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LEARN Workshop 6 June 2019

Differentiated Language Learning Paths

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Differentiation

"Start where the student is."

"Tailor training to meet individual learner needs."

"Encourage students to take responsibility for their own learning."

Differentiation

Teacher-fronted → learner-centered

Deductive → inductive learning

→ Individual, not "one-size," pathways

Guidance?

3 past approaches

1. Learning strategies
2. Learning styles/preferences
3. Learner-negotiated syllabus

People still believe in these ideas.

As professionals, we need to be aware of the science.

Learning Strategies

Strategy Inventory for Language Learning (SILL)

This form of the strategy inventory for language learning (SILL) is for students of a second language (SL). Please read each statement and fill in the bubble of the response (1, 2, 3, 4, or 5) that tells HOW TRUE THE STATEMENT IS.

1. Never or almost never true of me
2. Usually not true of me
3. Somewhat true of me
4. Usually true of me
5. Always or almost always true of me

Answer in terms of how well the statement describes you. Do not answer how you think you should be, or what other people do. **There are no right or wrong answers** to these statements.

Oxford (1989)

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Learning Strategies

Part A

1.	I think of relationships between what I already know and new things I learn in the SL.	1	2	3	4	5
2.	I use new SL words in a sentence so I can remember the	1	2	3	4	5
3.	I connect the sound of a new SL word and an the word to help me remember the word	1	2	3	4	5
4.	I remember a new SL word by situation in which the wor		2	3	4	5
5.	I use rhymes to re		2	3	4	5
6.	I use flashcards to	1	2	3	4	5
7.	I physically act out ne	1	2	3	4	5
8.	I review SL lessons often	1	2	3	4	5
9.	I remember new SL words remembering their location on the page, on the or on a street sign.	1	2	3	4	5

Part B

10.	I say or write new SL words several times.	1	2	3	4	5

NO EVIDENCE

Exception: Self-efficacy

Self-efficacy is an individual's belief in his/her innate ability to achieve goals.

Personal judgment of "how well one can execute courses of action required to deal with prospective situations."

Bandura (1997)

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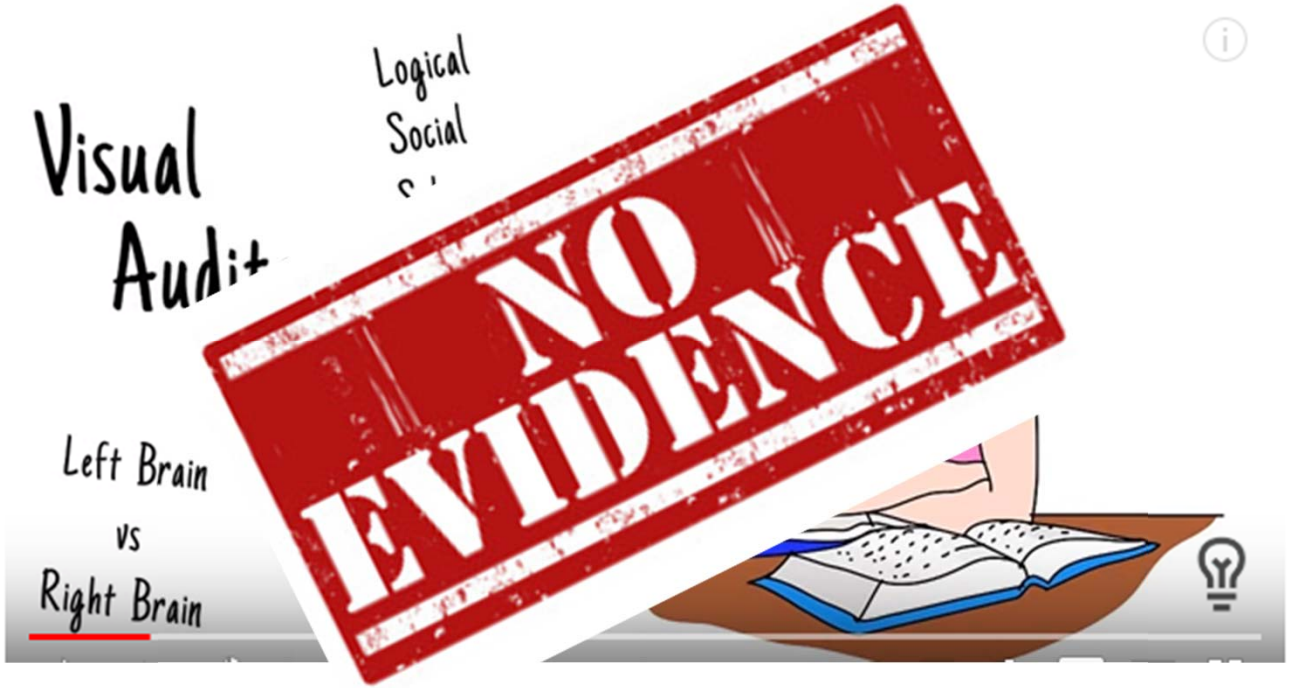
Learning Styles



Studies of learning styles

Method

1. Ascertain styles via self-report.
2. Prepare materials in the styles.
3. Ask students to learn the materials.
4. Measure learning outcomes.

