



Speech-Language & Psycho-educational Reports for APD Assessment and Therapy

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Hearing-Listen-Process-Respond (speed and accuracy are important)

- ▶ It is all the same brain
- ▶ All functions are interconnected and interrelated
- ▶ For effective and efficient function:
 - ✓ Need Inter/ Intra hemispheric synchrony (simultaneous action)
 - ✓ Need Inter/ Intra hemispheric synergy (coordination- the interaction of elements that when combined produce a total effect that is greater than the sum of the individual elements)
- ▶ Consider the whole child while testing and remediating the specific area of weakness related to your expertise.

ICEBERG MODEL © KAVITA KAUL

TIP OF THE ICEBERG:
OBSERVABLE BEHAVIORS
THE COMMUNICATION CIRCLE

INTEGRATE IMPORTANT SENSORY INCOMING SIGNALS AND FILTER THE UNIMPORTANT INFORMATION

SELF-MONITOR/ SELF-AWARENESS (FEED FORWARD- WHAT SHOULD MY RESPONSE BE?)

INTEGRATE OUTPUT WHOLE BODY MOTOR SIGNALS (SPEECH/ GESTURES/ BODY LANGUAGE/ POSTURE)

SELF-CORRECT (FEEDBACK- WAS MY RESPONSE ACCURATE?)

REST OF THE ICEBERG © KAVITA KAUL

INVISIBLE INTERNAL PROCESSING

Both Top-Down and Bottom-Up processing

- ▶ Basic Readiness for incoming signals (Bottom-UP)

Arousal, Alertness, Awareness, Recognition, Discrimination, Localization,
Initial immediate emotional and physical reaction (fight-flight response) to stimulus

- ▶ Executive skills (Bottom-Up)

Short Term Memory, Working Memory, Mental flexibility, Selective, Divided,
Sustained Attention

- ▶ Cognitive-Linguistic and Meta-cognitive-linguistic skills (Top-Down)

Critical thinking, using multimodal Information, Organization and Sequencing,
Multimodal associations, World knowledge, Generalization, Mental Imagery, Mental
Manipulation Skills, Long-Term Memory

- ▶ Regulation skills and self-control- (Top-Down)

Contextually appropriate responses and reactions using social, emotional and
behavioral regulation skills

Assessment and Therapy

Norm-Referenced- Standard Score compared to a population- used during testing

Criteria-Referenced- Number of correct answers given by the student- usually used during therapy

Evaluation and therapy based on quantitative scores = Accuracy of response = Effective responses

Evaluation and therapy based qualitative responses = Speed of response = Efficient responses

Usually efficiency is not overtly noted or assessed

Speech-Language Assessments- Cognitive-Linguistic Skills

Top-down processing-

- ▶ Phonological skills- speech sound production
- ▶ Syntax- Language structure and grammar
- ▶ Semantics- Vocabulary and word relationships
- ▶ Pragmatics- Language usage and Narrative skills

Bottom-up processing- Usually not assessed overtly

Testing speech and language skills may not consider underlying factors

Phonological - requires good sound foundations for oral and written language skills- deficits may be due to decoding difficulty and memory weakness

Semantic – requires word knowledge- deficits due to possible decoding, organization, and memory weakness

Syntax - Rule based knowledge of the length and complexity of sentence structure- deficits due to decoding, memory, organization, integration weakness

Pragmatics- Context based language usage- deficits due to decoding, memory, sensitivity to background noise, integration, organization weakness

Testing-

(may not include qualitative observations)

- ▶ During testing it is useful to note what type of strategies helped with response accuracy and efficiency
- ▶ Success with chunked information- possible short term memory weakness
- ▶ Success with repeated information- possible decoding weakness
- ▶ Success with restated information- possible vocabulary weakness
- ▶ Success with use of world knowledge- possible mental association, organization weakness
- ▶ Success with use of verbal mediation or brainstorming- possible integration weakness

Psycho-Educational

ASSESSMENT- ACADEMIC WEAKNESS- RECOMMENDATIONS- Slide 9-18

Educational Recommendations for Common Cognitive and Academic Weaknesses*

Compiled by Sherry Mee Bell, Ph.D.

REFERENCE: http://www.cls.utk.edu/pdf/keys_ld/chapter2_pa.pdf

▶ COGNITIVE ABILITY-

Long-term retrieval • storage and retention of information • ability to retrieve and use previously stored information

▶ ACADEMIC WEAKNESS-

basic reading skills • reading comprehension • written expression

▶ RECOMMENDATIONS-

review, repeat • multisensory teaching/learning strategies • provide meaning • limit amount of new information

(Recommendation rarely suggests improving short-term memory which will ultimately improve long term storage and retrieval)

CONTINUED

ASSESSMENT- ACADEMIC WEAKNESS- RECOMMENDATIONS

▶ COGNITIVE ABILITY-

Auditory processing • discrimination, analysis, and synthesis of auditory stimuli • auditory attention, perception, and discrimination, despite background noise

▶ ACADEMIC WEAKNESS-

basic reading skills • written expression

▶ RECOMMENDATIONS-

provide multisensory learning • provide class notes and study guides • use visual aids and graphic organizers • use semantic or mental mapping techniques-

(Rarely suggests improving direct auditory processing skills unless there is a hearing loss or sometimes for articulation or phonological weakness)

Often these children are classified as learning disabled with pages of accommodations and modifications to facilitate academic success.

