

**THE "LITTLE SECRETS" AND THE FALLACIES OF
DIRECT INSTRUCTION..
THEY MAKE ALL THE DIFFERENCE!!
SCIENTIFIC CHALLENGE & AGENDA**

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WHY ARE WE HERE?

- ? To see and to be seen
- ? To earn CE points
- ? To improve our skills
- ? To become more professional – so we can earn more money
- ? **To support “people in need” most effectively.**

The payoff is their improvement

PRECISION TEACHING

Focus on Directly Observable Behavior

- Avoid ambiguity
- Measure concrete, directly observable behaviors
- Even if the learning deficit is a subtle / private
- Find a way to make it public.

Lindsley, Ogden R. (1991). "Precision Teaching's Unique Legacy from B. F. Skinner". *Journal of Behavioral Education* 1 (2): 253–266.

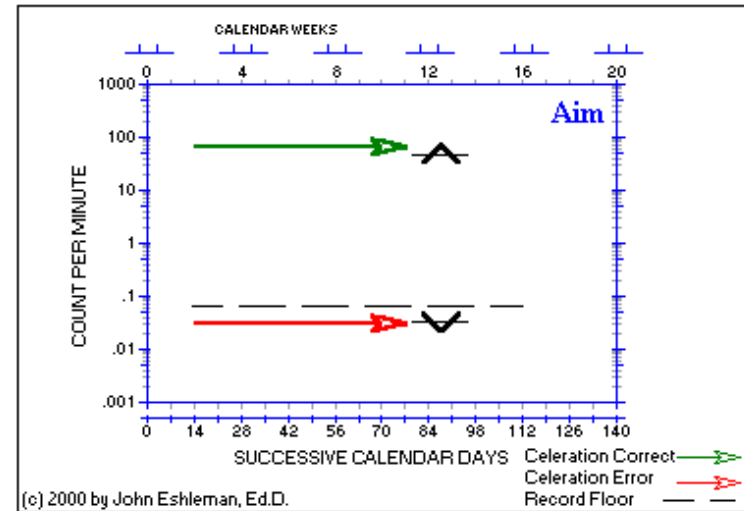
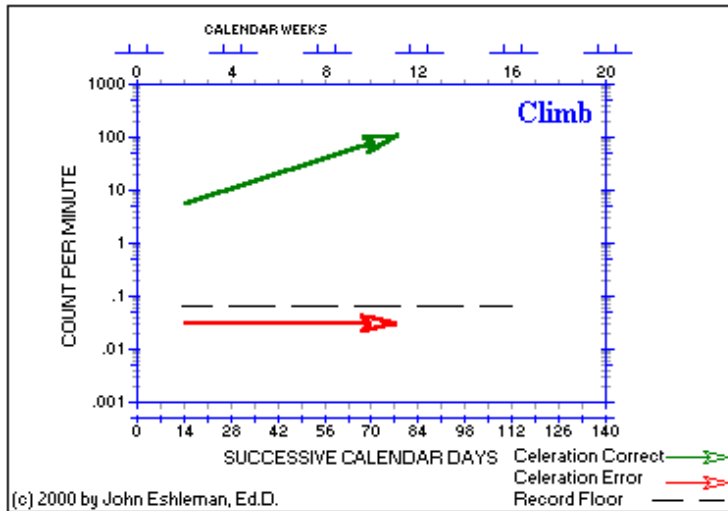
PRECISION TEACHING

Frequency - the measure of performance

- "Rate is a universal datum" (skinner)
- A dimension of behavior. When you change the frequency, you have changed the behavior (Lindsley)
- You have not accurately described a behavior until you have stated its frequency (Lindsley)
- Laboratory research had shown human behavior frequencies to be 10 to 100 times more sensitive to changes in procedures, than percent correct (Johnston and Pennypacker, 1980; Lindsley, 1962).

Lindsley, Ogden R. (1991). "Precision Teaching's Unique Legacy from B. F. Skinner". *Journal of Behavioral Education* 1 (2): 253–266.

STANDARD CELEATION CHART



Learning Picture Name = Climb.

Frequency of Correct Responses = Accelerating toward correct frequency aim.

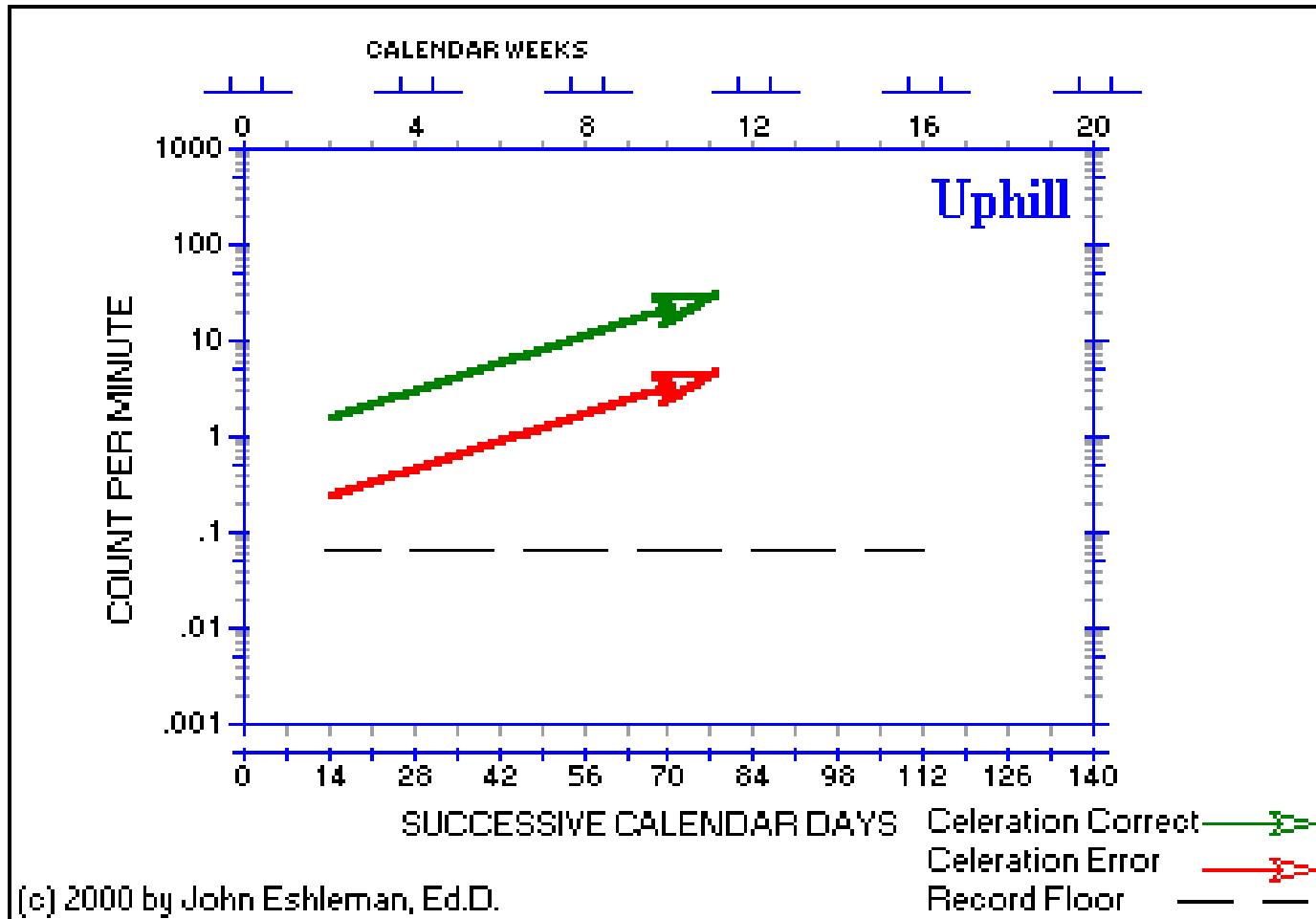
Frequency of Error Responses = Maintaining below Record Floor.