Results?

Learning is the same in all conditions. No exceptions.

100s of studies and meta-analyses
Discussed on NPR!
2017 letter to the Guardian

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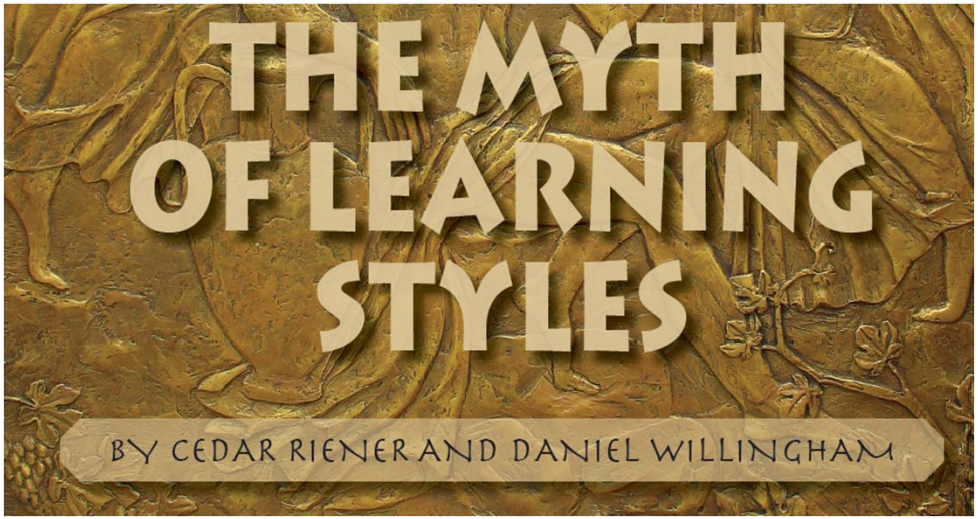
Not convinced?



Meta-analysis

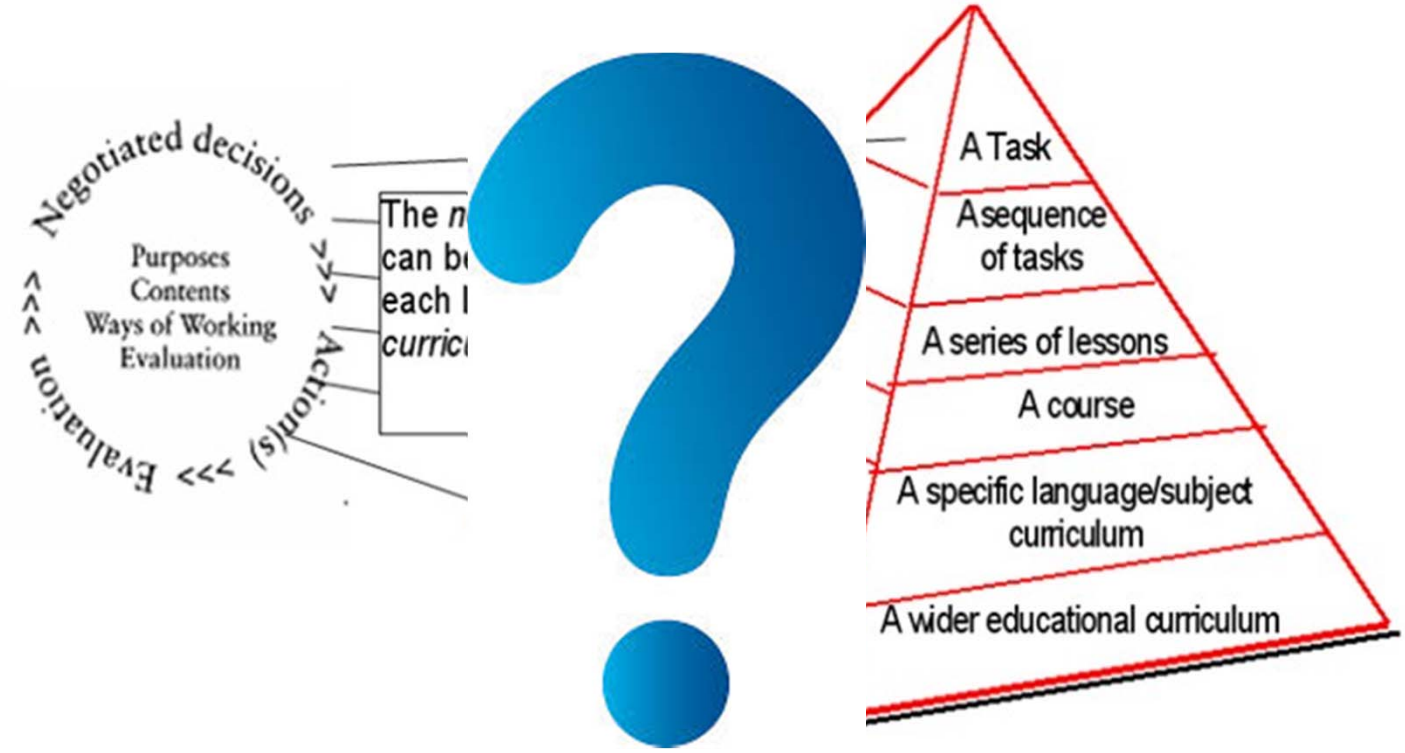
Riener & Willingham (2010)

