Research Study – The Listening Program®

by Dorothy Lockhart Lawrence
on behalf of Ann Davies

Introduction

Ann Davies followed the progress of five of her pupils who have been attending the Education Centre in Nottingham for three years or longer. Over these years they all had multi-sensory teaching, access to computerized learning, and targeted teaching to their individual needs. In spite of these learning aids, none of these students made substantial improvement in their reading abilities over any one year period.

However they did make impressive gains in reading and other areas after the completion of one cycle or 20 hours of the music based auditory stimulation method called The Listening Program®, or TLP, developed by Advanced Brain Technologies, given alongside their normal teaching programme. The Listening Program® is a method of enhancing auditory and other sensory processing that utilizes intentionally produced acoustic music with proprietary sound processing techniques.

To illustrate the dramatic changes in function and auditory processing, each pupil's background is given along with pre and post-test scores.

In the May 2002 issue of the PATOSS Bulletin, Authorized Provider Ann Davies wrote of her initial use of TLP in an article entitled "Sound Therapy Through The Listening Program®" which we reprinted in the June/July 2002 PPOV. Since then she has documented results with five of her pupils and this new article was published in the May/June 2003 issue of PATOSS. We have added the charts Ann supplied us with showing each pupil's progress. The PATOSS Bulletin is the publication of The Professional Association of Teachers in the UK of students with specific learning difficulties.

Pupil One

Pupil One is in his fifth year of tuition at the Centre. He is both dyslexic and dyspraxic and made slow progress in literacy. He is 14 years old and is shy and lacking confidence. He has had multi sensory teaching and fatty acid supplements.

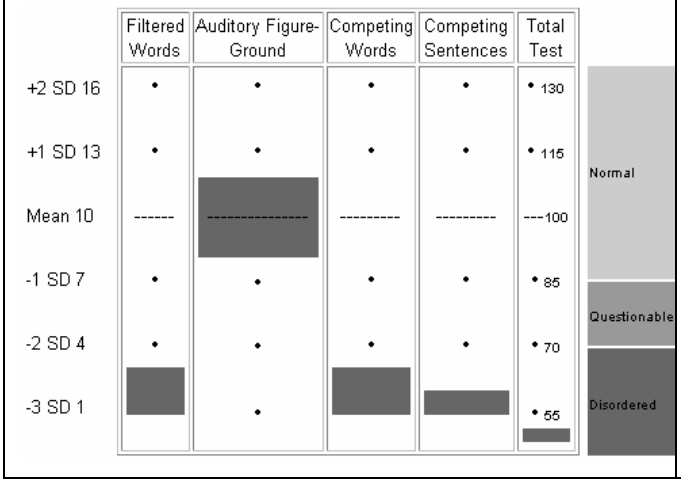
After having sound stimulation with TLP for 20 hours over an eight week period, Pupil One went from 8:8 years (8 years, 8 months) on the WRAT single word reading test to 12:8 years. **His reading had improved by four years in a five month period.** In four of five Scan A* tests Pupil One scored in the Disordered range prior to listening. His auditory skills moved out of the Disordered range into the Questionable area moving towards Normal post listening.

Prior to TLP Pupil One had often appeared to be "vacant" and had difficulty formulating sentences, let alone generating a page of text. He is now more alert, has increased his speed of recall of information and can complete phonological tasks he was unable to do prior to the sound stimulation program. He has also gained personal confidence and has at this crucial period of his education become motivated to achieve. Prior to the sound stimulation intervention, his goal was to 'get out of school as soon as possible.'"

