



Alliance of Clinician-Educators in Radiology

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This newsletter serves to highlight the current ACER goals and available resources and to keep members informed of ongoing projects.

Members and potential new members are encouraged to get involved in the stimulating and worthwhile activities of ACER. One way this can be achieved is through committee membership and organizational leadership, please contact Puneet Bhargava, MD (bhargp@uw.edu) ACER president.

Members are also invited to send their contributions to the upcoming ACER newsletters to Monica Sheth (monica.sheth@nyulangone.org) or Jordana Phillips (jphili2@bidmc.harvard.edu).

~ Jordana and Monica

ACER's Mission and Goals

- Providing a formal organization and forum for clinician-educators to meet, exchange ideas, and learn new skills that promote and advance the careers of clinician-educators.
- Providing programming at the annual AUR meeting targeted towards the needs of clinician-educators.

ACER: Benefits of Membership

- Access to information and networking database for the benefit, awareness, and nurturing of clinician-educators.
- Opportunities for involvement in educational research activities relevant to clinician-educators.

Membership Update

- As of July 2019, the AUR total membership stands at 1705.
- ACER has 146 members, consisting of 128 full time members and 18 junior members.
- ACER's membership is second to AMSER's (201) among the AUR Affinity Groups; other Affinity Groups include RRA (87), RAHSR (42) and A₃CR₂ (6).

Current Trends in Modern Curricula

By **Diana Lam, MD**

Our medical knowledge is growing at an exponential rate, with the doubling time projected to be 2.5 months in 2020 (1). Teaching all this information as an educator or absorbing it as a learner is unfathomable. With increased accessibility to information online, priority should be focused on guiding learners on how to approach and analyze complex challenges as opposed to rote memorization.

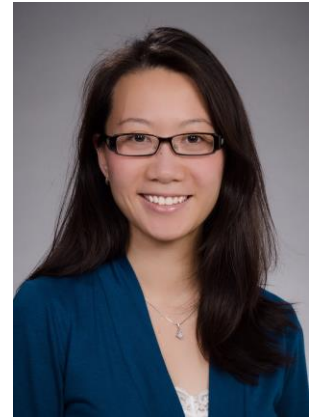
The modern medical school curriculum already offers an accelerated pre-clinical curriculum with horizontal integration between disciplines and vertical integration of basic and clinical sciences. Emphasis is on teaching health systems, quality, ethics, diversity, informatics, communication, safety, professionalism, and clinical reasoning and scholarly experiences. Current residency education challenges include varied case-mix and case-loads that are dependent on the work environment, case conferences/lectures with low attendance and varied learner baseline knowledge. There is also delayed identification of knowledge gaps compounded by ineffective feedback and evaluation.

We need integrated practice modules with purposely structured practice to help master key granular skills, such as differentiating findings in different types of arthritis, supported by real-time feedback. Inherent within these practice modules, is assessment tracking, which is comparable to peers at institutional and national levels. This can facilitate preemptive remediation, where residents can identify areas of weakness prior to advancing to the next step. These tools also enable educators to track student progress, identify gaps and help guide them to improve performance.

Ideally, the online curriculum and modules would be completed outside of the reading room. This would allow educators use our expertise in the reading room to teach application, analysis, and synthesis of knowledge into the particular patient clinical scenario instead of teaching pure findings. There will be more time for residents to be involved in consults, present at multidisciplinary conferences and learn non-interpretive skills necessary for future radiology leaders.

As a start, grants like the AUR Strategic Alignment Grant for development of an online core curriculum lecture series, recently awarded to Dr. Nancy Fefferman from NYU are important, as are subspecialty societies online video lectures created to supplement teaching on the foundations of Bloom's taxonomy (3-5).

We have an opportunity to create the largest flipped classroom, so that all our trainees, regardless of program, will be able to master core requirements, receive objective real-time feedback and receive targeted instruction as needed. This is an exciting time for us to work together to make this happen!



Teaching Points

1. Ever increasing breadth of medical knowledge necessitates new methods of teaching and learning with emphasis on approach and analytics and less on memorization
2. Challenges of the current medical curriculum include varied case-mix and case-load, varied learner baseline knowledge, delayed identification of knowledge gaps and ineffective feedback and evaluation.
3. To address these challenges, we need integrated practice modules with purposely structured practice to help master key granular skills supported by real-time feedback.
4. Completing the curriculum and modules online will also create more time in the reading room for educators to teach application, analysis, and synthesis of knowledge instead of teaching pure findings.