Accuracy Ratio = Increasing.

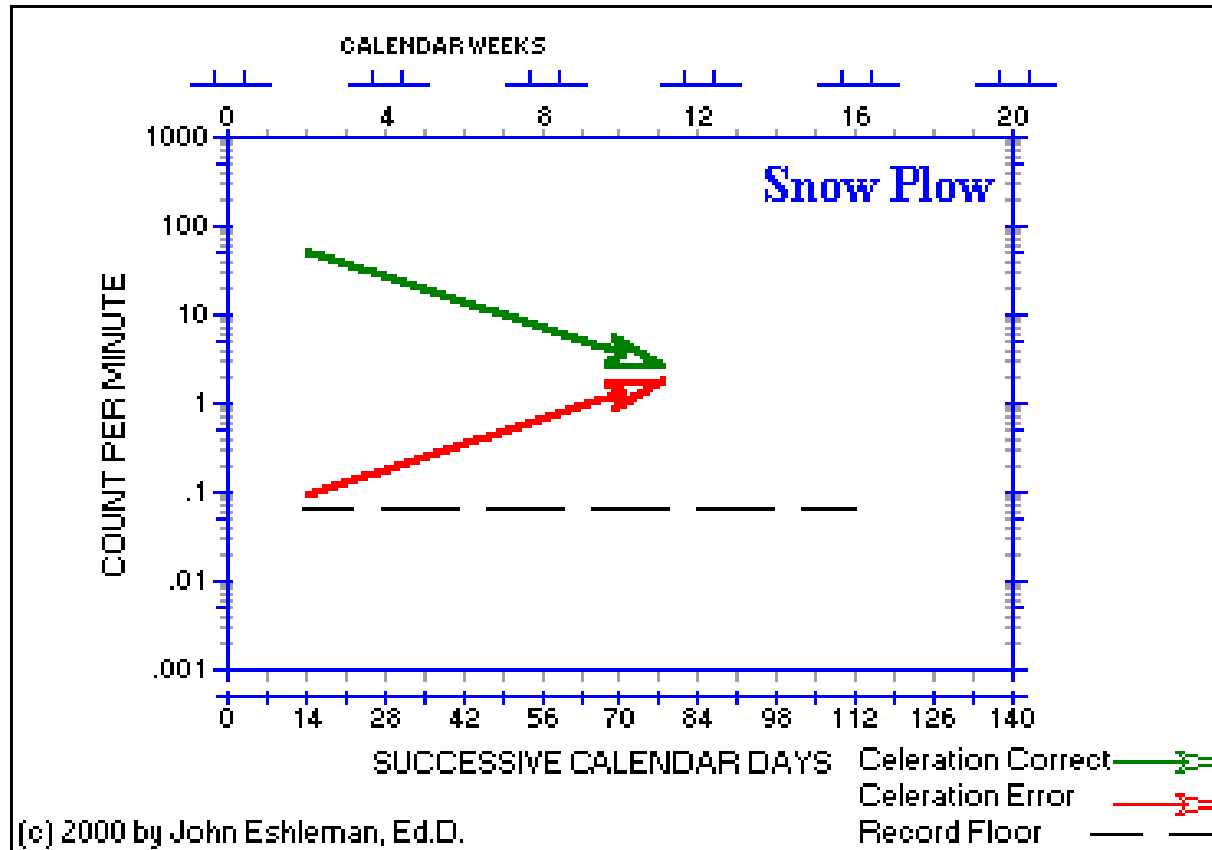
Change to Make = Step Up the Curriculum.

The Learner Knows Best.⁶⁶

CORRECT ERRORS



STEP BACK IN CURRICULUM



LEARNING CURVE

Developmental – Cognitive ??

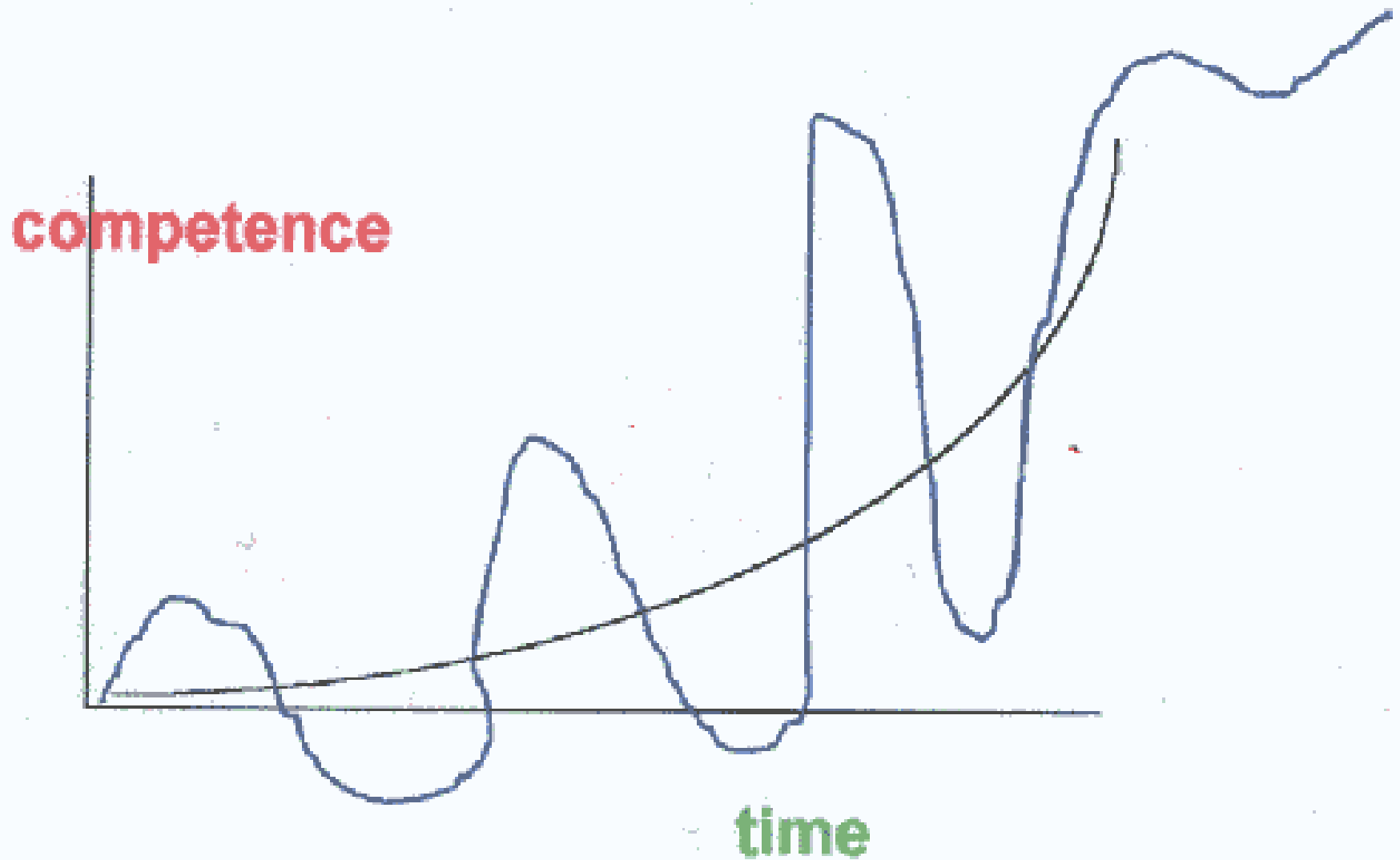
Practice – Academic Learning Time / OTR !!

