



# S M I

**UC Science and Mathematics Initiative**

# A bit of background

## One Thousand Teachers, One Million Minds



- May 2004: Governor makes “compact” with UC and CSU
- May 2005: Dynes, Reed, Schwarzenegger “roll out” initiative to increase number of math+sci teachers
- UC provides catch-phrase
- Goals for 2010:
  - UC increase from 250 to 1000
  - CSU increase from 750 to 1500
  - (new math and science teachers per year)

# Why University of California?

(or other research universities)

World-class:

- Faculty
- Research
- Laboratories

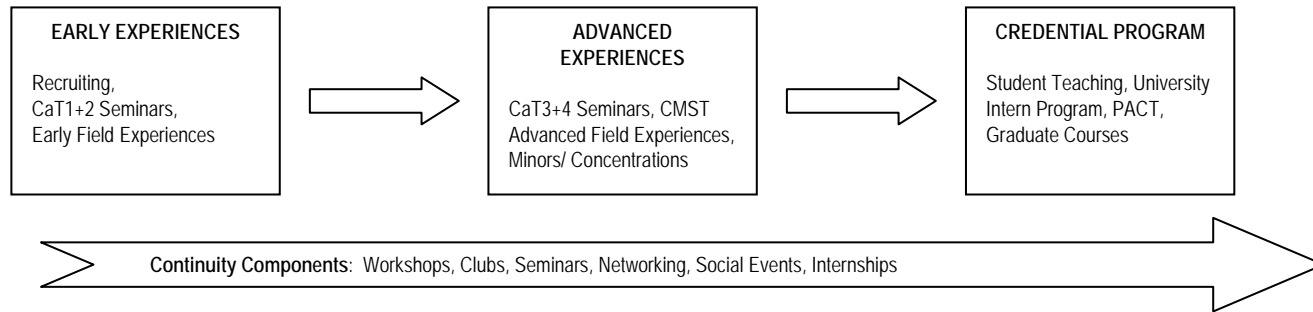
(in both the STEM domains and in Education)

What is missing?

K-12 practitioners?

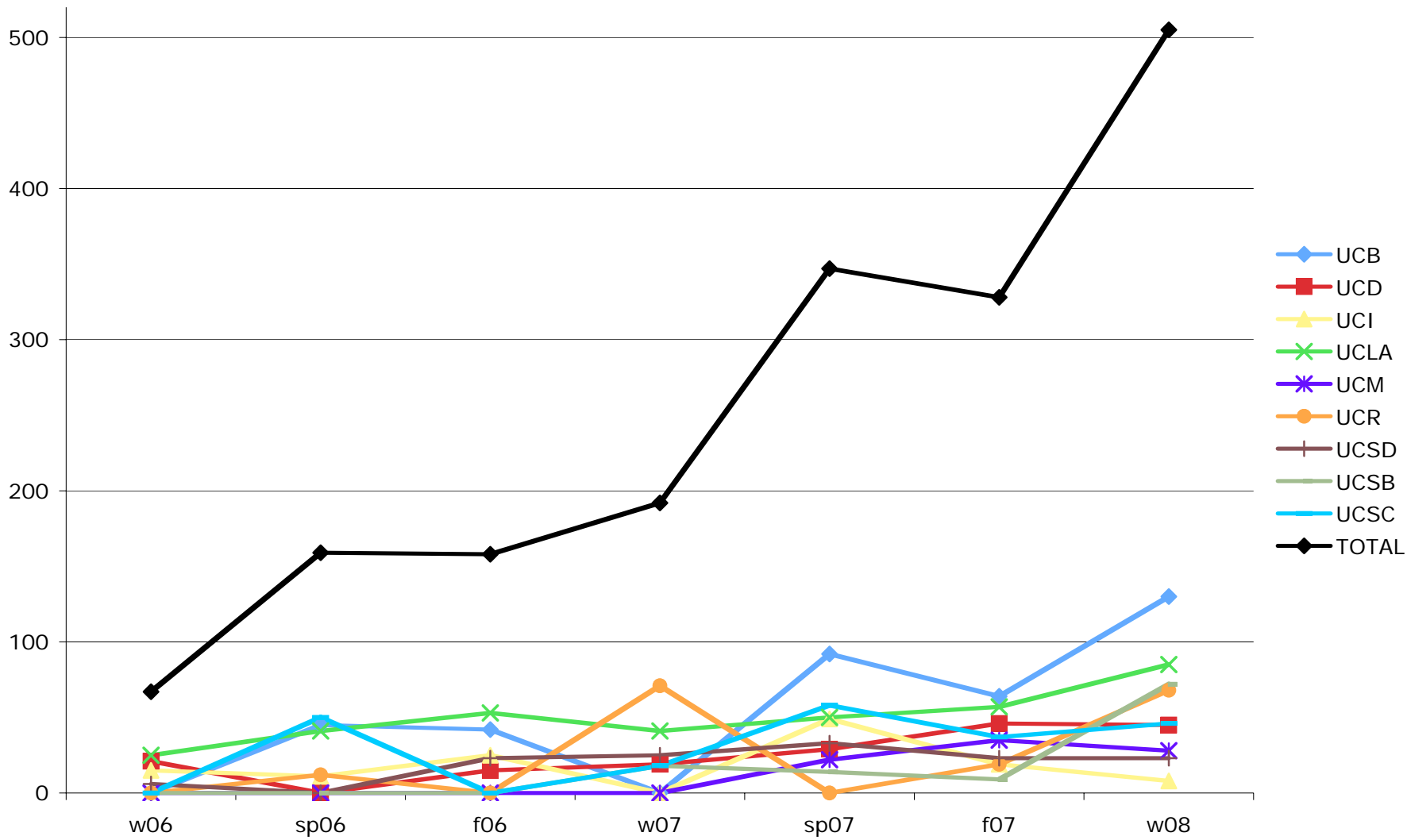
# What is the SMI CalTeach program?