PRE-TEST SCAN A 5/27/02

Disordered auditory processing

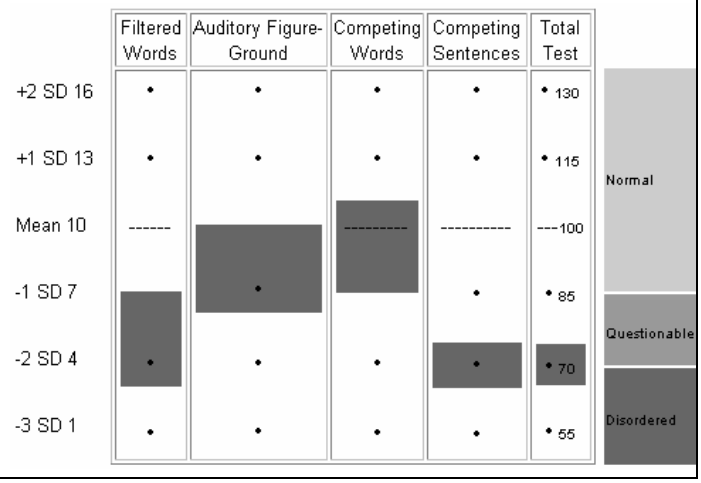
Age 14.00	Raw Score	Standard Score	Standard Score Confidence Range 68% Confidence Level	Percentile Rank
Filtered Words	24	1	1 to 3	1
Auditory Figure-Ground	37	10	8 to 12	50
Competing Words	39	1	1 to 3	1
Competing Sentences	16	1	1 to 2	1
Sum of Standard Scores		13		
Total Test Standard Score		48	44 to 52	1



POST-TEST SCAN A 10/17/02

Auditory skills have moved out of the disordered range into the 'questionable area' moving towards normal

Age 14.4	Raw Score	Standard Score	Standard Score Confidence Range 68% Confidence Level	Percentile Rank
Filtered Words	30	5	3 to 7	5
Auditory Figure-Ground	35	8	6 to 10	25
Competing Words	52	9	7 to 11	37
Competing Sentences	17	4	3 to 5	2
Sum of Standard Scores		26		
Total Test Standard Score		73	69 to 77	4



Pupil Two

Pupil Two is 13:9 years and in his third year of tuition at the Centre. He has severe dyslexia affecting both the auditory and visual pathways. He had been labeled by primary school as disruptive and disinterested in school. In spite of this, he is a quick thinker, knowledgeable, has practical skills, and shows excellent non-verbal reasoning ability.

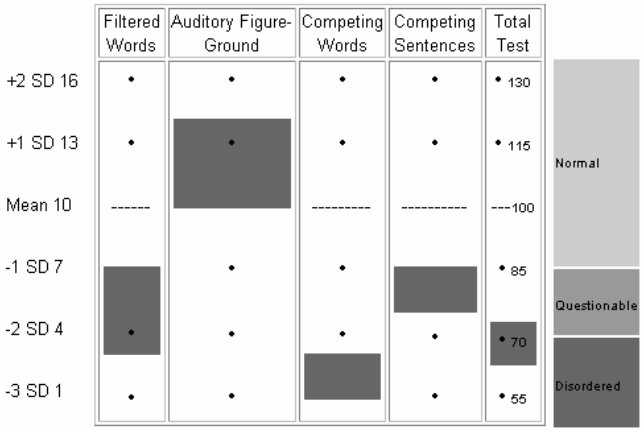
After having sound stimulation for 20 hours, Pupil Two went from 7:9 years on the WRAT single word reading test to 10:3 years. **His reading had improved by 2:6 years in a three month period.** Pupil Two moved from the Disordered range in auditory processing prior to listening into the lower part of the Normal range.

In addition to improved reading ability, he gained an improved sense of well-being and alertness. Whilst on TLP, he awakened easily in the morning and was more alert and energized than usual.

PRE-TEST SCAN A 10/17/02

Disordered auditory processing

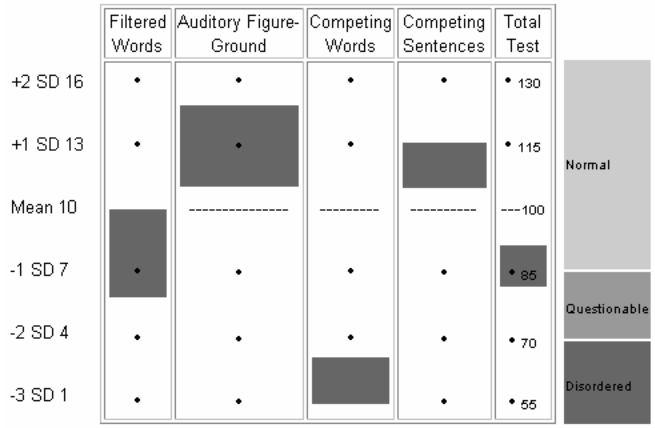
Age 13.9	Raw Score	Standard Score	Standard Score Confidence Range 68% Confidence Level	Percentile Rank
Filtered Words	30	5	3 to 7	5
Auditory Figure-Ground	38	12	10 to 14	75
Competing Words	41	1	1 to 3	1
Competing Sentences	18	6	5 to 7	9
Sum of Standard Scores		24		
Total Test Standard Score		69	65 to 73	2



POST-TEST SCAN A 1/16/03

Scores have moved from the disordered area into the lower part of the normal range.

