A study on dynamic assessment techniques, as a method of obtaining a high level of learning potential, untapped by conventional assessment.

Andrei Cotrus *, Camelia Stanciu
Dimitrie Cantemir University, Str. Bodoni Sandor, nr.35, Târgu Mureș, Cod 540545, Romania

Abstract

Dynamic assessment is a term which has come to describe a particular style of testing, but more importantly has come to be associated with an alternative way of thinking about assessment. Most succinctly, dynamic assessment involves embedding interaction within the assessment and observing and recording the learner's response and ability to profit from this interaction. There are numerous models of dynamic assessment that vary in terms of the degree of structure and the timing of the intervention, as well as the content of the intervention procedure. The greatest distinction between dynamic assessment and conventional testing, or what is frequently referred to in the literature as static assessment, can be seen in the shift from a product to a process orientation regarding testing. This distinction has numerous implications not only with regard to the actual assessment techniques but also with respect to the types of questions asked and solutions formulated with regard to low cognitive functioning and/or poor academic performance. Dynamic assessment is an interactive process between assessor and assessee. It differs from conventional psychometric assessments in that no 'normative score' such as an Intelligence Quotient is computed. It differs also in that mediation is an essential part of the process. Tasks are given to the assessee, with the focus primarily on how the tasks are tackled. This makes it possible to pinpoint necessary areas of cognitive development. At different stages for different tasks in the overall process, mediation is given in the cognitive functions and strategies necessary to master the tasks. Dynamic assessment embeds interaction within the framework of a test-intervene-retest approach to psycho-educational assessment.

Keywords: Dynamic assessment, learning potential.

1. Introduction

In educational counselling, “classic” psychometric testing is often deceptive. It is called “static” because the child’s performance is measured in a static way, no changes are recorded and no intervention is allowed by the examiner, this for the sake of so-called objectivity when comparing children among each other. While originally conceived by Binet as an instrument to plan education, psychometric testing has been criticized for reinforcing pre-established pessimism, for not going beyond a mere labeling of dysfunctions, for lack of giving proper advice as
how to change the child’s learning, for not doing justice to the child’s potential. Psychometric testing however is a short and relatively cheap way to rank a child’s performance in a population of the same age and may give quick information as to diagnosis.

The results of a dynamic assessment can have direct implications for intervention by examining the child's response to a mediated learning experience.

The dynamic assessment technique has been well researched as an alternative method of assessment to classic intelligence tests, but which has received almost no attention as an alternative to conventional curriculum-based assessment measures. In this study we will examine the ability of this technique, termed dynamic assessment, to elicit learning potential that is otherwise untapped by classic paper and pencil tests in a classroom setting.

Dynamic assessment starts from a dynamic model of intelligence. Feuerstein uses the concept of modifiability of the individual, indicating that what matters is how an individual may become modified by stimuli, and adapts himself to changing circumstances. Cognitive functioning is not a priori determined from birth. Individuals may be impaired in their cognitive performance due to various reasons, external or endogenous, but the resulting cognitive malfunctioning is considered as fluctuating states of the individual rather than permanent traits. In this sense dynamic assessment goes beyond labeling and categorization of children in diagnostic categories. There is a continuing spectrum of cognitive and learning behavior functioning, which does not allow a discontinuous split between “normal” and abnormal.

Dynamic assessment is a method of conducting an assessment which seeks to identify the skills that an individual child possesses as well as their learning potential. The dynamic assessment procedure emphasizes the learning process and accounts for the amount and nature of examiner investment. It is highly interactive and process-oriented.

<table>
<thead>
<tr>
<th>Static</th>
<th>Dynamic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passive participants</td>
<td>Active participants</td>
</tr>
<tr>
<td>Examiner observes</td>
<td>Examiner participates</td>
</tr>
<tr>
<td>Identify deficits</td>
<td>Describe modifiability</td>
</tr>
<tr>
<td>Standardized</td>
<td>Fluid, responsive</td>
</tr>
</tbody>
</table>

Dynamic assessment at its core is rooted in the notion of cognitive modifiability. The question of whether intelligence is modifiable has been obstructed for years because of strong evidence that intelligence, as measured by a g factor - the alleged general factor considered to be the stable and overriding structure of human intelligence – is highly heritable, and by findings that change is either negligible in amount, unreliably measured, or both.

More recently, researchers have been able to demonstrate that the assumption of high heritability can be reconciled with the hypothesis of environmentally driven gains. Using mathematical modeling of the multiplier effect they have found that even modest size environmental influences can produce considerable environmentally driven increase in IQ.

A first characteristic of dynamic assessment is that it gives an in-depth view of the modifiability of cognitive functioning, or more exactly: cognitive processing. It probes into the “why” a child does not learn adequately, does not get to the answer. Then dynamic assessment tries to find out how the child can come to an answer, by giving the child more mediation. Digging into the basic cognitive processing of information by the child, gives interesting transversal information, how the child could function, given the proper conditions of mediated learning and context.

