

Dynamic and authentic assessment of spoken and written language disorders

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Thank you for inviting me to present a main lecture before this important society; a society that looks to the future as they meet to discuss psycholinguistics on the threshold of the year 2000. In keeping with the spirit of this Congress, I shall be talking today about new assessment procedures, procedures, drawn from Vygotsky's work in Russia and that of Brown and Campione in the United States. Termed dynamic assessment, it differs substantially from static, that is, standardized assessment. I will also touch upon how dynamic approaches can yield valuable information for intervention planning. Examples will be provided and further information is contained in a brief literature reference list on dynamic approaches, as one of a number of new procedures (frequently referred to as authentic assessment, since they deal with children's language and learning problems as they occur in «real-life»).

DYNAMIC VS. STATIC ASSESSEMENT PROCEDURES

Strengths and weaknesses of static measurements

Let's begin by contrasting static and dynamic procedures. But first, let me preface my remarks by saying that standardized tests fulfill certain needs and can be useful. Indeed, they may be required in some settings. However, there are at least four reasons why one might wish to choose more, flexible procedures, such as those found in dynamic assessment.

First, most static tests assume that all subjects have comparable experiences and background information. Static instruments also assume a certain level of students' prior knowledge, linguistic skills, and ability to understand the items as presented in the protocol. As you well know, these assumptions may be faulty when evaluating individuals with language impairment.

Second, static tests may not provide a method for estimating emerging skills, that is, those metacognitive abilities which are not yet fully formed but whose presence can be determined under more favorable conditions. Many static tests have a narrow range of correct responses, and an answer is either right or wrong. For example, ask a child to repeat the alphabet «as fast as he can». Under static conditions, the child will only be credited with a success if he repeats the entire alphabet accurately and with reasonable speed. The child who is able to say, «a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, _ q, r, s, t. .. oh, me forgot p» is denied partial credit for his less than perfect rendition. Vygotsky, who espoused the concept of the Zone of Proximal Development (the ZPD) would have had it otherwise, as we shall see.

Thirdly, static tests typically require that the tester provide no help. In fact, most test manuals provide specific directions on this matter; the child's unaided performance is required; the examiner's role is to remain neutral. As a consequence, the examiner may complete the test, draw conclusions, and provide a report that indicates what the child presumably knows but can provide little insight as to how the child has learned it. In addition, the student's ability to learn new knowledge, and to benefit from instruction or intervention, remains yet to be discovered.

Fourthly, most static tests, particularly when administered to culturally or linguistically different students, make it difficult to estimate the possible potential effect of those cultural or linguistic factors on the child's performance. Students whose first language is not English, or who display limited English proficiency, may have little success in the unaided condition of standardized assessment. When provided with more favorable conditions, such as scaffolding, hints or cues, performance under these interactive conditions may well improve. All truly dynamic procedures permit the examiner to give some form of help.

Strengths and Weaknesses of Dynamic Procedures

First, dynamic procedures enable examiners to modify the format of the assessment in a number of ways. It is during this process of modification that the examiner is able to facilitate the optimal cognitive functioning of the child. By modifying the format, it is possible to observe the student in interaction with a supportive adult.

Speech-Language Pathologists (SLPs) will be familiar with this approach since it much resembles the dyadic «clinical talk» that is a mark of one-on-one or small group clinical discourse.

It is within this interaction that the examiner is able to examine the depth and breadth of the zone of proximal development. It is within the ZPD that the potential for learner change is found.

Second, dynamic assessment permits the examiner to focus how this particular learner processes information, and to view the student's processing strengths and weaknesses. Learner processes include attention, perception, working and long term memory, planning and problem solving, and simultaneous and successive coding. The meta's play a considerable role here; metacognition, metalinguistics, and metamemory. The students' understanding of their own thinking, language and memory strategies is crucial here. This also means that dynamic assessment procedures may well be inappropriate for very young children who are unable to use language to reflect on language. Much depends on the individual child's readiness for learning and on his/her responsiveness to intervention. Examiners may find some preschool children who benefit from dynamic procedures, while others may not. Much depends on their zone of proximal development.