Teaching Effectiveness

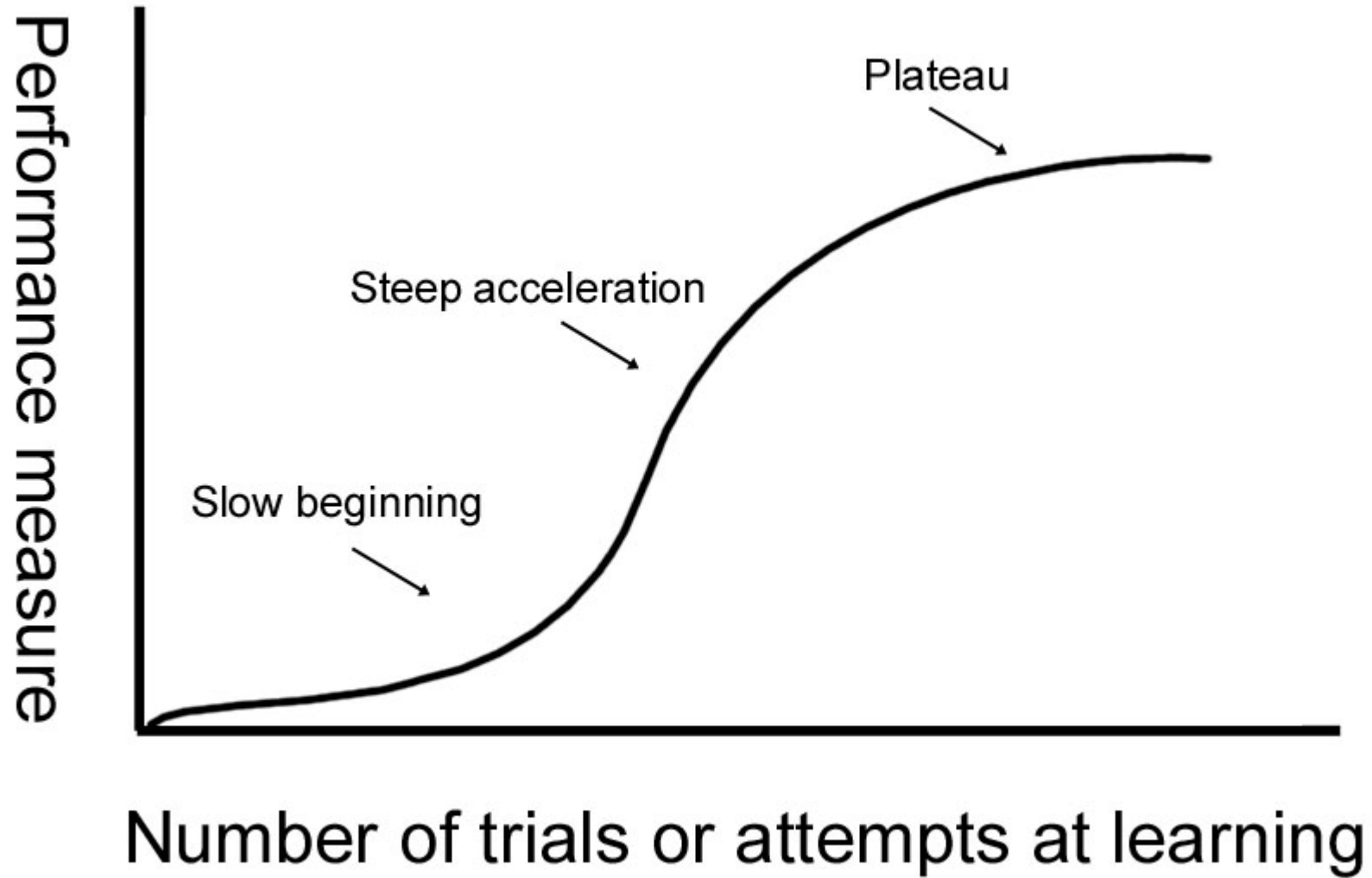
Motivation!!

Student - Teacher

The Learning Curve



IDENTIFICATION OF TRENDS



IDENTIFICATION OF FLUCTUATIONS

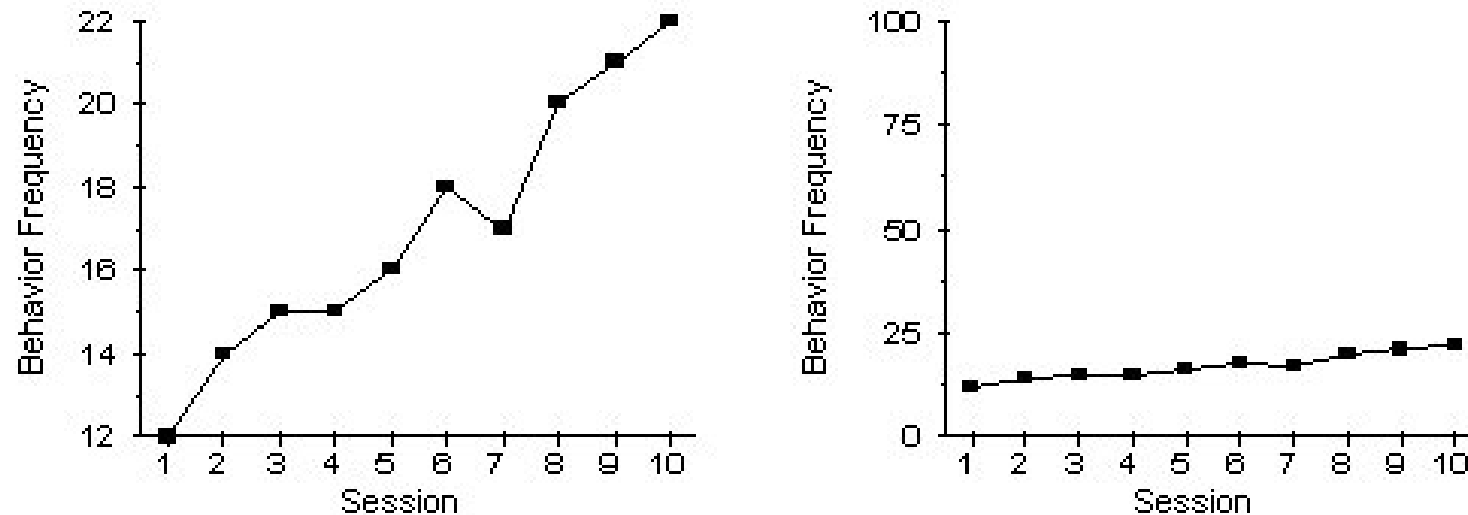


Figure 2. The same data plotted on two different scales. Performance appears to be changing much more rapidly in the left panel.

EFFECTIVE TEACHING

Determined by the student's behavior!!

High opportunities to respond (OTR)
resulting in a high success rate.

