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**Sociocultural theory and the
assessment of immigrant and
minority children and adults**

The concept of “psychological tools”



- Lev Vygotsky (1896 – 1934)
- Human cognitive functions (perception, memory, problem solving, etc.) are shaped by the available symbolic tools (signs, texts, formulae, maps, graphs, diagrams, etc.)

From symbolic tool to psychological tool

Symbolic Media: Signs, symbols, texts, formulae, tables, graphs, maps, etc.

Symbolic Media → (acquisition) →
Symbolic Tools

(e.g. learning how to use a map as an external symbolic tool)

Symbolic Tools → (internalization) →
Psychological Tools

(e.g. “geographic” thinking about space)

Multicultural Classroom

Conceptualization of multicultural classroom in terms of psychological tools:

- Symbolic tools available in students' native culture:

Oral learning vs. text-based learning

Direct memorization vs. external "storage"

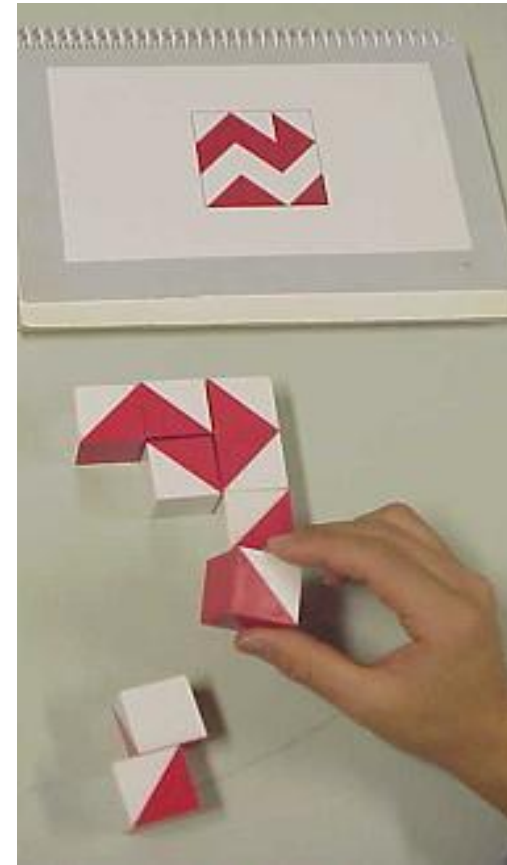
Concrete space vs. representational space

etc.