Thirdly, the examiner must analyze the processing demands of the tasks to be presented to the learner. There are two important points here... one is the inherent demands of the task itself and second is the manner in which the task is presented. Prior to assessment, it is wise to visit the child's classroom. Note the student's responses to its many demands. Note also the communication that goes on: observe teacher talk, child talk and text talk. Observe how the teacher engages children in question-answer sequences, in group discussion, in dialogues and monologues. See how children engage each other in peer and play activities. Note how texts, written or spoken, engage students in higher-order language comprehension and use. Try to place your child along the language continuum from oracy to literacy. What is expected in this particular classroom? For example, first grade students are expected to know how to ask questions, to summarize, to infer and to predict from written or oral text.

Fourthly, the examiner uses dynamic assessment to judge the ability of the student to benefit from cues, hints or scaffolding. The tester uses this knowledge to determine which might be the most promising interventions to pursue in treatment. Careful observation of students' reactions will provide information on what may facilitate or hinder change.

THE STRUCTURE OF DYNAMIC ASSESSMENT

The Initial Step

While there is considerable variability in dynamic assessment approaches, most use a sequence of three activities. First is an initial assessment of the child's competence in selected areas. In this initial stage, some examiners may choose to use some portion of a standardized instrument, while others construct an age-appropriate or linguistically appropriate task.

The Second Step

Secondly, the examiner uses the information gained in step 1, to provide intervention or instruction on examiner-designed target tasks. In so doing, the student is given assistance via increasingly specific hints or cues or various scaffolding techniques to solve the question or the problem posed by the examiner. The length of time devoted to this step varies widely depending upon how quickly the student demonstrates increased success under these favorable conditions.

The Third Step

Lastly, there is some kind of retest or task that permits the tester to determine if the learner has been able to modify his/her approach to learning.

The three part approach to assessment has been identified as test-intervention-retest, or pretest-mediate-retest. In the latter case, the term «mediate» refers to the examiner who as mediator helps the learner by providing assistance in the selection and interpretation of the tasks presented. In essence, the tester is working within the child's ZPD, assessing the learner in the process of learning. It is during the last step, the retest step, that the examiner determines whether the intervention or instruction has helped the student change, i.e., be more successful in learning. It is also the time when the tester makes an estimate of the student's awareness of his/her's own metacognitive processes.

The Focus of Assessment: Information processing

Dynamic assessment permits the examiner to (a) focus on the information processing skills of the learner, (b) analyze the processing demands of the tasks themselves for this particular child, (c) identify the amount of effort expended by the student (not to mention the examiner) and (d) observe the degree to which the child's level of performance is modified when co-laborating with a more knowledgeable partner. In the real life of classroom, clinic or home, that partner can be a teacher, a clinician, a parent, or peer.

For SLPs who have studied language processing, the value of dynamic assessment is apparent. It provides an opportunity to conduct assessment within the learner's ZPD and to actually view the learner in the process of learning. Here the examiner is interactive, not neutral; the learner is active, not reactive; the tasks assigned relate to aspects of ongoing language processing, rather than calling on previous knowledge, such as «How far is it from New York to Paris?» a fact that few Parisians or even New Yorkers know.

A SPEECH LANGUAGE PATHOLOGY PERSPECTIVE

Dynamic assessment rests on the supposition that a learner can change, particularly if the demands of the task are understood and modified as necessary. The value of dynamic assessment for the psycholinguist stems from the first hand knowledge gained regarding the student's information processing abilities and strategies, a view that is essential to the development of appropriate instructional or intervention procedures and activities. As the examiner evaluates the child's response to the adult's assistance, whether it be verbal, visual or motoric, he/she is able to estimate the student's capacity to learn and to transfer that learning to other tasks.

During the second step, possible intervention strategies are explored; here the examiner learns which cognitive strategies are most helpful. Through the use of cues, hints or scaffolding it becomes apparent which cues or hints permit the learner to reach competency. And Vygotsky would say that you have plummed the width and depth of the child's ZPD.

The heart of dynamic assessment and intervention lies in assisting children to develop their emerging cognitive skills. In this regard, Olswang and Bain (1996) have looked at dynamic assessment information for predicting immediate change in language production. They report that dynamic assessment can «help clinicians make more informed decisions about which children appear ready for immediate change in their language production» (p. 414).