Siedentop, D., & Eldar, E. (1989). Expertise, experience and effectiveness. Journal of Teaching in Physical Education, 8, 254-260.

TEACHING / CLINICAL EXPERTISE

- ✓ High level of Personal Stimulus Control
- ✓ Detecting subtleties
- ✓ Supporting small increments.

Siedentop, D., & Eldar, E. (1989). Expertise, experience and effectiveness. Journal of Teaching in Physical Education, 8, 254-260.

FLUENCY

Continuous, precise and effortless behavior

(Kerr et al., 2003)

Binder, C. (1996). Behavioral fluency: Evolution of a new paradigm. *The Behavior Analyst*, 19, 163-197.

A LESSON FOR TEACHERS

Can you demonstrate how it looks to perform at 75% correct? Can you visualize a 90% correct performance? The answer is “No.”

With a percentage correct score, we don't know how many **opportunities** there were for responding (was it 10, 20, 100?).
..we can't tell how much time was required to complete the work (was it 10 seconds, 1 minute, 10 minutes?).

..a percentage correct score lacks the **time-based** information that would allow us to duplicate it.

(Binder et al., 2002)

FLUENCY – FUNCTIONAL CONTRIBUTION

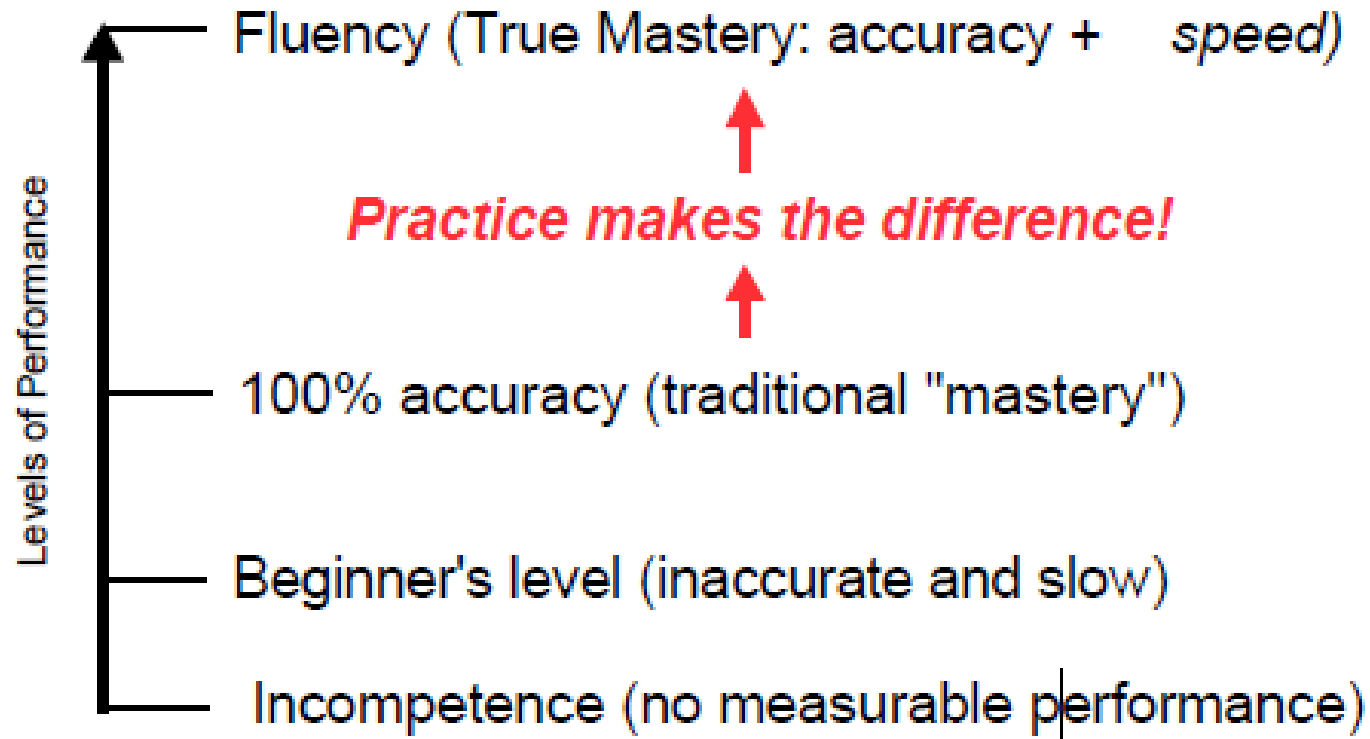
Retention and maintenance: perform a skill or recall knowledge long after formal learning programs have ended, without re-teaching

Endurance: maintain performance levels and attention to task for extended time periods while resisting distraction

Application: Behavior generality - combine / apply what is learned to perform more complex skills, creatively, and in new situations.

(Binder, 1996; Kerr et al., 2003 Wolf, 2001)

ACHIEVING FLUENT MASTERY



Binder et al., 2002

TABLE II. Rate per minute, composite task, weeks 1 and 12

PT group			Control group		
Pupil number	Week 1	Week 12	Pupil number	Week 1	Week 12
1	0	15	6	0	0
2	1	11	7	1	2
3	1	14	8	1	2
4	1	11	9	2	3
5	2	15	10	2	8
			11	2	4
Mean	1	13.2	12	2	7
SD	0.71	2.05	13	2	0
			14	2	5
			15	3	2
			16	3	2
			17	3	3
			18	3	2
			19	3	0
			20	4	4
			21	5	8
			22	7	8
			23	8	6
			24	10	4
			25	11	14
			Mean	3.7	4.2
			SD	3.01	3.49