Teaching Faculty about Diversity & Inclusion: How to Bring Along Disinterested Faculty

By **Carolynn M DeBenedectis, MD**

Diversity and inclusion (D&I) has become a hot topic in radiology given the relative lack of women and underrepresented minorities (URM) in the specialty. Diversity refers to the range of human differences (i.e., race, ethnicity, gender, gender identity, sexual orientation, etc). Inclusion has to do with involvement and empowerment, where the inherent worth and dignity of all people are recognized. To put it more simply: “diversity is being invited to the party, but inclusion is getting asked to dance” (Verna Myers, 1).



Why should faculty care about D&I? A diverse group of radiologists bring a diversity of experiences which in turn brings a diversity of perspectives. This diversity of perspectives leads to development of new ideas leading to innovative research and promotes cultural competency which enhances patient experiences. It has also been shown that companies with greater diversity achieve greater profits (2). What radiologist does not want to work at a place characterized by innovative research, creates a positive experience for their patients, *and* is profitable?

So how do we achieve a diverse and inclusive workplace in radiology? It is important to remember that D&I is a sensitive and complicated subject, and while efforts are well-intentioned, not everyone may be as informed about D&I as you are. One must have buy-in from the faculty in ones department in order to make D&I initiatives successful. To achieve buy-in, the following strategies may be employed:

1. **Respect the right to choose.** It is important to remember that women/underrepresented minorities can be some of your biggest champions and drivers of D&I efforts. However, do not assume that the female/URM radiologists want to spend their time recruiting other female/URMs into radiology. Make it very clear that minorities can choose to be completely unattached to diversity initiatives and that is acceptable. Do not assume that women/URM faculty are the only ones who wish to work on D&I initiatives. Be inclusive in your recruitment for D&I initiatives.

2. **Ask to listen.** This means starting with a simple request, to have a conversation. Learn about and validate employees’ experiences, and solicit feedback you can use for future programs, i.e., “Are you disappointed with...?” or “Do you see any opportunities for...?”. Collect quotes, experiences, and stories from employees who have experienced difficulty in the workplace due to being a minority and ask if you have their permission to share these comments (anonymously). These stories will help you to build momentum within the department for diversity and inclusion efforts.

3. **Offer transparency and accountability.** Lead with transparency of intentions and accountability of conduct. Offer your department newsletters, quarterly updates, and even opportunities for town hall-style meetings. By including everyone in your progress, you will be making a statement that it is important for all employees to be well-informed and updated.

4. **Empower with recognition and support.** When you see someone making an effort to improve D&I or taking part in D&I training, him or her tools and support, so they may have a greater chance of being successful. Recognize successful D&I efforts or participation in D&I training at annual review meetings as well as in day-to-day dealings.

Lastly, it is important to remember that leaders needs to lead by example. If faculty involved in leadership visibly makes diversity a priority, everyone else will, too. Remember it is important to provide protection, support, and assurances of no retaliation. Leaders must also receptive to input. If the D&I effort in your department incorporates these components and is done with the best intentions, you will be successful and reap the benefits of D&I in your department

Engaging the Distracted Learner

By Mark E Mullins, MD

As teachers we've all been there—you are lecturing your heart out and then you notice a learner on their phone. How dare they! First, I strongly advise that you let go of anachronisms like students stowing their devices during your sessions. Amongst other reasons, they are probably using these to follow-along, take notes and look up answers to their questions in real time. Moreover, I am going to guess that their role model faculty do the same when in a similar situation. As well, you may be trying to integrate social media into our program; suppressing devices is tantamount to quashing this goal.

After acceptance, I encourage you to think about how to leverage these devices. Audience response, flipped classroom, interactive image sets, etc. And, if all else fails, go stand right beside them—hard to ignore. You are probably saying to yourself that they are probably answering emails, updating social media accounts and/or shopping. Yes. Some probably are doing this, at least intermittently. I accept that. The greater good is to accept this and try to make the session so good that you hold their attention.

We are all awash in demands for our attention. How are you going to compete for theirs? Sadly, there is not any published research that I could find on this topic. There are plenty of suggestions online, however, and I mention a few of mine here. Feel free to contact me (memulli@emory.edu) to discuss.

