LOKOTA LEADS, May 10, 2012

LEARNING STYLES AND MOTIVATION

Considering Learning Styles

- This presentation is meant to introduce, explore, and apply current research on Learning Styles, including recent controversies amongst proponents and critiques of Learning Styles.

LEARNING STYLES:
AN INDUSTRY OF PERSPECTIVES

What are Learning Styles?

- **Learning styles** refer to the concept that individuals differ in regard to what mode of instruction or study is most effective for different individuals.
- In the comprehensive literature review from the **Learning & Skills Research Center**, the authors found more than **71 models of "Learning Styles."**
- From these 71 independent models, they came up with **13 major models**, all of which purport to explain specific learning styles.

Research Conflicts

- "Learning Styles: Concepts and Evidence" (2009)
  - Claimed to find that **children and adults will frequently cite a learning preference**
  - **NO evidence for the specific causal claims** made about learning styles and their effect on learning
  - Focused on studies involving students who were **matched into groups using their defined LS**

THE MODELS

Learning styles and preferences are largely **constitutionally based** including the four modalities: VAKT[2].	Learning styles reflect deep-seated features of the **cognitive structure**, including 'patterns of ability'.	Learning styles are one component of a relatively **stable personality type**.	Learning styles are **flexibly stable learning preferences**.	Move on from learning styles to **learning approaches**, **strategies**, **orientations** and **conceptions of learning**.
Dunn and Dunn[3]	**Riding**	**Apter**	**Allinson and Hayes**	**Entwistle**
Gregorc	Broverman	**Jackson**	**Herrmann**	**Sternberg**
Bartlett	Cooper	**Myers-Briggs**	**Honey and Mumford**	**Vermunt**
Betts	Gardner *et al.*	Epstein and Meier	**Kolb**	Biggs
Gordon	Guilford	Harrison-Branson	Felder and Silverman	Conti and Kolody
Marks	Holzman and Klein Hudson	Miller	Hermanussen, Wierstra, de Jong and Thijssen	Grasha-Riechmann
Paivio	Hunt		Kaufmann	Hill
Richardson	Kagan		Kirton	Marton and Säljö
Sheehan	Kogan		McCarthy	McKenney and Keen
Torrance	Messick			Pask
	Pettigrew			Pintrich, Smith, Garcia and McCeachie
	Witkin			Schmeck
				Weinstein, Zimmerman and Palmer
				Whetton and Cameron

See Handout 1

Dunn and Dunn: Ingrained Learning Styles

1. Environmental

- Includes lighting, sound, temperature, and seating arrangement

2. Emotional

- Motivation, persistence, responsibility, and structure.
- For instance, multi-tasking vs linear work progression (one project at a time)

Dunn and Dunn: Ingrained Learning Styles

3.Sociological (How one learns in relation to others)

- Considers whether one works alone, with peers, or with an authoritative adult

4.Physiological

- Encompasses questions of perceptual (auditory, visual, tactile, and kinesthetic), time-of-day, intake (food and drink), and mobility.

*5.Psychological (*types of psychological processing)

- hemispheric, impulsive or reflective, and global versus analytic.

Flexible Learning Styles Model: Vermunt's Learning Approaches

Vermunt: Equating Learning Style with Learning Approach

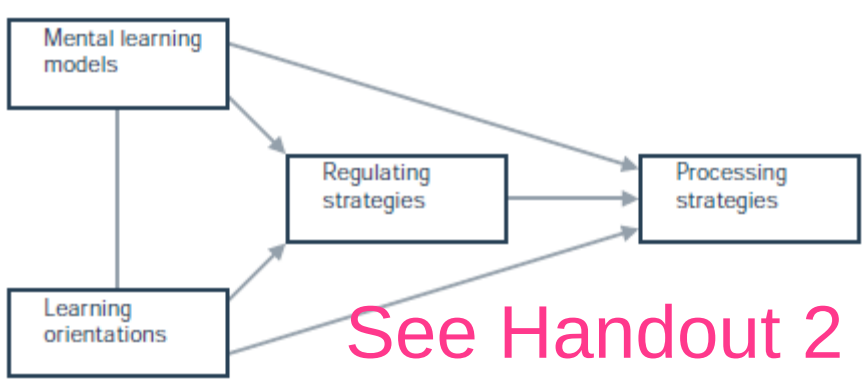
- *'Learning style is not conceived of as an unchangeable personality attribute, but as the result of the temporal interplay between personal and contextual influences'~ Jan Vermunt*

- Four ''learning styles'':
  - meaning-directed,
  - application-directed,
  - reproduction-directed,
  - and undirected.