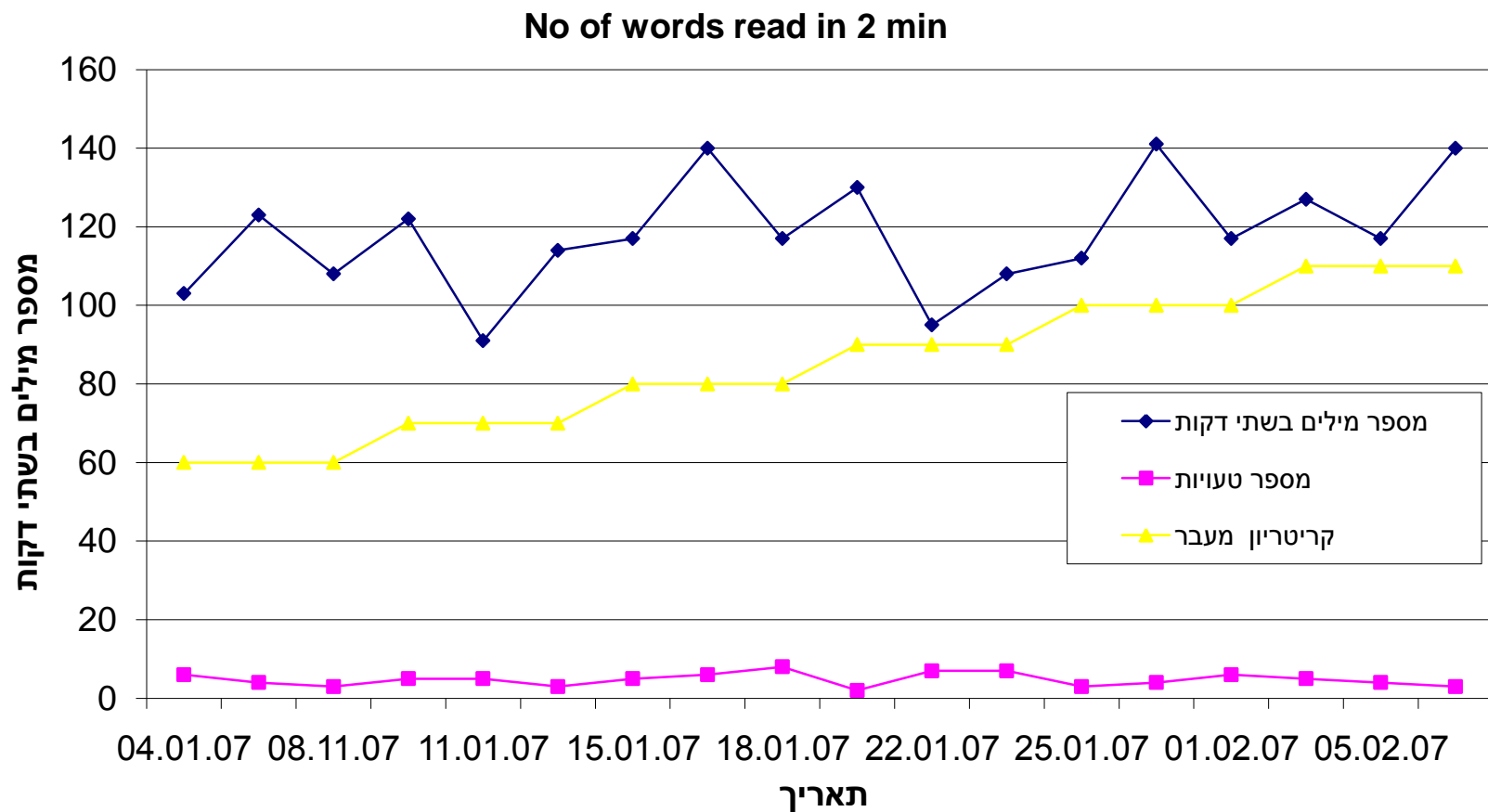
IMPROVING FLUENCY

Overcoming aversion

Make practice rewarding!!

<http://www.mivzakon.co.il/games/Html/redsquare.html?id=742>

READING FLUENCY IN MOVEMENT CONTEXT



PRACTICE IS THE KEY

Teachers >>> Students

The effectiveness of treatment for children with autism appears to rely heavily on the need to have adequate **training** for persons responsible for implementing these techniques.

(Jahr, 1998; McGee & Morrier, 2005; National Research Council, 2001; Shook, Ala'i-Rosales, & Glenn, 2002).

In Weinkauff, Sara Marie (2010). *Evaluating the Effectiveness of a Comprehensive Staff Training Package for Behavioral Interventions for Children with Autism*. Denton, Texas. UNT Digital Library.

FALLACIES

An error in reasoning often due to a misconception or a presumption.

Some so-called fallacies are not rhetorically intended to appeal to reason but rather to **emotion**, or a more **nuanced disposition**.

(Wikipedia)

Please don't term it ABA

DTT MAY RESULT IN A STRINGENT ADHERENCE TO TECHNICAL GUIDELINES

1. Protocol dependency

2. End of session reinforcer – is not sufficient - **process** should be rewarding for the student and for the teacher.

- May be achieved by detecting / rewarding small advances
- And yes – some creativity.

FALSE PROMPTING EXAMPLES

IF THERE IS NO NEED..

1. DON'T LOOK AT THE SD

2. CHANGE LOCATIONS ONCE IN A WHILE.

PROMPT DEPENDENCY

Prompts are not a way of life

Get rid of prompts
as fast as possible

Natural consequences
should maintain the behavior.

“DISCOUNTS”

Parents / teachers / students are sensitive to **aversion**

We **escape** aversion

Sometimes it may **strengthen a deficiency** on the short / long run.

THE “ART” BEYOND TECHNICALITIES

Keeping procedural integrity is essential.