TED TALK

Learning styles & the importance of critical self-reflection

Tesia Marshik (2015)

Negotiated syllabus



Breen & Littlejohn (2000)

Take stock

- Laundry lists of strategies are not helpful to learners. Which are effective? When?
- Self efficacy *does* lead to learning gains.
- Learning styles do not exist.
- It remains to be seen how learner contributions to training design could be effective.

Evidence-based concepts

- People have different **abilities**, not different styles.
- Differences in **content** drive differentiated learning.
- Content of a truly learner-centered **language curriculum** is determined by learners' L2 functional **needs** and is **reactive** to their language-use attempts.
- ***Abilities, content, and context are effective differentiation drivers.***

People have different abilities

aptitude

noun: aptitude; plural noun: aptitudes

a natural ability to do something
"he had a remarkable aptitude for learning words"

synonyms: talent, gift, flair, bent, skill, knack, facility, ability, proficiency, capability, potential, capacity, faculty, genius

"an aptitude for higher mathematics"

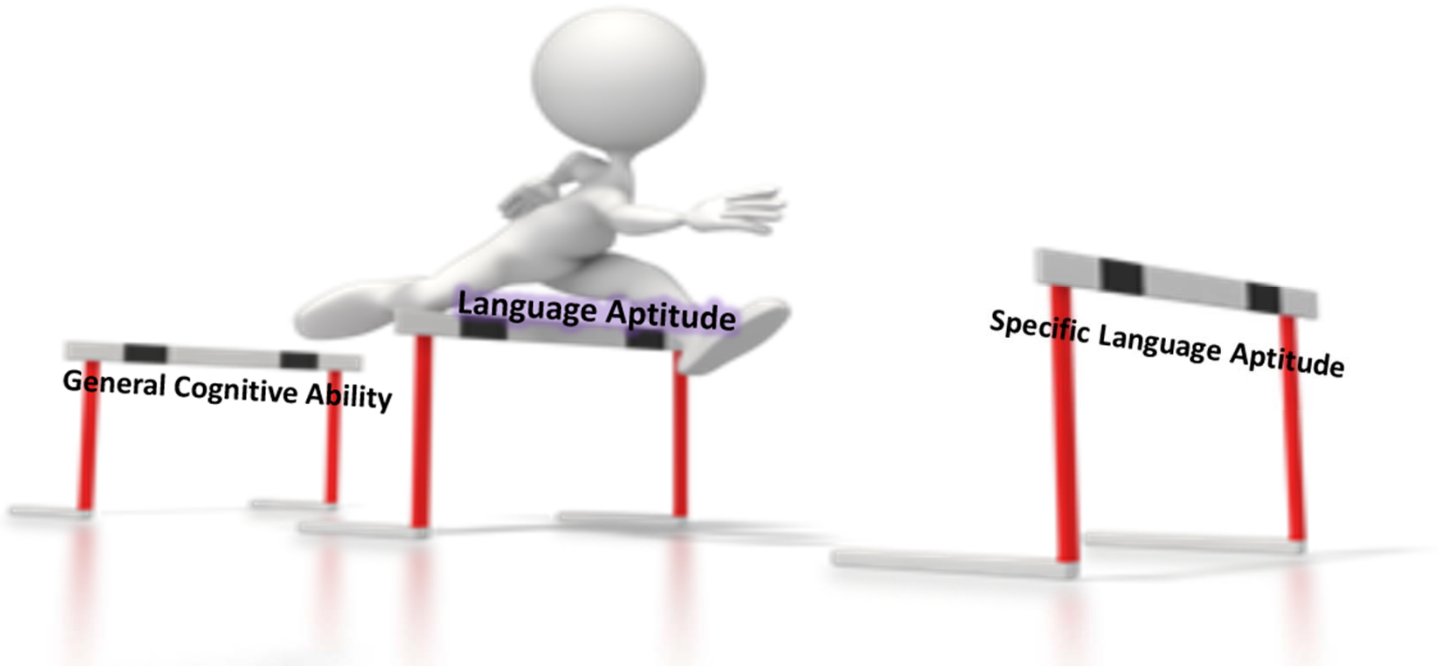
Google: 6/20/18

L2 aptitude

- "L2 aptitude is the individual's initial state of readiness and **capacity for learning** a foreign language, and **probable facility** in doing so, given the presence of motivation and **opportunity**."

