SSW Reports

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I Like to be Cautious

Jack Katz

When I think I have found out something useful regarding the SSW, or the Buffalo Model, I keep checking it for a while to be sure that it's real, better and valid. Once you say something that is wrong, or is confusing, then it is a slimy monster to get back into its cage.

So caution is a good thing. However, my memory is not so good and by the time I get comfortable with a new approach there is a good chance that I will forget to share or assume that I must have reported that already. Then again I might put the information in *SSW Reports* or on the *S & E* Webgroup, but not everyone will see them.

A Case in Point

In the February 2002, SSW Reports, Katz & Brandner revised their previous (1996) system for classifying Type-A patterns. The variation was called the INT-8 system.

INT-8 did not change the formula for identifying Type-A, but instead classified those with Type-A into sub-categories depending on whether they also had DEC, TFM or both and adding a plus to the category if there were significant reversals.

The reason for this classification was that INT represents the most severe category. Those who also had both DEC+TFM had the most reading, spelling etc. problems. Cases with Type-A+DEC had more severe issues than those with mainly Type-A+TFM and for these INT cases; Type-A alone had the least amount of academic or other issues.

The reason we decided to abandon INT-8, a year or 2 later, was because our attention turned also toward remediation when INT-8 was no longer as useful a tool. In therapy we want to know each of the categories that require attention. In fact, in therapy I have advocated that INT (e.g., dichotic listening) should addressed after there is good progress in DEC and TFM and if INT has not been resolved. For purposes of therapy DEC is the most critical category for improving auditory skills, reading and spelling. DEC is the basic building block of the various auditory processing skills. That is, everything that we want to understand or remembered must be decoded first. Similarly if we can't remember what was said it will be of no value and speech-in-noise is everywhere.

We often see in therapy that emphasis on DEC and TFM (memory and speech-in-noise); that reversals and sometimes INT appear to improve after just one round of therapy. But, as in the case of a young man in the next article, dichotic listening may be stubborn unless addressed directly.

For the past 10 years we have been using the ecumenical approach in which each category stands on its own merits. * * * * *

DOM & DOT Interesting Cases

Jack Katz

Dichotic Offset Measure (DOM) is a dichotic test that is set up, pretty much, like the SSW test. Two letters (e.g., G, R) are presented to one ear and 2 others (e.g., S, A) to the other ear. Yes, the second and third letters are presented "dichotically".

A big difference between DOM & SSW is that the 'competing' letters are separated by 0 to 400 ms. So when we do an evaluation we not only see what the error pattern is, but we can also evaluate the influence of hard dichotic and easy dichotic conditions.

Other differences are that almost all of the letter names are made up of one vowel and one consonant, so the signals are briefer than many of the words on the SSW ('W' is omitted because it has 3 syllables). Of course, there is no connection among random letters as opposed to the spondees so guessing from one to the next is eliminated. But of course it is a closed-set, so the variety of responses is limited. An advantage of DOM over the SSW it is easier to make reversals without the benefit of spondees. We just have DOM norms for adults, but they are quite similar for the 2 tests.

Parenthetically, the therapy program, the Dichotic Offset Training (DOT), is set up the same way as DOM except there are 8 groups of items for offsets from 500 to 0 ms. Each offset has 10 items REF and then 10 LEF. The order is 400, 50, 100, 0 & 200 ms.

For DOM we look at the same quantitative features as with the SSW, including Ear and Order Effects and Reversals. We don't usually count X, Q, etc. although for DOT it is interesting to look at perseverations of the same letter in the same position as the previous item .

Case #1

'Daniel' is now in his 20s. I first worked with him when he was 14 years old. He came with a diagnosis of Dyslexia and indeed in high school he was reading at a preschool level. From the very beginning I realized that he was such a nice fine person, but he was fragile. The first time he came for an evaluation he passively looked out of the window as I asked him to come with me, but he did not move a muscle. He never said 'no' but he was not going to be tested. After a few tries I told his mother if he was going to take the tests I would be in my office. Five minutes later he and his mother came to my office, but he simply stood and stared at a blank wall.

I started to talk with him and told him that I also had listening problems, but that I would like to help him with his. Eventually he sat down in the chair and with some more talking we began the test.

