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Woodruff Health  
Educators Academy

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# WHEA EXPLORATIONS IN TEACHING AND LEARNING

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## EDITOR'S NOTE

Ulemu Luhanga, MSc, MEd, PhD  
Co-Director  
Woodruff Health Educators Academy  
(WHEA)

One of the program deliverables for the WHEA Teaching Fellowship is a 'Small Teaching' Reflection Report. Fellows are asked to pick a topic/concept that was covered during the program and use the Experiential Learning Cycle to 'test' out a small but powerful modification to their teaching design or practices. This newsletter represents a compilation of reports from the 2019 WHEA Teaching Fellows.



## DIRECTOR'S REFLECTIONS

Taryn Taylor, MD, MEd  
Co-Director  
WHEA Teaching Fellowship

The WHEA Teaching Fellowship was developed to support the professional development of individuals who are passionate about teaching and learning.

The inaugural cohort of fellows explored topics that ranged from curriculum design and evaluation to learner engagement and reflection. They had the opportunity to collaborate with one another and gain from each other's wisdom and interprofessional experiences. They stretched themselves to experiment with new techniques and incorporate innovative strategies into their educational toolbelt. We are excited to showcase their evolution as educators and eagerly anticipate them emerging as educational leaders within the Woodruff Health Science Center.



*Written by Karima Benameur, MD  
Assistant Professor  
Emory University School of Medicine  
Neurology*

**CONTEXT:**

Digital learning is one of my interests. I created an online course using videos and 3D animations to teach neuroanatomy. My videos were 30-40 min long, I thought the duration was reasonable to absorb new materials. It turns out, learning happens mostly in 2-3 min chunks, especially when a lot of new information is being presented.

**SELECTED TEACHING & LEARNING TOPIC:**

Techniques and Strategies for Learning and Teaching, Principles of Instructional Design, Contemporary Feedback Models

**LESSONS LEARNED:**

Chunking teaching, using digital tools to divide up an online course and concepts presented, using appropriate feedback models to evaluate the course.

**IMPLICATIONS FOR FUTURE PRACTICE / TEACHING TIPS:**

I redesigned my entire course to divide the videos into each new concept learned, and add iterative testing throughout the lecture, in addition to the quizzes I had at the end. I will be testing this new course design soon and feel excited to learn how it improves my course.



*Written by Sarah Blake, PhD, MA  
Assistant Professor  
Director of Graduate Studies  
Chair, Education Committee  
Rollins School of Public Health*

**Goal:** To apply Gagne’s Nine Levels of Learning to the instruction of School of Medicine faculty on teaching advocacy skills to medical students.

**CONTEXT:**

In January 2020, I led a session for the School of Medicine’s Learning to Be Better Teachers Conference that focused on teaching the importance of addressing advocacy AND building advocacy skills in the health sciences curricula. This served an opportunity and challenge to teach to a new audience and to strategically integrate a learning theory into my lecture.

**SELECTED TEACHING & LEARNING TOPIC:**

Gagne’s Nine Levels of Learning provides instructors a structure to support learners through nine specific steps.

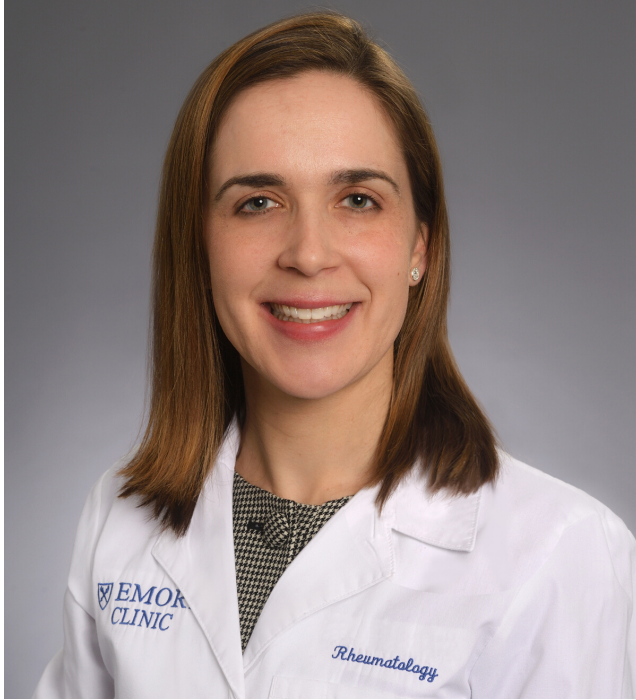
My session focused on two major domains of this structure that seemed feasible for a two-hour lecture- Preparation, and Instruction and Practice. In the Preparation stage, I identified and discussed the learning objectives as well as created a poll at the beginning of the lecture to stimulate participants’ recall of advocacy and health policy prior to learning. In the Instruction and Practice stage, I developed a didactic lecture and led a group discussion on the foundations of advocacy, healthcare-specific advocacy, and recommendations for building advocacy in the classroom. Participants were asked to provide feedback from the lecture through an evaluation survey.