  – John B. Carroll, 1981

Boosts in language learning



Content drives differentiation

- ***History:*** work with a set of historical documents, sort out competing claims, and formulate reasoned interpretations.
- ***Math***: invent own strategies for solving problems, and discuss why those strategies work.
- ***Physics:*** Describe how a problem could be solved using three components: the major principle to be applied; the justification for why the principle was applicable; and the procedures for applying the principle.

L2 content – TBLT

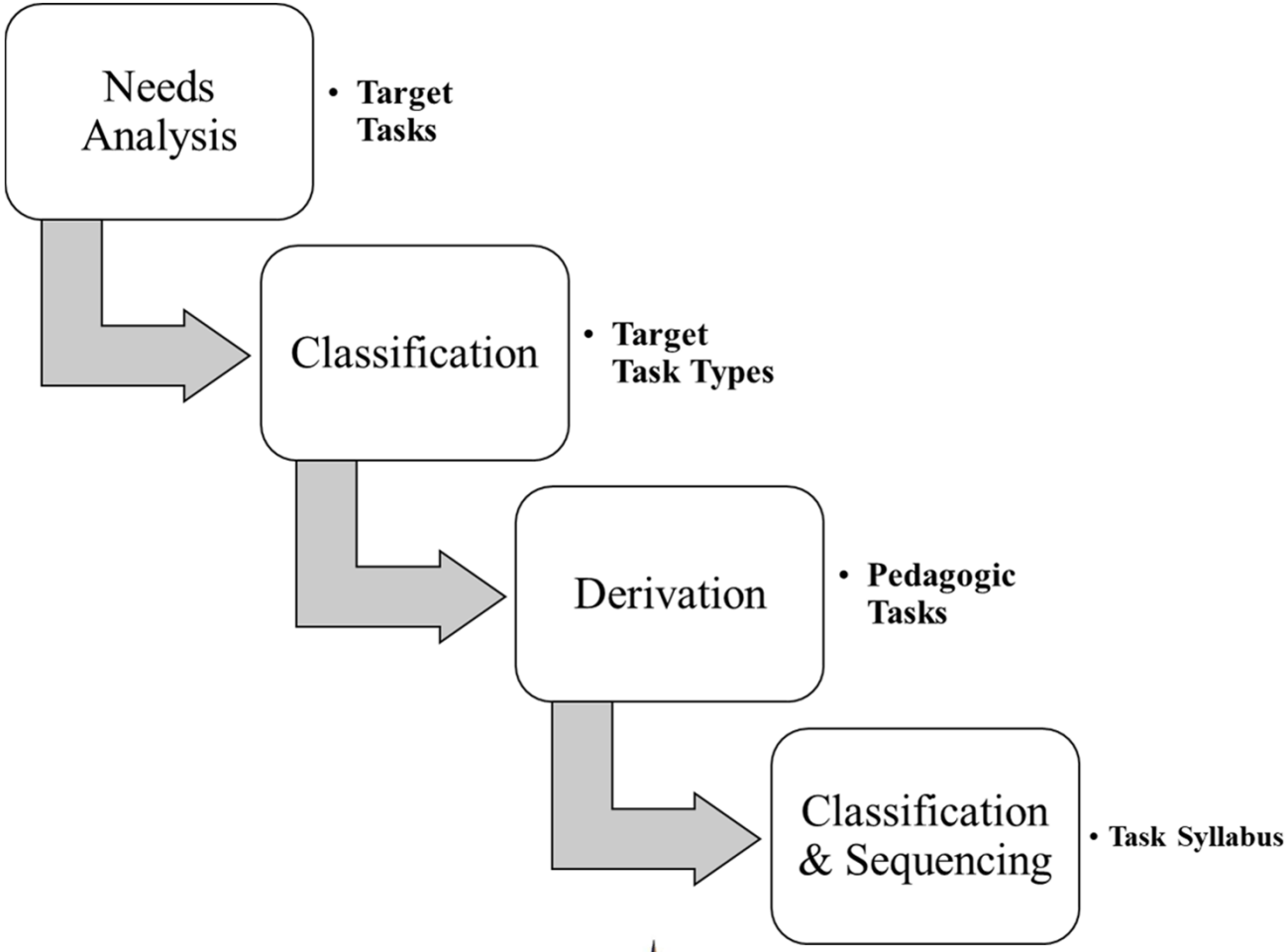
- ***Second language:*** Course content in TBLT is determined by learner needs and interests, not an externally imposed grammatical syllabus.