CONTINUED

ASSESSMENT- ACADEMIC WEAKNESS- RECOMMENDATIONS

▶ COGNITIVE ABILITY-

Phonemic awareness • manipulation, analysis, and synthesis of discrete sounds

▶ ACADEMIC WEAKNESS-

basic reading skills • spelling • written expression • basic writing skills

▶ RECOMMENDATIONS-

teach phonemic awareness • teach basic phonics rules • teach spelling with reading • emphasize patterns in words to be learned

(there is no structured curriculum in schools to teach phonemic awareness. Teachers often focus on phonics primarily. Phonemic awareness is auditory, phonics uses visual patterns. When auditory is weak, visual modality overpowers and auditory continues to remain weak and eventually ignored and thus reading continues to be a struggle)

CONTINUED

ASSESSMENT- ACADEMIC WEAKNESS- RECOMMENDATIONS

▶ COGNITIVE ABILITY-

Visual processing • perception, analysis, and synthesis of visual stimuli • storage and memory of visual stimuli

▶ ACADEMIC WEAKNESS-

not strongly related to achievement

▶ RECOMMENDATIONS-

use manipulatives • teach verbal mediation of visual/ spatial skills

(? Sound-symbol association weakness- slow readers? Dyslexia programs such as OG training, may be most useful for these children)

CONTINUED

ASSESSMENT- ACADEMIC WEAKNESS- RECOMMENDATIONS

▶ COGNITIVE ABILITY-

Short-term memory (auditory) • processing and holding auditory stimuli in awareness • manipulating/using it within a few seconds

▶ ACADEMIC WEAKNESS-

basic reading skills • reading comprehension • math reasoning

▶ RECOMMENDATIONS-

review and repeat • teach memory strategies • keep directions short • provide class notes • use audiotape recorder to record class notes/ live scribe

(recommendation almost never includes improving short-term memory for processing and holding auditory stimulus in awareness which is very necessary for working memory skills)

CONTINUED

ASSESSMENT- ACADEMIC WEAKNESS- RECOMMENDATIONS

▶ COGNITIVE ABILITY-

Processing speed • rapid cognitive processing without higher order thinking • attentiveness and fluency in processing

▶ ACADEMIC WEAKNESS-

basic reading skills • written expression • math calculation

▶ RECOMMENDATIONS-

provide extended time • emphasize quality over quantity in assignments • use flash cards and timed drills • teach skills to facilitate automaticity

(rarely includes rote memory exercises such as times table recitations, reciting poems, nursery rhymes, reciting numbers, letters, etc-

Often teachers do not have time to focus on efficiency because they have to meet curriculum dead line. The slower children continue to fall behind.)

CONTINUED

ASSESSMENT- ACADEMIC WEAKNESS- RECOMMENDATIONS

▶ COGNITIVE ABILITY-

Verbal reasoning • reasoning and comprehension using language • verbal expression • vocabulary

▶ ACADEMIC WEAKNESS-

basic reading skills • written expression • math calculation

▶ RECOMMENDATIONS-

provide extended time • emphasize quality over quantity in assignments • use flash cards and timed drills • teach skills to to facilitate automaticity

(speech and language therapy is sometimes recommended, however may not receive services because the quantitative scores are in the average range, although response efficiency may be very poor)

CONTINUED ASSESSMENT- ACADEMIC WEAKNESS- RECOMMENDATIONS

▶ COGNITIVE ABILITY-

General information and knowledge • acquired knowledge • long-term memory

▶ ACADEMIC WEAKNESS-

basic reading skills • reading comprehension • written expression • math calculation • math reasoning

RECOMMENDATIONS-

teach vocabulary • relate new information to already learned information • provide context and background • relate material to be learned to student's interests and experiences

(speech and language therapy for narrative skills may help along with improving reading skills)

CONTINUED

ASSESSMENT- ACADEMIC WEAKNESS- RECOMMENDATIONS

▶ COGNITIVE ABILITY-

Fluid reasoning • inductive and deductive reasoning • problem solving on novel tasks

▶ ACADEMIC WEAKNESS-

reading comprehension • written expression • math calculation • math reasoning

▶ RECOMMENDATIONS-

review and repeat material to be learned • use manipulatives • teach problem solving skills • guide learning step by step

(speech and language therapy for narrative skills may help along with improving reading skills)

CONTINUED

ASSESSMENT- ACADEMIC WEAKNESS- RECOMMENDATIONS

▶ COGNITIVE ABILITY-

Quantitative reasoning • understanding math concepts and relations

▶ ACADEMIC WEAKNESS-

• math calculation • math reasoning

▶ RECOMMENDATIONS-

use manipulatives • teach problem solving • drill for automaticity on math facts • use practical, every day math • use calculators to teach, check work and when math concepts are the emphasis

(recommendation may need to include verbalizing the math problems to understand the operation and process better.

Math skills may Improve with processing speed, fluid reasoning, and general knowledge, and language concepts)

Auditory Processing Assessment

- ▶ Weak Phonemic/ Decoding Skills – weak sound and word knowledge
- ▶ Weak Dichotic Listening- Weak processing speed
- ▶ Weak Pitch Patterns- Weak in understanding language intonations
- ▶ Weak Gap Detection- Weak in segmenting sounds-words-syllables-phrases sentences
- ▶ Weak Speech in Noise- Weak in understanding language in the real world- classroom- extreme reaction emotionally- anxiety etc.

Take home messages

- ▶ Learning Disability- usually present with higher non-verbal skills, and lower verbal skills. Memory and processing speed are low. Thus IQ is low
- ▶ Goal of therapy and recommendations should be remediation in areas of weakness.
- ▶ Even if overall skills are low, it may be better if all the areas tested are within the same range of functioning for efficient response
- ▶ Ultimately without strong auditory processing skills speech, language, cognitive, reading and math skills may not develop adequately
- ▶ Therapy and remediation should aim at building “sound” foundations to facilitate effective and efficient output (speech, language, cognitive processes, and academic skills)