

Diagnostic-Dynamic Assessment

Conceptual and practical innovation in foreign language
assessment



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Outline

I. Diagnostic assessment

I. Dynamic Assessment

I. Diagnostic & Dynamic Assessment: Relation of Complementarity?

II. An Investigation of an Integrated Diagnostic-Dynamic Assessment Framework (work-in-progress)

Diagnostic Assessment

1. Diagnostic assessment -> based on language testing, applied linguistics / L2 research, SLA
2. Cognitive diagnostic assessment -> based on cognitive psychology & educational measurement but applied also for L2

Both aim at obtaining a **detailed understanding** (construct definition) of **strengths and particularly weaknesses** in learners' skills; outcomes reported to stakeholders (i.e. teachers & learners), but precise contributions to teaching-learning processes & learning outcomes remain unclear

1. Diagnostic assessment (based on applied linguistics etc.)

DIALANG project 1997-2004

–<https://dialangweb.lancaster.ac.uk/>

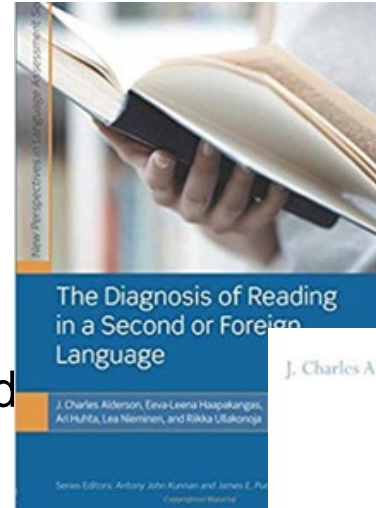
Other diagnostic language tests

–e.g. DELTA in Hong Kong, DELNA in New Zealand

Research & Publications

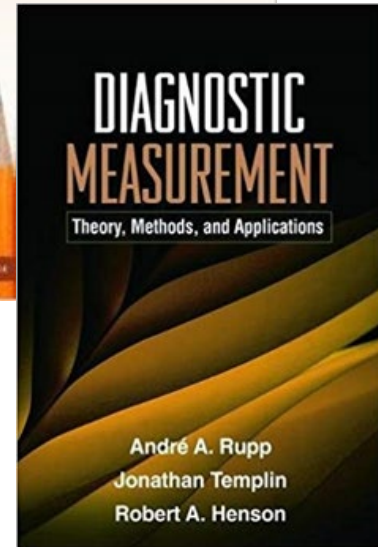
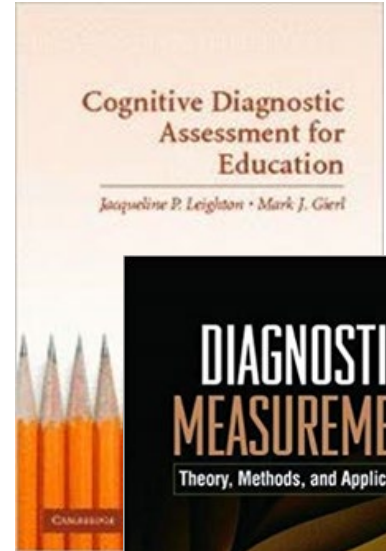
–Main theme of Language Testing Research Colloquium 2013

–Special issue of Language Testing journal 2015



2. Cognitive Diagnostic Assessment

- Definition of the constructs / skills to be learned
- **Design or detailed analysis of test items in terms of skills**
- **Statistical analyses of responses**
- Reporting detailed results to the learner, teacher, ...



Examples of diagnostic tests: DIALANG 1.0 & 2.0

Choose a test

done
 available
 not available

Select skill (listening, reading, speaking, writing, lexicogrammar [+pragmatic])

CEFR self-assessment (sort into basic, independent and proficient)

Self-assessment (20 items, 10 "areas", 2 x items per area) ← Teacher assessment (same items)

1-3 priority areas – direction to tasks

	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10
Area 1	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange
Area 2	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
Area 3	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Feedback

- Phoneme discrimination
- Identifying sentence stress
- Word recognition
- Aural vocabulary
- Disambiguating garden path sentences
- True/false judgements of literal utterances
- Pragmatic understanding
- Metaphor comprehension
- Distinguishing between relevant and irrelevant information
- Recognising accurate summaries

Examples of cognitive diagnostic tests & feedback

Jang, Dunlop, Park & van der Boom 2015; Dunlop 2017


Appendix I. An example of students' diagnostic feedback report.

