THE LEARNING ENVIRONMENT: REVISITING OUR ROOTS

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Macon and Savannah
WHY ARE WE HERE?

- Increasing awareness of “process drift”
- Expanded preclinical education to the Savannah Campus
- Increased the number of students in each class from 60 to 100+
- Hired full time and part time faculty as tutors, while providing little formal orientation and continuing education to tutors
- Begun to educate students known collectively as the “millennials” and the “Net Generation.”
LEARNING OBJECTIVES

• Identify generational differences that influence the learning environment
• Define active learning
• Review the general principles and practices of group process in active learning
• Describe the role and expectations of a small group tutor at MUSM
• Describe the role and expectations of a student in a small group at MUSM
“Our youth now love luxury. They have bad manners, contempt for authority; they show disrespect for their elders and love chatter in place of exercise; they no longer rise when elders enter the room; they contradict their parents, chatter before company; gobble up their food and tyrannize their teachers.”

Socrates  469 BC-399 BC
THE MILLENNIALS
# Generational Values - World Events

<table>
<thead>
<tr>
<th>Group</th>
<th>World Events</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Greatest Generation</strong></td>
<td>Great Depression-Public Works- WW II-Pearl Harbor-Korean War</td>
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<tr>
<td>1925-1944</td>
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<tr>
<td><strong>Baby Boomers</strong></td>
<td>Economic Prosperity-Vietnam War-Civil Rights Movement-Sexual Revolution</td>
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<tr>
<td>1945-1964</td>
<td>Sit ins-Protests-Marches</td>
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<tr>
<td><strong>Gen X’ers</strong></td>
<td>Watergate-Corporate Raiders-Fall of the Berlin Wall-Gulf War-Hi Tech Warfare</td>
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<tr>
<td>1965-1984</td>
<td>PC Boom</td>
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<tr>
<td><strong>Millennials</strong></td>
<td>Terrorist Attacks-9/11-Oklahoma City-Internet Boom-World Without Boundaries</td>
</tr>
<tr>
<td>1985-2005</td>
<td>Few Barriers To Communication-School Violence</td>
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</tbody>
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Gen Y, Net Generation, Gen Me, Digital Generation

Adapted from Howe Associates, Inc.
## Generational Values

<table>
<thead>
<tr>
<th>Group</th>
<th>Technology View</th>
<th>Institutional View</th>
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</thead>
<tbody>
<tr>
<td>Greatest Generation (1925-1944)</td>
<td>Lived without many of today’s necessities-Party lines and Radio</td>
<td>We benefit from strong institutions</td>
</tr>
<tr>
<td>Baby Boomers (1945-1964)</td>
<td>Beta Testers-Technology brings problems as well as solutions</td>
<td>We must shape our institutions</td>
</tr>
<tr>
<td>Gen X’ers (1965-1984)</td>
<td>Everyday necessity-Critical tool to control life</td>
<td>We should be interactive with our institutions</td>
</tr>
<tr>
<td>Millennials (1985-2005)</td>
<td>Extension of their being-Social Networks-Cell phones, Mp3s, Laptops, all in ones</td>
<td>Institutions are there to support our needs</td>
</tr>
</tbody>
</table>

Adapted from Howe Associates, Inc.
<table>
<thead>
<tr>
<th>Generator</th>
<th>Millennial</th>
<th>Gen X</th>
<th>Boomer</th>
<th>Silent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Use (24%)</td>
<td>Technology Use (12%)</td>
<td>Work Ethic (17%)</td>
<td>WW II, Depression (14%)</td>
<td></td>
</tr>
<tr>
<td>Music/Pop Culture (11%)</td>
<td>Work Ethic (11%)</td>
<td>Respectful (14%)</td>
<td>Smarter (13%)</td>
<td></td>
</tr>
<tr>
<td>Liberal/tolerant (7%)</td>
<td>Conservative/Trad’l (7%)</td>
<td>Values/Morals (8%)</td>
<td>Honest (12%)</td>
<td></td>
</tr>
<tr>
<td>Smarter (6%)</td>
<td>Smarter (6%)</td>
<td>Baby Boomers (6%)</td>
<td>Work Ethic (10%)</td>
<td></td>
</tr>
<tr>
<td>Clothes (5%)</td>
<td>Respectful (5%)</td>
<td>Smarter (5%)</td>
<td>Values/Morals (10%)</td>
<td></td>
</tr>
</tbody>
</table>