They note that their «study indicate(s) that dynamic assessment appears to be more sensitive than static assessment for providing this type of information.» (p. 420).

Learning Language and Using Language to Learn

For some years now, language specialists have observed that youngsters spend their early years learning language, and the remainder of their lives using language to learn. With this in mind, we must view our changing roles as assessors and interventionists. As examiners, we must learn more about language processing per se and its metacognitive implications. Clinical experiences provide an opportunity to work one on one with language impaired children, their teachers and their parents. Language specialists often stumble upon procedures that «work» but most of us have not systematically explored dynamic assessment although we may have relied upon a variety of informal procedures to strengthen intervention planning. However, we may not have been as aware of exploring the ZPD, and in using supportive procedures to determine the student's potential for improvement in the use of language.

Perhaps you have used what psychologists refer to as «testing the limits», that is stepping beyond the scripted remarks of the test manual to explore further the child's responses. Even when «testing the limits», we have rarely explored in a systematic way the child's potential through a carefully delineated set of procedures. Using language to evaluate language is a complex challenge.

A Prerequisite: An Ecological Study of Classroom Communication Strategies. Even experienced psycholinguists may be surprised at the extraordinarily high classroom demands on children for literacy ...spoken, read or written. An ecological study is in order before proceeding with dynamic assessment. One needs to achieve an understanding of the literacy requirements at each grade level. It is suggested that a sketch or map of the physical arrangement of the classroom seating configuration, the teacher's «station», children's access to books, materials and other literacy artifacts be drawn. Observe the child in question, noting verbal and Nonverbal behavior while completing work in progress as well as dyadic conversations with

the teacher and other students. Rate the child's social use of language and attempts to use «Academic language». Observe the teacher's communication style. Does the teacher use the IRF strategy, also known as a directive scaffold? IRF stands for the sequence of teacher initiation, child response, and teacher feedback. You've heard it a thousand times. Teacher says «Johnny, what does this word say?» Johnny. «I dunno.» Teacher, shifting her gaze: «Mary?». In this case the feedback to Johnny is a nonverbal message of his failure. If time permits, complete a running record, i.e. a verbatim written record of an interchange of one minute or longer that is particularly revealing of the classroom climate. If you happen upon a group activity, note the number of times your target child is involved in peer verbal peer collaboration to solve a problem. If lucky enough to encounter an interesting anecdote, record it. Psycholinguistic training frequently permits an examiner to focus upon an individual child's performance, rather than class performance. This is both a strength and a weakness in entering the classroom context. Ecological assessment may assist clinicians in understanding the dynamics of classroom conversations and how the implicit expectations of the curriculum influence children's ability to use their available cognitive and linguistic resources.

In summary, dynamic assessment gives examiners an interactive role, and permits them to focus on learners' cognitive processing (including language processing). Using a pretest-assistance-post-test design, the examiner identifies the processing strengths and weaknesses of the learner, his/her responsiveness to intervention, and is able to generate ideas about promising intervention procedures.

Children's Discourse and the ZPD

Children with a broad ZPD, that is, a high degree of readiness within a domain tend to reveal this during dynamic assessment. For example, I was watching a student examiner work through a dynamic assessment session. She had chosen various linguistic tasks that increased in level of difficulty. To her surprise, the child was doing very well in the Step I, unaided condition. As the items became more difficult, the child paused, smiled broadly and said «Oh, the questions are getting harder. Now it's getting to be fun». This is a relatively rare occurrence. Children with language impairments do not typically greet «hard questions» with such exuberance. As it turned out, she was evaluating the wrong child, the twin of the child with the language impairment.