**LESSONS LEARNED:**

This small teaching experience taught me about the importance of intentionally incorporating and assessing learning objectives into my teaching. This was particularly useful for me as I engaged with a new audience of learners and delivered the content in a new way. Additionally, I learned that it is important to incorporate a variety of learning assessment techniques. The polling, group discussion, and evaluation components served as a dynamic set of learning tools to assess both instructor performance and participant knowledge and experience.

**IMPLICATIONS FOR FUTURE PRACTICE / TEACHING TIPS:**

It is critical to integrate adult learning theory into teaching, and for health sciences curricula, this is especially important in order to achieve measurable learning outcomes, I am really pleased with my experience using Gagne’s Nine Levels of Learning and will plan to apply this framework in all future teaching opportunities.



*Written by Jennifer E. Brandt, MD  
Assistant Professor  
Emory University School of Medicine  
Medicine*

#### **CONTEXT:**

With the help of rheumatology fellows and faculty, I taught first year medical students about the musculoskeletal physical exam in an OSCE suite that contained several small groups and small group leaders.

#### **SELECTED TEACHING & LEARNING**

##### **TOPIC:**

We used experiential learning with informal formative feedback for the students to practice and learn the musculoskeletal physical exam. Feedback was driven by student questions.

#### **LESSONS LEARNED:**

As I was teaching, I wanted to compare and contrast the normal exam with pathology that I described to the students but would have loved to have had more pictures or models at hand for demonstration. I also noted that hands on practice as a “test” at the end of the session may have been helpful for some students who were unsure of how to structure the practice time.

#### **IMPLICATIONS FOR FUTURE PRACTICE / TEACHING TIPS:**

In the future, I would like to engage rheumatology fellows and faculty with extra pre-session practice to clarify teaching goals and allow for consistency across teaching groups. I would like to have concrete, mutually created learning goals to guide our session. Additionally, I would like for each student to demonstrate the musculoskeletal physical exam prior to leaving the session to allow for formative and summative feedback opportunities.



*Written by Abby Britt, CNM, MA Public Anthropology Instructor  
Certified Nurse Midwife  
Emory University School of Medicine  
Gynecology and Obstetrics*

**CONTEXT:**

Designing breastfeeding curriculum for third year Emory medical students completing their OBGYN Clerkship.

**SELECTED TEACHING & LEARNING**

**TOPIC(S):**

Principles of Instructional Design, applied Gagne's events of instruction model to development of an educational activity

**LESSONS LEARNED:**

I learned that it is important to have a template when designing an instructional activity. By following the guidance provided by Gagne's events of instruction model I had a clear roadmap of how to design the breastfeeding curriculum to be compelling, engaging, and concise.

**IMPLICATIONS FOR FUTURE**

**PRACTICE:**

Now that I know that there is specific theory and reasoning behind curriculum design, I plan to use it in all future educational endeavors.

**TEACHING TIPS:**

An ounce of preparation in curriculum design is worth a pound of revision later!



*Written by Yelena Burklin, MD  
Assistant Professor  
Site Assistant Director for Education  
Emory University School of Medicine  
Medicine*

#### **CONTEXT:**

**Learners:** Peer or near peer academic hospitalists - multi-disciplinary healthcare providers (MDs, APPs, DOs)

**Background:** Utilization of interactive teaching modalities is important in modern academic environment. It secures inclusive teaching, engages various levels of learners, and allows for a higher rate of retention of didactic material that is being delivered.