- **Get out from behind the podium:** Use a portable mic (if needed) and a remote clicker (I bought one and usually bring it with me to meetings). Walk around. Make eye contact. Engage. Get comfortable doing this. This not only helps with their attention but keeps you focused and energized as well—this is a positive cycle.
- **Involve the learners:** Cover something for everyone/engage people at all levels—this can be done on the fly with practice and preparation. Ask them questions. Give them cases. Make them explain things. Keep breaking down questions (even to yes/no, if necessary) until they start engaging. Try to involve everyone there. Mention other sessions & session leaders (positively!). Create groups to provide an avenue for friendly competition; you can use their seating pattern to do so.
- **Provide a Break:** Don't overlook the utility of providing a break and encouragement for 30 seconds of standing & stretching every 30 minutes. Don't stay on the same subject for more than 30 minutes if at all possible—preferably 10-15 minutes per section.
- **Balance:** Balance (1) foundational knowledge with (2) real-world applications & (3) question-answering. All are important.
- **Incentivize:** I know people that hand out candy or gift cards herein. This is not my MO but I am convinced that it is effective.

Personally, I'd like for us to have a good time while we all travel on this voyage of discovery. This falls into the category of what some call "edutainment". At the very least, show the learners that you want to be there—this is probably the most important aspect that you have control over.



Teaching Points

1. A direct and hands-on approach for communicating with the audience is recommended by getting out from behind the podium
2. Engage learners by covering topics which are relevant to all levels of training and expertise
3. Teach using a balance of knowledge and applications thereby making the educational experience worthwhile and enduring

QR Codes: What They Are, How To Make Them, And How To Use Them Effectively In Your Teaching

By **Shawn Sato, MD**



The way trainees learn is changing, and as educators it is important to try and adapt to new learning styles and stay relevant to the current generation of learners. Lots of good educational resources are already available that can be utilized in teaching, rather than recreating the wheel. Typing in websites to access some of these resources can be laborious. QR codes provide a fast, easy way to disseminate teaching material to audiences in a lecture setting.

QR codes are machine readable barcodes, originally designed by the automotive industry, that are good tools to share websites to individual phones and tablets. Any website URL can be easily converted to a QR code using free QR code-generating websites (such as www.qrstuff.com). Learners can then use the camera on their phone or tablet (with the camera on an Apple device or a QR reader app on Android) to access the resource on their own device.

It can be a challenge to engage multiple levels of trainees in case conference, and I have found that QR codes are a simple way to increase the level of engagement. I can use QR codes in conjunction with audience participation tools (such as www.polleverywhere.com) that allow me to ask questions of varying difficulty to audience members, who can then submit their answers anonymously. Once we go over the answer, I can give a short review of the disease with an additional QR code linking to a review article on the topic for residents who want to do some additional reading on the topic later. Once the conference is finished, I can add a QR code that links to a short survey built as a Google Form to get instant feedback and suggestions for future lectures. Finally, I can store my PowerPoints on an online storage site (such as Dropbox or Google Drive) and make a QR code so that individuals can download the entire presentation if they desire to review on their own later.

QR codes are a quick and easy way to disseminate web-based information in a presentation to the audience. I've described how I use them in my teaching, but have no doubt that there are other innovative ways to use these tools as well, and I look forward to hearing how others utilize this technology. If you have any questions or creative ways of using QR codes that you want to share, please feel free to let me know at shawn-sato@uiowa.edu.

QR code and hyperlink to the presentation from AUR: <https://tinyurl.com/SatoQR>

Teaching Points

1. QR codes are machine readable barcodes that are good tools to share websites to individual phones and tablets
2. QR codes are a simple way to increase the level of engagement, engaging multiple levels of trainees in case conference.
3. QR codes are a quick and easy way to disseminate web-based information in a presentation to the audience

Clinical Education Track at Emory

By **Ryan Peterson, MD**



The goal of Emory’s Clinical Education Track (CET) is to cultivate future leaders in radiology education. The track is a longitudinally structured curriculum beginning in the first year with graded responsibilities over the entire residency. Our residency has 3 residents per class in this track.

The first component of the curriculum is the Small Group Series. Each month the CET residents meet with a faculty member for 2 hours to discuss topics such as PowerPoint skills, question writing, oral presentation preparation, academic advancement, mentorship, manuscript writing, and quality improvement. Many sessions are in a flipped classroom format with occasional journal clubs. Each meeting includes a “Show and Tell” where each resident presents a lecture and the group gives formative feedback. These sessions can be intimidating but promote confidence and self-improvement.

The second aspect of the curriculum is the application of their learning, the Practicum. They are required to teach junior residents, medical students, technologists, non-radiology residents and midlevel providers in a formal setting.