In general, language learning disabled children show difficulty in phonological awareness, slow semantic access and lexical retrieval, and morpho-syntactic deficits among other difficulties on selected normative tests. However, there are a number of tests which measure language at the sound, word or sentence level only; many of these may not provide the best information, i.e., how the child actually functions in classrooms contexts. Dynamic assessment provides many opportunities to evaluate at the discourse level, which is the *modus operandi* of educational settings where one's linguistic skills are used to demonstrate problem solving for the edification of students and teachers alike. Note that dynamic assessment procedures are appropriate for measuring how the learner handles such things as temporal and sequential information, identifying what is important while reading or listening, determining how the student responds to comprehension or production tasks, e.g. provides multiple endings to a story stem, responds to a request to write a piece of expository text, and so forth. Asking children to «talk-aloud» about their approach to solving problems, such as spelling irregular words can help the the examiner learn more about the student's metacognitive skills. Remember that a

recent analysis of 50 years of educational research has shown that the most important aspect of learning is the child's understanding and use of metacognitive strategies. Cognition and language are critical to academic success in most, but not all societies. Particularly in societies with a heavy investment in technology and something now called «digital literacy», there is increased pressure to become not only computer literate, but more than computer competent. Those who are language learning impaired may be expected to have particular difficulty due to their lack of speed and accuracy in dealing with spoken and written language. Interestingly, computer-based strategies may also assist the LLD in moving successfully from oracy to literacy. (But more about that during a Congress Workshop regarding using literacy enhancements to compensate for the difficulties experienced by children, youth, adults and the elderly. In many approaches to dynamic assessment and intervention, a mini-learning environment is designed, so that if children are unable to solve a particular problem independently, they are given a series of hints to help them. The initial hints are very general, and succeeding ones become more specific and concrete. The last hint actually provides a detailed blueprint for the child to generate the correct answer. The examiner measures the *minimum*, not the *maximum* amount of help that needs to be given, thus helping the child toward independent learning, using the potential found within the zone of proximal development. How different this is from standardized assessment, with its emphasis on moving well above the zone of proximal development, as difficult questions are asked and the student concludes each subtest by failing to answer the harder questions, not once, but often several times.

SOME EXAMPLES OF DYNAMIC ASSESSMENT AND INTERVENTION

In examining a 6 year old child, the examiner interested in emerging language and literacy might wish to discover if the child understands the meaning of the word «word». This is often a far from simple task. The examiner begins by a pretest: «Tell me what a word is. What does «word» mean?» Child: «I dunno ...nothin'». Moving on to Step 2, instructional intervention, the examiner says: «Words stand for things or places or people or even feelings: Now, tell me what this thing is?» (Pointing to the table)

Child: «Table.»

Examiner: That's right. What is this thing? (Pointing to the pencil).

Child: «Pencil.»

Examiner: «Is love a word?»

Child: «I dunno. Maybe»

Examiner: «Let's use some blocks.... each block will stand for a word. Watch carefully... (He places a block for each word in front of the child). The sentence is «I love «Dogs». Here's how we know how many words are in this sentence: «I» (touches green block) love (touches red block) dogs (touches yellow block).

Moving to the retest sequence, the E. states: Now it's your turn. Can you show me «I love love (pause) cats?»

Child: (Looks puzzled, frowns, hesitantly touches the blocks). I love cats (carefully touching the three blocks that were left there by the examiner as a model.) **Examiner:** That's

right. Very good. (Moving on to a discourse item, the Examiner initiates a new sequence: I'm going to tell you a story and I want you to tell it back to me when I'm done: Once upon a time, there was a young dinosaur named Rex. He was only 6 years old. Tex was a shy dinosaur. He rarely strayed from his own backyard. But one day, he heard a strange sound: clippity clop, clippety clop. He couldn't see over the high bushes, but he could hear the sound, clippety clop, clippety clop fading into the distance. He ran out into the street and looked up the road to the top of the hill. He followed the sound. He huffed and puffed and huffed and puffed as he climbed the hill and entered the forest. He stopped and listened for that strange sound. He heard nothing, so he looked carefully in every direction.....and then he saw it...it was a beautiful white horse.....Now, tell me the story.....

Child: One 'pon a time, a 'saur named, named, namedRet.....He playin'. Then him cippit cop, cippit cop. He wan and wan away. (Pause). All.

Examiner: (Using the hint strategy): Good. Let's tell it together. Yes, there was a dinosaur who was only this tall. (Holds her hand at the standing height of the client). He was young and he was sh.... Sh....oh, yes, shy. He was playing in his back _____(pause) **Child:** Yar.

Examiner: Yes, backyard. He heard a strange sound....remember?

Child: Cippit cop, cippit cop.

Examiner: Yes, clippi TY Clop, clippi TY clop. Rex could hear, but he could not see...what can Rex do?