Test Results

On the SSW Daniel had 18 total errors (8 SDs poorer than the mean), interestingly; he had 6 errors RC and 6 LC. I wondered if him being left handed neutralized the usual >LC pattern. Clearly, Daniel did not have a Type-A pattern nor Ear or Order Effects as they were both 6/6=0. When a person has quite a few errors and no significant Ear/Order Effects it suggests that both DEC and TFM are issues that have cancelled out each other. Daniel had lots of Xs, one XX as well as 9 omissions.

On the PS test Daniel had a Quantitative score of 10 (10+ SDs) and a Qualitative score of 6. He had X and XX errors, it was also interesting that on the last 9 items he omitted the first sound on 6 of the words (memory sign). Daniel performed best on Speech-in-Noise with 80 and 76%. Both were outside of NLs but not by much.

I explained the results to Daniel and his mother and told them that I was impressed by what a good worker he was and how he used his time to figure out the answers. I strongly recommended therapy. Daniel was impassive during the conference but when I said goodbye to them he shook my hand so firmly that I knew he was encouraged and that he would cooperate.

Starting Therapy

I found out that this sweet kid was anything but sweet at school. It seems that he could not please his teachers who openly criticized him and he was taunted by other children. My first concern was for Daniel's very life. It seems that he could take no more; he did not want to live. I wrote to his school in the hope that they could and would do something for him. I said that he was extremely fragile and if there was anything they could do to help him they should do it now. It seems that it fell on deaf ears.

Daniel came for 2 rounds of therapy to work on DEC (Phonemic Training Program and Phonemic Synthesis), Memory (for digits, words and working memory) and more briefly on Speech-in-Noise. Everything went well except when he was very upset. Figure 1 shows his first 3 SSW scores.

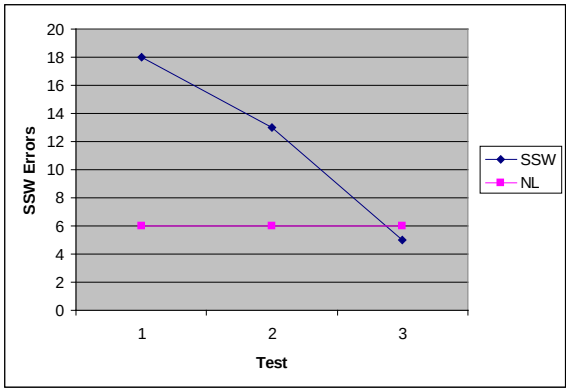

Figure 1. Daniel's errors on the pretest & 2 post-test SSW scores. Normal limits are shown in red.

After that Daniel stopped coming, and quit school. Five years later he scheduled therapy again! He was a different person. He was still such a nice young man, but his attitude changed and he wanted to get his GED and go to a community college and do well enough to get into a regular college. But he had to read better. He was getting reading tutoring but was not making much progress.

DOT

In the current round of therapy we started DOT with the 400 ms (considered pretty easy) offsets for REF and then LEF. He had a total of 5 errors which is pretty good. As it advanced in difficulty his score did not vary much up to the 100 ms condition. But at 50 ms he had his poorest score (8 errors), so we redid that task the next time. On his second try he had only 4 errors (very impressive). The next visit he took 0 ms., presumably the most dichotic/difficult challenge but Daniel had only 3 errors. I don't remember anyone with such severe DOM scores zipping through DOT with so few errors and finishing with just 3! After all, each group of 20 items had 80 letters (40 of them dichotic). Figure 2 shows Daniel's performance on DOT.

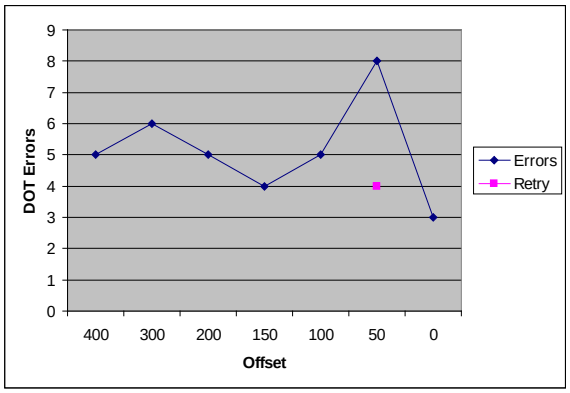

Figure 2. Daniel's performance on just 8 DOT sessions.

As Figure 1 shows that the third SSW score was within normal limits when Daniel was 15 years old, but his DOM scores were still very poor with #3= 26 errors. 6 errors is also the limit of normal for DOM. So at the end of round 4 I retested him on DOM, but his score was the same as 6 years before. So we started DOT therapy in round-6.

