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
Emphasize statistical literacy and develop statistical thinking

Foster active learning in the classroom

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
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/)