Implementing the Common Core’s Promise of Bringing Statistical Curricula into Line with Recommendations of NCTM, MAA, & GAISE

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Implementing the Common Core’s Promise of Bringing Statistical Curricula into Line with Recommendations of NCTM, MAA, & GAISE

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COMMON CORE IS A NEW PACKAGE FOR NOT-NEW IDEAS

- NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS
- MATHEMATICAL ASSOCIATION OF AMERICA
- AMERICAN STATISTICAL ASSOCIATION
- GUIDELINES FOR ASSESSMENT AND INSTRUCTION IN STATISTICS EDUCATION
- COMMON CORE STATE STANDARDS FOR MATH
MATHEMATICAL (STATISTICAL) PRACTICE

- Foster active learning in the classroom
- Emphasize statistical literacy and develop statistical thinking
- Stress conceptual understanding, rather than mere knowledge of procedures
- Use real data
- Use technology for developing conceptual understanding and analyzing data
- Use assessments to improve and evaluate student learning
MATHEMATICAL (STATISTICAL) PRACTICE
## Comparison Chart

<table>
<thead>
<tr>
<th>NCTM Process Standards</th>
<th>CCSS Standards for Mathematical Practice</th>
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| Problem Solving        | • Make sense of problems and persevere in solving them (MP1)  
                          • Use appropriate tools strategically (MP5) |
| Reasoning and Proof    | • Reason abstractly and quantitatively (MP2)  
                          • Critique the reasoning of others (MP3b)  
                          • Look for and express regularity in repeated reasoning (MP8) |
| Communication          | • Construct viable arguments (MP3a) |
| Connections            | • Attend to precision (MP6)  
                          • Look for and make use of structure (MP7) |
| Representations        | • Model with mathematics (MP4) |
Consequences for K-12 Statistics Curriculum
CONSEQUENCES FOR COLLEGIATE STATISTICS CURRICULUM
Consequences for Collegiate Mathematics Education Curriculum
Recommendations

• In-service mathematics teachers will need extensive professional development in creating relevant activities and assessment tools to accommodate less reliance on calculations.

• College mathematics departments will need to create two entry level statistics classes: 1) for mathematicians and statisticians and 2) for everybody else.

• Pre-service teachers will need to be taught how to develop lessons that will entice students to use data in decision making.
**RESOURCES FOR ACTIVITIES**

- **CAUSE resources** [causeweb.org]
- **AIMS resources** [www.tc.umn.edu/~aims/index.htm]
- **WISE applets** [wise.cgu.edu]
- **Publishers’ Software**
REFERENCES


• [http://www.corestandards.org/Math/Practice/](http://www.corestandards.org/Math/Practice/)