Age 14.00	Raw Score	Standard Score	Standard Score Confidence Range 68% Confidence Level	Percentile Rank
Filtered Words	33	8	6 to 10	25
Auditory Figure-Ground	39	13	11 to 15	84
Competing Words	42	1	1 to 3	1
Competing Sentences	20	12	11 to 13	75
Sum of Standard Scores		34		
Total Test Standard Score		88	84 to 92	21



Pupil Three

Pupil Three is 9:10 years and is in his fourth year of tuition at the Centre. He has semantic pragmatic disorder and is dyspraxic. Due to language deficits he has had both social and educational problems. He is generally restless and unable to keep on task. His reading and spelling are below his age level.

The Scan C pre-test for Pupil Three was in the Normal range but with a low competing words score and mixed dominance. His Scan C post-test showed he was in the Normal range in all areas. His reading scores on the WRAT single word reading test went from 9 years to 11 years following TLP **showing a 2 year gain in 7 months.**

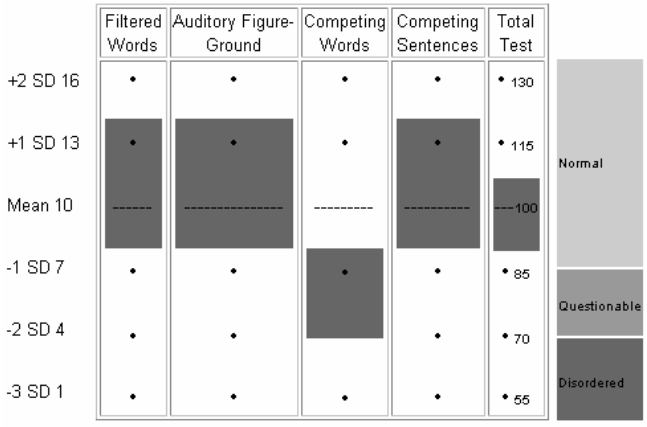
Pupil Three responded positively in numerous areas in addition to scores demonstrated in the auditory Scan A and reading tests. His spelling ability improved **by 3:1 years in a 7 month period** from a level of 9:5 years pre-test to a level of 12:6 post test. He also had noticeable improvement in gross motor coordination, body tone, concentration, and a reduction in the level of restlessness. This pupil has completed a second cycle of The Listening Program with the outcome of improved fine motor coordination expressed in even handwriting, and the ability to write creatively and imaginatively, a skill that had hitherto eluded him. In addition he has moved from being hesitant and repeating phrases to give himself time to formulate his next idea.

This now happy, confident, and literate pupil is aiming for University and wants to continue using The Listening Program® for the rest of his school life.

PRE-TEST SCAN C 5/3/02

Normal, but with a low competing words score and mixed dominance.

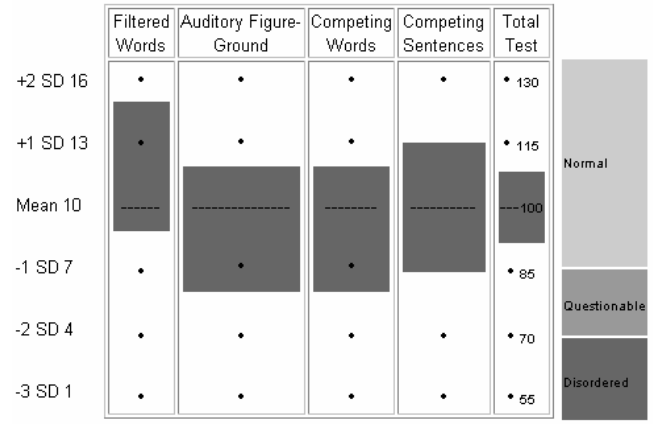
Age 9.10	Raw Score	Standard Score	Standard Score Confidence Range 68% Confidence Level	Percentile Rank
Filtered Words	35	11	8 - 14	63
Auditory Figure-Ground	35	11	8 - 14	63
Competing Words	31	6	4 - 8	9
Competing Sentences	17	11	8 -14	63
Sum of Standard Scores		39		
Total Test Standard Score		98	88 - 108	45



POST-TEST SCAN C 7/10/02

Normal

Age 10.4	Raw Score	Standard Score	Standard Score Confidence Range 68% Confidence Level	Percentile Rank
Filtered Words	36	12	9 - 15	75
Auditory Figure-Ground	34	9	6 - 12	37
Competing Words	42	9	6 - 12	37
Competing Sentences	17	10	7 - 13	50
Sum of Standard Scores		40		
Total Test Standard Score		100	90 - 110	50



Pupil Four

Severely dyslexic, Pupil Four is in his fifth year of tuition at the Centre. He is 14:3 years and has weak auditory and visual memory and poor phonological ability.

