

PILOT STUDY
THE LISTENING PROGRAM®
QUINCY SCHOOLS

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INTRODUCTION

The Listening Program® School Site Kit was implemented in the Quincy School District. This is a small rural district in central Washington state where I provide speech and language pathology services. The district's ethnicity is equally white and Hispanic with two elementary schools having a majority of Hispanic students. The community is primarily lower middle to middle class with an agricultural and food processing base. A good number of the Hispanic children come from migrant families where Spanish is the primary language spoken at home.

The school program was started with four youngsters all taken from the same 5th grade classroom. Three boys and a girl, all around the age of 12 years, were chosen due to the auditory processing deficits they demonstrated in the classroom and standardized test results. They all are on academic IEP's. Three of them have speech and language goals as well.

In addition to pre and post checklists and weekly teacher assessment of changes she observed, each child was given the standardized Test of Auditory Perceptual Skills – Revised (TAPS-R) and the Screening Test in Auditory Processing Disorders (SCAN) prior to beginning and within one week following completion of The Listening Program.

The Program

Their Special Services teacher monitored the program daily with SLP intervention weekly. Children listened through Sony V600 headphones on Sony Discman CD players.

The following cycles were completed using the Condensed Schedule;

Cycle One - CDs 1-8, in sequence of one CD every 5 days, 40 days, 1x30 min (twenty hours)

Cycle Two - CDs 1-8, in sequence of one CD every 5 days, 40 days, 1x30 min (twenty hours)

Total Listening Time: Forty hours

STANDARDIZED TESTS ADMINISTERED

The primary purpose of the Test of Auditory Perceptual Skills – Revised (TAPS-R) is to assess various areas of a person’s auditory perceptual skill. The TAPS-R can also offer the examiner other information about the subject – such as their ability to understand various types of directions (key words and sequencing) accurate pronunciation of words (correct articulation), reasoning (using common sense in solving common thought problems), immediate recall of nonsensical/rote auditory information and discrimination of word sounds.

The TAPS-R subtests include:

- ✓ Auditory Number Memory – Forward (ANM-F), measures immediate recall of rote nonsensical sequential auditory information
- ✓ Auditory Number Memory – Reversed (ANM-R), measures ability to concentrate and to perform an activity requiring mental control
- ✓ Auditory Sentence Memory (ASM), measure ability to remember for immediate recall not only rote auditory information (but with some thought or notion of meaning), but also to recall this auditory information in sequence, this measures two processes
- ✓ Auditory Word Memory (AWM), measures the ability to recall a series of single words that are not meaningful
- ✓ Auditory Interpretation of Directions (AID), measures auditory memory and sequencing and focuses on a person’s ability to comprehend and understand and interpret information well enough to verbally express that they understand and can follow directions
- ✓ Auditory Word Discrimination (AWD), measures whole-word discrimination ability – making sound judgments.
- ✓ Auditory Processing (thinking and reasoning) (AP), measure a person’s ability to use common sense and ingenuity as well as insightfulness in solving common thought problems.

The purposes of the Screening Test in Auditory Processing Disorders (SCAN) include: to determine possible disorders of central nervous function by assessing auditory maturation, to identify children who may be at risk for auditory processing or receptive language problems that may require additional testing, and to identify children who may benefit from specific management strategies to improve auditory and language processing abilities.

The three SCAN subtests are:

- ✓ Filtered Words (FW), interpreting distorted speech
- ✓ Auditory Figure Ground (AFG), interpreting speech with environmental noises present
- ✓ Competing Words (CW), interpreting speech when presented to the two ears simultaneously

TLP PROGRAM RESULTS--JC

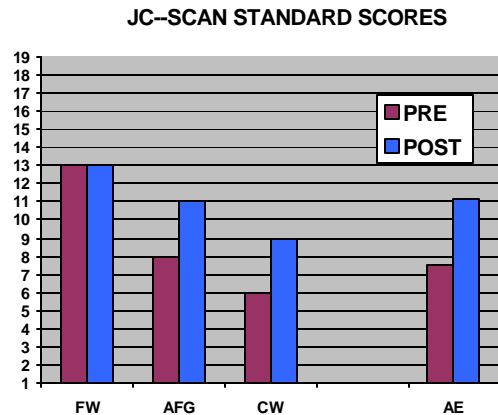
JC is a 12-year-old Hispanic boy. Spanish is his primary language and is spoken exclusively at home. He has an academic and language IEP. His special services teacher completed the pre Listening Checklist and she identified him as: fidgety, easily distracted, has difficulty focusing, poor attention span, misinterprets questions or requests and requires repetition to absorb content.