- Attention to language form is reactive, i.e., responsive to the learner's "internal syllabus."

- It is recognized that **processability** constrains **learnability**, which **constrains** teachability.

Long (2015)

Needs → Syllabus



Reactive error correction

Linguistic targets

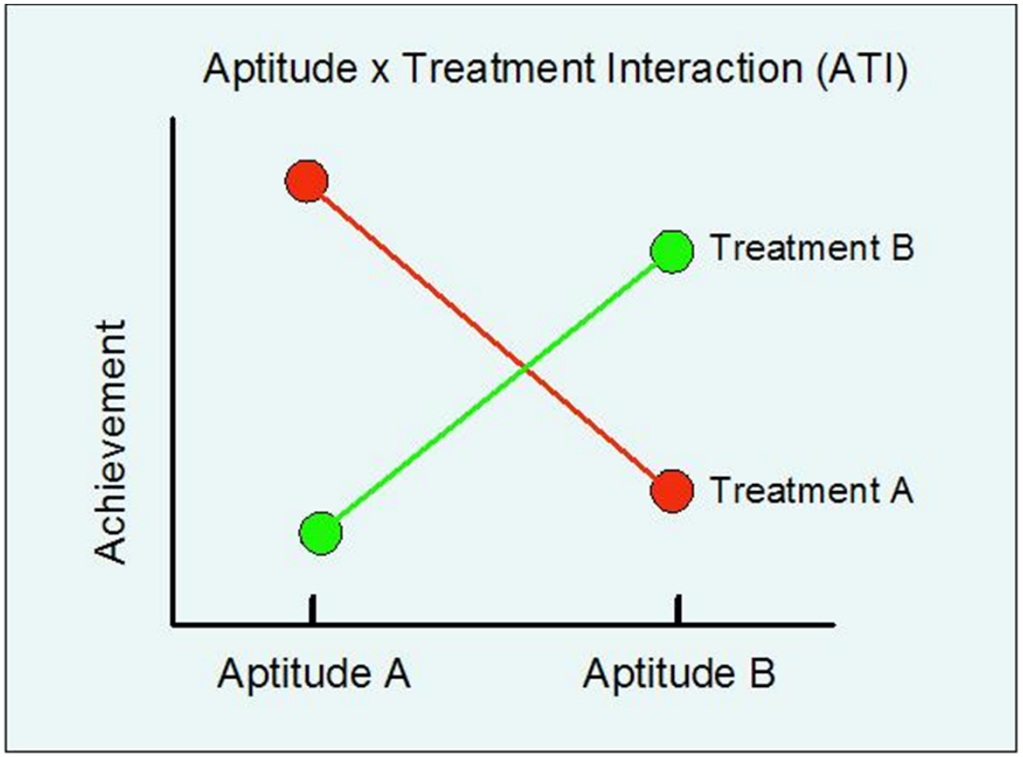
Salient	⟷	**Non-salient**
word order		intra-sentential clitics
adverb placement		inflectional morphology
(*He like **very much** Barcelona)		(*He **like** very much Barcelona)

Feedback on error

Implicit	⟷	**Explicit**
recasts		rules of thumb
clarification requests		prompts
		elicits

Drivers: Ability X Content

- **Cronbach, L. & Snow, R.** (1977). *Aptitudes and Instructional Methods: A Handbook for Research on Interactions*. New York: Irvington.
- **Snow, R.** (1989). Aptitude-Treatment Interaction as a framework for research on individual differences in learning. In P. Ackerman, R.J. Sternberg, & R. Glaser (ed.), *Learning and Individual Differences*. New York: W.H. Freeman.



What aptitude info do we have? Cognitive abilities

	Cognitive Ability Constructs	Measurement in the MLAT and the Hi-LAB	Impact on Language Learning
Fast Brain	Processing Speed Phonetic Coding Ability	• Perceptual Speed • MLAT II	Perceiving language input in real time
Good Ear	Auditory Perceptual Acuity	• Phonemic Discrimination Outlier (tone and voicing)	Breaking into patterns in language input
Use Mental Workspace	Working Memory Capacity	• Non-word Span	Sufficient mental workspace
	Attention Control Inhibition Updating Allocation	• Anti-saccade • Running Memory Span • Task Switching	Effective mental workspace Noticing Mapping
Study language	Explicit Induction Grammatical Sensitivity Rote Memory	• Letter Sets, MLAT IV • MLAT I • Paired Associates, MLAT I, MLAT V	Successful explicit learning
Pick up language	Implicit Induction Primability	• Serial Reaction Time • Memory for Synonyms	Successful implicit learning

What is the matching process?