However

it may result in missing critical clinicians'
awareness to

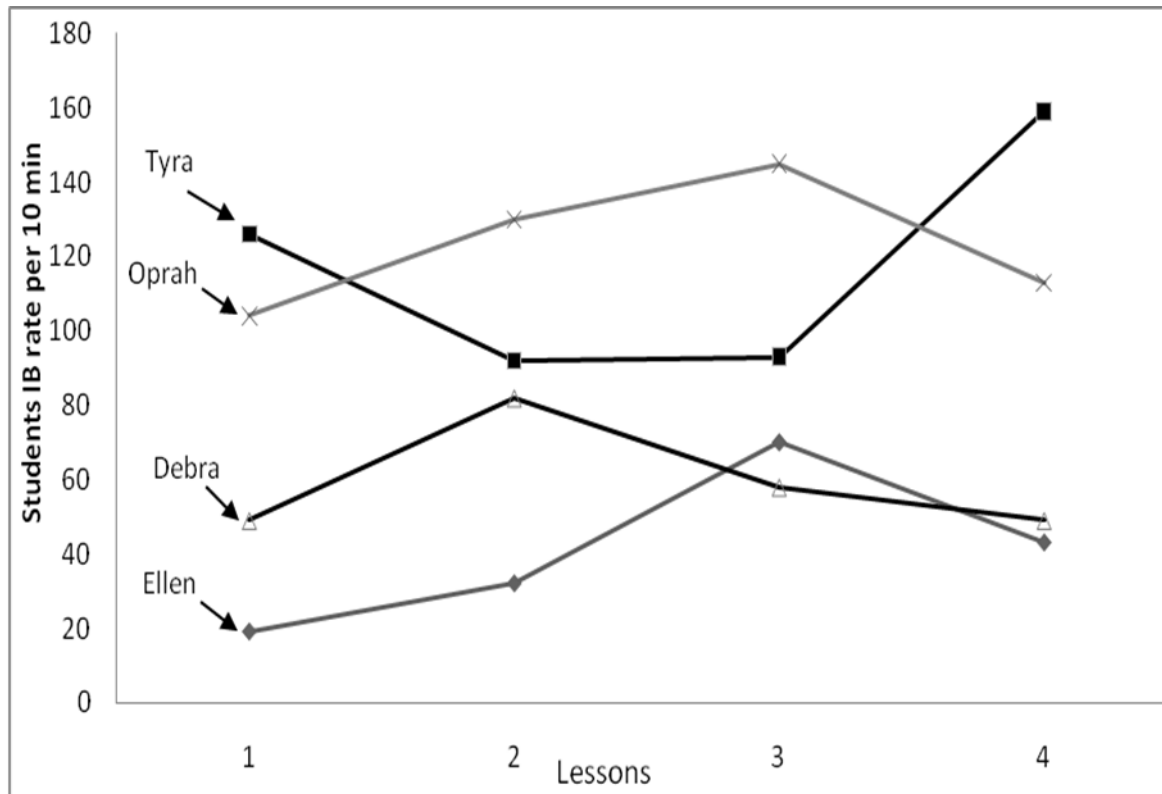
subtleties, and hidden precursors

“THE ART OF TEACHING” APPLYING ABA PRINCIPLES AND PROCEDURES

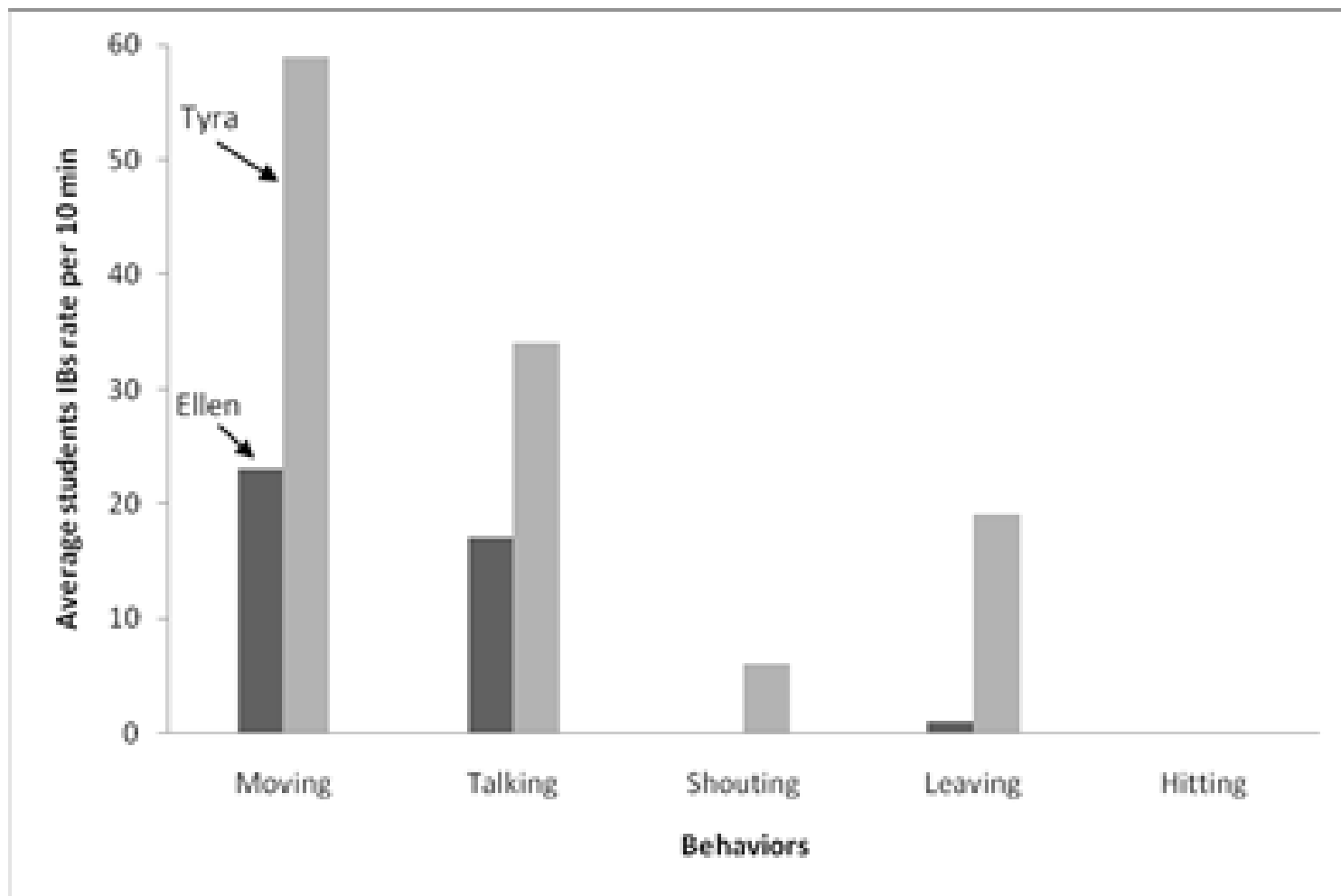
- **A 30 h course**
- **Parallel to the theoretical course**
- **A prerequisite to a class management course.**

