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

Beverly Wood

*Embry-Riddle Aeronautical University, woodb14@erau.edu*

Carl Clark

*Indian River Community College*

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***IMPLEMENTING THE COMMON CORE'S PROMISE OF  
BRINGING STATISTICAL CURRICULA INTO LINE WITH  
RECOMMENDATIONS OF NCTM, MAA, & GAISE***

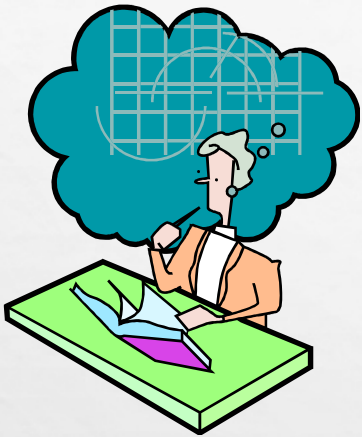
**BEVERLY L. WOOD, PH.D. AND CARL CLARK, PH.D.  
INDIAN RIVER STATE COLLEGE  
DEPARTMENT OF MATHEMATICS**



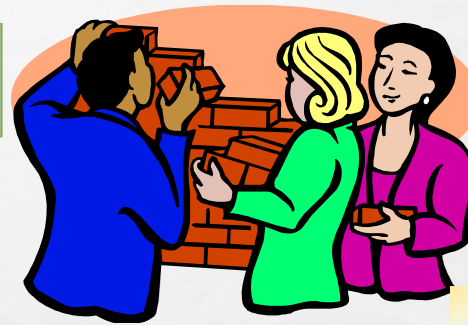
# COMMON CORE IS A NEW PACKAGE FOR NOT-NEW IDEAS

- 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



Use real data



Emphasize statistical literacy and develop statistical thinking

Stress conceptual understanding, rather than mere knowledge of procedures

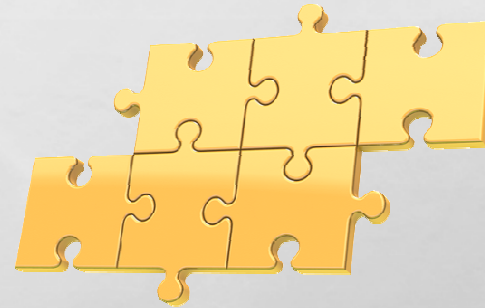
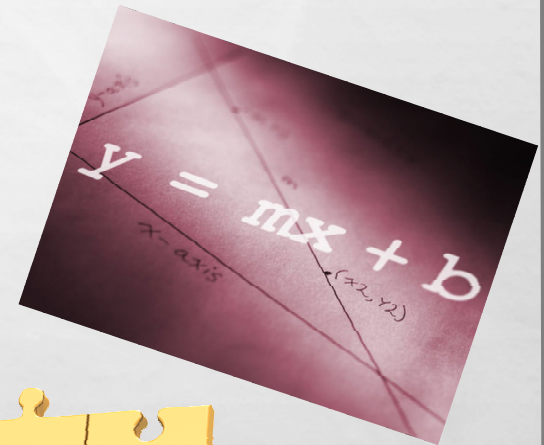


Use technology for developing conceptual understanding and analyzing data



Use assessments to improve and evaluate student learning

# MATHEMATICAL (STATISTICAL) PRACTICE



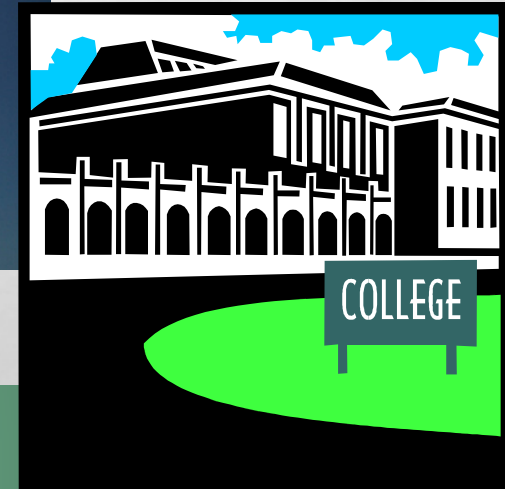
# COMPARISON CHART

<b>NCTM Process Standards</b>	<b>CCSS Standards for Mathematical Practice</b>
Problem Solving	<ul style="list-style-type: none"><li>•Make sense of problems and persevere in solving them (MP1)</li><li>•Use appropriate tools strategically (MP5)</li></ul>
Reasoning and Proof	<ul style="list-style-type: none"><li>•Reason abstractly and quantitatively (MP2)</li><li>•Critique the reasoning of others (MP3b)</li><li>•Look for and express regularity in repeated reasoning (MP8)</li></ul>
Communication	<ul style="list-style-type: none"><li>•Construct viable arguments (MP3a)</li></ul>
Connections	<ul style="list-style-type: none"><li>•Attend to precision (MP6)</li><li>•Look for and make use of structure (MP7)</li></ul>
Representations	<ul style="list-style-type: none"><li>•Model with mathematics (MP4)</li></ul>

# CONSEQUENCES FOR K-12 STATISTICS CURRICULUM

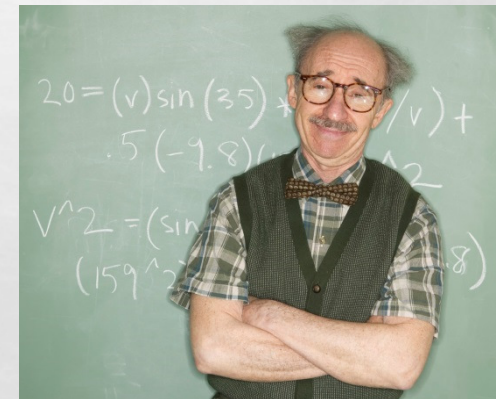
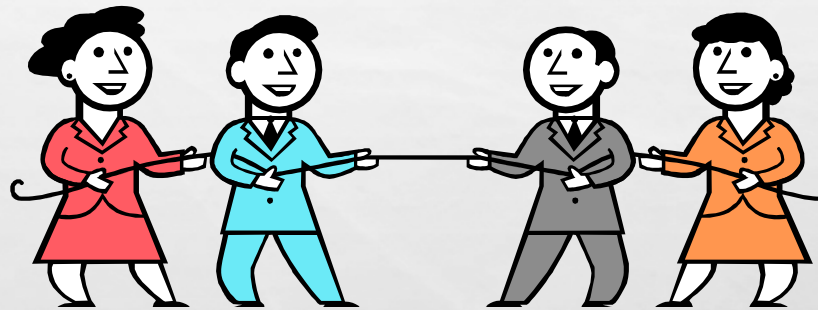


# CONSEQUENCES FOR COLLEGIATE STATISTICS CURRICULUM





# 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](http://causeweb.org)]**
- **AIMS resources [[www.tc.umn.edu/~aims/index.htm](http://www.tc.umn.edu/~aims/index.htm)]**
- **WISE applets [[wise.cgu.edu](http://wise.cgu.edu)]**
- **Publishers' Software**

# REFERENCES

- American Statistical Association (2005). *Guidelines for assessment and instruction in statistics education: College report*.
- Cobb, G. (1992). Teaching statistics. In Lynn A. Steen (ed.), *Heeding the call for change: Suggestions for curricular action* (MAA Notes No. 22), 3-43.
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- National Council of Teachers of Mathematics (2000). *Principles and standards for school mathematics*. Reston, VA: NCTM.
- <http://www.corestandards.org/Math/Practice/>