Language-use need

Aptitude profiles

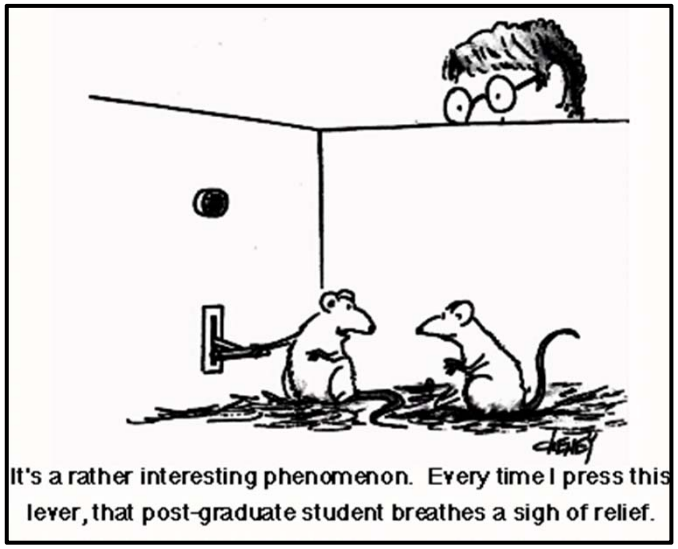
Practical limits

Differentiated Interventions
Allocate resources
Group students in classes
Assign matched activities

Evidence?

- Studies have been rather "piecemeal."
- Demonstrations that experimental results can be transitioned into classrooms are all but non-existent.

Skehan (2016)

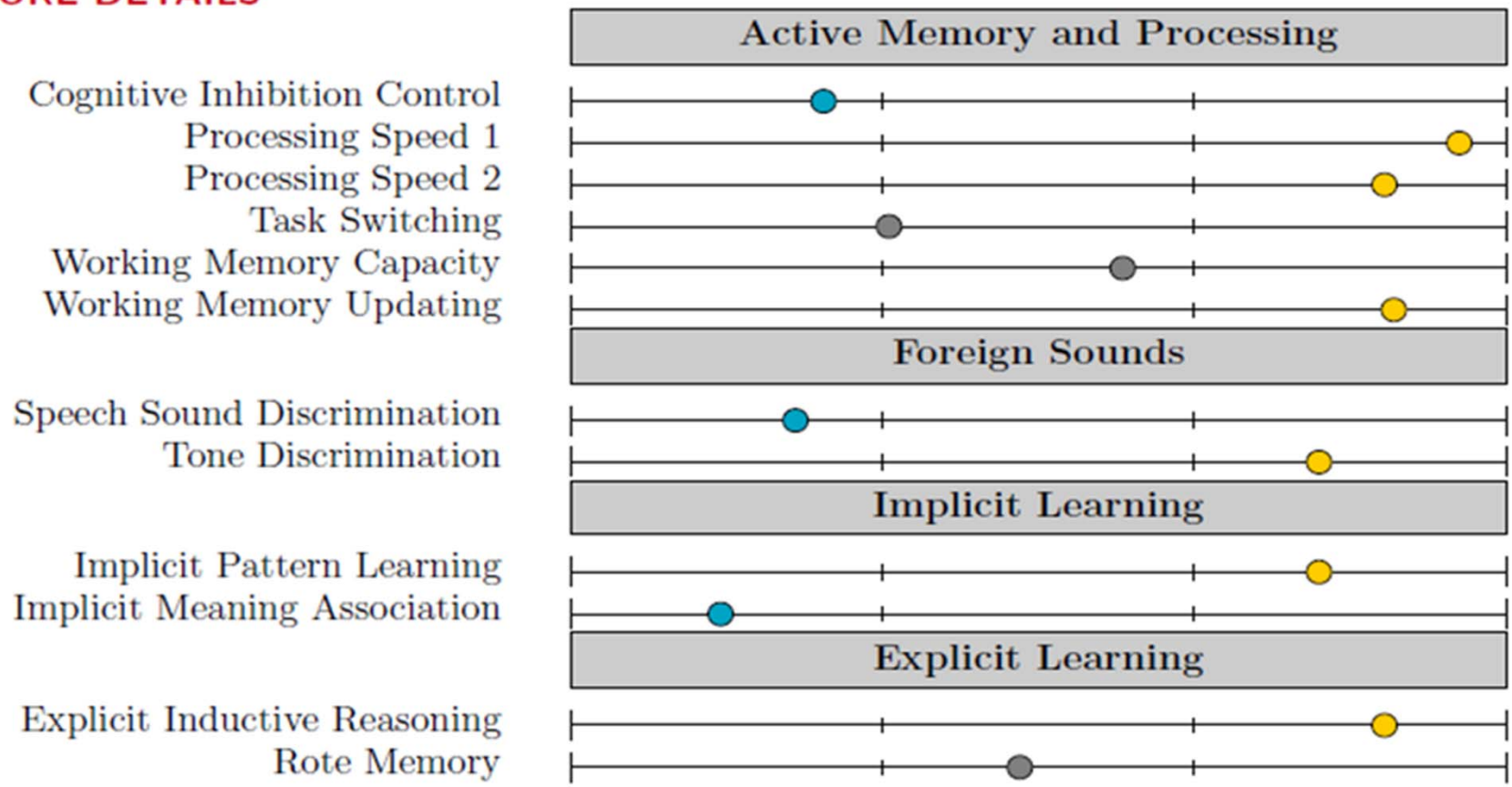


- Tailored Language Training Initiative at NCS!

