Find a buddy or two for conversation.
Introduce yourselves.

Talk briefly about:

1) How you use the concept of learning styles in your work—or see it used.

2) Why you use it as you do—or why others use it as they do.

What’s the Point?

- Readiness
- Interest
- Learning Profile
- Growth
- Motivation
- Efficiency

The concept of LEARNING PROFILE is an umbrella term for a body of research suggesting four categories of influence on how people approach learning.
Learning Profile

IS:
- Related to how we take in & process information
- An umbrella term
  - learning style
  - intelligence preference
  - culture
  - gender
- Fluid

ISN’T:
- Fixed
- “Singular”
- A synonym for learning style

The concept of “learning styles” has received much attention for about 40-50 years.

Over that time, the concept has gained considerable popularity in classrooms in many parts of the world.

Now, some experts in a variety of fields are strongly questioning—if not rejecting—the concept.

What’s the problem?
What do we know, not know, need to know?
What should we do?

Let’s begin by looking briefly at theory and research related to learning style...

Where did the ideas come from?
Is there research to support their efficacy in increasing student achievement?

Sample Theory on Learning Profile Differentiation


- Human intelligence manifests itself in many spheres. Teaching should attend to an individual’s intelligence preferences.


- Gender influences how individuals look at and interact with the world. When a person is socialized to act one way, and the classroom promotes a different way of interacting, a mismatch occurs and learning may be hampered.
Individuals differ in the ways they learn and perform best when learning aligns with their strengths/preferences. The differences are “hard wired.”

Curriculum and instruction that matches learning style and intelligence preference of students from diverse cultures has positive impacts on learner outcomes.

Students taught with an intelligence preference match outperformed those taught in a more traditional manner.

There are achievement benefits to addressing student intelligence or thinking preferences during the learning process, even if the final assessment is not in the learner’s preferred mode.

Addressing a student’s learning style results in improved achievement and attitude gains in students from a wide range of cultural groups.

1. Neuroscientific research has discovered limited evidence to support the idea that individuals learn in different ways by using different neural networks to accomplish similar tasks.

2. There is some evidence related to gender-based learning preferences (for example, female brains generally use more brain regions to process language; the brain areas activated during mathematical processing are different in males than in females).

3. EEGs show different regions of the brain activated in individuals of the same gender performing the same task, suggesting that the EEGs are measuring different cognitive or processing styles.

4. The restrictive environments necessary for fMRI and EEG make it difficult for researchers to moderate and assess the environmental variables associated with learning style models.
The term learning styles refers to the way the brain perceives and processes what it needs to learn. When teachers tailor their teaching strategies to students’ learning styles, students will respond with the optimism they had when they first entered kindergarten. Students will enter learning experiences with more confidence and connectedness and will become active participants in their learning.

Instruction geared toward students’ preferred learning styles is more likely to evoke positive emotional responses, engaging affective filters to open access to the brain’s processing centers. When lessons are adapted for multiple intelligences, the content is more likely to be personally meaningful, students move the content to their relational memories for successful patterning and long term retention. As a result, students will be better able to access the material at test time. Most important, the information will reach the frontal lobe regions where the highest levels of cognitive processing take place—where learned information becomes wisdom.

Students benefit by being personally involved in the subject material with techniques such as handouts, manipulatives, field experience, experimentation, or even whole body movement (total physical response) to potentiate the implantation of the new information into memory and improve retrieval later. Some specific activities include:

1. Multiple forms of review such as concept maps to provide framework for retrieval.
2. Visual imagery: Visualize the historical event using words or pictures on paper.
3. Personal relevance: Tie the information to their lives. Think, write about the connection, and share with a partner.
4. Produce a product or make models
5. Role-play or pantomime.

With your conversation buddies,

Talk about:

1) Ideas here that are familiar to you.
2) Ideas here that are new to you.
3) How these ideas measure up in terms of your own experiences.
With all this “backing,” what’s the problem??

Before we look at the controversy...

REMEMBER!

“Learning style” is NOT a synonym for “Learning Profile.”

It’s one quarter of the elements in the concept.

WHO is questioning the concept of “learning styles”?

Some (but not all) noted:

Psychologists
Neuroscientists
Sociologists

WHAT are their Issues?

The Psychologists

1. There is no real agreement about what constitutes a learning style
   Many models (over 71 major models)
   Overlapping ideas
   Makes it difficult to discuss or measure the concept
   Taken together, the models operate on contrasting & even competing ideas. (No common conceptual framework)

2. There are VERY few robust studies on the models
   Would require a randomized study of outcomes
WHAT are their Issues?