Child: Saur run? **Examiner:** Yes, you're right. He can run fast, so fast that he huh.....

Child: Huffin, huffin.

Examiner: Yes, he huffed and he puffed. And he ran into the.....

Child: Woodses.

Examiner: Right. And then Rex looked all around.....What did Rex find when he looked hard?

Child: He.....he.....Efelant? **Examiner:** Not an elephant. I'll give you a hint...it was a beautiful white animal....his hooves made the clippity clop sound on the street.....sometimes cowboys or policemen ride them... they climb on their backs and hold the reigns to make them run or stop..

Child: Hort?

Examiner: Yes, a beautiful white horse. I bet you can tell me the story.....I'll say it again, and then it will be your turn. (Provides pictures of Rex, a backyard, a road, a forest, and a white horse, as he reintroduces the narrative and places the visual stimuli in sequential order in front of the child.) Examiner records the child's version of the story as part of the retest. He provides not only verbal hints but supports the child's recall through pictures that focus on key parts of the narrative: the characters and the setting).

Child: One upon a time, baby 'saur name Wex ...him six, him playin' in backyard, him hear kwip cop qwip cop.....him run ver fas', huffin and puffin.....get road.....get wood-ses.....see cowboy horsie. Him happy. All.

What has the examiner learned from this brief interaction? Quite clearly that the child's ability to express himself is limited, but also that it can be assisted by using visual images for recognition and recall. He also has learned that some cues or hints work better than others and that the child's short term memory strategies benefit from verbal and visual support. Returning to the 3 step procedure, the examiner opts for measuring some aspects of vocabulary, and begins by using a visual strategy. (Your packet contains two examples, one illustrating a non-scaffolded attempt to elicit a response to the question: Tell me about the word dog...what do you think of when I say dog?» The second example illustrates the assistance that can be provided by even minimal hints and questions in regard to a familiar word, cat.

Examiner: All right, John, now let's try something new....I'm going to draw a circle and I'm going to put a word in it....the word is dog.....d, o, g.....Now tell me about dog, and I'll write your answers down. Dog.....

John: Don't know....(15 second pause). Bark. (E: draws a line, writes bark and the number 1 for first response. He then waits quietly.

John: (6 second pause)fur. (E. writes word, records pause time and identifies it as Item 2.)

John: (7 second pause).....eat (E. Writes word, records pause time and identifies it as Item 3.)

John: (8 second pause).....shit. (E writes word, records pause time and identifies it as Item 4.)

John: (10 second pause).....bark. (E writes word, records pause time and identifies it as Item 5.)

John: (15 second pause)....Dunno. (E. nods, and moves into intervention mode, using minimal cues, but keeps both mutual gaze and turn-taking in place as he points to the emerging lexical map.)

Examiner: Now let's try another word....watch while I write the word. (Writes cat and circles it, pointing to the word and to each of its letters.)...c.....a.....t.... -c-a-t, that stands for?)

John: Cat.

Examiner: Good, now tell me more about cat.

John: fur. (1 second pause). Examiner records time and item number

Examiner: What else?.

John: (3 second pause)... tail. (Ex. Records time and item number)

Examiner: And?

John: (4 second pause) teeth, followed quickly by «mouth», Examiner records time and item

John: (5 second pause).....scratch. (Ex. Records time and item)

Examiner: How?

John: (3 second pause).....fingers. (Ex. Records time and item)

Examiner: Anything else?

John: No (3 second pause). Ride in car.

Examiner: And?

John: (3 second pause). Meows. (8 second pause) All done.

What is it that the examiner has discovered during these two brief episodes? Firstly that John has slow retrieval time for words but more importantly, that there is a significant and positive difference in retrieval time and number of items (8 instead of 5) when even limited scaffolding is provided as well as a significant reduction in recall time (from 15" to 8").

None of the above procedures takes more than a few moments to execute and to record. They provide clues for planning and carrying out appropriate language intervention....intervention that addresses John's emerging literacy and language potential.

SOME GENERAL GUIDELINES: MODIFICATIONS FOR SUCCESS

General guidelines to support dynamic assessment and intervention follow: These modifications may increase the level of language interactions of not only the language impaired but of all children.

