The Loras College Lesson Study Project

Dan Willis & Chris Nugent
Loras College Faculty
Colloquium Series
March 10, 2006
TIMSS

- Student achievement
- Curriculum
- Instruction
- Professional Development
The Teaching Gap

- TIMSS Overview
- TIMSS Video Study
- Lesson Study
Liping Ma

- Elementary School Math
- Compares US and China
- Teacher Knowledge
- Professional Development
Liping Ma

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NCLB in Iowa

- *Every Student Counts*
- *Math Content Network*
- *Iowa Professional Development Model*
- *Iowa Teaching Standards*
Every Student Counts

- NCTM Standards-Based Curricula
- Teaching for Understanding
- Problem-Based Instructional Tasks
- Distributed Practice
Problem-Based Instructional Task

- Introduction
- Launch
- Explore
- Discuss (Lifting)
- Extensions

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Professional Development (Continuing Education)

- Doctors
- Lawyers
- Accountants
- Engineers
- Scientists
- Librarians
- Auto Mechanics
Professional Development For Teachers

Source: Catherine Lewis

**Teachers’ Activities to Improve Instruction**

- Choose curriculum, write curriculum, align curriculum, write local standards
- Plan lessons individually
- Plan lessons collaboratively
- Watch and discuss each other’s classroom lessons

U.S. vs JAPAN
NSDC Professional Development Standards

• *Improves Learning*
• *Learning Communities*
• *Data Driven*
• *Carefully Designed*
• *Collaboration*
• *Quality Teaching*
Japanese-Style Lesson Study

- School based
- Collaborative
- Sustained over time
- Focus on learning
- Data driven
- Action research

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Lesson Study Cycle

- Discuss goals
- Examine curriculum materials
- Plan a research lesson
- Conduct the research lesson
- Discuss the research lesson
- Reteach the lesson
- Reflect on the process
Lesson Plan Form

• Context
• Books and Materials
• Goals of the Lesson
• Research Questions
• How the Lesson Fits into the Unit
• Detailed Lesson Plan
• Data (handouts, student work, etc.)
Detailed Lesson Plan

• Column 1: Learning Activities
• Column 2: Teacher Support
• Column 3: Things to Look For
• Problem-Based Instructional Task:
  – Introduction and Review
  – Launch
  – Explore
  – Discuss (Lifting)
  – Extensions
# Detailed Lesson Plan

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<th>Learning Activities</th>
<th>Teacher Support</th>
<th>Things to Look For</th>
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March 2006
Loras College Lesson Study Project

- K-6 Mathematics
- Iowa Title IIB (MSP) grant
- 3 years at $150,000 per year
- Matching funding from Loras College, school districts, and AEAs
Loras College
Lesson Study Project

• 49 total participating teachers
  – ½ within Dubuque
  – ½ within 80 miles of Dubuque
• 16 lesson study teams
• 3 teachers (usually) on a team
Loras College
Lesson Study Project

• 15 buildings
  – 2 Title I schools
  – 5 Catholic schools

• 10 school districts in Eastern Iowa

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Loras College
Lesson Study Project

• **Project Staff:**
  – Co-directors: Dan Willis & Chris Nugent
  – Math faculty, AEA Math consultants
  – Consultants
    • Akihiko Takahashi, Ph.D.
    • Makoto Yoshida, Ph.D.
  – Assessment: Linda Munger, Ph.D.
  – Student Workers
Current Project: Typical Year

• **Summer workshops**
  – Week 1 (June)
    • Mostly Content
      – *Year 1: Number & Operations*
      – *Year 2: Geometry & Measurement*
      – *Year 3: Algebra, Data Analysis, and Probability*

• Some Lesson Study
  – *One or more research lessons*
Current Project: Typical Year

Week 1 (June), continued

• NCTM Content Standards
  – Number & Operations
  – Geometry
  – Measurement
  – Algebra
  – Data Analysis & Probability

• NCTM Process Standards
  – Problem-Solving
  – Communication
  – Reasoning & Proof
  – Representations
  – Connections
Current Project: Typical Year

• *Summer workshops, continued*
  – Summer Homework
    • Content work
    • Lesson study
    • Lesson planning
  – Week 2 (August)
    • Mostly Lesson Study
      – *Finish Planning Research Lesson*
      – *Conduct Research Lesson*
      – *Discuss Research Lesson*
Current Project: Typical Year

• School Year Activities
  – Lesson Study process in school
  – Full group meetings
  – ICNs / speakers
  – Math content class
  – Public research lessons
  – Dissemination
  – Area Leaders
Lesson Study Fair
May 2003

• Dubuque public & parochial teachers
• Introductory talk
• Public research lesson & discussion (grade K)
Lesson Study Fair
May 2003

• Public research lesson & discussion (grade 4)
Lesson Study Fair
May 2003

- Displays from vendors & AEA1
- Poster session
Lesson Study Fair
May 2004

• Dubuque, Maquoketa, Ottumwa
• Introductory talk by Dr. Takahashi
• Other distinguished visitors
  – Makoto Yoshida, Ph.D.
  – Four Japanese textbook authors
Lesson Study Fair
May 2004

• Public research lesson & discussion (grade 1)
Lesson Study Fair
May 2004

• Public research lesson & discussion (grade 5)
Lesson Study Fair
May 2004

- Displays from Vendors, AEA1, & AEA9
- Poster session
Teacher Expectations

- Attend summer workshops
- Participate in Lesson Study group and other sessions
- Assist with data collection
Teacher Rewards

• **Stipend**: $1500/year

• **Materials or Travel**: $300

• **Opportunity for graduate Education credit at $125/credit**

• **Opportunity for graduate Math Education credit at $125/credit**
Catholic School Participation

- St. Anthony’s
- St. Columbkille’s
- Resurrection
- St. Francis
- Seton (Farley)
- Bishop Hayes (Muscatine)
- St. Josepahat (Chicago)
Successful Grants

- Eisenhower (1 year): $90,000
- Title IIA (1 year): $90,000
- DRA (1 year): $20,000
- PMET (Rob Keller = lead PI) $4,700
- Title IIB (MSP): 3 years at $150,000/year
Assessment / Accountability

- Michigan (LMT)
- Survey of Enacted Curriculum
- Student Achievement
  - ITBS
  - Problem Solving Probes
  - Behavior Rating Scales
Assessment / Accountability

- Anonymous Feedback from Teachers
- Linda Munger
- Data
  - Meeting Minutes
  - Lesson Plans
  - Reports
Anonymous Feedback from Teachers

• Collaboration … was great
• Great learning experience
• Summer session was very valuable
• Work with Dr. T. was amazing
• I have learned so much
• Extra time and effort, but well worth it
Anonymous Feedback from Teachers

- This was so eye-opening
- It has been a great experience
- It has been wonderful
- Well worth the effort it took