



**UMass** | Dartmouth

# Active Learning Strategies



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# Examples

- **Small**
  - Research Class with 24 students
    - Statistics with playing cards
    - Sampling with Reese's pieces
- **Medium**
  - Transition to Profession class with 100 students
    - Mr. Potato Head
- **Big**
  - Genomics class online
    - Interactive electronic patient cases



# Small Class Activity Highlights

- Tactile
  - Must have objects
- Timing
  - Middle of the class has worked for me
- Tolerance
  - Eye-rollers = evaluators (need a worksheet)
- Talk
  - At the board



# Small Group Activities

## Part 1: Making Conjectures about Samples



Reese's Pieces candies have three colors: Orange, brown, and yellow. *Which color do you think has more candies (occurs more often) in a package: Orange, brown or yellow?*

1. Guess the proportion of each color in a bag:

Color	Orange	Brown	Yellow
<b>Predicted Proportion</b>	10	8	7

- They do two rounds varying the number of candy pieces they get.
- Worksheets in small groups and scatterplots at the board
- [www.math.kent.edu/~reed/FInstructors/FMATH%252010041%2FHandbook\\_Solutions%2FReeses%2520pieces.docx&usg=AOvVaw2c5g46qaNU\\_I2IVhq-8sLk](http://www.math.kent.edu/~reed/FInstructors/FMATH%252010041%2FHandbook_Solutions%2FReeses%2520pieces.docx&usg=AOvVaw2c5g46qaNU_I2IVhq-8sLk)

- Statistics
- Mean, Median, Mode
- Quick refresher
- Gets them "in the mood" to talk statistics and relationships represented numerically.
- [https://www.education.com/activity/article/Mean\\_Mode](https://www.education.com/activity/article/Mean_Mode)





# Large Group Activities

- Resources
  - Borrowed: UMass Medical Center
  - Bought: \$500 – Dean's office
- Roles
  - Build in numerous roles based on group size
  - Require worksheet submissions
- Regroup
  - Must revisit objectives
  - Share setbacks and success



# Mr. Potato Head

## Mr. Potato Head LEAN Simulation Exercise

- A fun, interactive, innovative way to demonstrate:
  - Quality Improvement concepts
  - Patient Safety/Medical Errors
  - LEAN Process Management
  - Teamwork
  - Communication
- Can do with 4 to >100 learners
- Can do with learners of all levels and disciplines



## The Situation...



- A bus filled with 16 Potato Head family members is in a terrible crash!
- EMS arrives at the scene to find only potato body parts scattered about.
- Luckily, there is an electronic medical record showing what each family member looks like.



# Online Options

- Get connected
  - Professional organization resources
- Grading
  - Limitations
  - Value
- Good back up
  - Problems with relying on external resources





- Global Genetics and Genomics Community

## Inactive Case Study

- [https://genomicscases.net/en/user\\_home](https://genomicscases.net/en/user_home)

Global Genetics and Genomics Community

Home Resources About Login / Register

### GENOMIC HEALTH CARE SIMULATIONS

- Interview "patients" at your own pace
- Complete supplemental educational activities
- Assess your genomic competency
- Consider commentary about specific cases from genomic experts
- Earn CNE or CME credit for each case

**YOU ASK THE QUESTIONS**

**Carla** ( [View Patient Info](#) )

Carla is a 60 year old Caucasian woman. She came to your office today for a well visit and check-up. Work-up reveals signs and symptoms of depression for which she may benefit from antidepressant treatment. She is asking a lot of questions about what that means for her and her family.

[Start Case Study](#)

[View Case Notes](#)

**Dai** ( [View Patient Info](#) )

Dai is a 42-year old healthy Asian female, pregnant with her first child. She presents for her first obstetrics appointment asking about newborn screening testing and whole genome sequencing.

[Start Case Study](#)

[View Case Notes](#)



# Key Things I've Learned

- Flexibility
  - Use Resources – a lot of this is already built
  - Plan A/ Plan B (many activities depend on headcount)
- Encourage effort, excellence and error
  - Work hard
  - Product matters
  - Mess up and problem solve
- Fun
  - Music matters, timers inspire