ABA program – Kibbutzim college

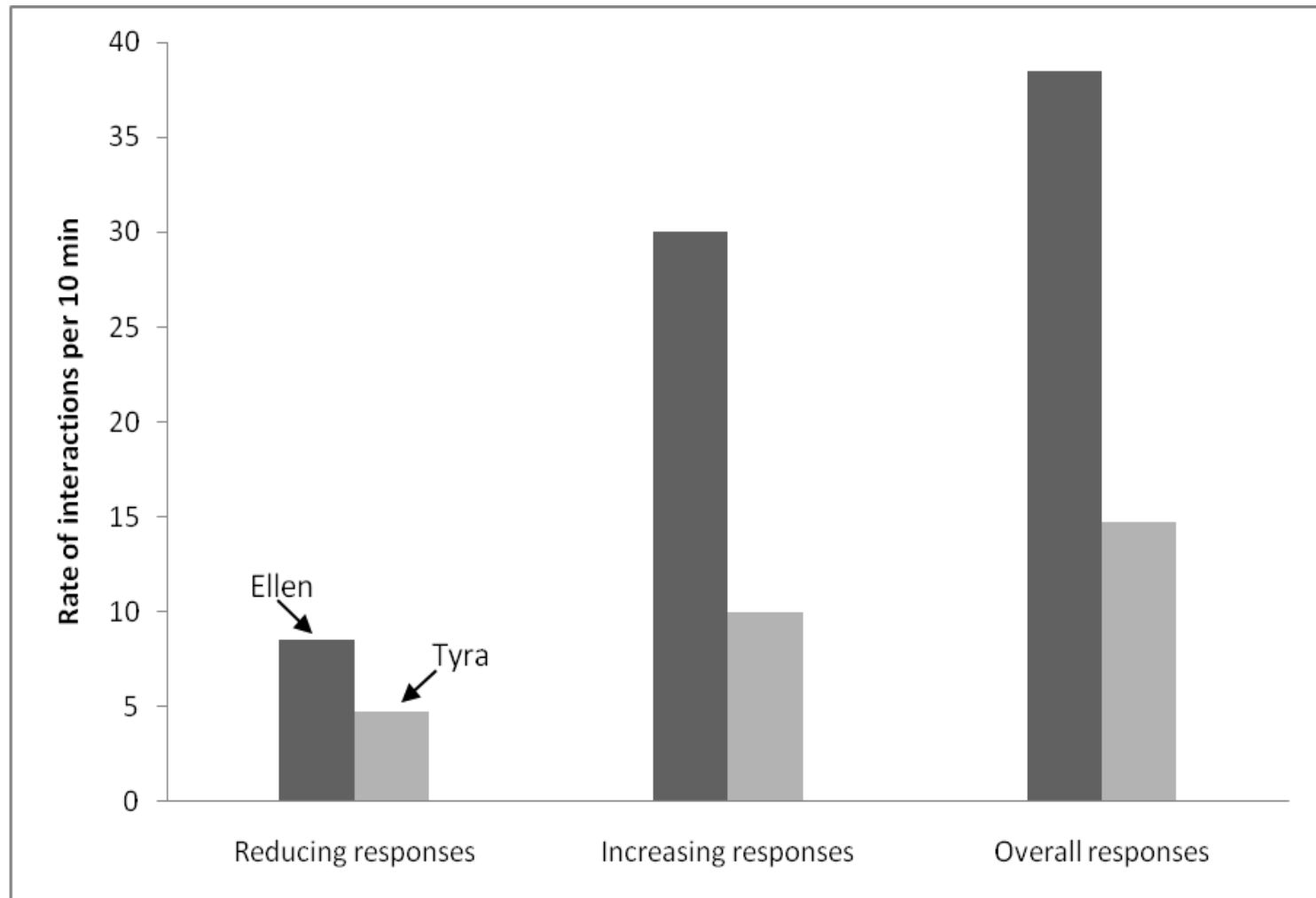
STUDENTS' IB RATE PER 10 MINUTES IN THE PRESENCES OF THE FOUR TEACHERS



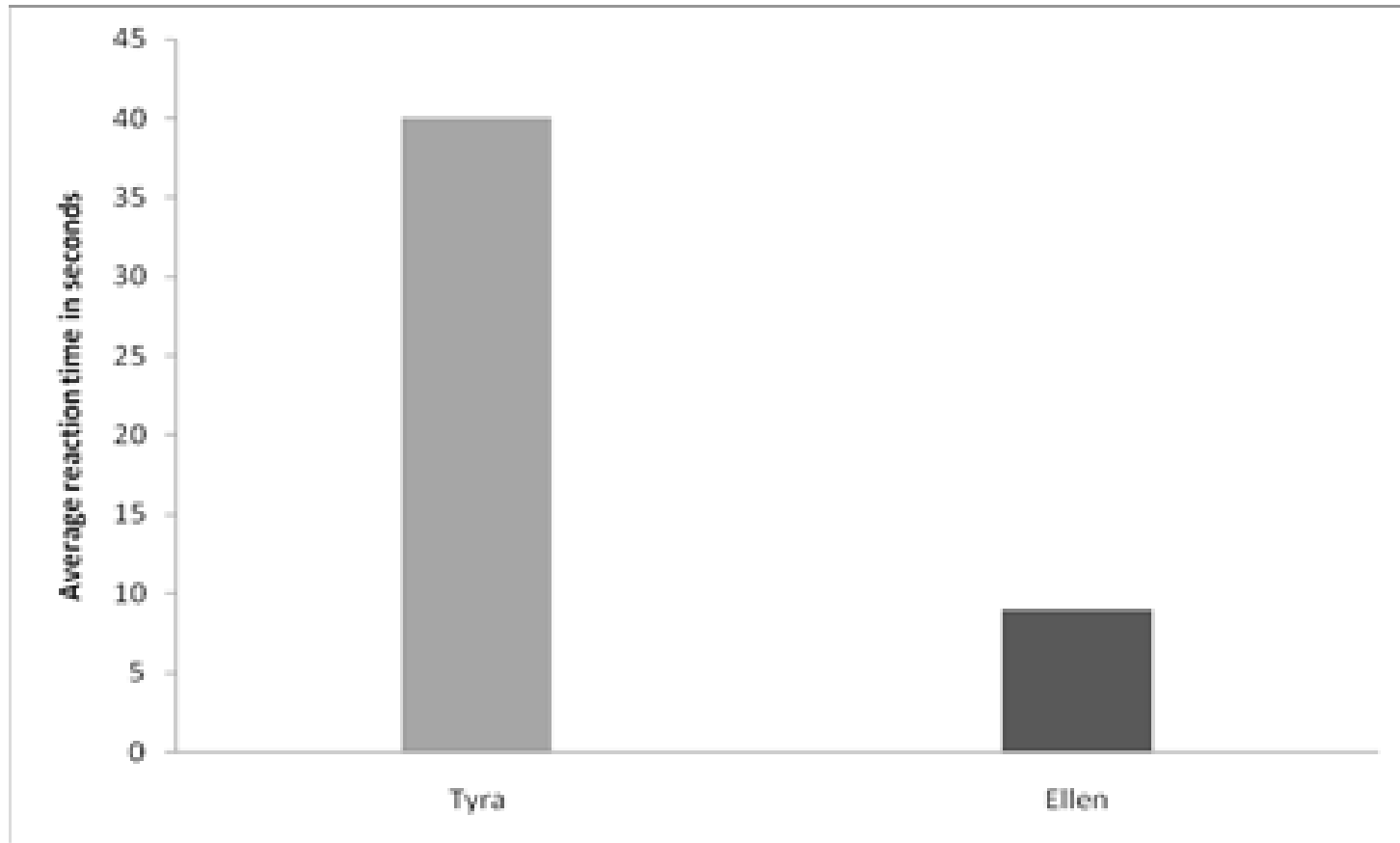
AVERAGE DISTRIBUTION OF STUDENTS' IBS PER 10 MINUTES FOR ELLEN AND TYRA



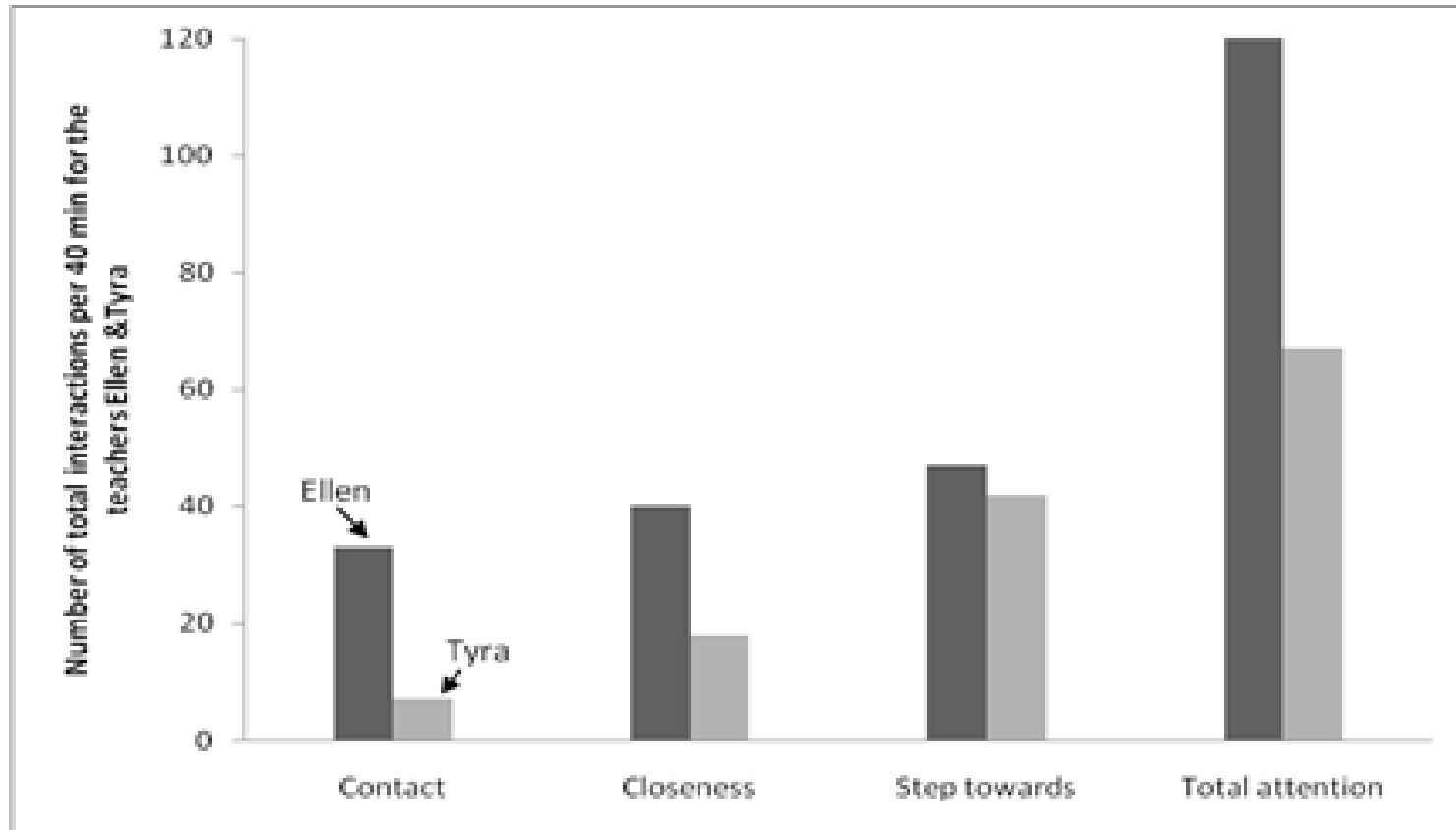
RATE OF REDUCING, INCREASING AND OVERALL INTERACTIONS PER 10 MINUTES FOR ELLEN AND TYRA



AVERAGE LATENCIES OF THE TEACHERS' REACTION TO IB'S



TOTAL NUMBER OF THE THREE LEVELS OF TEACHER'S PROXIMITY DURING INTERACTIONS WITH THE STUDENTS



STONE OF VOICE

1. Start with an inviting tone
2. Change to firm tone in case of noncompliance
3. **Vary** the tone along the session
4. **Go down** when escape starts
5. **Go up with** correct responses and appropriate cooperation.