**Personal interest:** It stems from the observation that interactive teaching modalities in academic medicine are underutilized.

#### **SELECTED TEACHING & LEARNING TOPIC(S):**

The following learning theories will be applied:  
**Self-directed learning** – there is a need and a goal. Need to properly utilize resources and establish an effective way to evaluate the outcome.

**Experiential learning** – doing, reflecting, concluding, and planning for the next phase of utilization of interactive teaching modalities.

**Social learning** – observed strategies and approaches over the years that work and those that don't work for our learners in academic medicine.

**Mezirow's Transformative learning** – transforming a disorienting dilemma into a project that can be integrated in the life of our academic teachers/educators/clinicians. Gagne's theory to structure the learning with "hook 'em" approach.

#### **LESSONS TO BE LEARNED:**

1. Evaluate which interactive teaching modalities can be introduced in medical education.
2. Analyze the utility of available interactive techniques in the appropriate academic setting.
3. Create an innovative teaching approach that faculty can apply in their didactic teaching rounds.

#### **IMPLICATIONS FOR FUTURE PRACTICE / TEACHING TIPS:**

Currently, ability to utilize interactive learning is limited by the teacher's own awareness of the interactive teaching modalities available. Examples of the interactive learning techniques that will be taught and introduced throughout the project:  
Small group interactive modalities:

1. Pair-share
2. Gallery walk/small group discussion/story board generation
3. Role play/hands-on activity





*Written by Devon A. Greene, MD  
Assistant Professor  
Pediatric Pulmonologist  
Emory University School of Medicine  
Pediatrics*

#### **CONTEXT:**

Lectures form a key basis in reviewing necessary information to pediatric pulmonology fellows (and other learners working with them). Lecture can provide an efficient method of addressing learning objectives for the many topics in our curriculum, yet the potentially passive nature of the medium suggests the use of active engagement of learners to enhance learning. As our lectures take place in a small classroom, technology in the room is somewhat limited.

#### **SELECTED TEACHING & LEARNING TOPIC(S):**

I wanted to trial an audience response system I had not used before: Plickers. While I have used audience response systems in the past, I found them somewhat inefficient and fussy and inefficient. Using the Plicker cards (printed prior to the session) would add an element of physical attentiveness to the challenge of answering questions in a clinical scenario based on the lecture material. The system was set up to (anonymously) identify the participant who would answer the most questions correctly, and they would receive small prize (candy).

#### **LESSONS LEARNED:**

Plickers failed to interface with my camera device to record patient answers, ultimately failing to work in the teaching setting desired. While I had tested the system in my office which, is, generally speaking, the same wireless network as our classroom (though in a different building), this ultimately proved to be just a simulation of the actual “testing” environment. I was pleased with my test of the system, and look forward to using it in the future.

#### **IMPLICATIONS FOR FUTURE PRACTICE / TEACHING TIPS:**

When possible, trial/assess a new technology in the actual teaching space prior to the lecture. As in this case, this may not always be possible. Likewise, expect ideal testing conditions to fail at times – a good rule for teaching and medicine in general. In this case, I was able to adapt my audience response questions by directing them to learners and sharing the prize freely among the participants.



*Written by Jamika Hallman-Cooper, MD  
Assistant Professor  
Pediatric Neurologist  
Emory University School of Medicine  
Pediatrics*

**CONTEXT:** Small group teaching  
While on the inpatient pediatric neurology service the supervising physician is responsible for giving a 30-minute talk on a clinical pediatric neurology topic to the trainees on the team (medical students, adult neurology residents, and pediatric neurology residents). The talk occurs over breakfast before rounding on patients. In the past I have had difficulty keeping the audience's attention when delivering these morning talks. I decided to try role playing as an intervention to get my audience actively engaged. My topic was common pediatric movement disorders. I gave the trainees a

brief review article on pediatric movement disorders as pre-reading. For the learning activity I had each trainee blindly pick a notecard with the name of a movement disorder on it. Trainees had to take turns acting out the movement disorder on their notecard while their peer learners were tasked to 1) observe the movement, 2) describe what they were seeing, and 3) name the movement disorder. Once the movement was correctly identified I discussed brief, high-yield facts about the movement disorder.

