Styles & Stages:
Understanding Differences in Learning Styles and Generations

ELLEN EATON MD
CHAD BURSKI MD
Instruction begins when you, the teacher, learn from the learner. Put yourself in his place so that you may understand what he learns and the way he understands it. - Kierkegaard.
Objectives

Importance of Learning Styles
Review 2 models for Evaluating Learning Styles
Share Examples for Targeted Teaching
Why Study Learning Styles?

1. Be a Better Teacher
2. Optimize Learner’s Satisfaction, Reduce Attrition
3. Level the Playing Field
4. Allows us to Better Mentor
Caveats

No validated, gold standard to measure learning style
Requires that you know your students, continuity
Impossible to teach to varied learning styles within a group
Who has experience with LS assessment?
MBTI

Extroverts 世界 Introverts

Try it out  Think it through
MBTI

- **Extroverts**
  - Try it out
  - Sensors
    - Concrete, Detail
  - **world**

- **Introverts**
  - Think it through
  - Intuitors
    - Concept, Meaning
  - **data**
MBTI

**Extroverts**
- Try it out
- Sensors: Concrete, Detail
- Thinkers: Logical, Objective
- World

**Introverts**
- Think it through
- Intuitors: Concept, Meaning
- Feelers: Humanistic, Personal
- Data
- Decision
MBTI

Extroverts
- Try it out
- Sensors
  - Concrete, Detail
- Thinkers
  - Logical, Objective
- Judgers
  - Agenda, seek closure closure for data

Introverts
- Think it through
- Intuitors
  - Concept, Meaning
- Feelers
  - Humanistic, Personal
- Perceivers
  - adapt, postpone

world

data

decision

structure
### Show of Hands

<table>
<thead>
<tr>
<th></th>
<th>ISTJ</th>
<th>ISFJ</th>
<th>INFJ</th>
<th>INTJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISTP</td>
<td>ISFP</td>
<td>INFP</td>
<td>INTP</td>
<td></td>
</tr>
<tr>
<td>ESTP</td>
<td>ESFP</td>
<td>ENFP</td>
<td>ENTP</td>
<td></td>
</tr>
<tr>
<td>ESTJ</td>
<td>ESFJ</td>
<td>ENFJ</td>
<td>ENTJ</td>
<td></td>
</tr>
<tr>
<td>INFJ</td>
<td>INFP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatry</td>
<td>Psychiatry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>Cardiology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thoracic Surgery</td>
<td>Neurology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Surgery</td>
<td>Dermatology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pathology</td>
<td>Pathology</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INTJ</th>
<th>INTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatry</td>
<td>Neurology</td>
</tr>
<tr>
<td>Pathology</td>
<td>Pathology</td>
</tr>
<tr>
<td>Neurology</td>
<td>Psychiatry</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>Cardiology</td>
</tr>
<tr>
<td>Anesthesiology</td>
<td>Thoracic Surgery</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ENTJ</th>
<th>ENTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurology</td>
<td>Otolaryngology</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Psychiatry</td>
</tr>
<tr>
<td>Urology</td>
<td>Radiology</td>
</tr>
<tr>
<td>Thoracic surgery</td>
<td>Pediatrics</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>Pathology</td>
</tr>
</tbody>
</table>
“Classic Tetrad”

<table>
<thead>
<tr>
<th>Extroverts</th>
<th>Introverts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Try it out</td>
<td>Think it through</td>
</tr>
<tr>
<td>Sensors</td>
<td>Intuitors</td>
</tr>
<tr>
<td>Concrete, Detail</td>
<td>Concept, Meaning</td>
</tr>
<tr>
<td>Thinkers</td>
<td>Feelers</td>
</tr>
<tr>
<td>Logical, Objective</td>
<td>Humanistic, Personal</td>
</tr>
<tr>
<td>Judgers</td>
<td>Perceivers</td>
</tr>
<tr>
<td>Agenda, seek closure closure for data</td>
<td>adapt, postpone</td>
</tr>
</tbody>
</table>
Targeted Teaching

Traditional medical/science instruction oriented to INTJ

Focus on “Others”

Some Strategies are successful in all learning types
  ◦ ie) Simulation

SHINNICK, WOO. LEARNING STYLE IMPACT ON KNOWLEDGE GAINS IN HUMAN PATIENT SIMULATION. NURSE EDUC TODAY. JUNE 2014
Extrovert (vs Introvert)