## Program Structure

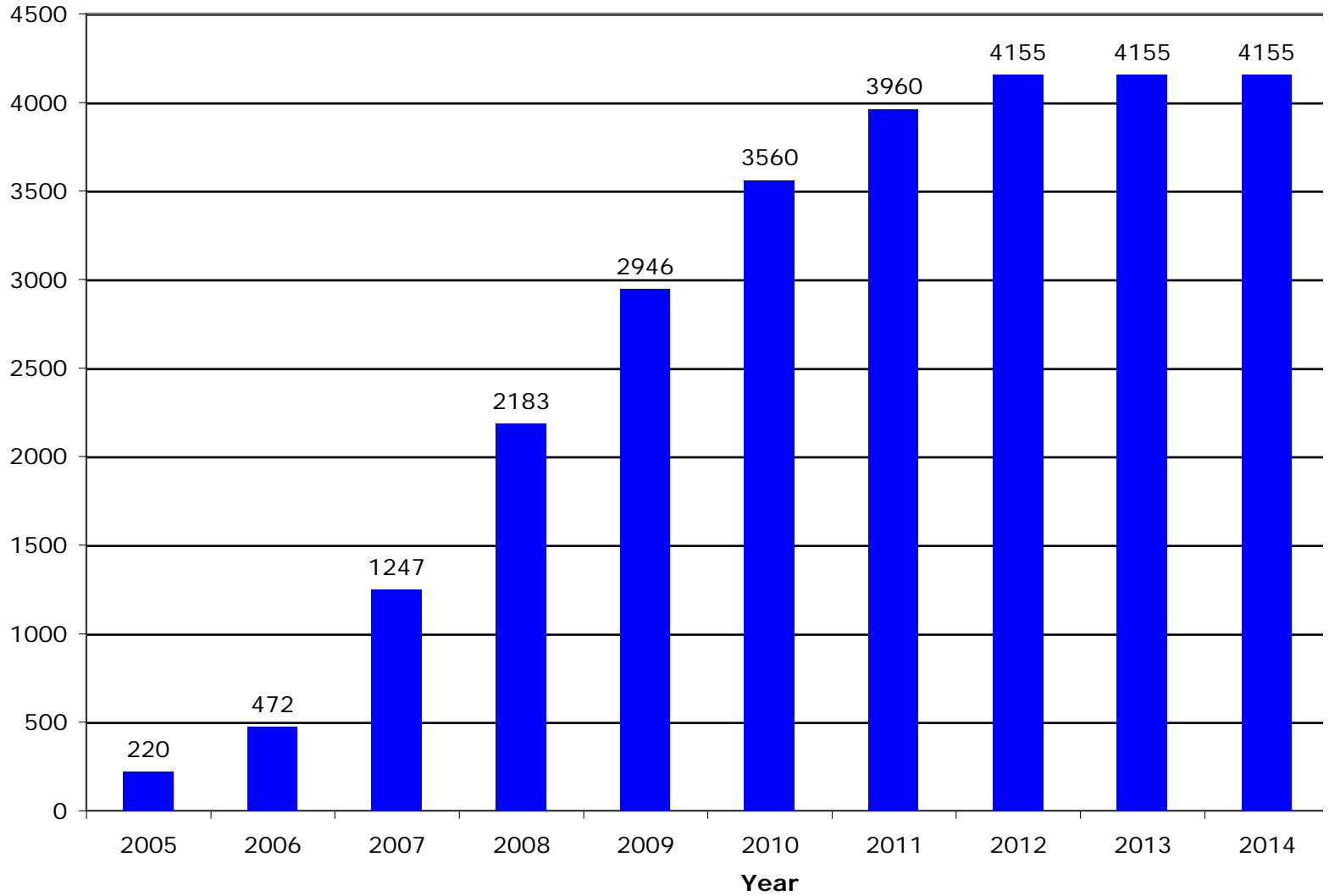


1. Recruitment and Advising
2. Coherent Curriculum
3. Field Experiences
4. Research Experiences
5. Faculty Participation and Collaboration between Departments of Science, Education, and Mathematics
6. Continuity Components
7. Master and Mentor K-12 Teachers
8. Ongoing Data Collection, Research, and Evaluation
9. Partnerships between Community Colleges and CSU
10. Financial Incentives

