Educating Future Educators

A teaching and learning course designed for anatomy fellows

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Session Objectives

After attending the session on Educating Future Educators: A teaching and learning course designed for anatomy fellows, you will be able to:

1. Describe the components of a teaching and learning course designed for undergraduate anatomy fellows.
2. Discuss the benefits of training future educators how to educate effectively.
3. Describe the use of adult learning theory in a course aimed at teaching students educational methods.
Student Fellowships in Osteopathic Medical School

Clinical Anatomy, Osteopathic Manipulative Medicine
  • Focus on teaching and research

Why apply?
  • Increase competitiveness for residency programs
  • Defray tuition costs
  • Gain teaching experience
Student fellows are often required to teach

KCU Clinical Anatomy Fellows (6 for AY15-16)

• Give lectures and teach in labs; work with anatomy tutors

• No formal instruction or training on how to teach

*We cannot become effective teachers unless we first understand learning!*

How do we learn?
Experiential learning: learning occurs through experience

There are two parts to every good learning encounter:
1. Grasping (perception) – take in information
2. Transformation (processing) – do something with the information

- David Kolb

The Cone of Learning

Source: Edgar Dale (1969)
Establish a course of study to provide fellows with the requisite knowledge to effectively deliver educational materials to adult learners based on current best practices.

- Core elements are student activity and engagement.
- Shift the focus from a teaching-centric approach to a learning-centric approach.
- The role of the teacher is one of ‘facilitator’ of the learning process and as a ‘resource’ for the learner.

This stands in contrast to the “transmission” model where pre-existing fixed ideas are transmitted to the learner passively.
Foundations of teaching and learning course

Semester 1
• Focus on learning theories and best teaching practices
• Opportunities to practice
• Journal club weekly with an emphasis on educational research (10 sessions)
• 32 hours of instruction (didactic presentations, active learning, and student-led presentations)

Semester 2
• Focus on implementation and evaluation
• Application of the content from Semester 1
• Independent study
Semester 1: theory and practice

- Kolb learning styles
- Introduction to basic learning theories (socialist, constructivist, behaviorist)
- Metacognition and cognitive science (spacing, testing, interleaving, blocking etc.)
- Writing instructional objectives
- Writing Multiple Choice Assessment Items (with follow-up)
- Microteaching – practicing new teaching methods
- Teaching Perspectives Inventory (TPI) [http://www.teachingperspectives.com/tpi/](http://www.teachingperspectives.com/tpi/)
- Basic curriculum design principles (Kern 6 step guide to curriculum design)
- Skills teaching I - Individual presentations on non-medical skill set
- Skills teaching II - Individual presentations on medical skill set
- Art of observation
- Presentation of project proposals for next semester

Make it active!!!
Kolb learning styles

Elizabeth Armstrong, PhD
Harvard Medical School
Experiential learning: In an idealized learning encounter, the learner experiences, reflects, thinks, and acts.

**Why?**
Activate prior knowledge

**What?**
What is new knowledge?

**How?**
Practice

**If?**
Do it

**Q 1 Why?**
Activate prior knowledge

**Q 2 What?**
What is new knowledge?

**Q 3 How?**
Practice

**Q 4 If?**
Do it

Elizabeth Armstrong, PhD
Harvard Medical School
Writing instructional objectives

Pre-class assignment: Bring 2 examples of a good objective and 2 examples of a poor objective (good and poor are subjective).

In-class: 3 domains of learning (knowledge, attitude, skills) and Bloom’s taxonomy

<table>
<thead>
<tr>
<th>A = Audience</th>
<th>Who is the learning directed toward</th>
<th>Participant, student, resident, learner</th>
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<tbody>
<tr>
<td>B = Behavior</td>
<td>What will they know as a result of this educational lesion</td>
<td>Will be able to...list, apply, distinguish, demonstrate (use learning domains from Bloom)</td>
</tr>
<tr>
<td>C = Condition</td>
<td>Information that you provide</td>
<td>Lecture, case study, demonstration, reading assignment, outline, etc.</td>
</tr>
<tr>
<td>D = Degree</td>
<td>Level of achievement needed to indicate appropriate performance</td>
<td>To a degree of accuracy (90%, 100%, 3 out of 4 times), in accordance with AOA guidelines</td>
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Example: As a result of participation in the Writing Instructional Objectives workshop, the learner will be able to write an objective using the ABCD method with 100% accuracy.
Microteaching

Provides an opportunity to practice new teaching styles and strategies

Provides an opportunity to observe and analyze brief presentations by each teacher

Provides an opportunity to practice and evaluate the learning principles that guide different teaching formats

Roles involved in microteaching
1. Educator/teacher for the ‘micro-teach’
2. Consultation team to provide feedback
Apply the information presented in the Theory and Practice course (semester 1) in the creation of presentation materials given to first year medical and graduate students.

Learners will develop and present one presentation with associated learning objectives and test questions.

Learners will organize a representative module for a course for one anatomical region, which may include relevant course material in embryology, histology, gross anatomy, and/or pathology at the graduate program level.

Independent study with 1 on 1 meetings for guidance, review, and mentoring so they are using best-practices to meet the course objectives.

Semester 2: implementation and evaluation
Evaluation

Semester I: Theory and Practice
• Attendance and participation
• Class project demonstrations
• Participation in discussions
• Presentation of a project proposal

Semester 2: Implementation and Evaluation
• Teaching graduate level students (DO, MA): did learning principles drive delivery?
• Learning objectives
• Exam questions
• Design of curriculum (e.g., course with cadaveric dissection)
Semester 1 (theory and practice) outcomes

100% of learners were satisfied with both the course content as well as teaching format

100% of learners felt learning objectives were met

100% of learners felt actively engaged during learning activities
Semester 1 (theory and practice) comments from fellows

• I will be using most of these new methods in my lectures next semester.

• This was the most relevant class in our fellowship masters curriculum thus far.

• The interactive sessions (microteaching, skills teaching) were very helpful in practicing important teaching skills.

• I have learned so much through all the readings and activities. I have already improved my teaching in lab. All the activities had purpose and value. The class was very enjoyable and the material was presented very well.

• This class was extremely helpful and eye opening. The content was engaging and not boring.
Future directions

1. Expand program to include both anatomy and OMM fellows (12 total participants)

2. Evaluate progress using a competency model of assessment
Competent or not competent?

Teaching and Learning Course Competencies

Writing Multiple Choice Test Questions – Taylor, Nicolina

Writing Multiple Choice Test Questions - Abejo, Amard John

☐ Attend at least 1 KCU faculty development presentations on writing MCQs

☐ Complete NBOME online item-writer training course (Item Writing 101)

☐ Submit 5 example MCQs to faculty development committee

☐ Select All

☐ Flag this checklist for later review

Enter comments...

Submit Competent
Submit Not Competent
Acknowledgements

• KCU Anatomy Fellows

• Bruce Dubin, DO, JD; KCU Dean and Provost

• Elizabeth Armstrong, PhD; Harvard Macy Institute

• Elizabeth McClain, PhD; William Carey University
References

1. Experiential Learning: Experience as the Source of Learning and Development (Kolb 1984)
3. Costin institute – writing instructional objectives
6. Waller, K.V. Writing Instructional Objectives. NAACLS Board of Directors.
Questions?