This graph represents the changes in raw score, age equivalency, standard scores, scaled scores, and percentiles for each subtest of the TAPS-R. JC’s greatest gains were made in auditory sentence memory and auditory word discrimination.

Test of Auditory Perceptual Skills - Revised (TAPS-R)														
CLIENT--JC	Pretest	Posttest	PRE		POST		PRE		POST		PRE		POST	
	1/23/2003	5/29/2003	A.E.		SS		SCALED		%tile					
	RAW													
AWM-F	18	18	4.70	4.7	69	69	4	4	2	2				
AWM-R	11	10	7.10	7.40	86	84	7	7	18	14				
ASM	22	57	4.4	9.1	68	87	4	7	2	19				
AWM	10	14	<4.0	5.1	71	77	4	5	3	6				
AID	14	14	7.1	7.1	82	81	6	6	12	10				
AWD	27	34	4.1	8.1	55	100	1	10	1	50				
AP	16	20	7.5	8.6	61	70	2	4	1	2				
SUM OF SS												28	43	
AP QUOTIENT												<53	68	
%TILE RANK												<1	2	
MEDIAN AGE												4.7	7.4	

This graph represents the changes in JC’s SCAN scores. His greatest gains were made in auditory figure ground and competing words. He improved more than 3.5 years after just 16 weeks of listening.

After completing his TLP Listening, JC’s teacher noticed improved: understanding, word and sound discrimination, and direction following. He has an increased willingness to read, seems less tense, has



improved coordination and demonstratively increased affection. She noted, “he loved the listening” and “he is a walking advertisement for the TLP!”

JC’s teacher also noted incremental changes of: increased vocabulary, better eye contact and increased affection after just 4 weeks. He showed better direction following and short-term memory after 6 weeks. JC was speaking more clearly, increased self-confidence, improved reading fluency and a quicker response time after 10 weeks. Finally, he was initiating reading, using a stronger voice, showed an increased sense of humor, was asking more questions (“lots of them”) and improved reading a loud after 12 weeks.

His teacher also noted a significant gain in his STAR (Standardized Test and Reporting Program, used throughout the district to measure math, reading and spelling progress) test scores for reading. He was at a 1.7 grade level for reading pre TLP and improved to a 3.2 grade level following his listening. This is a 1.5 grade level gain with just 16 weeks of the TLP.

TLP PROGRAM RESULTS--AH

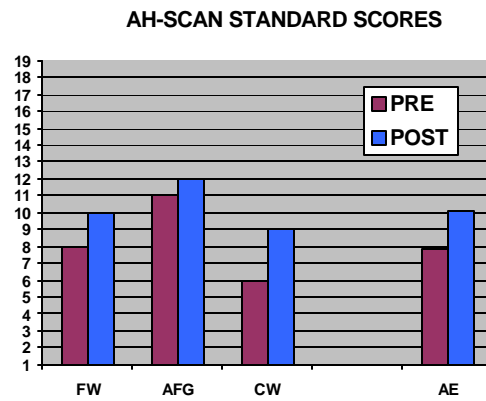
AH is a 12-year-old non-Hispanic girl with an academic and language improvement IEP. Her special services teacher completed the pre Listening Checklist prior to initiating the TLP and identified difficulties: focusing, misinterpreting directions, poor sound and word discrimination, reading aloud, summarizing a story, a poor sense of rhythm, poor self image, low motivation, difficulty making judgments and generalizing to new situations.

This graph represents the changes in raw score, age equivalency, standard scores, scaled scores, and percentiles for each subtest of the TAPS-R. AH’s greatest gains were made in auditory word memory, auditory sentence memory, auditory interpretation of directions and auditory processing (thinking and reasoning).

Test of Auditory Perceptual Skills - Revised (TAPS-R)												
CLIENT--AH	Pretest 1/23/2003	Posttest 6/5/2003	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	RAW		A.E.		SS		SCALED		%tile			
AWM-F	18	28	4.70	7.1	70	80	4	6	2	9		
AWM-R	10	10	7.40	7.40	86	85	7	7	18	16		
ASM	22	42	4.4	7.1	69	80	4	6	2	9		
AWM	18	18	7.1	7.1	85	84	7	7	16	14		
AID	5	14	<4.0	7.1	72	83	4	6	3	12		
AWD	34	33	8.1	7.9	108	94	12	9	70	34		
AP	3	16	4.1	7.5	55	62	1	2	1	1		
SUM OF SS											39	63
AP QUOTIENT											63	68
%TILE RANK											1	2
MEDIAN AGE											4.7	7.1

This graph represents the changes in AH’s SCAN scores. She made gains in Filtered Speech, Auditory Figure Ground and Competing Words. She improved more than 3.2 years in just 16 weeks of listening.