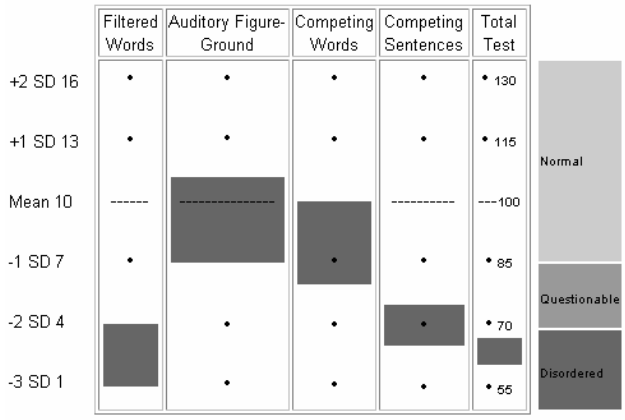
Pupil Four jumped two levels in the pre and post Scan A testing. He went from Disordered auditory processing to Normal. Because he has had so much difficulty with literacy he did not take the WRAT single word reading test. At the time he was reading "The Live Wire Series" with a reading age of 6-8 years. However after TLP, he was given the NFER Group Reading Test 9-14 Form Y. He had last attempted this test in June 2000 and had gained a Standardized Score of –70. In November 2002, post TLP, he scored at 11:3 years with a Standardized Score of 84.

He can now blend sounds, complete phoneme deletion tasks and read from materials for GCSE. His reading is slow and hesitant but he is able to read and understand the text.

PRE-TEST SCAN A 5/3/02

Disordered auditory processing

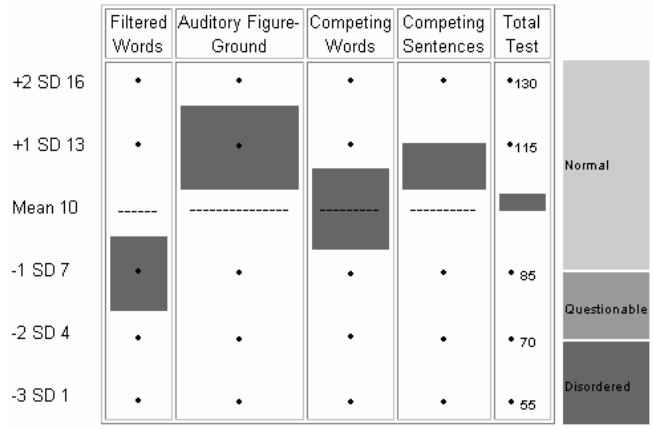
Age 14.3	Raw Score	Standard Score	Standard Score Confidence Range 68% Confidence Level	Percentile Rank
Filtered Words	27	2	1 to 4	1
Auditory Figure-Ground	36	9	7 to 11	37
Competing Words	51	8	6 to 10	25
Competing Sentences	17	4	3 to 5	2
Sum of Standard Scores		21		
Total Test Standard Score		64	60 to 68	1



POST-TEST SCAN A 1/10/02

Normal auditory processing

Age 14.10	Raw Score	Standard Score	Standard Score Confidence Range 68% Confidence Level	Percentile Rank
Filtered Words	32	7	5 to 9	16
Auditory Figure-Ground	39	13	11 to 15	84
Competing Words	54	10	8 to 12	50
Competing Sentences	20	12	11 to 13	75
Sum of Standard Scores		42		
Total Test Standard Score		104	100 to 108	61



Pupil Five

Severe dyslexia affecting both auditory and visual pathways brought Pupil Five to the Education Centre in 1995. He has attended for the past seven years but his problems have proved fairly intractable and he has responded only minimally to a wide range of teaching strategies. Now 14 years, he has had regular assessments since the age of seven with a local Educational Psychologist.