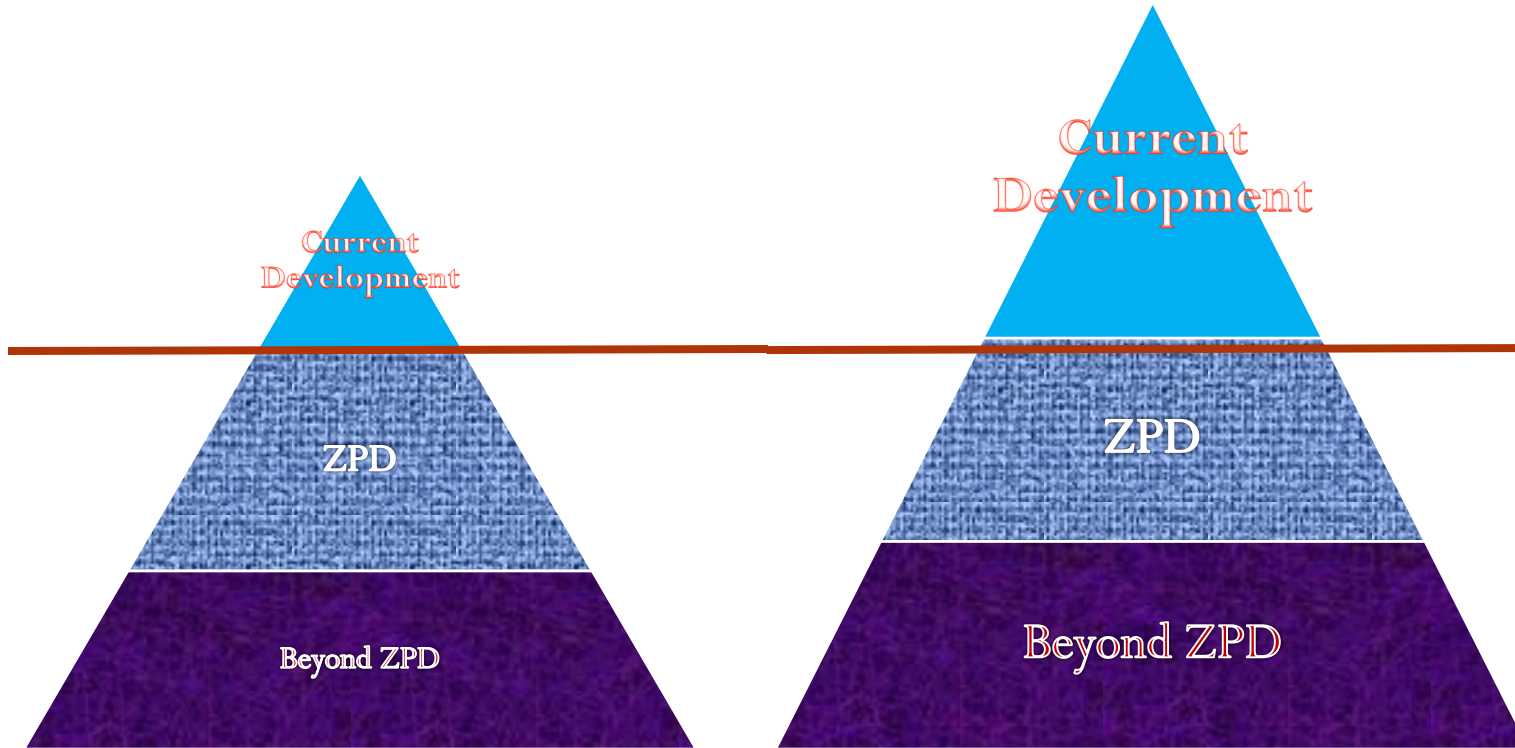
- Symbolic tools successfully internalized as inner psychological tools.

How toys and words shape our perception

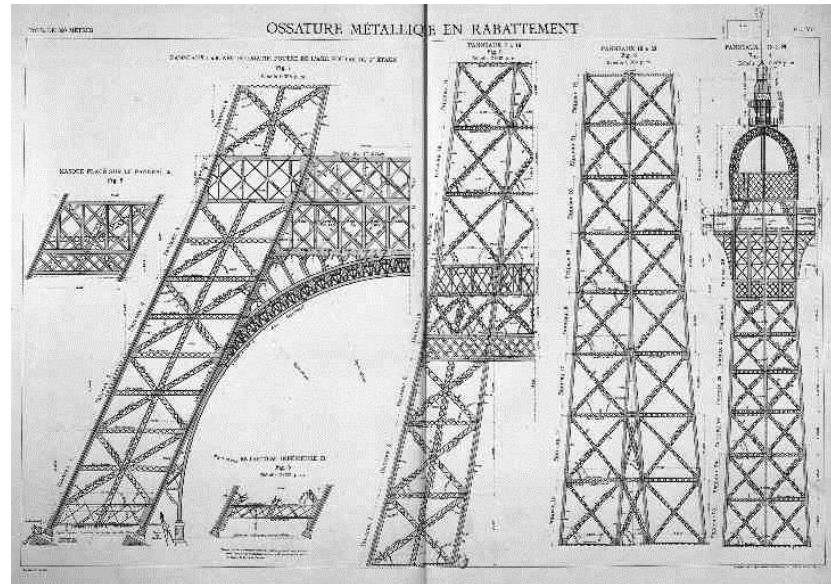
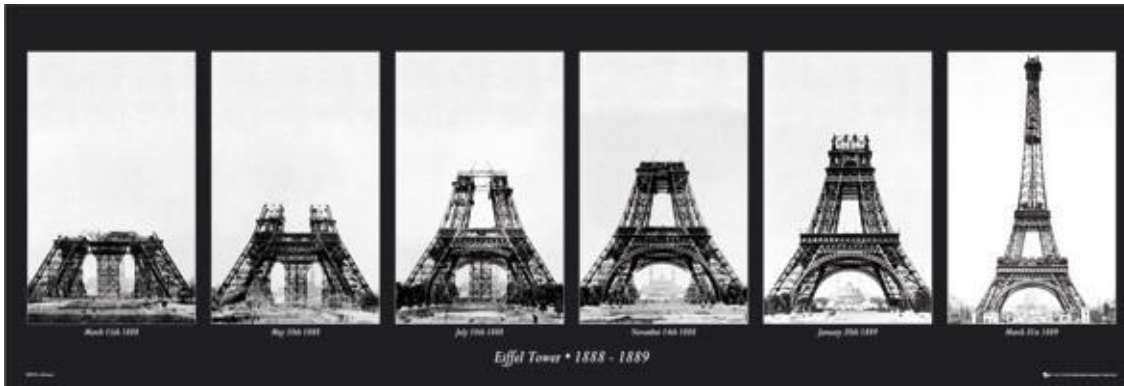
- New immigrants from Ethiopia (children and adults) – “Block design” test;
- “Geometric” toys (cubes, triangles, diamonds) are absent in traditional Ethiopian culture.
- In Amharic, the word for a “square” and for a “rectangle” is the same word.