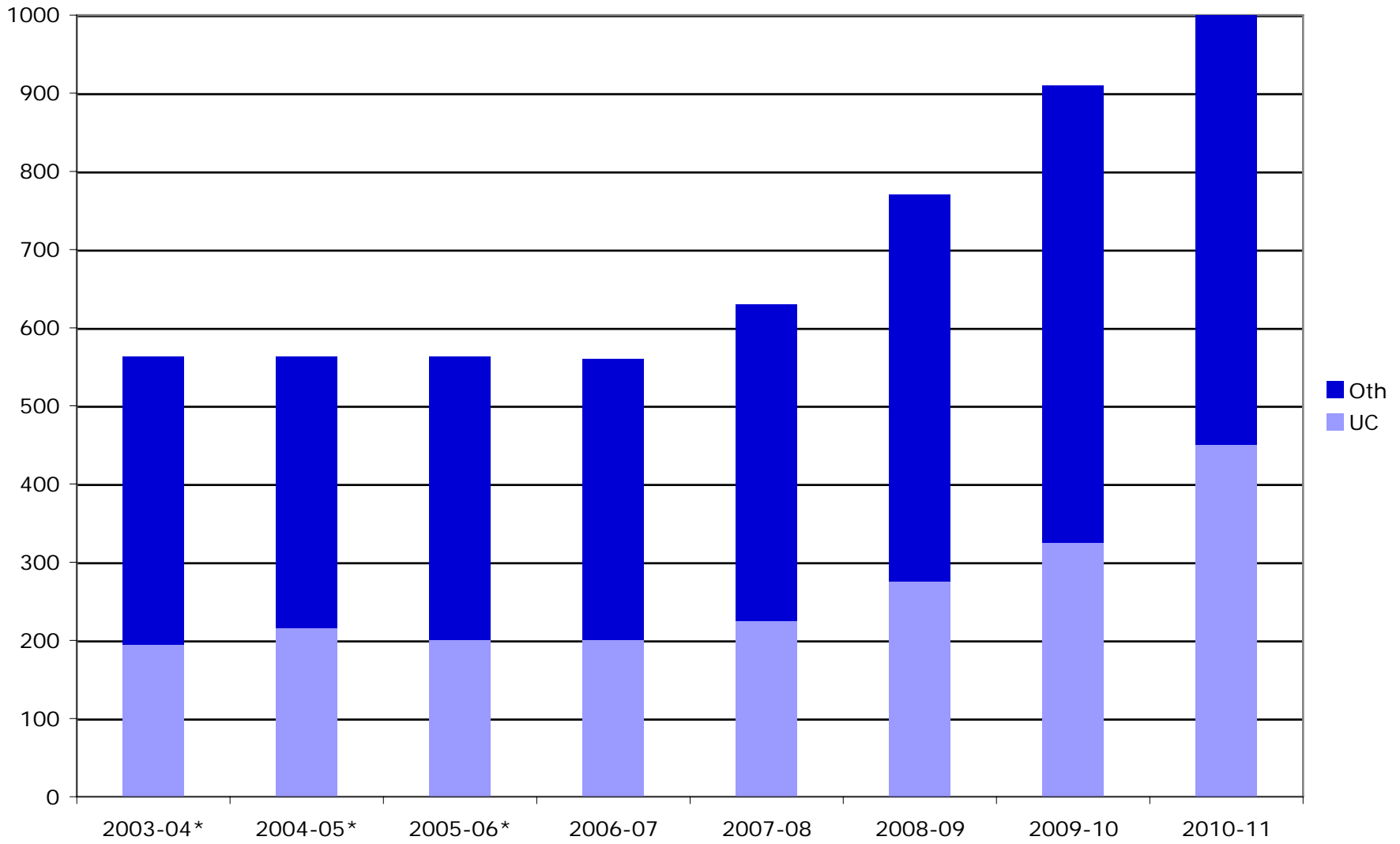
### SMI Enrollment By Term and Campus



## SMI Program Growth



## Math & Science Credentials from UC Graduates: Projections



\* Data from CCTC

# An example: Field Experiences



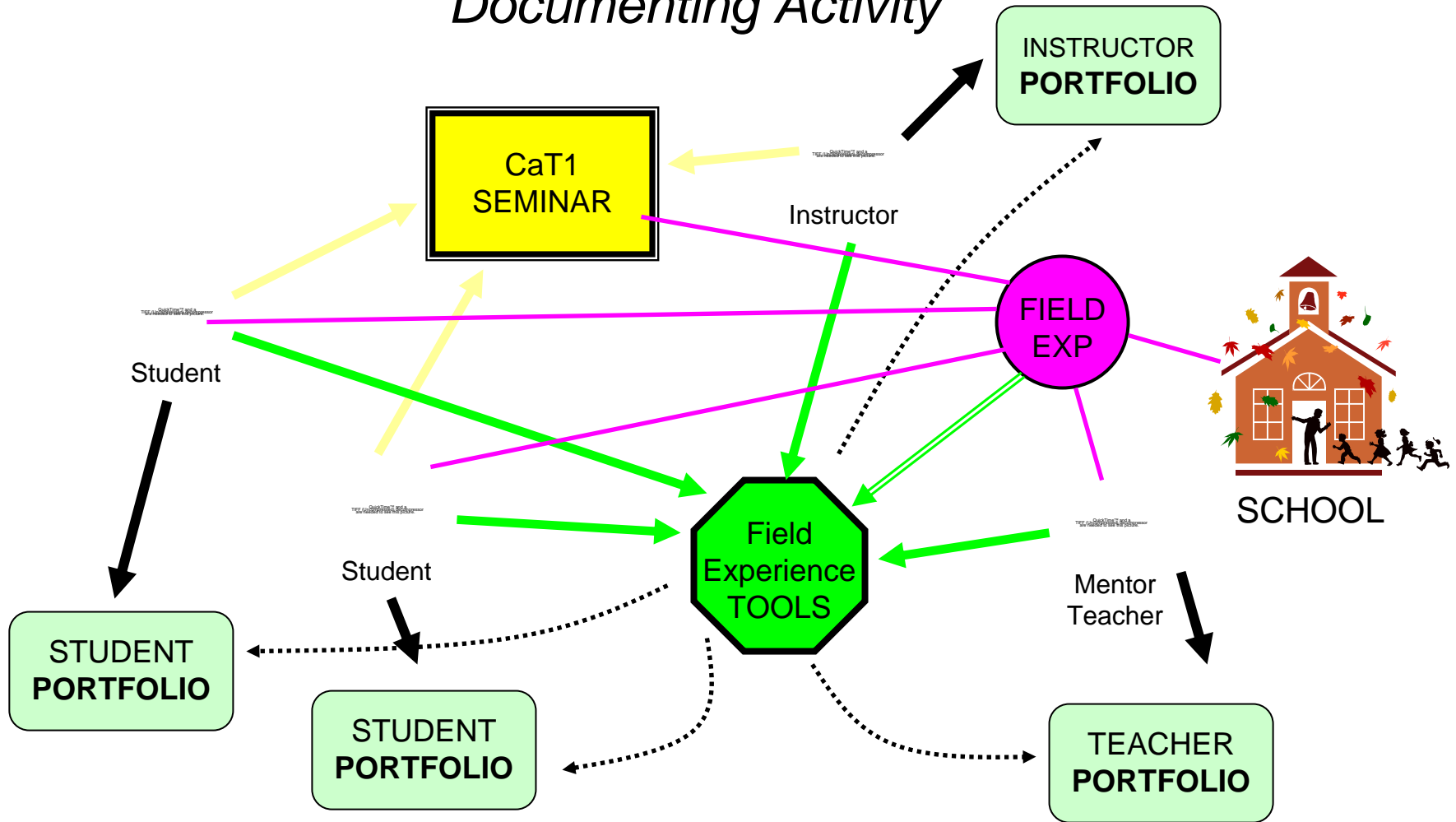
# Early Field Experiences



...A crucial element of the program's success, says co-director Michael Marder, is giving students classroom experience in their first year. "The best way to convince talented young people to teach," says Marder, "is to give them an opportunity to try it." *from Feb 13, 2006 Time Magazine*