The Psychologists (cont’d.)

4. There is little evidence of validity or reliability for most instruments used to support the models. (And the authors provide little basis for claims.)

5. Much rests on student self-report on the instruments.

6. Often (not always) little evidence of validity for the concepts in the models. Models often promoted for self-aggrandizement rather than in a scholarly/scientific way (commercialism vs. science).

7. Some popular models have nothing to do with learning (e.g. Myers-Briggs) & yet are used in classrooms as ways to benefit learning.

8. Categorizing students by learning style may narrow teacher perceptions of student capacity as well as students’ estimation of themselves.
**WHAT are their Issues?**

**The Neuroscientists**

1. There is no evidence from neuroscience that validates the concept of learning style (some disagree, citing some evidence).

2. The way educators talk about using learning styles (e.g. learning the multiplication tables by singing or learning poetry by drawing) is counter to the way the brain works (e.g., mathematical learning/reasoning takes place in a totally different part of the brain).

**The Sociologists**

1. Use of learning styles to label/categorize individuals has a divisive, if not racist, effect. We may generalize to a group or determine that a group does not have particular abilities. In doing that we limit the possibilities of members of that group to access courses, careers, etc. that call on the “abilities” we perceive that they don’t have. (“Labeling is not a disinterested process.”)

2. Some items on surveys are far from culture-free or culture-fair and yet are used in culturally diverse settings.

3. There is little research on the impact of culture, race, or economic status on learning—or on how a particular context at a particular time shapes an individual’s approach to learning.

---

**With a colleague or two,**

**Talk about:**

1) the ideas of the psychologists, sociologists, and neurologists.

2) the implications of those ideas for classroom practice.

3) ways those ideas might change your practice & why.

---

**Is there ANY support for “Learning Styles”?**

There is widespread “face validity” to the notion that people learn in different ways.

There is evidence that people have different aptitudes for thinking & processing information. (There are few studies to validate the point that better learning follows match.)

Some models have not yet been tested. Some seem better grounded than others.

It makes sense to help learners understand that they can learn in a variety of ways and to make informed options about best approaches for a particular learning task.

It could be that using the VAK system as well as reflective practice learning leads to more enhanced learning and development because using multiple pathways to store incoming data improves storage. Multi-sensory vs. uni-sensory teaching and learning are warranted.  
*Angela Mary Lisle in a paper presented at the British Educational Research Association, 2006*
Because manipulation and application of new information correlates with increased brain stimulation, direct lecturing and rote memorization alone are inadequate. These transfers of information will not equip students to use and think about what they have learned in the productive, meaningful ways associated with long-term memory formation. Multisensory exposure to information, student-centered activities, and discovery and hands-on-learning experiences, are the strategies most likely to build strong neuronal circuits and sustained memory storage (Reeve & Bolt, 1999).

...teachers should not try to fit their teaching to each child's style, but rather should become aware of different styles (and help students also to become aware of different styles) and then encourage all students to use as wide a variety of styles as possible. Students need to learn both how to make the best use of their own learning styles, and to understand the dangers of taking a limited view of their own capabilities.
What should we **DO** and **NOT DO** regarding learning styles?

<table>
<thead>
<tr>
<th>Should NOT Do</th>
<th>Should Do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over promote learning styles as a concept in presentations/coaching.</td>
<td>Take care to explain the term “learning profile” and the role of “learning style” in that umbrella concept.</td>
</tr>
<tr>
<td>Use/trust learning styles inventories unless they are reliable &amp; valid.</td>
<td>Acknowledge &amp; explain the concerns about learning styles by some experts.</td>
</tr>
<tr>
<td>Categorize learners by learning style, Assign students to learning style tasks without good cause,</td>
<td>Be clear that an individual learns differently in different contexts.</td>
</tr>
<tr>
<td>Generalize to an individual or to a group, Assume there are no differences in the ways students approach learning, Confuse “learning style” with “learning profile,” Eliminate options for exploration and expression of content, Use learning style as a proxy for differentiation.</td>
<td>Offer varied ways to take in, explore, and express learning.</td>
</tr>
<tr>
<td></td>
<td>Teach in a variety of ways. Emphasize the maleability of the brain &amp; stress the value of students using all their potential—even while capitalizing on their strengths.</td>
</tr>
</tbody>
</table>

**Don’t Pigeon Hole Kids**

Be wary of the reliability & validity of survey instruments.

Refrain from labeling kids.

Know that the same person will learn differently in different contexts.