After completing 16 weeks of the TLP, her teacher noticed improvement with focusing, short-term memory, sound discrimination, vocal quality, speech fluency, reading aloud, summarizing, organizational skills, a “big” improvement in behavioral and social skills i.e. self concept, completing projects, setting goals and motivation.



AH’s teacher also noted incremental changes in neediness (being more) after 3 weeks. Improved eye contact, remembering names and improved social interactions “she is taking a risk and cultivating a friendship with a new student and is recalling the name of staff members,” increased laughing and being more assertive after 6 weeks. She was more relaxed and speaking more clearly and “definitely” talking more, “we have definitely seen her confidence increase” all in just 10 weeks. And finally, more interactive, has new friends, becoming more adventuresome, improved focus, improved sentence structure and quicker response times after just 12 weeks. “She is slowly beginning to blossom,” her teacher stated.

AH also increased her performance for reading on the STAR tests. She improved from a 2.8 grade level pre TLP to a 3.2 grade level following 16 weeks of listening. She’s never shown that much gain between tests before. Math scores also improved from a 2.1 grade level pre TLP to 3.0 grade level post TLP.

TLP PROGRAM RESULTS–CR

CR is an 11-year-old Hispanic boy. Spanish is his first language spoken primarily at home. He is currently on an academic IEP. His special services teacher completed the pre Listening Checklist prior to his beginning The Listening Program.

She reports difficulty focusing, understanding directions or requests, poor sound discrimination, poor short term memory, he thinks some people talk too fast, has difficulty recalling exact word usage, summarizing a story, relating isolated facts, left/right confusion, poor ability making good judgments, temporal concepts and low frustration tolerance.

This graph represents the changes in raw score, age equivalency, standard scores, scaled scores, and percentiles for each subtest of the TAPS-R. CR's greatest gains were made in auditory word memory, auditory sentence memory, auditory interpretation of directions and auditory processing (thinking and reasoning).

Test of Auditory Perceptual Skills - Revised (TAPS-R)												
CLIENT--CR	Pretest 1/23/2003	Posttest 6/3/2003	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	RAW		A.E.		SS		SCALED		%tile			
AWM-F	28	34	7.10	8.7	83	89	7	8	39	43		
AWM-R	10	10	7.40	7.40	88	87	8	7	42	41		
ASM	31	52	5.7	8.5	76	88	5	8	34	42		
AWM	18	18	7.1	7.1	87	86	7	7	41	41		
AID	14	22	7.1	9.9	85	95	7	9	40	47		
AWD	35	36	12.11	>12.11	106	113	11	13	54	59		
AP	23	26	9.3	10.7	90	98	8	10	43	49		
SUM OF SS											53	62
AP QUOTIENT											80	91
% TILE RANK											9	26
MEDIAN AGE											7.1	8.7

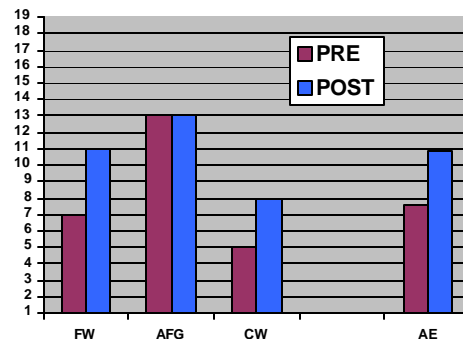
This graph represents the changes in CR's SCAN scores. He made gains in Filtered Speech, and Competing Words. He improved more than 3.3 years in just 16 weeks of listening.

After completing 16 weeks of the TLP, his teacher noted many improvements. He is better with left/right orientation and locations, deals better with stress, he's more energetic, as well as an improved short-term memory, interprets requests better, recalling exact word usage and oral reading.

His teacher also noted incremental changes throughout his listening. By week 6 he was humming more, more adventurous, more sensitive to voice tone and his body seemed more relaxed. "His creativity is definitely expanding," she remarked. By week twelve CR was more talkative, remembering names better, less wiggly, having more appropriate interactions with adults, more independent and self confident, reading is easier for him and he is asking more questions.