Zone of Proximal Development (Vygotsky, 1934)



ZPD as a “construction zone”



ZPD and Dynamic Assessment

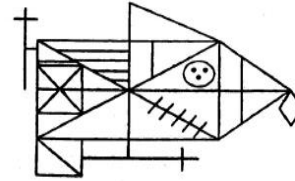
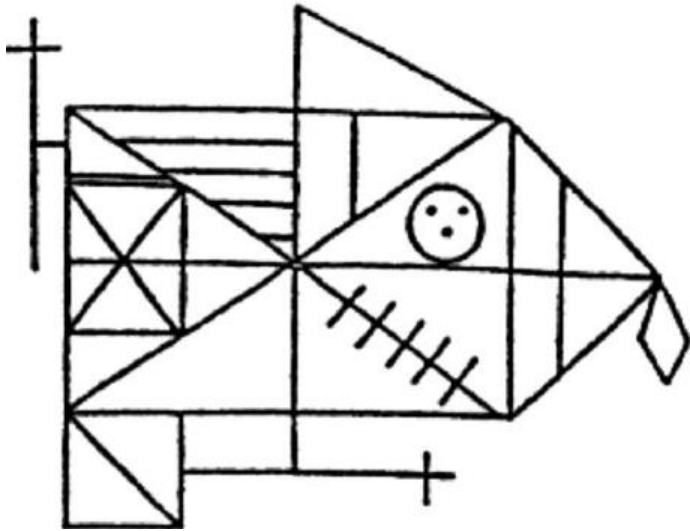
- Inclusion of the learning phase into the assessment process;
- Difference between independent and assisted task performance;
- Two students with the same independent task performance may have different “depth” of their ZPD;

Learning Potential Assessment



- Reuven Feuerstein (1921-2014)
- Learning potential assessment of immigrant children from North Africa in the 1950s & 1960s (Feuerstein, 1970)
- Immigrant children from Ethiopia (Kaniel et al, 1991)

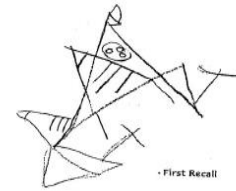
Complex Figure Drawing Test of an immigrant girl from Ethiopia



