**NSTA Conference**

**2014 Boston**

**M. E. Roberts**

1. **Three sessions I attended.**
2. ***What’s Going on in There? NGSS & STEM for Administrators, Teacher Trainers, University Faculty.* The workshop underscored three dimensions of the “Next Generation of Science Standards” One emphasis centered on the four types of inquiry practiced by science and engineers. These included: Structured Inquiry, Guided Inquiry, Challenge Inquiry and Open Inquiry. There was discussion on the criteria used for designing activities. If structured lectures are to be used, it was suggested that steps should be given, leaving out a step to challenge students and make them think. An interesting fact: Age + 2 = attention span (15 min max). When practicing open inquiry the instructor should be able to see every student all the time. Instructor should make sure they are with you-don’t just plow on. It takes 3-5 years to develop a good curriculum. A curriculum is always a work in progress.**
3. ***Flipping an Undergraduate Introductory Biology Course.* This concept is based on ”learn before lecture”(LBL). Worksheets and narrated power point slides were used. When using Podcasts the videos were 27-42 minutes. The group found that 15-20min was the maximum time students would watch videos. After watching videos students were given worksheets to complete. This worksheet was their “admission slip” to class the next day. In classroom students work in groups of 4-5 to complete an activity based on the videos. Flipping allows slowing down. Teaching requires trying new things and creating ideas.**
4. ***Using Food in Science Education.* This was a hands-on workshop using a variety of foods “snacks” that can be used to build various models that exemplify basic biological structures. Structures such as the plasma membrane and DNA Double Helix were examined. It was an interesting concept but I think the students may be preoccupied with the snacks that they might lose sight of the task at hand.**
5. **One significant item I learned from the conference that I was unaware of and would like to share with the college.**
   1. **One new technology that I found interesting was “Livescribe”. It can be used to turn words into action. Handwritten notes can be converted into text, while recording audio as you write. This text can be downloaded as a PDF file along with audio descriptions. This provides a means of talking to students without being video-taped. More of the faculty might be amenable to this method instead of using a podcast.**

1. **I would recommend that the college invite a representative from the “Livescribe” company to give a demonstration to faculty, describing how this technology can be used in the classroom. If faculty finds this technology to be useful, it should be purchased and made available to faculty.**
2. **In line with the emphasis on “flipping the class” and highlighting the goal of encouraging student engagement and collaboration, we should invite individuals and/or publishers to sponsor webinars or workshops devoted to the topic. One daunting task in this procedure is creating easy student-centered activities to implement into the classroom. It would be helpful to hear from individuals who have used this method successfully.**
3. **If there were available funds, inviting guest lecturers devoted to the above topics would be helpful.**