Eve, 3rd yr medical student, who is very enthusiastic
First clinical rotation, she “loves” ______ (insert your rotation)
  Looks bored (facebook) when teammates reviewing literature
She is most interested in group discussion, enjoys rounds, but does not perform well when asked to “read up” on topics
How can you engage Eve?
Sensor (v Intuitior)

Sam, new R1

Briefly worked as an accountant

Graduated w/ honors from a competitive med school

Excellent ability to memorize and tests well

He pays close attention to his patients vitals, labs but has trouble translating this to more challenging diagnoses

Failed to associate SIRS physiology with impending code

How can we best teach Sam?
Feeler (vs Thinkers)

Felicia, new R2, in Med/Peds program

Graduated with average grades but outstanding CV, ran free clinic, extensive work at women’s shelter

Evaluations mention “excellent commitment to patient care,” but often violates work hours to make sure all “tucked in”

Strengths include taking patients’ social situations and relationships into account when planning discharge, transition to outpatient

Often frustrated with the impersonal medical system

How do you teach her? How do you mentor her?
Perceiver (v Judgers)

Paul is a rising 3rd year resident

Evaluations mention difficulty making decisions regarding discharge plan, defers to attending, prefers to complete entire workup as inpatient

Strengths: adapts well to dynamic clinical picture, avoids premature closure, evaluates data with “fresh eyes”

How do you teach Paul?
Extrovert
**Extrovert**

Prefers group work  
Learns by interacting with team, patients  
Engage her on 3 min walk to the ER  
Avoid recommending entire chapters of texts  
Give her projects that incorporate team, patients, text  
  ◦ Examine Mr S’s leg again and tell me which type of skin lesion, etiology he most fits based on Mandell chapter  
  ◦ Why don’t you and the resident come up with a differential for Mr A’s CP
Sensor
Sensor (v Intuitor)

Challenge him to translate relevance data
◦ “you mentioned his calcium, how does that relate to his pancreatitis?”

Encourage him to anticipate events
◦ document “if chest pain-> then _____” comments on his sign out

All about scenarios

He may fly “under the radar” because he knows his patients very well

Mentoring important- primary care, IM may not fit him best (ob/gyn, anesthesia more suitable?)
Feeler
Feeler (vs Thinkers)

Challenge her use the system- RN, CM, pharmacy, HHRN
- She can’t learn if she is too tied up in patient care

Engage her with EBM
- HTN in elderly, management of DTs

Encourage clinical decision rules, objective data
- Translate science to patient outcomes

Mentorship invaluable, high risk for burnout
Perceiver (v Judgers)
Perceiver (v Judgers)

With his input, set expectations, deadlines
- Patient care, educational ie) 5 min presentation on Fri

Have him rank likelihood of diagnoses, commit to plan

If he can’t commit, have him identify and read about data necessary for closure
- ie) if creatinine 2 or less, will d/c in am

May benefit from more autonomy
Generational Differences
• "The tough part was weeding through the massive amount of material and finding what is tested frequently."

• "Too busy….I think it would be better if there was an entire lecture solely focused on infectious (bacteria/parasites) causes of diarrhea as these are common test questions which we could easily get correct."

• "Asked us to put our laptops away……"
Objectives

- Define the generations
- Generation specific
- Generations in Medicine
Generations

Definition: a group of people whose characteristics were shaped and defined by the societal events that occurred during their formative years.

Not every member of a particular generation will share everything in common with other members of that generation.

Since generations span 15+ years, their members still have varied experiences and those on the “cusp” of previous or next generations may not fit stereotypes as well.
The Generations

4 Generations within 1 medical Center

1. Traditionalists, Veterans or Silent Generation
   ◦ Born before 1946

2. Baby Boomers
   ◦ Born 1946-1964

3. Generation X
   ◦ Born 1965-1980

4. Generation Y or Millennial
   ◦ Born 1981-2000
Silent Generation
born before 1946

• Traditional, respect authority, law and order
• Parents were strict, frugal and worried
• Married early, divorce rate rose in their mid-life
• Prized values
  • Security
  • Wealth
• Experiences
  • End of Depression
  • Social Security
  • WWII
• Technology
  • Cars
  • Radio
Silent Generation

How they learn
Silent Generation

How they teach
Congress created the Veterans Administration by uniting three bureaus — the previously independent Veterans’ Bureau, the Bureau of Pensions and the National Homes for Disabled Volunteer Soldiers. Which President signed the executive order establishing the VA on July 21, 1930.