Last week I decided to recheck DOM to see if DOT training finally improved Daniel's scores from the 28 errors (i.e., 9 SDs poorer than the mean) on DOM given just before starting DOT. Indeed he had a retest score of 9 errors (2 SDs poorer than the mean). Daniel's DOM scores are shown in Figure 3 for both errors and reversals.

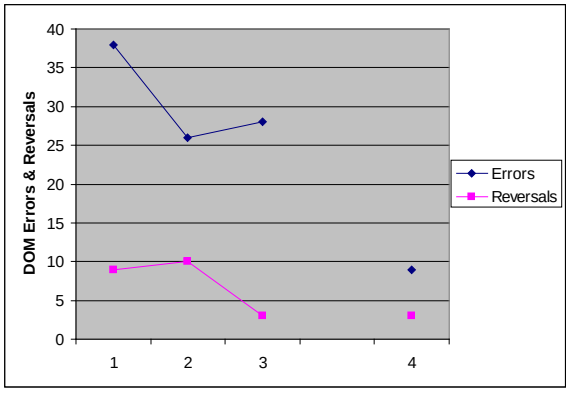

Figure 3. Four DOM tests (showing errors and reversals). Test # 3 test was given just prior to beginning DOT and #4 was right after.

While there was little change in errors for tests 2 and 3, the change was dramatic post DOT therapy. Reversals were also improved, as we often see.

Case #1 Summary and Conclusions

Daniel, like many other children who are smart, reacts very badly to their limitations. We see this so often in those who have CAPD. But therapy is an excellent way to make so many differences in a child's/person's life.

Case #2

A very bright and successful businessman in his early 60s decided that it was time for him to get to the bottom of his difficulties that have bothered his since childhood. He was eager to find out about his auditory processing problem that he has been experiencing all of his life.

Mr. Ramsey was referred by a psychologist in a Neurofeedback practice. Some of his CAPD characteristics include: easily flustered/confused, mixes up speech sounds, needs quiet to study, poor understanding in noise, short term auditory memory problem, trouble following directions, telling where sounds are coming from and understanding on the phone.

Puretone, word recognition and tympano-metry tests were all normal, but for ipsilateral acoustic reflex thresholds at 500 and 1000 Hz (the 2 frequencies I request) only 1k in the right ear was normal. The other 3 measures showed no response at the limit of the audiometer.

Mr. Ramsey's WRS score was 100% in the right ear but 92% in left, just slightly below norm. In noise his scores were 80% in the right and just 64% in the left. He had 13 phonemic errors on the last sounds of words and 5 on the first sounds. It seems like he needs more time to process speech.

On the SSW he had a normal Total score and missed the LC norm by one point (for a person in his 60s). What he did have plenty of was delays (n=16) as he did on each of the other tests as well, so we can see a compensation for slow/poor DEC. This was further supported by his scores on the Phonemic Synthesis test (note 18 correct for Quantitative [NL=23] and just 5 correct for Qualitative [NL=22]. You can see with his

good cognitive skills and some extra time he has been getting along pretty well, but only he knows how hard he has to work to produce at this level. Though he had pretty good scores these tests were not easy for him.

There was no Type-A (it was at the limit of normal), but I tried Larry Medwetsky's technique for checking on INT signs (which I will ask Larry to explain in another issue). His score was significant on that measure.

Neurofeedback Information

Mr. Ramsey started therapy and it is going very well. But, the psychologist did some measurement on his brain waves (g-ABR) and found a dead spot at about the level of the left auditory cortex (DEC I suppose). But if this has been present all his life (or most of it), he has no doubt benefitted from plasticity. So it is likely that he is quite reorganized, not normal, but pretty darn good considering all.

CAP Therapy

On Phonemic Synthesis (PS) therapy Mr. Ramsey had 5/7 words correct on the easy "make-up" items on lessons 1-3 that we skipped because of his pretty good PS test Quantitatively. He also had 3 delays and a Quiet Rehearsal. So that was not easy for him. Lessons 4 and 5 were pretty easy for him (all correct, but 1 or 2 delays), he's still on lesson 6 (with the L-sound) after 2 tries.

Interestingly, he did much poorer on when testing each ear under phones than through the loudspeaker. Maybe the ears depend on one another unless he focuses on the poorer ear instead of the better one. In the evaluation he always looked to the left (poorer side).