The final requirement is a single, education focused Capstone Project. These can include developing curricula, manuscripts, educational exhibits or online modules. The topics are self-chosen and we encourage submitting these projects to major educationally oriented conferences such as AUR, RSNA and ARRS.

To support these residents, the department provides 20 academic days a year per resident. Many of these days coincide with the small group sessions but may also be used for teaching, developing lectures, working on capstone projects and educational research.

Developing a successful CET requires enthusiastic and innovative residents, most of whom can be identified during the application process. Mentorship is also a key feature of the program, where each resident identifies an “educational” mentor early in training. The final and most important key to success is to receive “buy-in” from the faculty which is achieved by involving faculty as mentors.

For me, participating in this program has been a wonderful experience. These highly motivated residents have pushed me to better my skills and they are clearly on track to be leaders in radiology education.

See link for full description: <https://med.emory.edu/departments/radiology/education/diagnostic-radiology-residency/clinical-education-track.html>

Teaching Points

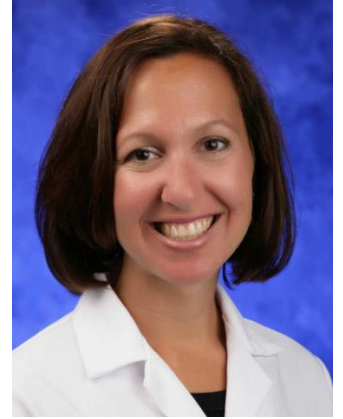
1. Preparing successful Clinical Educators takes deliberate planning and implementation during residency
2. The three pillars of the CET (Clinical Education Track) at Emory include “Small Group Series”; “Practicum” and the “Capstone Project”
3. A successful CET program must include both enthusiastic trainees and faculty mentors

Additional Highlights from AUR/ACER Meeting 2019

By **Alison Chetlen MD**

The AUR Thursday morning Education Track lectures were packed full of great pearls!

First we heard from **Pamela Schaefer**, about the Essentials of Self Study for residency and fellowship programs. Dr. Schaefer shared how she distilled the vast amount of information available from the ACGME to establish an organized, logical approach to the self-study process for her Neuroradiology fellowship program. Some key take home points included (1) choosing a diverse self-study group to enhance discovery of weaknesses and areas of improvement that will make your program stronger (2) performing SWOT analysis as the essence of the self-study process (3) innovative use of departmental, institutional, regional and national resources (4) developing SMART goals (Specific, Measurable, Assignable, Realistic and Time based) and (5) continuing with a longitudinal assessment with a PDSA (plan, do, study, act) process and regular communication with stakeholders.



Next we heard about the Clinical Education Track for resident education from **Ryan Peterson**, Associate Residency Director at Emory. You can check out more information about the CET track on Page 7.

Tara Catanzano spoke on faculty development and career planning for trainees and early faculty. She described the importance of aligning areas within the work environment that provide the most satisfaction and variety of ways to build your CV and expand one's professional network, both in person and via social media. Her discussion compared and contrasted private practice, academic, and hybrid/integrated model workplace settings. Mentorship and sponsorship as well as the importance of peer and senior collaborators were then discussed in the context of strategic career planning.

Manickam "Nicks" Kumaravel's presentation about his initiatives with radiology outreach into the community discussed the importance of early intervention and exposure to career awareness activities to attract students into particular professions. He emphasized the promotion of diversity and opportunity in the healthcare workforce should start early in the K-12 levels. He described the "Reach One Each One Program (ROEO)," an eleven week exposure program targeting high school and college students through this early immersion program.

Priscilla Slantetz discussed key elements of an optimal learning environment and strategies to foster a positive learning environment. Using clever Harry Potter analogies, she showed that the interaction of the teacher and students with the space, culture and context creates the learning environment. In order to adopt and embrace the principles of adult learning, we must set clear expectations, actively engage learners, provide timely-nonjudgmental feedback and balance supervision and autonomy.

Monica Sheth closed with a discussion entitled, 'Bridging the Gap between residency training and clinical practice: The Development of Entrustable Professional Activities for Breast Imaging (EPA-BR), EPA-BR Based Curriculum and Self-Assessment Modules. In this discussion, we heard how the group developed subspecialty specific EPAs for breast imaging through the use of a double consensus-driven validity enhancing methodology that could be relevant and applicable to other subspecialties in radiology and medicine in general.

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