

## Faculty Development and Preparing Faculty for the Next Generation

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At the end of the session the participant will be able to:

- Identify the differences between various generations of teachers and learners.
- Understand the learning preferences of the Millennial medical student.
- Use the three components of active learning to develop a course or curriculum
- Advocate for the six critical conditions needed for faculty to teach effectively

Understand the unique qualities of today's teachers and today's learner

- The Greatest Generation – the teachers of the Baby Boomers (early 1920's to mid-1940's)
- Baby Boomers – the majority of current senior SOM faculty (1946-1961) – currently in mid-40's to early 60's
- Generation X – (1963 – 1982) junior faculty that are neither Boomers or Millennials in terms of comfort and experience w/ technology (mid-20's to mid- 40's)
- Millennials – (early 1980's to early 2000's) our current students.

## The SOM Environment for the Greatest Generation

- Virtually all men
- Life is medicine

"Between the current journal article and the omnibus obsolescent textbook, there is a great gap to be filled"

Gibson WC, Medical Education for 1980. 1945. CMAJ (1945) 53:367- 372

## The SOM Environment for the Baby Boomers

- Women in significant numbers – although still a minority
- Assumption that medicine was a lifestyle choice.
- Textbooks still primary
- Literature search required trip to library and paging through the Index Medicus

## The SOM Environment for Generation X

- 50% or more women
- Increasing focus on ambulatory care education
- Dawn of on-line medical resources through electronic access to health sciences libraries.

### Who are the Millennials?

- Virtually all of our undergraduate students and most of our medical students
- Technology is a given – being able to use it doesn't impress, how it is used does.
- Their upbringing was child centered
- Their lives are peer centered with constant, immediate communication.

### Do's and Don'ts for engaging Millennial learners.

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- DON'T waste neurons on memorization

### Millennial Teaching "Do's"

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- DO see your teaching role as facilitating learning.

### Do's and Don'ts for engaging Millennial learners.

- Process not content.
- Non-hierarchical learning – no one has all the answers.
- Use all the technological resources at your disposal – and be early adapters of new modalities
- Develop students' skills that will promote life-long learning.

### Passive and Active Learning

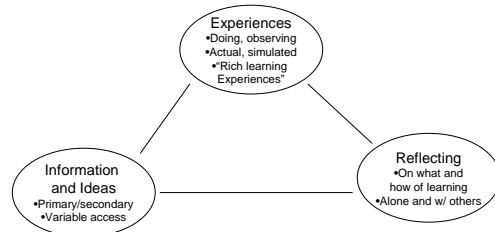


Source: Fink, 2003, page 104

## How do we (traditionally) teach foreign language?

- Fundamentals and framework first (parts of speech, gender, singular, plural, conjugation).
- Individual words
- Phrases and simple sentences
- Memorizing text and translating written works
- Conversation – comes last!

## A Holistic View of Active Learning



Source: Fink, 2003 page 107

## How did you **learn** language?

- Experience came first – listen, listen, listen then try, try, try – starting as early as 9-10 months of age.
- Reflection on the clarity of your own communication led to refinement of the process.
- The conceptual framework was built around the experience years after the language was learned.

## Holistic Active Learning

- Has all the “do’s” that Millennials desire
- More closely imitates our earliest processes of learning.
- Allows everyone in the learning environment to participate in teaching.

## What do faculty need to know?

- A holistic view of active learning implies of a cycle of information/ideas, experiences and reflection.
- The cycle can start at any point – and may be effective moving in any direction.
- Learners may prefer to start at one particular spot on the cycle – but will benefit by using different strategies.