A. President Roosevelt
B. President Hoover
C. President Reagan
D. President Truman
31ST PRESIDENT: HERBERT HOOVER
Baby Boomer
born 1946-1964

- Optimistic, generous, permissive, rebellious, ambitious
- Parents were: relaxed
- Married later, divorce rate doubled
- Prized values
  - Health and Personal success
  - “live to work”
- Experience
  - Civil rights
  - Moon landing
  - Vietnam
- Technology:
  - TV, Mainframe computers
  - Plane travel

Haynes C. Generation Gaps in Medical Education Implications for Teaching and Learning
Baby Boomer

How they learn:
Baby Boomer

How they teach
What film made from a Broadway hit won the best movie of the year Academy Award in 1961?

a. El Cid
b. Breakfast at Tiffany's
c. West Side Story
d. Two Women
What film made from a Broadway hit won the best movie of the year Academy Award in 1961?

a. El Cid
b. Breakfast at Tiffany's

c. West Side Story ✔

d. Two Women
Generation X
born 1963-1981

- Fun-loving, self-reliant, troubled, “misunderstood”, independent
- Parents were: under protective, often not home
- Prized values:
  - Diversity, balance and free time
  - “work to live”
- Experience:
  - Space shuttle and Challenger disaster
  - Watergate
- Technology:
  - Cable, PCs and Internet
  - Cassettes/CDs and VCRs
Generation X

How they learn:
Generation X

How they teach
His band was labeled "the flagship band" of Generation X, and the lead singer was hailed as "the spokesman of a generation" by rolling stones magazine. He had left behind a powerful musical legacy. Some of the era's most enduring songs including "Lithium," "In Bloom," "Heart-Shaped Box," "Pennyroyal Tea" and "About a Girl."

A. Michael Jackson  
B. Carole King  
C. Bee Gees  
D. Kurt Cobain
Millennials
born 1982-2002

- Family-oriented, mobile, brand conscious, want feedback
- Parents were: protective
- Marrying earlier again, kids when younger
- Prized values:
  - Tolerance and cooperation
  - Connection/communication
- Experience:
  - Global news
  - Iraq
- Technology:
  - VCRs to TiVo, IM/texting
  - MP3s and iPods

Haynes C. Generation Gaps in Medical Education Implications for Teaching and Learning
Millennials

• How they learn
This company was co-founded by Shawn and John Fanning and Sean Parker. It was envisioned as an independent peer to peer file sharing service. The service operated between June 1999 and July 2001. Its technology allowed people to easily share their MP3 files with other participants.

A. Gnutella
B. Limewire
C. Napster
D. Kazaa
AAMC 2008 Generational Attitudes Survey:

• Survey sent to listservs for student affairs deans and med student representatives

• Responses 16 silent, 138 boomers, 96 GenX, 212 Millennials
I learn most efficiently when I:

- Listen and take notes
- Read and take notes
- Discuss with others
- Manual activity

Legend:
- Silent
- Boom
- Gen X
- Millennial
What should determine whether or not laptops can be used in class?

- Presenter preference
- Class content requires
- Presence of patient
- Should always be allowed

Silent
Boom
Gen X
Millennial
How can we use that?

• Competition
  • When done in a friendly, relaxed environment
  • Gamification

• Team based learning
  • Experiential activities

• Incorporate technology, entertainment

• Offer variety of activities

• Frequent feedback
Differences in Attitudes about Time and Work/Life Balance

• These residents are always too busy to teach but want us to hang around and wait for something to do – it’s a waste of our time!

• I need to chose a specialty so that I’ll have time for my family and my other activities
I see being a physician as:
Plastic Surgery Faculty Experience
Potential Solutions

• Clear expectations of all team members for attendance, punctuality, how work is shared

• Formal teaching of handoffs

• Create a team
  • engage residents/students to enhance the sense of involvement/contribution

• Acknowledge life outside of residency
Small Groups

- small group learning
Take home points

• Four generations in the academic center at one time
• Generations have different learning styles
• Program modifications are needed to maximize learning while maintaining quality and core values
Google Glass handed out to all medical students at UC Irvine

Becoming the first medical school to fully incorporate the wearable tech into its curriculum, the California school thinks the device will help students with anatomy, clinical skills, and hospital rotations.

Dr. Warren Wiechmann, assistant clinical professor of emergency medicine and associate dean of instructional technologies, will oversee implementation of the Google Glass for users program at UC Irvine.
References


6. Haynes C. Generation Gaps in Medical Education Implications for Teaching and Learning ppt.


8. Ahuja, N. Medical Education: The Next Generation. ppt.