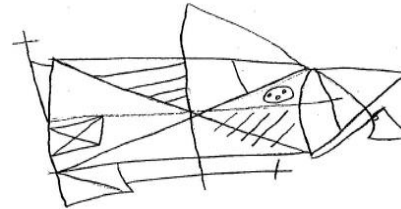
Complex Figure - Model



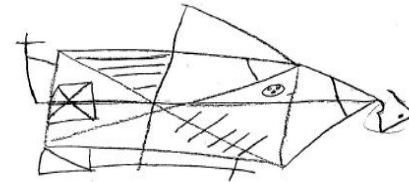
First Copy



First Recall



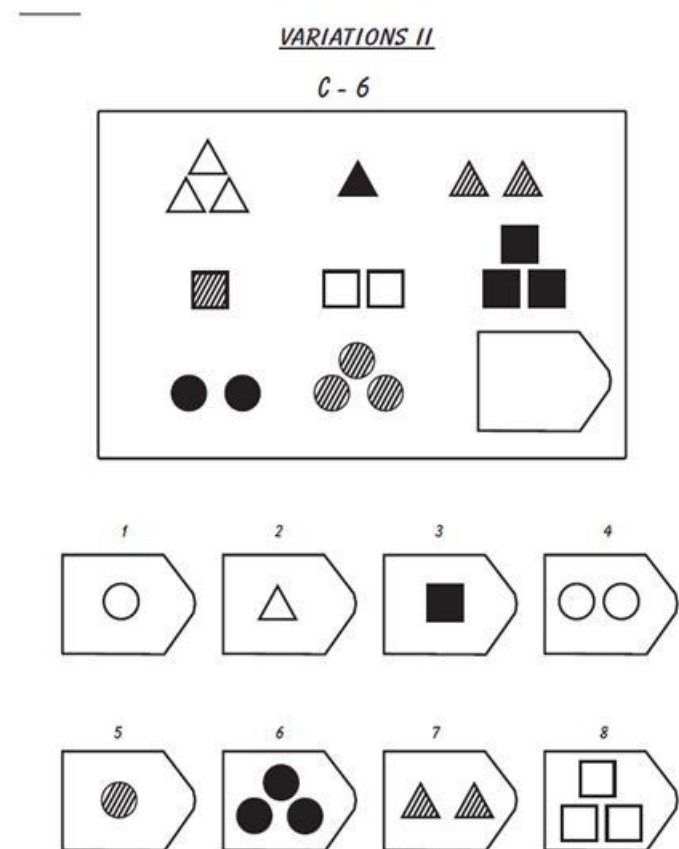
Second Copy (after mediation)