Tare, Bonilla, Clark, Cook, Lewis, Jackson & Doughty (2016)

L2 aptitude profiles

SCORE DETAILS

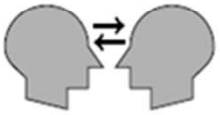


Differentiated recommendations

INPUT

Variability	constrained		unconstrained
Authenticity	accommodating		authentic
Pattern Learning	explicit		implicit
Meaning Association	explicit		implicit
Phonological Perception	normal		high

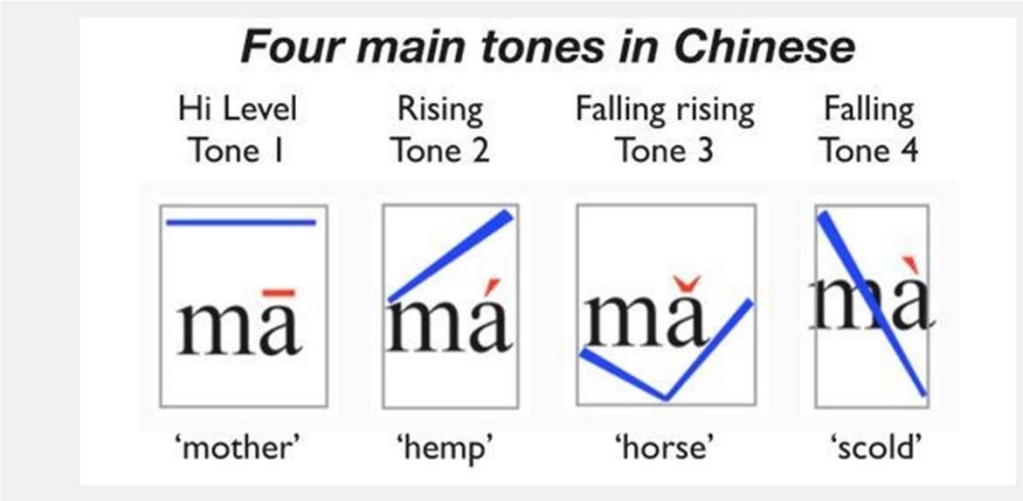
INTERACTION

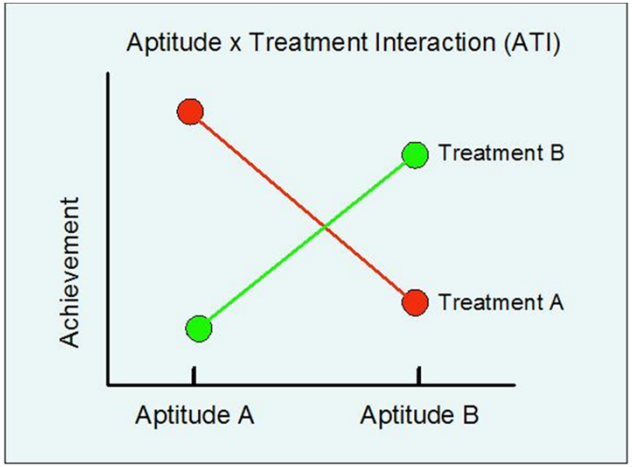


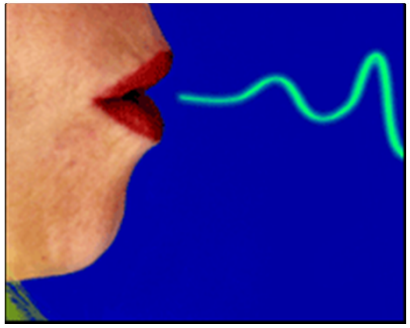
Attention Switching	infrequent		frequent
Scaffolding	more scaffolding		less scaffolding

FEEDBACK

Aptitude and variability study







Overall Activity

Goal

Completely understand implied meaning in Level 3 texts or audio clips.

Preparation

Teacher assembles sets of texts on same subject matter that are increasingly complex.