Pew Research Center, 2010
MILLENNIAL TRAITS

- Content, optimistic, self-assured
- Entitled, indulged, narcissistic
- Buckled up and helmeted
- Reminded of deadlines by parents
- May expect extra help or resources
- Identity does not come from being a doctor; rather being a doctor is a job
MILLENNIAL TRAITS

- Pressured to excel
- Study hard
- Avoid personal risks
- Strong attachments to family
- Community building
- Interested in fairness
- Global perspective
- Motivated by achievement and affiliation
LEARNING MILIEU

- Attracted to teamwork and may be more comfortable working in groups
- Want more hands-on, inquiry-based approaches to learning
- Regard peer group members as important learning resources, and methods to capture this knowledge and link learners together are required
- Prefer to be actively engaged in tasks rather than reading or writing, and their motivation to learn comes from active involvement
- Prefer a clear learning outcome to their task rather than ambiguity
- Prefer a structured learning environment; anxious in new learning situations
- Curious, motivated to learn, seek novel answers
- Move quickly to problem solving
- Easily distracted
TECHNOLOGY

- Inappropriately multitask
- Use social networking extensively
- Do not always understand how their use of technology affects their learning
- More likely to look for information online
- Want immediate answers
- Preference for text, e-mail, voice mail
PROFESSIONALISM

- Perceived as lazy, selfish, motivated
- Define appropriate and inappropriate behavior
- External rewards/consequences
- Desire for work-life balance may be misinterpreted as professionalism issues
- Expect an environment where the lines of communication and rules are explicit and firm
MENTORING

- Parents have told them they are special
- They have high expectations of themselves and need to be challenged
- Prefer to work with superiors who are approachable, supportive, good communicators, good motivators, and respectful
COMMUNICATION

- Difficulty with problem solving, failure, learning from mistakes
- Whatever you feel is okay, share opinions and feedback without respect to appropriate organization hierarchy
- Want feedback and want it immediately
- Have difficulty accepting negative feedback
- Will question why they need to learn something
What are the implications for medical education?
POTENTIAL STRATEGIES

- Technology free zone/time
- Mindfulness/Self reflection
- Clear rules about multitasking
- Teach contextually (case presentations, group discussion)
- Don’t assume anything is common knowledge
- Clearly delineate appropriate and inappropriate behaviors
- Provide immediate and summative feedback
- Emphasize opportunities for additional support and help
- In “loco parentis”; need a safe environment
- Focus on developing priorities
- Feedback should be immediate, behaviorally based, specific
- Use praise liberally, publically acknowledge successes
- Show respect in interactions; they respond poorly to those who act in an authoritarian manner
IT IS A TWO-WAY STREET!
Communicate!
Collaborate!
Connect!
WHAT IS ACTIVE LEARNING?
LEARNING STYLES

- There are individual differences in learning styles:
  - Visual
  - Auditory
  - Reading/writing
  - Kinesthetic
- Most learners are multimodal (but NOT multitaskers)
- More than one mode at a time increases learning capacity over a single mode.
CONE OF LEARNING

WE TEND TO REMEMBER OUR LEVEL OF INVOLVEMENT

(developed and revised by Bruce Hyland from material by Edgar Dale)

10% of what we read
20% of what we hear
30% of what we see
50% of what we hear and see
70% of what we say
90% of what we both say and do

Reading
Hearing Words
Looking at Pictures
Watching a Movie
Looking at an Exhibit
Watching a Demonstration
Seeing it done on Location
Participating in a Discussion
Giving a Talk
Doing a Dramatic Presentation
Simulating the Real Experience
Doing the Real Thing

Verbal Receiving
Visual Receiving
Receiving and Participating
Doing

Passive
Active
ACTIVE LEARNING

• An instructional method that engages students in the learning process
• Responsibility of learning is on the learners
• Students must engage in higher order thinking tasks such as analysis, synthesis, and evaluation
• Requires learner to reflect upon their own knowledge, understanding or skill
LCME DEFINES ACTIVE LEARNING AS

- The process by which a medical student
  - 1) independently, or collaboratively with peers, identifies learning objectives and seeks the information necessary to meet the objectives (educational) and/or
  - 2) contributes to the learning of a group with information that he/she prepares and discusses.