I can make connections when I read text



In general, with the mastery of this skill students are able to:

- Predict what will happen next based on the evidence in a story
- Relate what they read to other stories, authors, or events
- Connect what they read to their own experience
- Draw appropriate conclusions after they read

 What do you think of your achievement of this skill? Please share your thoughts by writing them below.

Your English reading skills

This report tells you about 6 reading skills. The information comes from your responses on the CELPIP reading test and your self-assessment. For each skill, the report tells you examples of how you use that skill. The report tells you how well you think you do this skill, and how well you did this skill on the test.

Are you surprised? Do you agree?

Using vocabulary

You use this skill when you:

- understand the words you read
- understand informal words and phrases
- use other information to understand words you don't know

Have you mastered it?



Using directly stated information

You use this skill when you:

- understand descriptions
- understand facts
- read quickly to find the information you want

Have you mastered it?



Using indirectly stated information

You use this skill when you:

- understand information that is suggested but not written out
- understand information that is not obvious
- put information into different words

Have you mastered it?



Making connections

You use this skill when you:

- know what is coming next
- understand the situation, even when the text does not clearly tell you
- understand what will happen even when the text does not tell you

Have you mastered it?



Separating ideas

You use this skill when

Have you mastered it?

Using culture

You use this skill when you:

Have you mastered it?

Dynamic Assessment

Grounded in Vygotsky's Sociocultural Theory, specifically the Zone of Proximal Development (ZPD)

- Independent performance: reveals abilities that have fully developed, individual's self-regulated functioning AND
- Performance that is partly regulated or **mediated** by others (ZPD); **degree of external support** (mediation) required & **learner responsiveness** to it reveal how near individual is to independent functioning
- At level of procedure, dynamic assessment employs mediation (e.g., reminders, leading questions, prompts, models) when problems arise; at first mediation is **more implicit** but becomes **more explicit** as needed

L2 Dynamic Assessment

Dynamic assessment is widely used in general abilities assessment, esp. among learners with special needs (see Haywood & Lidz, 2007; Feuerstein et al., 2010, 2015)

In the L2 field, dynamic assessment has largely been introduced in **instructional settings** (classrooms & tutoring environments), with different languages, ages of learners, levels of ability (Lantolf & Poehner, 2004; Poehner, 2008, 2018; Ableeva, 2010; Davin & Donato, 2016)

Constructs have often reflected teacher syllabus & curricular goals; tasks similarly target learning objects (e.g., control over language forms) rather than more general abilities

Computerised dynamic assessment (C-DA example) (Poehner & Leontjev, 2018)

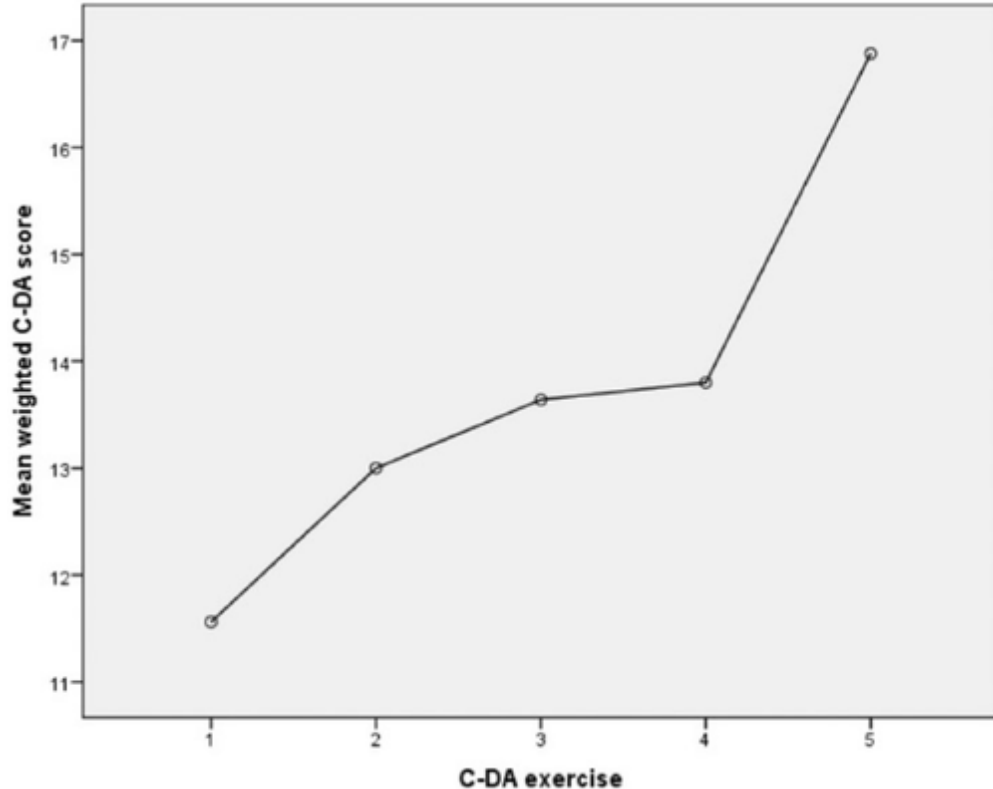
Target: English wh-questions with aux.