Second Recall

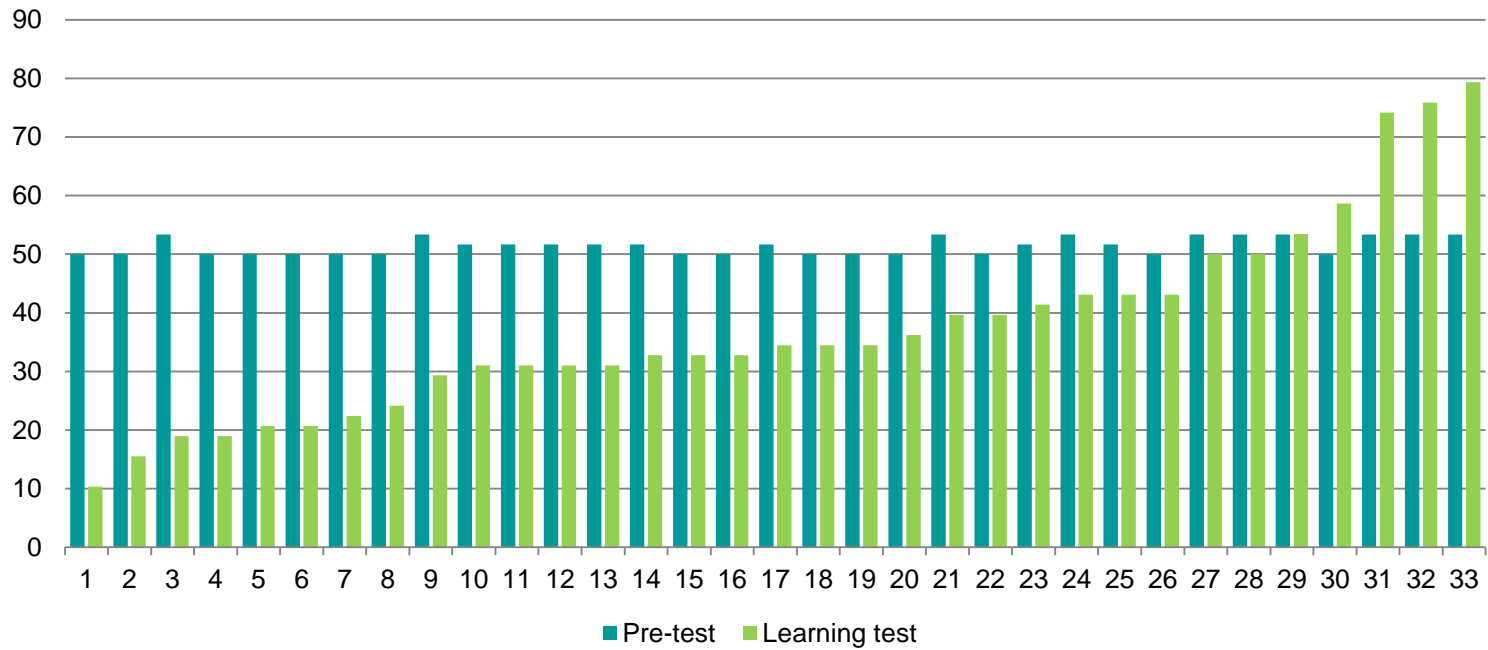
Static vs. dynamic testing in South Africa (Kozulin, 2010)

- In the pool of 500 adult participants, 32 participants with nearly identical (difference in 1-2 points) static Raven Matrices scores were identified;
- Average Dynamic Matrices score of upper 16 participants: **72.41 (SD 10.99)**
- Average Dynamic Matrices score of lower 16 participants: **44.83 (SD 7.43)**
- Difference : **3 SD**



The Range of Learning Ability

Raven Matrices static pre-test vs.
Dynamic Matrices test



Dynamic Assessment of EFL Text Comprehension (Kozulin & Garb, 2002; 2004)

- ❖ *Pre-test*: Students read the target text and answer the questions;
- ❖ *Mediation*: The teacher provides mediation of strategies;
- ❖ *Post-test*: Students read an alternative text and answer the questions;
- ❖ *Analysis*: The teacher analyzes changes in students' performance as reflected in the amount and type of mistakes made at the pre- and the post-test.

Pre-test: Sample text and questions

- *David and Robert were tourists in Europe last summer. They ate cheese in Denmark and olives in Italy. The cheese and olives were very good. They drank wine in France and tea in England. The tea from England and the wine from France were excellent.*

- **Questions:**

The people in the story

- a) live in Europe
- b) came to Europe on a visit
- c) have never been to Europe
- d) visit Europe every summer

Mediation

Mediation of knowledge:

- ❖ Denmark, Italy, France and England are countries in Europe.