- In active learning, the learner has role in defining his/her own learning outcomes and/or those of his/her peers.

- Active learning does not include formats such as audience response system or faculty-led small group sessions where the faculty member has determined what and how students should learn.
PRINCIPLES OF ACTIVE ADULT LEARNING

- **Process:** Active learning fosters teamwork, collegiality, and professionalism
- **Content:** Active learning fosters retention of knowledge for better performance over time.
PRINCIPLES OF ACTIVE ADULT LEARNING

- Learners need to know what is expected
- Adults learn best when they are invested in the learning process
- Learners must understand the relevance of what is being taught (is this something I’ll really do?)
- Teach at appropriate level
- Learners are responsible and self-directed
- Respect is shown to everyone
TYPES OF ACTIVE LEARNING

- Collaborative Learning: any instructional method in which the emphasis is on student interactions rather than learning as a solitary activity.
- Cooperative Learning: Cooperative incentives rather than competition to promote learning.
- Problem-based Learning: instructional method where relevant problems are introduced and provide the context and motivation for the learning that follows. Active and usually collaborative or cooperative. Involves significant amounts of self-directed learning.
Problem Based Learning
PBL Model (as defined by Barrows)

• Student Centered Learning
• Learning occurs in small groups, 6-10 students
• Facilitators or tutors guide the students, rather than teach
• A problem forms the basis for focus of group and stimulates learning
• A problem is the vehicle for development of problem solving skills
• New knowledge is obtained through self-directed learning (SDL).
  • Agreement on general definition; implementation varies

Barrows H. Problem-based learning in medicine and beyond: a brief overview. New Directions for Teaching and Learning. 1996(68)3-12.
PBL: WHAT WORKS

- Initial discussion leads to activation of prior knowledge which is used to construct a theory explaining the phenomena illustrated in problem
- Problems drive situational interest
- Increased feelings of “at home”,
- Tutor’s ability to support student learning on a just in time basis
- Students more ardent users of library resources. Early in PBL, students more likely to stick to learning issues
- Group learning and individual knowledge acquisition contribute equally to learning in PBL

PRINCIPLES OF PBL at MUSM

- Case/problem-centered not assignment-centered
- Student-directed / not teacher-directed
- Contextually-grounded [situated] not context-free
- Interdisciplinary
- Supported by a “rich tutor-student interaction” in and out of the classroom
- Designed around small groups
- Focused on developing life-long/independent learning skills
Faculty Guidance on Process

- Learners should be encouraged to acquire information by:
  - Developing their own questions
  - Systematically evaluating sources, and
  - Selecting evidence to support their answers
- Teachers must find ways to exploit information skills of learners without accommodating instant gratification and shallow thinking.
A learning issue is a question or problem raised about a specific aspect of a biomedical problem (BMP). It focuses on a concept, not a single fact.

In the BMP, they are the foundation for active learning. The purpose of generating issues is to:

- Identify and verbalize weaknesses or gaps in knowledge necessary to understand and discuss the problem at the molecular through the community levels.
- Guide appropriate self-directed study by the students in seeking relevant answers or solutions.
- Guide focused, productive group discussions of the basic science information and concepts relevant to the BMP under consideration.
AT MUSM PBL IS ACTIVE LEARNING

- An instructional method that engages students in the learning process
- Responsibility of learning is on the learners
- Students must engage in higher order thinking tasks such as analysis, synthesis, and evaluation
- Requires learner to reflect upon their own knowledge, understanding or skill
ROLES AND EXPECTATIONS OF TUTORS AND STUDENTS
BEING AN EFFECTIVE TUTOR

- Display a positive attitude. Be enthusiastic!
- Model professional behavior
- Understand and follow rules of the BMP program
- Promote group interaction and time management
- Foster integration of knowledge:
  - Patient awareness, even with a paper case
  - Clinical applications
  - Biomedical knowledge
  - Translational research
- Be prepared and familiar with the subject matter:
  - Depth and breadth of knowledge
  - Objectives
  - Resources

Source: Being an Effective Tutor, MUSM
The tutor’s role is to facilitate student discussion, not ‘teach’. The goal is to talk <10% of the time.