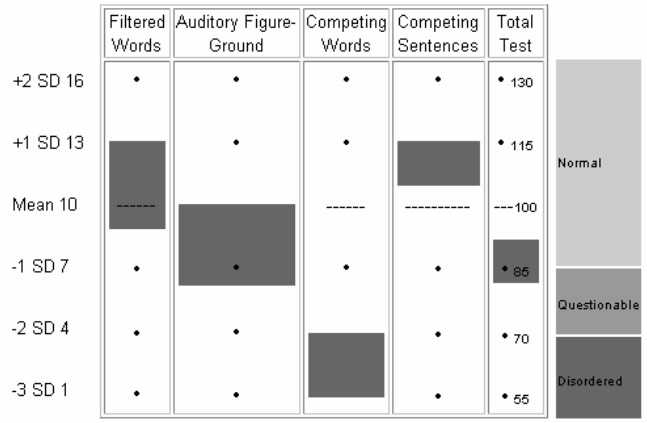
His non-verbal skills are in the superior range and received and expressive vocabulary 16+ years. However his reading and spelling skills lagging five years behind his chronological age, he had poor phonological and poor visual recall of words for spelling. He has learned to type, used voice activated software, and has been an avid audio book listener.

The Scan A pre-test showed Disordered auditory processing in the competing words test. The Scan A test taken four months later showed all tests within the Normal range with scores overlapping suggesting an integrated auditory processing system. Reading scores for Pupil Five for the WRAT single word reading test went from 8:9 years to 11 years, **an improvement of 2 years 3 months in a 4 month period**.

PRE-TEST SCAN A 5/27/02

Disordered auditory processing in competing words test

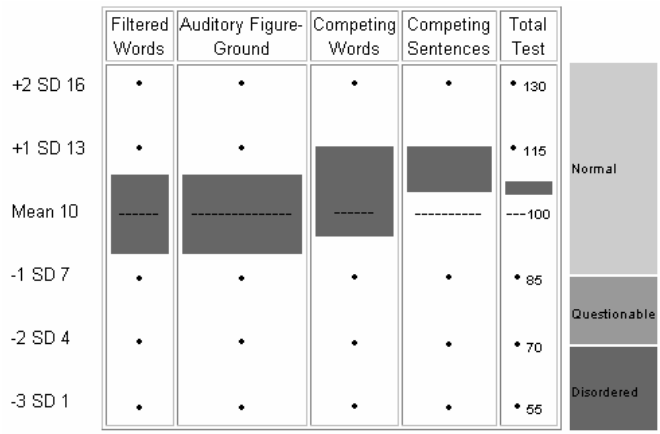
Age 14.1	Raw Score	Standard Score	Standard Score Confidence Range 68% Confidence Level	Percentile Rank
Filtered Words	36	11	9 to 13	63
Auditory Figure-Ground	34	8	6 to 10	25
Competing Words	43	2	1 to 4	1
Competing Sentences	20	12	11 to 13	75
Sum of Standard Scores		33		
Total Test Standard Score		87	83 to 91	19



POST-TEST SCAN A 9/30/02

Normal with scores overlapping suggesting an integrated auditory processing

Age 14.5	Raw Score	Standard Score	Standard Score Confidence Range 68% Confidence Level	Percentile Rank
Filtered Words	35	10	8 to 12	50
Auditory Figure-Ground	37	10	8 to 12	50
Competing Words	55	11	9 to 13	63
Competing Sentences	20	12	11 to 13	75
Sum of Standard Scores		43		
Total Test Standard Score		106	102 to 110	66



Conclusions

Results for all five pupils are supported by standardized assessments.

- The auditory Scan A tests show that changes have taken place in the auditory system.
- The age range of pupils included here along with their developmental histories show that change has occurred through means other than developmental progress.
- No other interventions were in place during their listening period other than their normal weekly lesson, which all have had for three years or more.
- None had ever made the kind of improvements in their reading ability over a one year period as they have made on completing a 20 hour cycle or more of TLP.

Thus it is suggested that The Listening Program® has had a distinct impact on the pupils' learning. It suggests that this method can bring faster immediate improvement, thus allowing the pupil to benefit much more fully from the 'normal' multi sensory teaching interventions put in place concurrently and thereafter.

*Scan A is a standardized test to assess an individual's auditory processing skills over four key areas. There is a Scan C for pupils up to and including those aged 11 years. Scan A is used for those 12 years of age and upward.