DOM

When we finished DOM we began DOT but he has had only one session. But I think you will find DOM interesting (see Figure 4).

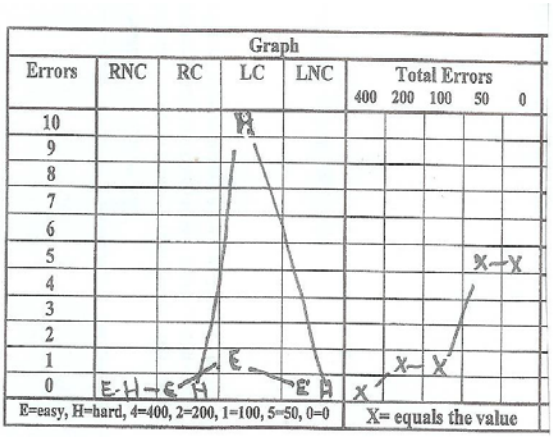

Figure 4. Section of DOM summary form.

The graph on left shows the 4 Conditions (same as SSW). E=easy items 400 & 200 ms between competing letters and H=hard items with 50 & 0 ms separation. Not shown as 100 ms. Total Errors are also displayed. He had very few errors on the easier dichotic items (within 2 SDs for young adults) but had 10 errors for the 2 hard ones (normal limits =5 for 2 SDs).

Hmmmm

It is rare to get a patient that is so confusing to understand. If I knew nothing else he performs on DOM and on the SSW (with Larry's formula) as though he had an integration problem. And yet his 2 ears surely do better than one ear alone (maybe the delays are his secret weapon).

Finally, we started on DOT at 400 ms because he did so well on DOM at that offset. Sure enough he made only 1 error on 20 items (very good score). We will keep moving forward to see how much dichotic/ INT improvement he can make.

Diagnostic Therapy

In the most difficult cases; I find Dx Therapy to be one of the most powerful tools. We can see what improves and what doesn't and we can play around with solutions to see what they can tell us. As we get to know the person better more and more ideas can come to us. In this case I suspect we will never know the true answer. Is it a L-Auditory Reception/Cortex problem (just peaking in the wrong ear for a right handed person) or a corpus callosum/INT problem that does not seem to line up with the g-ABR?

You will be interested to know that at his next visit the psychologist will stimulate his brain in such a way as to facilitate his auditory reception. If it happens and the results are interesting I will be happy to share that with you.

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The Hardest Day I Can Remember
Jack Katz

Last week was a hard one for me. I evaluated a very bright 8-year old girl. She was just the sweetest little kid. Everything was okay with her. The case history indicated that she tires very easily, so I was especially careful to give her breaks (some were big and some e.g., a few moments between some items on a test). My notes indicated that we took breaks even when there was a sign of stress on her brow.

Her results were quite severe especially for someone who has normal hearing (but a long history of otitis media). The first test's results were similar to those of the audiologist who tested her previously. I obtained a WRS of 56% in one ear and 80% in the other ear. But, in noise in the poorer ear she had only one more error than in quiet. ??? I always try to avoid the 'non-organic' designation because it is too easy to account for what we don't understand and at the same time jeopardizes the person's success and feelings of self worth. But, I must admit it crossed my mind. There were other peculiarities as well that I have not resolved. However, non-organic is out of the question.

Toward the end of the evaluation I ran out of excuses to stop the testing, so I asked her what was her favorite song. She thought a moment and then said 'Gold'. I asked her why. Again she thought and said because the song says that 'every person has worth'. I understood why that would be so important to her and to lots of the kids we see (like the next little boy on my schedule…).

The last kid that I saw was an over weight 10-year-old who was lying on his mother's lap (and the rest of her as well) making believe that he was sleeping. She asked him to get off her as he was hurting her, but he hardly moved. Eventually, I escorted them to my office for therapy. I should have known better, but I asked him how he was doing. He mumbled 'terrible'. He said that no one in his class likes him. No one wants him to sit next to them, they say he's stupid. So this bright youngster with CAPD sits in the back of the room all by himself.

When his mother brought up about sitting in the back and him being ostracized, the teacher questioned those children. Later the teacher told the mom that those children claim that he is the one who bothers them. So the teacher was satisfied to do nothing. And this vulnerable child with CAPD sits in the back all alone.

Having one child with a story tearing at one's heart is bad enough. But two was more than I could take. I was a mess for the rest of the day. But, I think there will be improvements made in both cases! * * * * *