Involve all students in the discussion
- Each person contributes 5 to 20% on average
- Curb talkative students; encourage reticent students

Manage the time appropriately.

Be familiar with goals for each case and for the phase.

Be familiar with learning objectives the students are expected to address.

Behave as an equal group member when contributing to the discussion.
DISCUSSION DRIVERS: LEARNING ISSUES

The Tutor’s Role is

To facilitate the generation and prioritization of issues which are necessary and sufficient to guide the group to an adequate understanding of the problem and science related to the problem

Source: BMP Manual
CHARACTERISTICS OF ISSUES

- Issue doesn’t necessarily have to be in the form of a question.
- How the question/problem is stated has a tremendous impact on the nature of the discussion.
- Usually questions or problems which engender short answers don’t lend themselves to in-depth understanding.
- Short answers are not to be avoided completely because they can be important in determining direction or a broader learning issue.
- Issues shouldn’t be so broad as to be ill-defined.

Source: BMP Manual
TUTOR GUIDANCE

- Learners may not spontaneously identify the information deemed important by an expert.
- Unguided instruction is less effective and may have negative results if learners acquire misconceptions or incomplete or disorganized knowledge.
- Educational research based upon human cognitive architecture supports providing direct, strong instructional guidance for novice to intermediate learners.
LEARNING ISSUES

- Identify learning issues.
  - Don’t just work through a list of facts.
  - Don’t jump to conclusions.
  - You won’t get answers until you can identify the problems and ask the relevant questions.
PRINCIPLES OF GOOD TEACHING

- Tutor by:
  - Getting a commitment
  - Questioning to elicit the learner’s thought process
  - Providing general rules
  - Giving direction
  - Correcting mistakes

- Key Concepts for Good Tutors:
  - Wait 3 seconds after asking a question
  - If you don’t know, say you don’t know
  - Remember that example speaks louder than words (do what I do, as well as what I say)
FACILITATING GROUP DISCUSSION

- **Be humble.** The session should bring out the best in the learners, who should be the focus of the experience. This is not the time to impress everyone with your brilliance.

- **Be patient.** Learners come from different backgrounds and are at different levels of knowledge, skill, and experience. Work with what you’ve got.
The group works best when members are collegial:

- The session is about teamwork.
- The group process works poorly when individuals talk just to *tell* others what they know; the process works well when individuals talk to get others to *understand* what they know.
FACULTY-STUDENT INTERACTION

- Students seeking validation may misinterpret faculty feedback as personal criticism.
- Students who utilize feedback are able to:
  - Know limitations;
  - Seek more feedback for self-monitoring;
  - Gain confidence related to actual abilities;
  - Learn from observing others.
- Interactions promote a commitment to excellence.
MENTORING

- Students may perceive that interaction with faculty will increase their motivation to please faculty, and they will want to avoid disappointing faculty.
- However, this contractual relationship will require greater work on the part of the student. They may equate interaction with commitment.
- Thus, students may avoid faculty interaction to reduce the potential cost of effort.
MENTORING

• Students may tend to treat interactions on a social level, while faculty are trained to approach their work as physicians / scientists seeking answers and explanations impassively.

• Academic interactions between faculty and students, however, have greater impact upon student success than social interactions.

• Define (faculty) and learn (students) the boundaries.
SMALL-GROUP LEARNING RECAP

- Fosters interaction & active engagement
- Encourages a climate of mutual support
- Promotes learning when the group, not the tutor, is ultimately responsible for its climate and functioning
- Develops problem solving skills so that students retain knowledge longer (particularly if PBL is coupled with instruction in problem solving)
PRACTICE CASE INSTRUCTIONS

Small Group
- Divide into small groups
- Choose a facilitator
- Open the case
- Generate the learning issues
- Discuss the case (as time permits)

Large Group
- Debrief the experience focusing on the process
DEBRIEFING QUESTIONS

How Millennial are You? Pew Research Foundation

Azer S. Challenges facing PBL tutors: 12 tips for successful group facilitation. Medical Teacher 2005, 27(8), 676-681

Barrows H. Problem-based learning in medicine and beyond: a brief overview. New Directions for Teaching and Learning. 1996(68)3-12.


RESOURCES, cont.


- Tutor Development Team. Being an Effective Tutor. Mercer University School of Medicine