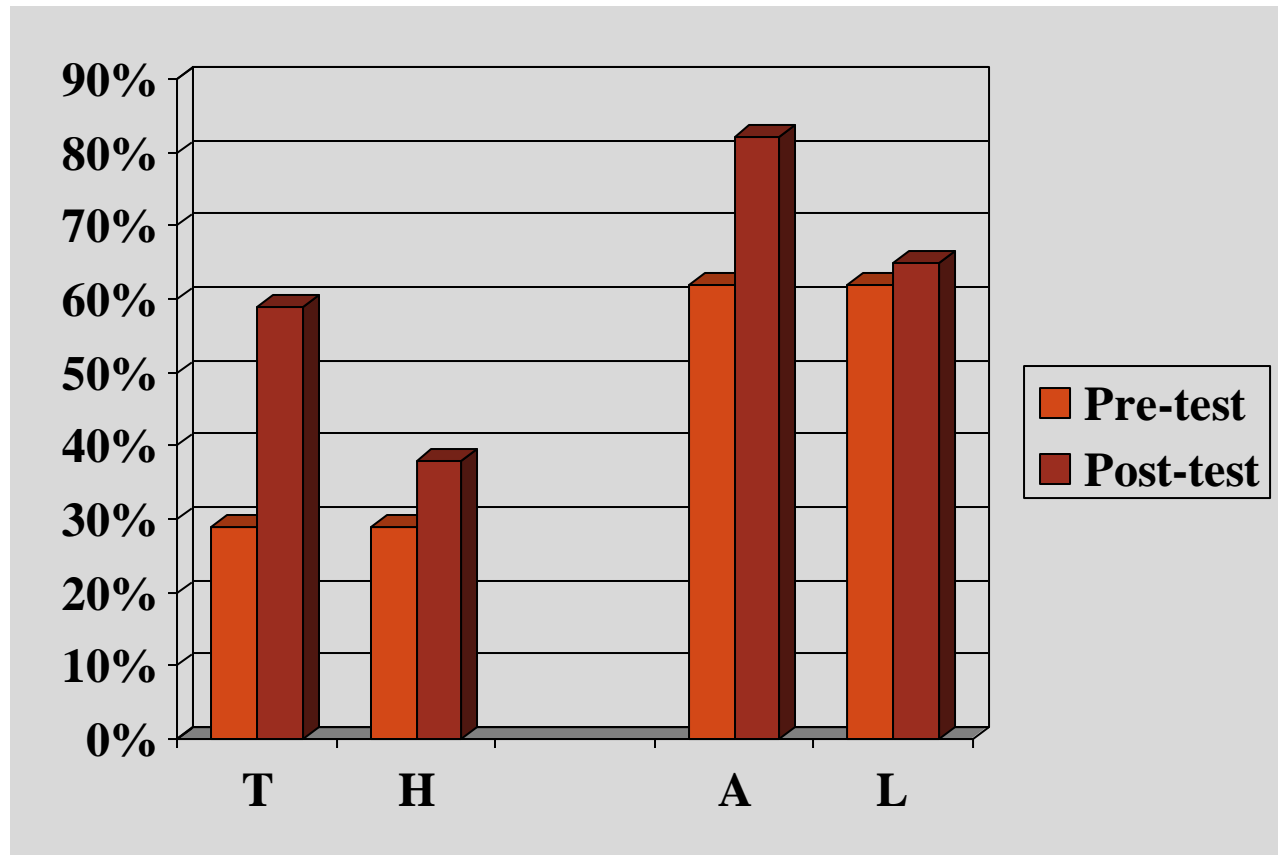
Mediation of strategies:

- ❖ Text analysis according to agency, activity, location, and time reference;
- ❖ Look for clues in the questions;
- ❖ Elimination of impossible answers;
- ❖ Comparison of possible answers;
- ❖ Inference.

“Second chance” EFL students

	Experimental group (N=23)	Control group (N=11)
Pre-test	17.0 (SD 6.3)	22.4 (SD 9.6)
Post-test	22.6 (SD 4.5)*	21.5 (SD 8.9)
	<ul style="list-style-type: none">• $p < 0.01$• Effect size: 0.7	Max score: 34