Mediation:

1. A 'think more carefully' message
2. the location of the mistake narrowed down
3. a metalinguistic clue
4. an example sentence
5. explicit explanation and overt correction

The screenshot shows a user interface for a computerised dynamic assessment. At the top, there are three tabs: "PARK", "NEAR THE SHOP", and "MY FATHER". Below the tabs, there are four input boxes. The first box contains the word "WHERE", the second contains "CAN", and the other two are empty. Below these boxes is a larger text area containing a question mark "?". At the bottom, there is a question: "What else [dropdown] in your shop?". The dropdown menu is open, showing a list of options: "do you're sell" (highlighted in blue), "do you sell", "you sell", "are you sell", and "you are sell".

Diagnostic inferences in computerised dynamic assessment: group level



C-DA mediated scores:

- item 1 correct = 7 pts
- item 2 correct = 6 pts
- item 3 correct = 5 pts
- ...
- item 7 correct = 1 pt

Diagnostic inferences in C-DA: individual level

Learner number	Pretest	C-DA	Posttest
1	3	62	1
2	1	56	4
3	0	8	0
4	<u>3</u>	<u>118</u>	<u>5</u>
5	0	69	0
6	0	84	3
7	0	49	0
8	5	37	5
9	0	38	4
10	0	54	4
11	0	44	1
12	<u>2</u>	<u>45</u>	<u>4</u>
13	0	31	0

C-DA mediated scores:

- item 1 correct = 7 pts
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- ...
- item 7 correct = 1 pt

Merging Diagnostic and Dynamic Assessment

Value of diagnostic assessment

- detailed analysis of assessed construct (based on SLA and cognitive research)

Value of dynamic assessment

- potential for pushing abilities forward during assessment

Value of diagnostic-dynamic assessment

- enriching & nuancing diagnostic inferences
- close links among (formal) diagnosis, ongoing formal and informal classroom assessment, and classroom teaching

Our Research Project: Investigation of an Integrated L2 Diagnostic-Dynamic Assessment Framework

EMPIRICAL AIM: to investigate how the novel diagnostic-dynamic assessment approach may impact

1. teacher summative (i.e., tests) and formative (including ongoing, informal) assessment practices
2. learners' and teachers' beliefs and practices vis-a-vis teaching and assessment
3. learning outcomes

Our Research Project: Investigation of an Integrated L2 Diagnostic- Dynamic Assessment Framework

THEORETICAL AIM: to extend previous applications of diagnostic and dynamic assessment by integrating them in a complementary manner:

- Bring together the strengths of the two assessment frameworks: e.g., links between formal diagnosis and classroom teaching
- **PRAXIS:** theory advancing practice and practice feeding back to theory

Research questions

1. In what ways, if any, does Finnish Gymnasium students' English proficiency improve through the use of diagnostic-dynamic assessment?
2. How, if at all, does diagnostic-dynamic assessment change learners' and teachers' beliefs about learning/teaching processes, their knowledge about assessment and assessment practices?
3. Based on the findings, in what ways are diagnostic assessment and dynamic assessment each enriched through the proposed integrated framework?

Design

Longitudinal design with **three groups** of Finnish EFL learners and their teachers longitudinally for **2 years** within the context of preparation for the English portion of the Finnish Matriculation Exam

Use of **diagnostic-dynamic assessment** interventions, interviews, questionnaires, classroom observations at regular intervals, discussion groups, and teacher & learner reflective diaries

Three conditions:

- (1) both computerised DA (C-DA) test tasks and ongoing human-mediated DA in classrooms, with teachers trained in its use;
- (2) C-DA test tasks only, without training the teachers in DA to see how they will utilise the diagnostic information obtained in computerised DA in their classroom instruction;
- (3) the reference group, which will not experience either type of DA but will participate in their regular teaching and assessment activities.

References

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Invitation for Questions, Comments, Feedback, Suggestions

Thank you!

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