Vermunt, continued

Each style is defined by five features:

- the way in which students cognitively process learning contents
  - *what students do*
- the learning orientations of students
  - *why they do it*
- the affective processes that occur during studying
  - *how they feel about it*
- the mental learning models of students
  - *how they see/conceptualize learning*
- the way in which students regulate their learning
  - *how they plan and monitor learning*



See Handout 2

Supported LS Models

- ‘‘Learning styles and pedagogy in post-16 learning: A systematic and critical review’’ (2004)
  - *Simple, unfounded messages for practitioners…have too often been distilled from a highly contested field of research.*
  - *Dunn and Dunn: Not advised for education or business*
  - *Many commercial programs, applications, or assessment instruments have little empirical support*
  - *Vermunt: More guarded and theoretically sound for application*

Supported Applications of LS

- **Increase self-awareness and metacognition**
  - Encourage learners to question, monitor, understand and adapt their methods
  - Best application: Teacher and tutor education on the limits and strengths in the field, allow students to create their own "learning style"

- **A Lexicon of Learning**
  - Allow students to realize and communicate their preferences for learning, thus building confidence
  - Provide students with a breadth of learning strategies for different tasks

Unsupported Applications of LS

- **Matching**
  - Literature does not verify this as creating significant performance differences
  - Unrealistic application, and heavily associated with Dunn & Dunn's commercial tools
- **Career Counseling**
  - No detailed support for claims that students' career success will be predicated on a LS/career field match
  - Single greatest predictor for career attainment is self-efficacy

Surprising Applications

- **Purposeful Mismatching**
  - Rejected by some LS theorists, holds minimally more empirical support than matching studies
  - More diversity of presentation to maintain interest
  - Increases student responsibility for learning outcomes (teacher no longer caters directly to student's preference)

Where Do We Go From Here?: From Styles to Stamina

Educational Motivation and Learning Styles

- Vermunt's LS model posits transitive learning approaches
  - LS's can be adjusted to make students *more* or less successful

- **GOAL OBJECT THEORY** is a cognitive motivational theory
  - Proponents argue that student orientation towards knowledge and ability best predict persistence and success

Vermunt and Dweck: Overlapping at Orientation

- Vermunt's highest level of **learning orientation** is based on "self-improvement and enrichment"
- Highest level of **regulation of learning** asks students to "self-guide" their learning and "diagnose and correct poor understanding"
- How does that look in an everyday application?