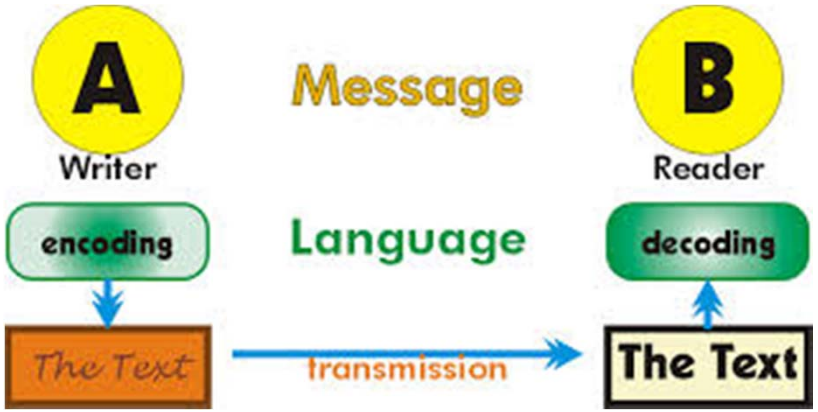
Teacher writes statements of author intention, some close, but incorrect, one correct.

All students

Read or listen to texts on same subject matter of increasing complexity.

1. Select the author intended meaning from three prepared by the teacher.

2. Indicate why choice was made.



Teacher:

Provide feedback on error when needed, matched to aptitude.

Differentiation for implicit ability

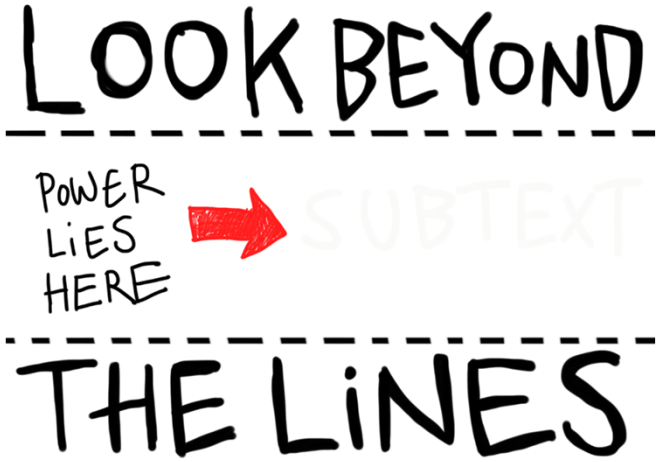
Text elaboration with cognitive effort

Student reads or listens to a texts or clips, highlighting or listing words, collocations, and transition words that block meaning.

Student gives the highlighted materials to the teacher.

The teacher provides multiple choice selections, only one of which fully captures the implied meaning, embedded into the text.

Student independently reads/listens again much later and selects the correct choice.



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Multiple Sources X Methods

Consult

- Learner Self-Perception Survey
- Aptitude Profile Consultation
- Learner Check-in Survey 1
- Learner Check-in Meeting 1

Design

- Learner Needs Analysis
- Aptitude Profile
- Differentiated Recommenda-tions

Track

- Learner Check-in Survey 2
- Learner Check-in Meeting 2
- Team lead notes Bi-weekly meetings

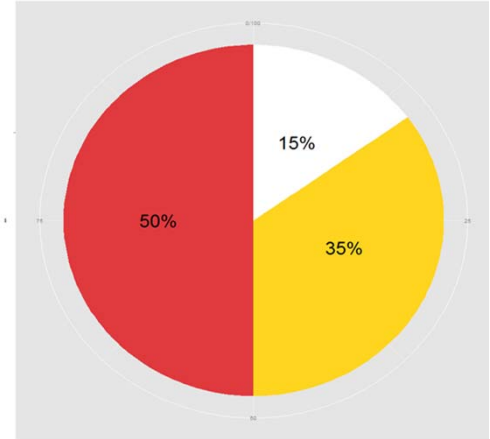
Outcomes

Evaluate

- Instructor Exit Survey
- Learner Exit Survey
- Program Exit Interviews
- Team Lead Interviews
- DLPT scores
- LCP gains
- LPET gains
- Workplace Survey

Differentiated Learning Outcomes Summary

- ✓ All participants improved on at least one TLTI objective outcome measure.
- ✓ 85% improved on two or more.
- ✓ TLTI benefits extended to improved job performance.
- ✓ Participants reported that improved job performance was due to training.



Learning resources at FSI

2013-2016 Hi-LAB counseling sessions at FSI – Major accomplishments:

- *Made the profiles interpretable for use by learners themselves.*
- *Examined resources to see which leverage the different cognitive abilities.*

Upcoming pilot study: Use aptitude profiles to allocate learning resources.

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Take away

1. There is no evidence for the existence of effective learning styles.
2. People have different abilities, not different styles.
3. Learner-centeredness means: L2 functional needs drive syllabus, and learner output drives feedback.
4. Cognitive aptitude, content, and context are effective differentiation drivers.
5. Students should take responsibility for their learning (self-efficacy), ***but*** they need guidance and paths designed by experts tailored to their needs and abilities.

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Thank you

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