

Activities Attended and Value of Conference

American Mathematics Association of Two-Year Colleges – Annual National Conference

Orlando, FL – Wed-Sat, Nov. 14 – 18, 2018

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The mission of the CTL Professional Development Mini-Grant program is to facilitate teaching excellence and academic scholarship through fostering and supporting environments, strategies, and technologies to promote excellence in teaching and learning.

Attendance at this annual national conference brings together the forefront researchers and implementers of new ideas and concepts in mathematics pedagogy. At this year's conference, the key ideas that were discussed in multiple sessions and formats were:

- **Data science** – implementation of programs in community colleges across the country
- **Use of data analytics** – from business to politics to academics
- **Co-requisite courses** – in the effort to reduce or eliminate developmental mathematics, students requiring remediation can now enroll immediately in credited classes, but must take supplemental mathematics simultaneously.
- **Ideas on what/how to teach mathematics in non-mathematics courses** – eg. biology, chemistry, technology.

I attended the following sessions and meetings. All items below may be supported by additional and extensive notes.

Keynote Speakers:

1: Jim Ham, President of AMATYC – more than 1200 attendees at this 44th National Conference. The President of Walt Disney World Resorts is an alum of Polk State College – a community college. Besides the AMATYC Standards Documents – Crossroads and Beyond Crossroads – we now have a third standards document – IMPACT.

2: Billy Hix – **Math Really Rocks! An Astronomer's Journey**. There is math all around us. As an astronomer, he had many examples of Mars landings, Apollo 11 (50th anniversary next year), solar eclipse across midsection of US in 2024, Voyager 1 and 2, time capsule in space – only language on it is math. Dr. Brian May, guitarist of Queen, is a PhD in Astrophysics.

Main message – give this to your students: passion of you; beauty of the math; joy in teaching math.

3: Mark W. Shafer – **Facilitating an Analytics Transformation: The Disney Story**
Disney used analytics to completely revamp their financials. Their revenues have skyrocketed after analysis defined where improvements can show better profit margins. They now own so many brand names; their value is tremendous.

Sessions:

Session 1: *Hands-On Activities for the Introductory Statistics Classroom*

Law of large numbers

Blue Pepsi example

Using self-experimentation to motivate students in Health Statistics

The General's Dilemma (strategy in statistics)

Session 2: *Classroom-Ready Career Applications*

General Education ideas and examples

Technical problems, solved with math

Session 3: Reading Mathematics as a Motivational Tool

The examples described here were reading suggestions for instructors, not students. These titles are used to help the instructor “find his/her passion” in teaching mathematics again.

Session 4: Developing a Data Analytics Certificate for Working Professionals

This was a key session in meeting the goals of this trip. The speaker has established a data analytics certificate program in his school FOR working professionals. As it has been established for several years now, he had many “lessons learned” to share and many tips that worked for him, including how he obtained seed money from the NSF. I made individual contact with him, and he is available for further questions.

Session 5: Decisions under Risk – Mathematics in Action at NASA

Much information on how statistics is used in risk management at NASA. Discussed failure of Challenger disaster and how to conduct root cause analysis.

Session 6: Biology Majors Need Math?

Students in Biology need specific math skills. Discussion on what those are. In my personal pursuit of “relevant examples” to show my students how to use math, this was an interesting session. I also sought out other sessions with the same goal.

Session 7: Needed Math for STEM Technicians

NSF gave money to a group that researched what types of math to instruct for Advanced Manufacturing and Biotechnology.

Session 8: Perfect Examples in Statistics

What are the “new” focus points in teaching statistics? Less computation, more technology, more focus on understanding the concepts as opposed to grinding out the numbers.

Session 9: Ignite Event

Multiple mini-presentations on best practices.

Session 10: Faculty Math League – competed in 45-minute, 18-question test against approximately 100 colleagues

Session 11: Statistics Committee Meeting – Chairperson Julie Hanson led the conversation, which discussed the overwhelming requirement to conduct co-requisite courses. Many described their installed formats, and their lessons learned. The Data Science Subcommittee held its own meeting.

Meetings:

Regional Meeting – Mid-Atlantic States (Delaware, DC, Maryland, New Jersey, Pennsylvania, Virginia, West Virginia) – Vice-President Dan Fahringer led the conversation. His term will end this year – needs a candidate to fill his seat. Much AMATYC business is discussed.

National Assembly Delegate Meeting – I represented NJ as the Affiliate Delegate from NJ. Reviewed and passed proposals on definitions and wording of policies, recommendations and guidelines in mathematics education.

Upon my return, I am scheduled to present information to the Mathematics Faculty at the next Department Meeting, held on Tuesday, November 27, 2018.

Submitted on November 27, 2018,

Meimee Persau