PACE OF STIMULUS PRESENTATION – HIGH OTR

1. **Fast** (do students really need to digest)
2. Increase in case of escape.. (use prompts)
3. Increase in case of fluent performance (fluency)
4. Play with pace to prevent “mechanical” presentation.

GESTURES

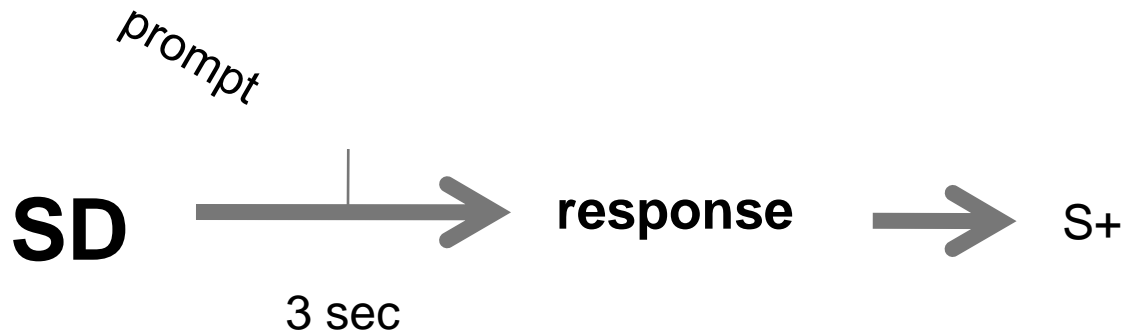
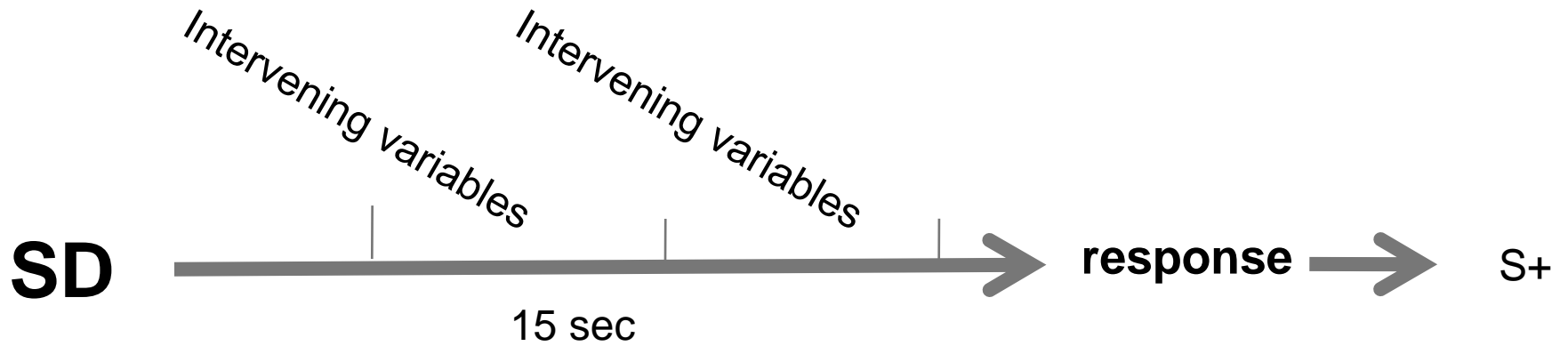
1. Support the S+ tone with “**opened** face” / body
2. Support the low tone with “**closed** face”
3. Keep an “**inviting** face” throughout teaching
4. Lower eyebrows for reprimand.

- These should be substituted by natural consequences

PROMPTING

1. As fast as possible – don't let the student hesitate
2. From heavy to light – the key point is to ensure **high rate of correct responses**
3. **Fade out** the prompt's magnitude – latency, proximity, tone, physical guidance.

DIGESTION TIME



SHORT LATENCY

Can be improved

Based on early identification and discrimination of the SD

Mass practice of both physical and cognitive responses

Reduces “contaminating” variables between S - R

GESTURES / TONE

Should support prompting

Should be faded out gradually

Follow with gestures / smile >>

Supportive emotional conditioning - contingent upon appropriate responding

Heavy to light transfer of prompting.

TEACHING

DELAYED OVERT RESPONSE BASED ON A RAPID COVERT RESPONSE

Sometimes – a delayed response is warranted

1. **Covert** response – teacher “thinks” – (the student showed self – control)
2. **Overt** response (10 min later) - “way to go Dan”

SD → thinking ----- task continues -- 10 min -- **praise**

APPROPRIATE SEATING

- Ensure appropriate seating arrangement
- Make sure that the student is relaxed
- Support relaxed seating and concentration
- Immediately / gently correct inappropriate seating
- Student's feet on the floor – indicate stress / concentration.

PRESENTATION OF SD

- No more than 2 times without success!!! >> Prompt..
- Practice easier tasks – and return to more difficult one – build momentum.
- Prepare alternative tasks.

EXTINCTION

What a “questionable” term with such an effective potential..

Use functional analysis

BE ATTRACTIVE!!

ARRANGE SETTING EVENTS

Emotional determinants

Accompany what is termed “emotional behavior” and may have an effect on it’s probability / magnitude

However

They do not cause a behavior

MODIFY ESTABLISHING OPERATIONS

Deprivation



Satiation

Directly related to motivation

Can / should be carefully arranged

DTT CHALLENGES

EXAMPLES

1. Move the SD toward the child eyes - **wait until the student is focusing at the SD.**
2. Let the student complete the activity without appropriate concentration - **Correct.**
3. Reinforce the student for incomplete performance – **prompt and repeat the delivery of the SD for a complete and successful one.**

DTT CHALLENGES

EXAMPLES 2

1. Give a break contingent upon IB
2. Reprimand IB
3. Provide longer breaks (stereotypic behavior)
4. “Stream” with the student

DTT CHALLENGES

EXAMPLES 3

1. Fight with the student until he / she gives up
2. This is the last time..
3. If.. Than..

ADD INCIDENTAL TEACHING

For a short interval – let the student choose an activity

Join if the student invites you

Stop stereotype behavior by returning to seat.
??!!

Embed in the lesson

CAUTION

Practicing ABA is not a mere technical challenge

Behavior analysts should be well trained and certified

Behavior analysts should be continuously updated

Behavior analysts should adhere to stringent ethical standards.

END ON AN OPTIMISTIC NOTE

There is a great demand for behavior analysts

Effective skills can be taught and improved

Science continuously supports the effectiveness of ABA.