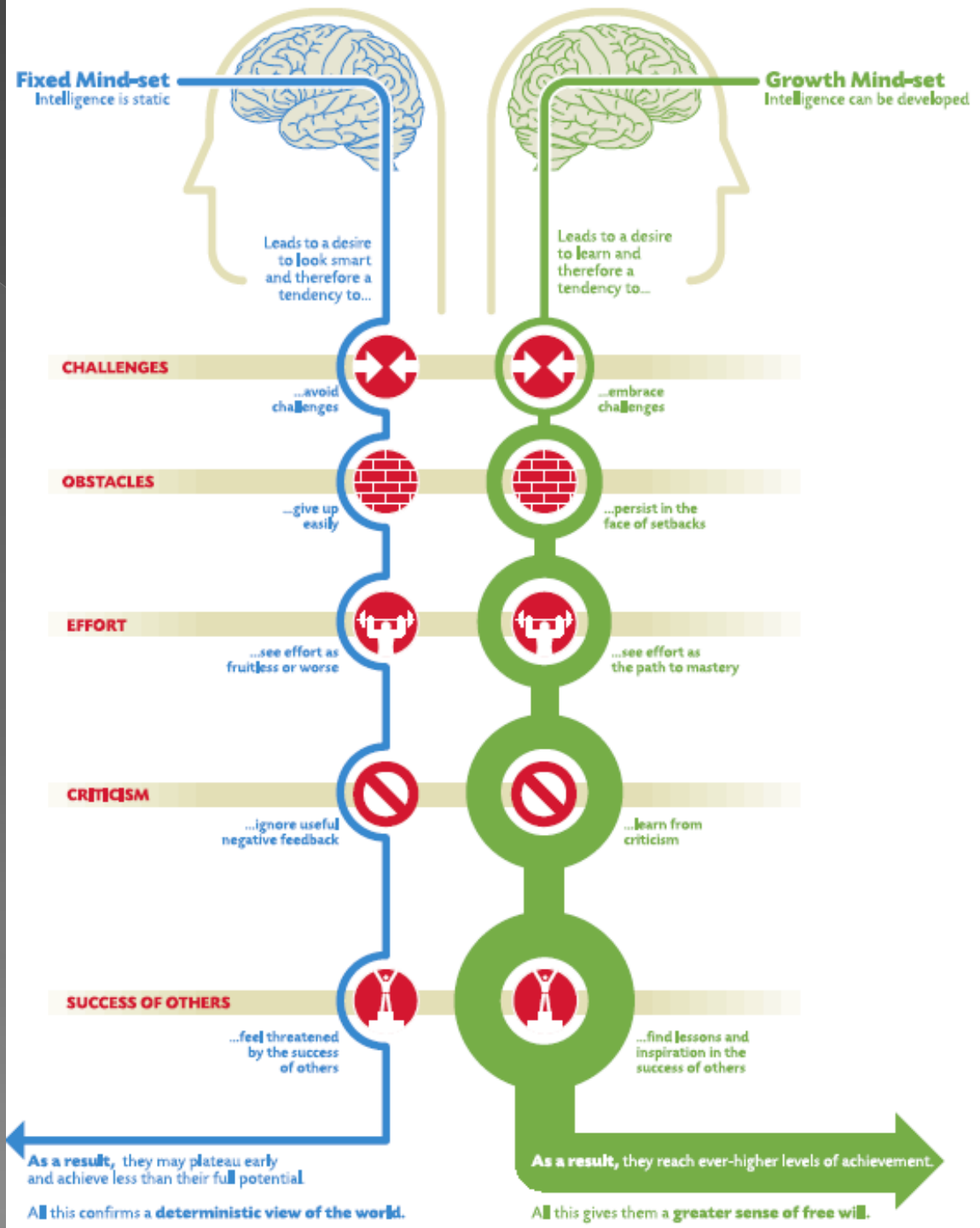
See Handout 2

Vermunt and Dweck

- Dweck reconceptualizes "ability"
- Claims two opposed mindsets:
  - **Fixed:** Abilities are stable and immutable
    - Mistakes are representations of a lack of ability
    - Ability is determined by performance
  - **Growth:** Ability is a process, developed over time
    - Mistakes are an assumed necessity during the acquisition of ability
    - Ability is developed/determined by process

Fixed versus Growth

Fixed	Growth
Personality and skills are permanent	Personality is mutable and developing
Failure becomes a judgment, not a motivator	Failure is expected; assumed ability is minimal
Work signifies a lack of ability; achievement should come naturally	Work stands as a necessity for the cultivation of ability
Motivated by performance/fear of exposure	Motivated by reward of competency
Performance-based goals	Mastery-based goals


Fixed Mind-set
Intelligence is static
Growth Mind-set
Intelligence can be developed
Leads to a desire to look smart and therefore a tendency to...
Leads to a desire to learn and therefore a tendency to...
CHALLENGES
...avoid challenges
...embrace challenges
OBSTACLES
...give up easily
...persist in the face of setbacks
EFFORT
...see effort as fruitless or worse
...see effort as the path to mastery
CRITICISM
...ignore useful negative feedback
...learn from criticism
SUCCESS OF OTHERS
...feel threatened by the success of others
...find lessons and inspiration in the success of others
As a result, they may plateau early and achieve less than their full potential.
All this confirms a deterministic view of the world.
As a result, they reach ever-higher levels of achievement.
All this gives them a greater sense of free will.

Applications and Ideas

- How can parents and educators use broad field of Learning Styles to empower their students?
- What useful connections do you see between discussing your child's learning style and Dweck's Mindset theory?
- How can parents discuss success with their students to encourage a growth mindset?
- What mindset do you believe is promoted in your home/classroom?