**SELECTED TEACHING & LEARNING TOPIC(S):**

Adult Learning Theories, Techniques and Strategies for Teaching and Learning

**LESSONS LEARNED:**

Making your audience an active participant in the learning and teaching process keeps them engaged and promotes retention of information. A small change in how you deliver information can go a long way.

**IMPLICATIONS FOR FUTURE PRACTICE / TEACHING TIPS:**

I plan to incorporate active learning strategies in all my small group teaching sessions in the future. Make active learning fun. Pick a teaching strategy that is feasible and easy to implement in your learning setting. Outline clear learning objectives at the start of your teaching activity. Regroup with learners at the end of your teaching activity to ensure learning objectives were met.



*Written by Kelly Kaysen, MD  
Assistant Professor  
Emory University School of Medicine  
Medicine*

**CONTEXT:**

I was asked to speak at an annual rheumatology conference and give two powerpoint presentations to adult rheumatologists. Some of the teaching topics lacked clear data on how to apply evidence based medicine for disease diagnosis and management. I wanted to make the lectures interactive, and I also wanted to promote discussion about the ambiguities of the teaching topics and the art of medicine.

**SELECTED TEACHING & LEARNING TOPIC:**

Techniques and Strategies for Teaching and Learning: I applied the learning assessment technique of using “prediction guides” to my lecture. When using a prediction guide, a

series of questions with dichotomous answer choices is asked prior to the learning activity. After teaching the topic, the questions are re-asked to allow the learner to revisit their predictions and evaluate their accuracy. I used the tool Poll Everywhere to ask the questions.

**LESSONS LEARNED:**

In order to highlight the lack of evidence-based data for some diseases, a few of my prediction guide questions did not have right or wrong answers. Some attendees were confused by the lack of a correct answer. However, the prediction guide technique still generated thought-provoking discussions. Another problem that I encountered was that the majority of the rheumatologists attending the conference were older and were not familiar with using Poll Everywhere.

**IMPLICATIONS FOR FUTURE PRACTICE / TEACHING TIPS:**

In the future, when attempting to highlight the lack data and the art of medicine for certain rheumatologic diseases, I may use a small-group discussion approach rather than prediction guides. Prediction guides may be better suited for topics with clear answers, although they also can be effective at generating discussion. I also learned that it is important to consider your audience before using technology such as Poll Everywhere since some learners are not as technologically savvy.



*Written by Munish Luthra, MD  
Assistant Professor  
Emory University School of Medicine  
Medicine*

**CONTEXT:**

My learners include Pulmonary & Critical Care Medicine (PCCM) fellows and Internal Medicine residents with whom I work closely in the clinical setting and am responsible for teaching, guiding, and providing one-on-one feedback at each rotation. I wanted to learn the art and science of giving high quality feedback and then practice it to see the effects of change in trainees perceptions on my feedback. Our trainees (especially PCCM fellows) have had a general complaint about not receiving specific and actionable feedback from our faculty given many of us have not had any formal training on how to give high quality feedback besides other barriers.

**SELECTED TEACHING & LEARNING TOPIC:**

Feedback on Learning & Contemporary Feedback Models. used the specific feedback models (R2C2 & Ask-Discuss-Ask) learned during the WHEA fellowship and tried my best

to provide timely, actionable, specific, and goal-oriented feedback. I am still ongoing with my learning and improving my skills with practice.

**LESSONS LEARNED:**

I noted a significant positive response among most trainees which included immediate recognition from the trainee on the effectiveness of one-on-one session or subsequently a mention in their faculty evaluations. This acknowledgement has improved my personal satisfaction and confidence in giving feedback. I felt much confident and in control especially when discussing or providing uncomfortable feedback. I have already used these techniques/models on several trainees and felt this new learning has helped me to be better in providing feedback and serve as a more effective guide and teacher.

