1% in 2005. This increase, by 15.7 percentage points, in the number of girls within normal limits brings the figures more into line with what would be expected, i.e., a higher proportion of girls with comprehension and word finding ability within normal limits.
- No Sure Start programme assessed saw an increase in the incidence of comprehension delay. This, coupled with the reduction of word finding delay at every Sure Start programme assessed, suggests why the increase in the number of children within normal limits has occurred. That is, it is expected that comprehension ability is developed before word finding ability (Catts and Kamhi, 1998). This also explains why the increase in word finding ability is greater than that for comprehension ability.
- The first languages of the children assessed have had an impact on the age equivalent scores gained and the levels of comprehension and word finding delay. That is, both the Reynell and Renfrew assessment tools acknowledge that their norms are based on children who speak English as their first language. This means that the tests give an indication of the English language ability of the child but not their ability in the language they are accustomed to using. The 2002 assessments did not give enough data to be compared with the 2005 survey in relation to the first language spoken by children.
- In 2005 it can be seen that for children who have English as their first language 53.8% are within normal limits. This is significantly different to children who have English as an additional language where it was found that only 7.5% of children were within normal limits. This result is significant as it demonstrates that children who speak English as an additional language are considerably disadvantaged in terms of speech and language ability.

- Children assessed had a high level of contact with Sure Start. It was found that children assessed had, on average 53.1 contacts each with Sure Start. This is encouraging as it suggests that contact with Sure Start is a contributing factor to improving the speech and language ability of children.
- North Stoke Sure Start was the trailblazer for Speech and Language Baselines in Stoke-on-Trent. The assessment conducted in 2001 set the scene for those that followed in 2002 and 2003. However, when the assessment in North Stoke Sure Start was repeated in 2004 it was decided that this assessment should form the baseline for this area. This is so that all further assessments relating to it can be conducted in the same manner as those for other Sure Start programmes in Stoke-on-Trent.
- The results provided by North Stoke Sure Start demonstrate a decrease in the observed incidence of comprehension, word finding or speech delay between 2001 and 2004. The results do show, though, that there has been an increase in the incidence of comprehension or word finding delay. This result is not upheld by any other assessment performed. This in itself is concerning but does illustrate that greater services have been available through the latter half of 2004 and all of 2005 to practitioners, parents and children to support speech and language development. For example, Stoke Speaks Out.

6) Recommendations

It is recommended that:

- The work that has been carried out in the Sure Start programmes across Stoke-on-Trent is maintained so that the improvements that have been gained can be built on.
- Work is needed to improve children's comprehension and word finding ability. This can be done by increasing the stimuli that children are exposed to. By enriching the experiences that children have and then talking about them to embed the vocabulary children should be able to improve both word finding and comprehension ability.
- Sure Start programmes should continue to have contact with as many children as possible. This is because it has been seen that a contact with Sure Start can help to reduce the incidence of comprehension and word finding delay.
- The correlation between Sure Start contacts and improvements in the number of children with comprehension or word finding delay is explored further to identify if there is direct relationship; and, if there is share this knowledge and act upon it. Work should also be carried out to identify which types of contact provide most benefit for children.
- An investigation is made to find if an appropriate tool exists to assess the language ability of children in their first language. If one can be found then it should be used to establish what the actual ability levels of children are. If one can be found and used it will help to reduce the incidence of comprehension or word finding delay.
- Additional help is given to children who speak English as an additional language so that their development can improve and they are prevented from being disadvantaged.
- The strategies experienced by the children assessed in the Blurton Sure Start programme should be assessed to establish if they can be used as effectively in other Sure Start programmes. Similarly, those from Shelton/Cobridge/Hanley should also be assessed in relation to children for whom English is an additional language.
- The structure for all assessments be standardised to the type used in the surveys conducted in Abbey/Bucknall, Blurton, Longton, Shelton/Cobridge/Hanley and Bentilee. This is so that all assessments are comparable and results can be used to represent the whole of Stoke-on-Trent.
- All assessments are conducted at the same time to allow a city-wide assessment to be made for future results. It is recommended that this

happen in 2008 so that the three year interval between assessments is maintained for those Sure Start programmes which can currently be compared. This would involve all of the six Sure Start programmes that have contributed baseline data.

- The opening of new Children's Centres in Stoke-on-Trent and the establishment of Children's Centre areas should be used as an opportunity to gain further information about children's speech and language ability. When Children's Centres are opened in areas that have not previously had Sure Start programmes in them baseline assessments should be conducted to establish the ability of children and to guide the services that are needed to help. These baseline assessments should be conducted at the earliest practicable moment in the first instance and then in line with all other assessments being conducted.

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