A second characteristic is that dynamic assessment has an eye for the learning context and interaction. “Classic” psychometric or psychodynamic evaluation is hardly contextual.

Dynamic assessment also evaluates the child’s learning disposition, which contains many motivational and contextual elements. Whether a child learns of not has many non-intellective factors, such as self-regulation, feelings of competence, reaction to challenge, criticism, need for mastery, need for individuality, etc. Those are not evaluated in classic psychometric testing.
Fourthly, dynamic assessment is highly interactive. One needs to create a motivating learning situation. Contrary to testing, in dynamic assessment the assessor is at the same time an educator. The learning the child will show depends on the quality of mediation given. This is the strength of the LPAD and at the same time its weakness. The kind and intensity of mediation during the assessment give clear indications of how to mediate the child in the subsequent educational intervention plan. But no conclusion can be permitted when the child does not perform.

Dynamic assessment radically differs from testing and has different purposes: not to compare children among each other, not to rank them, not to predict, but to understand, explore, advise and design interventions.

In this way, LPAD may shift the educational perspective of the child. During the interaction, and through the mediational process, the child becomes aware of its potential and competence. That needs sometimes very intensive mediation. Then, if adequately communicated, also parents and teachers may shift their views on the child’s potential. When they start seeing what the child is able to do, or possibly able to learn, they may start offering different things. One could say that dynamic assessment helps to define the situation otherwise, in essence to define intelligence as a modifiability, and to elicit the best possible performance in a child as well as in the professional. Thus it may profoundly change the life course of an individual and possibly of entire populations.

A single test score cannot provide sufficient information to distinguish between an individual’s manifest level of performance and their learning potential, the latter reflecting the extent to which their performance at a given time can be modified with intervention. In order to assess modifiability. It is necessary to produce changes in performance. To facilitate the production of change and thereby assess learning potential, tests must be constructed with the ability to do a number of things:

1. Assess the examinee's ability to grasp the principle underlying the specific problems and to use that principle in solving the problem;
2. Determine the amount and nature of mediator intervention required to help the student solve the problem;
3. Determine the extent to which the principle can be successfully applied in solving problems that become progressively more difficult with and without mediation;
4. Determine the differential preference of the examinee for one of a number of different modalities of presentation of a given problem. This information, if constructively quantified into a test profile, can then be used as evidence of an individual’s cognitive modifiability at that time.

Researchers have demonstrated that these four elements have, in various ways, been successfully incorporated into several types of dynamic assessment procedures in numerous settings.

A major problem with classic paper and pencil tests is that there are often very few clues that are provided as to why a child may have answered a question incorrectly.

Several dynamic assessment systems to evaluate learning potential have been developed. Some have tried to develop a quantitative measurement, responding to the criteria of validity and reliability of psychometric test development (Guthke, Hessels, Büchel, Hamers & Ruyssenaars). Others have tried to incorporate it into curriculum-based assessment (Resing, Lidz). There are multiple dynamic assessment test batteries on the market: besides the “original” Feuerstein LPAD (Learning Propensity Assessment Device), some of Feuerstein’s pupils have developed their own, such as e.g. the Cognitive Modifiability Battery (Tzuriel), which has been extensively research, as well as Haywood & Lidz (2007).

<table>
<thead>
<tr>
<th>Comparison criterion</th>
<th>Normative assessment self with others</th>
<th>Dynamic assessment self with self</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major question</td>
<td>How much has this person already learned? What can he/she do or not do?</td>
<td>How does this person learn in new situations?</td>
</tr>
<tr>
<td></td>
<td>How does this person’s current level of performance compare with others of similar demographics?</td>
<td>How, and how much, can learning and performance be improved? What are the primary obstacles to a more optimal level of competence?</td>
</tr>
<tr>
<td>Outcome</td>
<td>IQ as global estimate of ability reflecting rank order in a reference</td>
<td>Learning potential: What is possible with reduced obstacles to learning?</td>
</tr>
</tbody>
</table>
(normative) group
Current level of independent functioning (ZOA)

How can such obstacles be reduced?
How does the individual function with the support of a more experienced interventionist? (ZPD)

Examining process
Standardized; same for everybody
Focus on products of past experience

Individualized; responsive to person's learning obstacles
Focus on processes involved in intentional acquisition of new information or skills

Interpretation of results
Identification of limits on learning and performance; identification of differences across domains of ability
Documentation of need for further assessment and possible intervention

Identification of obstacles to learning and performance; estimate of investment required to overcome them
Hypotheses regarding what works to overcome obstacles to learning
Hypotheses regarding what works to overcome obstacles to learning.

Role of examiner
Poses problems, records responses; affectively neutral

Poses problems, identifies obstacles, teaches metacognitive strategies when necessary, promotes change; affectively involved

Adapted from Feuerstein, Haywood, Rand, Hoffman, and Jensen (1982/1986), and from Haywood and Bransford (1984)

References