CR also demonstrated significant improvement with his STAR test scores as well. His reading grade level improved from a 1.7 grade level prior to TLP to a 3.3 grade level post TLP. "Academics have increased."

CR-SCAN STANDARD SCORES



TLP PROGRAM RESULTS--AH

Finally, student four was AH, an Hispanic almost 12-year-old boy. Spanish is his first language and is primarily spoken at home. He is also on an academic and language IEP.

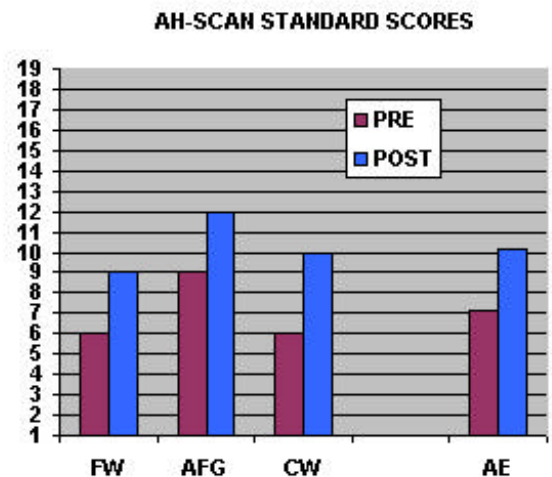
His Special Services teacher completed the pre Listening Checklist prior to his beginning the TLP. She reported AH has difficulties focusing, distractibility, sound and word discrimination, poor understanding of voice tone, understanding discussion, clumsiness, left/right confusion, difficulty completing and starting projects and confusion with direction.

This graph represents the changes in raw score, age equivalency, standard scores, scaled scores, and percentiles for each subtest of the TAPS-R. AH's greatest gains were made in auditory sentence memory, auditory word memory, auditory interpretation of directions, auditory word discrimination.

Test of Auditory Perceptual Skills - Revised (TAPS-R)												
CLIENT--AH	Pretest		Posttest		PRE	POST	PRE	POST	PRE	POST	PRE	POST
	2/13/2003	6/5/2003	RAW	A.E.								
AWM-F	34	34	8.70	8.7	87	86	7	7	19	19		
AWM-R	10	10	7.40	7.40	86	85	7	7	18	16		
ASM	51	60	8.4	9.7	86	90	7	8	18	25		
AWM	10	18	<4.0	7.1	72	84	4	7	3	14		
AID	14	22	7.1	9.9	83	92	7	8	13	30		
AWD	34	35	8.1	12.1	100	106	10	11	50	66		
AP	14	18	6.11	7.11	57	69	1	4	1	2		
SUM OF SS											43	52
AP QUOTIENT											68	79
% TILE RANK											2	8
MEDIAN AGE											7.4	8.7

This graph represents the changes in AH's SCAN scores. He made gains in Filtered Speech, Auditory Figure Ground and Competing Words. He improved more than 3.10 years in just 16 weeks of listening.

After completing his listening of the TLP, AH's Special Services teacher reported he was better at focusing, less distractible, improved short term memory, better at hearing female voices, improved vocal quality, exact word usage, relating isolated facts, punctuality and assignment completions.



His teacher also noted incremental changes throughout the listening assignment. By week 4 AH was more animated, his posture was better, he has an improved sense of humor, and made better eye contact. By the end of week 10 she reports even more improved eye contact, more thoughtful, asking more questions, speaking more clearly, increased energy, more patient and “is putting forth slightly more effort.” By week 12, he seems less overwhelmed, sometimes he is initiating reading, as well as completing and beginning more projects more consistently.

SUMMARY

Two cycles (forty hours) of The Listening Program Condensed Schedule were completed in this rural school district with four 12 year olds from the same 5th grade classroom. Each child made significant gains in auditory processing. Standardized test scores, the TAPS-R and SCAN, and professional observations confirmed the gains. Progress was demonstrated by all the students in auditory memory and discrimination. This improvement was obvious in the classroom by the changes noted in behavior, confidence and personal intensity. The results also transfer to other assessment tools specifically the STAR test.

I would especially like to recognize and thank Special Services teacher, Michelle Blakely. She was religious in her dedication to the monitoring and tracking of each student’s behavior, performance and eventual success.