Session # T154
Enhancing Physician Assistant Student Performance and Satisfaction with Clinical Anatomy

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Instructional Objectives

- Discuss research on program alignment to achieve meaningful learning
- Review survey tool to audit PA students’ study strategies
- Discuss matching student learning styles to teaching–learning methods
- Design auditing tool to help students’ identify and use effective learning strategies
- Discuss role of clinical anatomy in helping PA students transition to effective adult learners
The problem:

- Students with weak anatomy background
- UG anatomy courses focus on memorization, rote learning
- Limited UG experience in applying information in problem-solving
- UG preferred learning style: Teacher dependent: attend class; read power point slides; use textbook as reference only; practice test questions
The Problem: some students have poor outcomes and are dissatisfied

- A mismatch between student and program expectations
  - Student expects to;
    - Memorize facts presented by teacher in class
  - Instructor/Program expects;
    - Understanding and application of information to clinical scenarios
    - Use of anatomical knowledge in problem-solving
    - Retention of information for subsequent clinical courses
Goals of an Effective Clinical Anatomy course:

- Facilitate meaningful learning
  - Material is fully understood
  - Students can form relationships among new and old knowledge
  - Students can apply knowledge

- Provide good alignment among
  - How the course is taught (learning environment)
  - How the material is being learned by students
  - How it is tested
Program Alignment to Facilitate Meaningful Learning

- **How is it taught?**
  - What resources make up the learning environment?
  - What fraction involves student active engagement?
  - What fraction is directed at rote outcomes?
  - What guidance/support is available for effective use of materials?

- **How is it being learned?**
  - What/how many resources are used by students?
  - What fraction involve active engagement?

- **How is it tested?**
  - Do assessments evaluate meaningful learning or rote?
Our Learning Environment

- Orientation – before classes start
  - VARK Inventory – Help students identify learning styles
  - Independent v. Dependent Learning
  - Building, Guiding and Coaching your Team

- Orientation to Anatomy course
  - What is regional anatomy
  - What is clinical anatomy
  - The learning environment
Our Learning Environment

- **Lecture**
  - Textbook
  - Electronic atlas – Primal Pictures
  - Weekly short quizzes

- **Lab – Team-based learning – students in groups of 4**
  - Gross Anatomy
    - Stations – prosected cadavers, cadaver specimens, models, images; Lab sheets – guided learning
    - Weekly pre-lab “team leader” sessions
  - Clinical correlations lab
    - Interrupted case studies – active problem-solving, report
  - Optional “open gross lab” for self-study
Additional Learning Support
- Electronic “Chalk Talks” – on selected topics that are challenging for some students
- “Near Peer” tutors – 2nd Year students

Testing – Using Exam Soft
- Tagging questions –
  - Program objectives
  - Course Unit objectives (content)
  - Bloom’s levels
  - Students receive feedback regarding the types of questions they answered incorrectly
Prior to each exam – Student Survey

List all learning resources – Students rate

• Which resources they used to study for this test
  • Generally do NOT use this
  • Generally use this
• If you marked “generally use this”, then rate how useful it was to you
  • 5–point scale: 1 – Extremely useless, 2 – useless, 3 – neutral, 4 – useful, 5 – extremely useful

Correlations between performance and use of resources
Feedback to Students – stimulate reflection and adjustment

- From Exam Soft
  - Unit objectives tagged to student’s incorrect answers
  - Level of questions incorrectly answered
  - Outcome – student learns where deficiencies are; there is a focus for improvement

- From Audit
  - From other research – effective students use ~ 4 or more different types of learning resources

- Facilitate reflection – and modification for improved success
Discussion and Questions
Selected References