1. Take the mystery out of conversational and academic instruction...make sure that adults move from implicit to explicit language use. Do NOT assume children understand all that is said and read. Instructional discourse should need no interpreter. Conondrums are best left for later language adventures.

2. Scaffolding of children's spoken and written communication is not only a viable assessment device, but a helpful technique in intervention and instructional settings. Who doesn't need a little help along the way?

3. Widening the Zone of Instructional Discourse .We have spent too long in describing children's deficits and disorders. Let us now address their potential as well as their problems. Let us determine how wide and deep is the child's potential for oracy and literacy.

4. Reciprocal teaching strategies (questioning, summarizing, inferring and predicting) represent a blending of instruction and intervention. It provides those with language difficulties a leveled playing field, using teachers and peers as guides and models.

5. Consider helping your colleagues and your peers to modify teaching styles. Attend to how adult questions are phrased, children's responses evaluated and verbal or nonverbal feedback provided. Such activities, if well done, can increase a child's communication potential. (See Wilkinson and Silliman's work in the references).

6. It has been noted that speed and accuracy are valued commodities by adults when seeking information from children. How can we reposition this demand? We know that quickness of wit is prized, labored responses are not. However, research on «wait time»...the time a

teacher waits for children's responses ... has indicated that a reasonable amount of wait time (3 seconds) assists children with difficulties AND it also provides more gifted students with an opportunity to organize even more complete and well structured responses. Viva la pause, an undiscovered resource!

This brief presentation has provided only the barest of bones on dynamic assessment. To flesh out these bones will require further effort, effort that will be rewarded when one is able to establish intervention procedures based on an understanding gained from the principles of dynamic assessment and intervention. Suggestions herein have been devised to address the needs of students who demonstrate language learning impairments. While some may be helpful to students who are struggling with learning a second language, such as English, they may not be appropriate for the Limited English Proficient or English as a Second Language learners. It is recommended that bilingual students be assessed in their home language prior to language enhancement in their second language for a number of reasons.

Classrooms vary across countries and across cultures, and the «academic» language to be learned varies as well. Many classrooms in the United States and in other countries, as well, reflect differing degrees of teacher register and teacher style. A teaching register «functions as a management procedure for communicating attitudes (expectations) about the role students are to play in the teaching-learning process. The evidence suggests that directive scaffolds are characterized by a high degree of control by the teacher.... Four features define this control register.... (1) rigid access to the conversational floor, (2) tight topic management, (3) conduct rules for being a listener and a speaker, and (4) procedural display.» (Silliman & Wilkinson, 1994, pp. 34-35). Those authors note that with communication in the classroom, as seen from the teacher's perspective, then, is that students must demonstrate that they know how to speak within the structure of a particular lesson, typically by responding to a «fill-in the slot»: request. Students' roles are to provide minimal responses within the teacher's frame of reference. In such classrooms, every student is supposed to learn a conversational routine. This may be easier to children whose language skills and intuition are sufficient to help them «play the conversational game». On the other hand, children with language impairment may have insufficient language skills to participate in the game, or may play poorly. While language impairment in and of itself can cause considerable difficulty in classroom-based language comprehension and production, there are extrinsic factors, such as the teaching register which may exacerbate difficulties encountered by the child whose language impairment is primarily due to intrinsic reasons. Dynamic assessment has been offered as a procedure that provides opportunities not present in static assessment approaches. Its appeal is to those who require a more flexible design for understanding and working with individuals within the context of learning and problem-solving, such as demonstrated by educational settings spanning preschool to graduate school. It is particularly useful at the discourse level, whether it be spoken or read text, and extends well beyond the «testing of the limits» of standardized instruments. Its usefulness is based upon the examiner's ability to collaborate with the student in evaluating the depth and width of the zone of proximal development, and the ability to provide «on-line» assessment, i.e. to modify one's test-instruct-retest plans as the student's cognitive strategies, prior knowledge and linguistic skills are clarified. On the threshold of the year 2000, one may clearly see the day when such evaluation of language and cognition will be supported by the technological advances in computer-based assessment and intervention, and by advances in the neurosciences, as brain-behavior analyses via neuroimaging also accelerate. The millennium approaches. May we all be here to greet it. In the Year 2000.

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