Pre- and post-test results of individual students

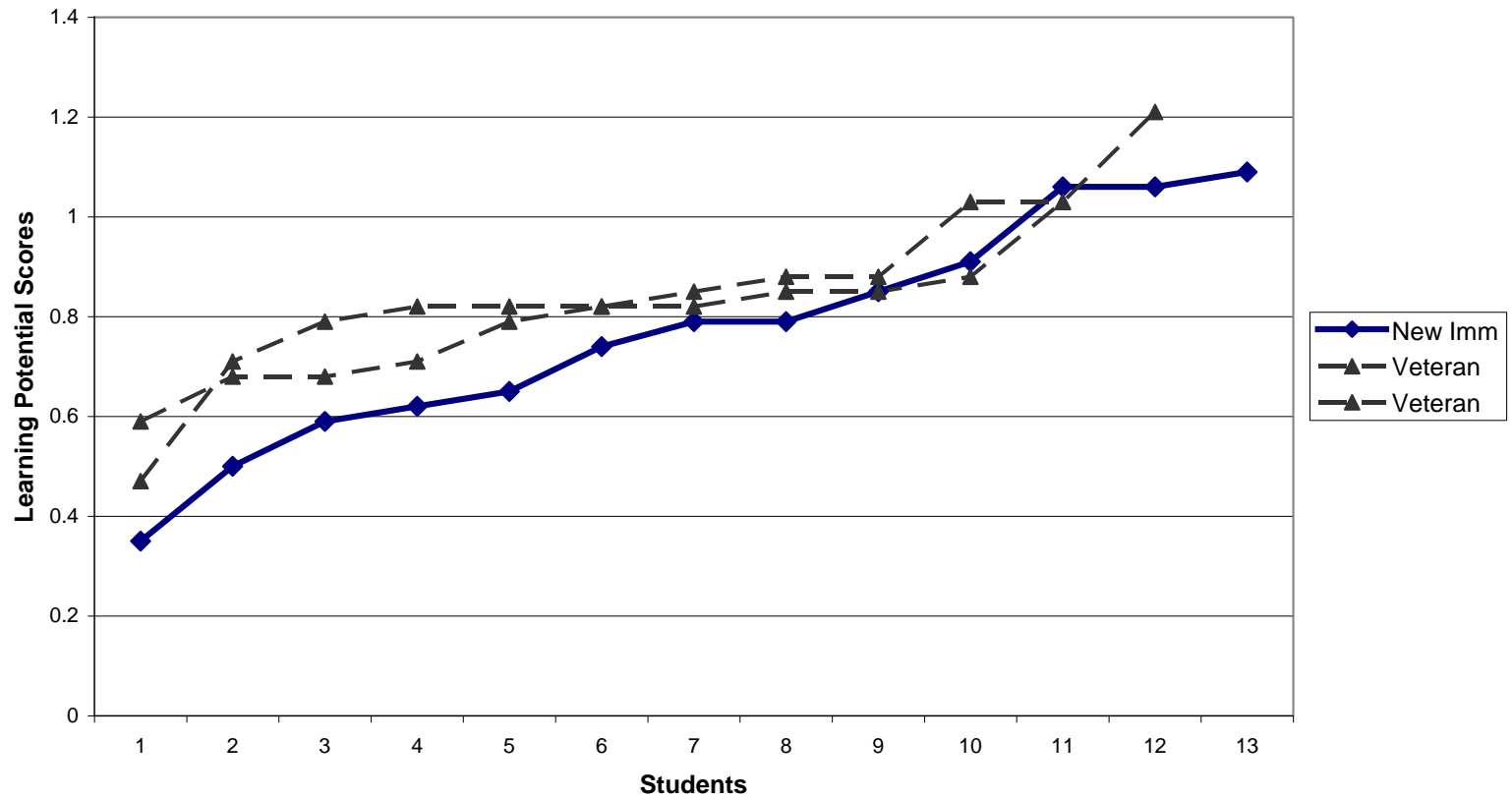


Learning Potential Score (LPS)

$$LPS = \frac{(Post - Pre)}{Max\ Score} + \frac{Post}{Max\ Score}$$

EFL Learning Potential Scores of veteran Israeli and new immigrant students

New Immigrant and veteran Israeli students' LPS in EFL



Conclusion

- Dynamic assessment using both verbal and non-verbal tasks showed a considerable difference between students' independent performance level and their learning potential. Students with the same independent performance scores may differ in up to 3 standard deviations in their learning potential score.
- Dynamic assessment of reading comprehension and verbal problem solving may provide an important additional information about the learning profile of immigrant and minority students.

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