Concentrate on:

1. Use multi-modal approaches to teaching and learning,

2. Options/choices for processing & demonstrating essential content,

3. Helping students know themselves as learners so they make wise decisions about how to approach learning tasks—as well as when & how to change their approach.

**Take a Look at Some Examples of Learning Profile Differentiation**

Based on what we know, decide the degree to which each example is defensible. Be ready to share the reasoning behind your perspective on each example.

---

We may **YET** find...

That what we have assumed to be a learning style works in a different way than we have assumed:

- increased student-teacher connections
- increased joy in learning
- increased student voice or creativity
- increased variety or novelty in the classroom
- a sense of personal relevance or connection

It may be that neuroscientists are hearing us narrowly because we’ve envisioned and explained the concept of learning style more narrowly than we should have.

There is something in the idea of learning style to which so many people relate, that it’s worth continuing to study what goes on in learning that is “something like” a learning style.
BOOK REPORT/BOOK REVIEW VS BOOK TRAILER

<table>
<thead>
<tr>
<th>BOOK REPORT/ BOOK REVIEW</th>
<th>BOOK TRAILER</th>
</tr>
</thead>
<tbody>
<tr>
<td>To analyze or critique a book</td>
<td>Visual images, printed text, soundtrack</td>
</tr>
<tr>
<td>Teacher is typically the audience</td>
<td>To introduce or &quot;sell&quot; the book to a real audience</td>
</tr>
<tr>
<td>Uses pen/paper or word processing</td>
<td>Or to develop a scene that wasn’t in the book but might have been</td>
</tr>
<tr>
<td>Seldom includes intermediate input from teacher</td>
<td>Begin with storyboards (need teacher approval to proceed)</td>
</tr>
<tr>
<td>Generally work alone</td>
<td>Uses i-Movies, digital video cameras, or video cameras</td>
</tr>
<tr>
<td>Uses i-Movies, digital video cameras, or video cameras</td>
<td>Can work alone or with a team</td>
</tr>
</tbody>
</table>

Synthesis Groups Task Card

(Groups of 5 comprised of students with different expressive strengths.)

Please work with your synthesis group during today’s class to:

1) Review and agree on what you believe is the key understanding or principle that best reveals the meaning of (makes sense of, is the punch line for) the unit on the circulatory system.

2) Find at least four ways/modes to express that key understanding or principle in relation to the contents of the unit.

3) Be sure each mode of expression:
   - makes clear what the key understanding or principle is,
   - illustrates how to make sense of what we have been studying,
   - accurately shows how key knowledge and skills come together to form an understanding.

4) Be ready to present your own work in two minutes or under.

5) Be sure everyone in your group can interpret everyone else’s work effectively.

The Human Digestive System (The KUDoE) Students will:

4th Grade Science

1) Understand the big idea. In this case, that (a) the human digestive system is an example of a system: a collection of two or more parts that act together to affect the whole thing, and (b) that each part is related to the others in some way.

2) Know the names and functions (jobs) of the major digestive system organs listed below, and include them in a song, story, skit, or diagram:

Mouth, teeth, saliva
Esophagus (Optional: Peristalsis, the contraction of muscles in/around the esophagus.)
Stomach — Muscles mix and mash the food. Hydrochloric acid breaks food up.
Small intestine — Place where most of the digestion and chemical change of food to simpler forms occurs.
Villi — Finger-like projections that contain capillaries — the sites in the small intestine where the broken-down (digested) food nutrients enter the blood stream.
Large intestine — Where water is absorbed back into the body and the remaining indigestible food passes to the outside.

3) Demonstrate their understanding using the correct structure and function vocabulary to show how a piece of food moves through and provides fuel for the human body — from the time it enters the mouth to the time waste leaves the body.

Howard Miller

Kate's diagram explaining how a cookie is digested
Movie Time....

In this Math Classroom, Look For:

1) Ways in which the teacher's approach does or does not see in line with experts' concerns regarding use of learning style—and why you respond as you do.

2) Why you feel the approach is likely or unlikely to help students learn and retain the concept being taught.

3) Other elements beside learning style that may be at work here to assist learning.

4) Your own questions

Sources

Coffield, F., Moseley, D., Hall, E., & Ecclestone, K. (2004). Should we be using learning styles; What research has to say to practice. The Learning and Skills Research Centre, London.


Bruce Price on a BAM Radio interview called Is the concept of learning styles bogus? <bamradionetwork.com>


U-Tube video and related publications by Daniel Willingham

Several publications by Judy Willis, MD (ASCD)