



The Rice University
Mathematics Leadership
Institute
(MLI)

A Word About Community

Which “belonging” profiles exist in your school?

Normal

Attached

Loving

Friendly

Intimate

Gregarious

Cooperative

Trusting

Absent

Unattached

Guarded

Rejected

Lonely

Aloof

Isolated

Distrustful

Distorted

Gang loyalty

Craves affection

Craves acceptance

Promiscuous

Clinging

Cult vulnerable

Overly dependent

Teaching in the Knowledge Society

(Hargreaves, 2003)

- Help children to develop deep cognitive understanding
- Develop flexibility in teaching methods
- Undergo professional development based on personal or group needs
- Coach children to memorize standardized learning
- Learn to teach as they are told
- Undergo in-service training on district priorities

Teaching in the Knowledge Society

(Hargreaves, 2003)

- Work collaboratively in teams
- Perform with emotional intelligence
- Feel confident and safe in taking risks
- Trust in people and processes
- Work harder and learn alone
- Perform with emotional labor
- Respond to imposed change with fearful compliance
- Trust no one

Our Vision for Students in High School Mathematics

Quality mathematics curricula

- develop problem-solving ability
- open doors for productive adulthood
- nurture independent thinking and life-long learning

Test-item focused curricula

- stifle problem-solving development
- lock students out of higher education
- prevent life-long learning



What is Instructional Coaching?


An intervention program designed to bring about systemic change in teaching and learning for teachers AND students

- MLI is such a program
- Some coaching programs focus on impacting affective change, some on cognitive change, some on both.




MLI Goals

- Develop a cadre of up to 80 lead teachers in mathematics (two per high school in each of the school districts) over the next three years.
- Establish a leadership program at individual campuses that will provide mathematics content and pedagogical support for the ***entire*** mathematics department at that campus.



MLI Lead Mathematics Teachers' Responsibilities to Other Professionals on Their Campuses

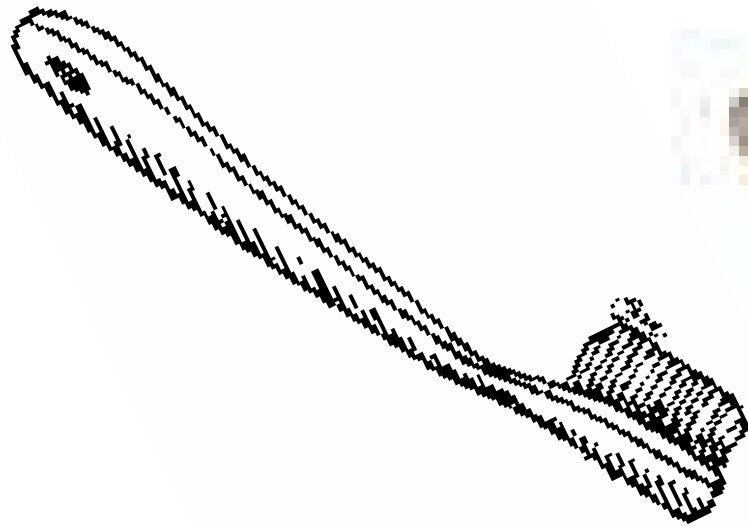
- serving as *the* campus mathematics advocate(s)
- sharing daily planning/professional development time with math teachers
- observing, providing suggestions for improved instruction, co-teaching, demonstration teaching



MLI Lead Mathematics Teachers' Responsibilities to Other Professionals on Their Campuses

- working with others to increase student interest in taking advanced mathematics courses
- providing administrators with guidance and support in understanding what good mathematics instruction should look like

Lessons from EDC's Center for Leadership and Learning Communities Instructional Coaching Conference, Boston, MA, September 22 – 24, 2005





Multiple Opportunities

- Parallel Initiatives
- Colliding Initiatives
- Colliding Directives

(Fullan, 1993)

(Lewis & Swan, 2005)

Role of School Leadership

- **Community of learning**
or directive isolation
Good teachers can become outstanding teachers...
- **Commitment to integrated coaching programs**
or to several parallel or colliding initiatives
- **Collaboration with and among lead teacher(s)/coaches**
or colliding leaders
(Supovitz & Poglinco, 2001; Fullen & Hargreaves, 2000)
- **Emphasis on concept-driven curriculum**
or focus on low-yield test objectives



Our Observations to Date...

This first year, lead teachers are primarily charged with establishing model classrooms for others to observe and emulate.

In some classrooms:

- Group work
- Students talking about mathematics
- Graphing calculators used frequently
- Concept-based district curriculum

In others:

- Students sitting in rows
- Teacher talk dominating the lesson
- Pencil and paper tasks
- Test-item and/or skill-based curricula

Our Observations to Date...

In some schools:

- Collaboration among school leaders
- Culture of community
- Lead teacher assigned to entry-level courses and beginning to develop collaborative relationships with colleagues
- Expectations and vision clearly articulated

In others:

- Colliding or parallel initiatives among multiple leaders
- Culture of reaction
- Lead teacher not assigned to entry level courses (Algebra 1 or Geometry)
- Colliding directives
- Release time not provided /release time replaced
- Vision unclear



Next Steps . . .

- Common planning time
- Release time for coaching work (observing and mentoring)
- Collaboration with other instructional coaches in the school