**IMPLICATIONS FOR FUTURE PRACTICE**

I will continue to apply new learned knowledge/skill on my interactions with trainees and also intend to prepare a talk on 'How to give high quality feedback' for faculty/staff as most of the faculty members are unaware of the art & science behind this very important topic of giving high quality feedback. I also serve as Coach to Internal Medicine residents and this new skill set will help me to be an effective teacher, coach and guide for many.

**TEACHING TIPS:**

My suggestion would be to never underestimate the power of high-quality feedback as it can change someone's performance dramatically and can bring a significant change in one's behavior if appropriately done. Please use the well-known feedback models in your context, and practice, practice and practice until you start getting positive response from your trainees. It is then you will feel that you have made some meaningful change in someone's life and learned a new skill!



*Written by Erica D. Marshall Lee, PhD  
Assistant Professor/Clinical Director PSR/Peer  
Support  
Practicum Director, Emory@Grady  
Assistant Vice Chair, Faculty Development-  
Diversity and Inclusion  
Emory University School of Medicine  
Psychiatry and Behavioral Sciences*

#### **CONTEXT:**

Practicum students in Adult Outpatient  
Mental Health Clinic

#### **SELECTED TEACHING & LEARNING TOPIC:**

Techniques and Strategies for Teaching  
and Learning: Used Poll Everywhere to  
review generic and brand names for  
commonly prescribed psychiatric  
medications.

#### **LESSONS LEARNED:**

I learned that technological issues are  
a THING!

Ran into considerable difficulty  
getting the poll live. I learned to  
prepare for the administration  
of the poll well in advance and to  
make time for technology challenges

#### **IMPLICATIONS FOR FUTURE PRACTICE**

I will do a test run prior to  
administering polls. Overall  
everything else went well. I will try to  
incorporate in my powerpoint  
presentations in the future.

#### **TEACHING TIPS:**

Know your platform and know your  
audience!



*Written by Vahid Serpooshan, PhD  
Assistant Professor  
Departments of Biomedical Engineering and  
Pediatrics  
Emory University School of Medicine*

#### **CONTEXT:**

Designing and developing a new learner- and problem-centered curriculum on 3D bioprinting for BME PhD students at Emory and Georgia Tech, as well as Emory MD and MD/PhD students.

#### **SELECTED TEACHING & LEARNING**

##### **TOPIC:**

Planning to implement the Kern's Six Step Approach to design and develop an efficient curriculum for 3D bioprinting that is both learner and problem-centered:

1. Identifying problem(s) and assessment of general needs
2. Needs Assessment for Targeted Learners

3. Goals and Objectives: A Linear Program Organization will be used
4. Educational Strategies: A combination of following will be employed:
  - a. Small groups (to work on course projects)
  - b. Hands-on workshop sessions
  - c. Experiential
  - d. Classroom (main component)
5. Implementation
6. Evaluation and Feedback: both Individual and Programmatic Assessment

#### **LESSONS LEARNED:**

I learned that to design a successful course, it is essential to fully identify the learners and their needs, to define clear goals and educational strategies, and establish a well-thought plan to execute the strategies and also to evaluate them.

#### **IMPLICATIONS FOR FUTURE PRACTICE:**

I plan to incorporate the Kern's 6-step curriculum design and evaluation approach for all my future teaching activities. These principles could be also applied to pre-existing courses to substantially improve and update them on a regular basis.

#### **TEACHING TIPS:**

Dedicating more efforts in the optimal design and development of a course could go a long way in the efficiency and success of the educational plans.



*Sarah Varghese, MD  
Assistant Professor  
Pediatric Hospitalist (CHOA Egleston)  
Emory University School of Medicine  
Pediatrics*

**CONTEXT:**

Aligning learning needs and outcomes for pediatric hospital medicine fellows

**SELECTED TEACHING & LEARNING TOPIC:**

Development and refinement of goals and objectives for core rotations and electives for the pediatric hospital medicine fellowship program

**LESSONS LEARNED:**

Bloom's taxonomy is a great starting point for development of curriculum goals and objectives. Connecting Bloom's taxonomy to Miller's pyramid for different levels of training is a great way to visualize step wise growth in clinical competence as a trainee nears independent practice.

**IMPLICATIONS FOR FUTURE PRACTICE / TEACHING TIPS:**

Keep those objectives SMART: specific, measurable, attainable, realistic and time bound!