## Passive then Active Learning

- **Anatomy** of the knee
- **Physiology** of bone and cartilage function including regeneratiave properties
- **Histologic** cartilage and bone
- **Pharmacology** of pain control
- **Biochemistry** of mineralized tissues and articular cartilage

## Passive then Active Learning

- **Growth and development** of the knee in pediatrics
- **Normal function** of the knee in primary care and sports medicine
- **Acute knee injury** in orthopedics, sports medicine, emergency medicine
- **Rehabilitation** of the injured knee in physical medicine and rehabilitation, primary care, sports medicine

## Holistic Active Learning

Case presentation:

You are skiing with a classmate who suddenly falls in your path. You avoid injury but you witnessed your classmate's fall and noticed that their foot remain frozen in their ski boot while their body twisted around their knee. Your classmate is in excruciating pain and is transported to the medical station.

- What are the possible causes of your classmate's pain?
- What do you expect to see when the knee is examined?
- What intervention and/or evaluation, if any, should be taken at this point?
- What intervention and/or evaluation, if any, should be taken long term?

It just so happens that your classmate is a figure skater who has medaled twice in the US Championships. The plan is for this skater to take a hiatus from medical school to tryout for the 2010 US Figure Skating team. However, at the present time, weight bearing on the injured knee is impossible.

- Does the student's figure skating ambitions change your plans for evaluation?
- Does this history change your plan for intervention – either now or in the future?
- How is this injury likely to impact their further figure skating success?

To answer these, what do you need to know?

- Anatomy of the knee.
- Physiology of the knee: How do the articular surfaces relate to each other? What is the purpose of the supporting ligaments? What is the role of the cartilage/menisci?
- Biochemistry of the knee. What are the regenerative properties of bone? Cartilage? Connective tissue?
- Pharmacology of pain control.

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- Highly scheduled childhood – expect structure
- Team-oriented multi-taskers
- Raised at the most child-centric time in our history (awards for participation, helicopter parents)

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- Measures of success must be clearly defined and consistently applied
- Evaluating success at multi-tasking means frequent feedback and self-assessment
- Feedback needs to be given supportively not judgmentally (formative vs summative)

## What do our teachers need to facilitate active learning?

- Awareness
- Encouragement
- Time
- Resources
- Cooperative Students
- Recognition and Reward

Source: Fink, 2003, page 198

## Awareness

- Most faculty currently in the pre-contemplation stage of teaching change.
- Move to the contemplation stage may come as the result of some discomfort
  - Lack of student attendance at lectures.
  - Decline in student evaluations
  - Poor student performance on exams
  - Self-comparison to teachers of active learning.
- Move to contemplation stage may come as an epiphany – faculty development programs, etc.

## Encouragement

- An institutional issue – how much do we value our teachers and their teaching?
- How is teaching – particularly new approaches to teaching – supported?
- Grass roots efforts may be the sole source of encouragement (or the safest!)
- Role models – do they exist and are they identified?

## Resources

- Institutional role models
- Interest groups (institutional and within professional societies)
- Faculty development at local and national level
- Catalogue of on-line and print materials w/ examples of successful active learning efforts, evaluation strategies, approaches to course design.

## Time

- Institutional time for new techniques to be recognized and appreciated – creating a “buzz” about active learning.
- Faculty development time with seminars, workshops, group experiences, peer observation.
- Course re-design – starting (somewhat) from scratch w/ a new mindset.

## Cooperative students

- While this may fit the Millennials preferences it most likely does not fit their experience.
- Discomfort – and resistance – will arise as the “rules” change mid-stream.
- A really good experience (w/ the first classes, first feedback, first activities) can help break down resistance.

## Recognition and Reward

- Teaching as a primary domain of excellence needs to be recognized both by the institution and by peers.
- Hiring faculty primarily as teachers and developing pathways for their academic advancement will elevate the status of all teachers.
- Benchmarks that allow faculty to evaluate their progress and that set standards for reward are critical (i.e. educational incentive plan).

## In summary:

- There exists a disconnect between the traditional passive/active sequencing of teaching and the learning preferences of today's medical students.
- Holistic active learning represents a model that effectively engage medical students and support medical education.

## In summary:

- Faculty development is vital in promoting and sustaining active learning
- Rewards – both financial and in terms of faculty advancement – will legitimize and help support the needed changes in medical education.