# SMI PORTAL:

*Connecting Components, Operationally Defining and Documenting Activity*



A small sample of how the pieces interact and build upon each other...

# Student field experience documentation portal

**Jane Q. Student** document new field experience affiliated with **Math360A with David Henderson**

School: Rosa Parks Elementary

Mentor Teacher: Nancy Hewitt

Grade(s)  Pre K  K  1  2  3  4  5  6  
 7  8  9  10  11  12  Post Secondary

Date 2006-07-27 

Start time: [menus]

End time: [menus]

Primary Action:--[menu]---

Primary Topic:--[menu]---

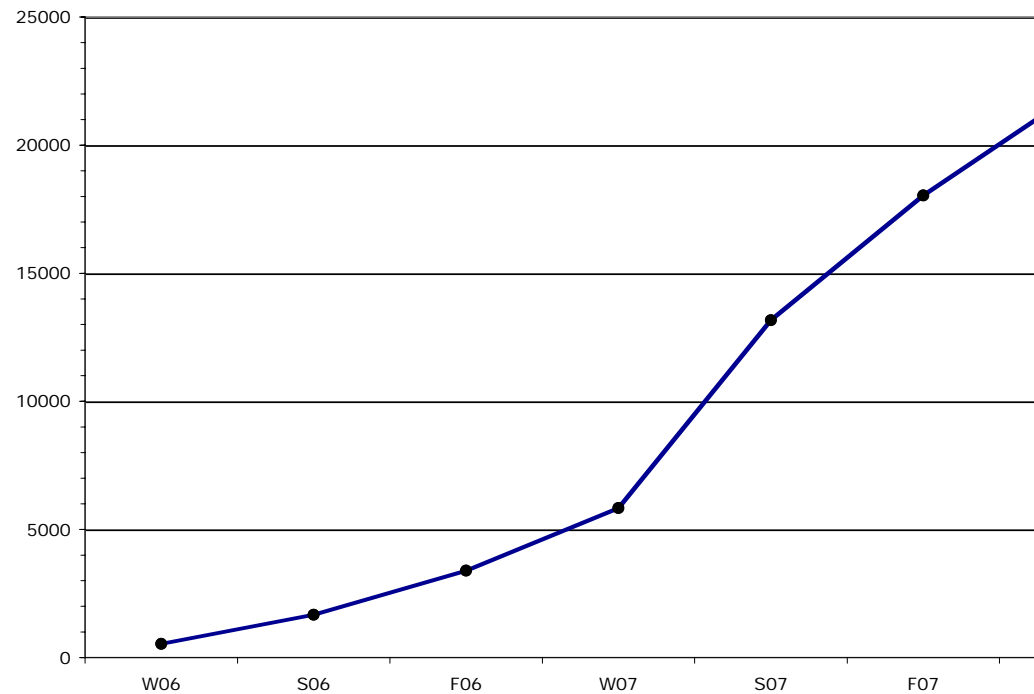
Description Prompt: *none*

Description

Reflection Prompt: *What do you think the students' understood about fractions? Provide evidence to support your claims.*

Reflection

Cumulative Number of Field Experiences



To date, UC SMI students have worked with a total of **771 mentor teachers in 261 schools**, working in classrooms a total of 25,374 times.

Each field experience represents a student going to a K-12 classroom with a mentor teacher. Students observe, assist and sometimes develop and teach lessons. Some quotes from the mentor teachers:

*“Young students always enjoy having college students in the classroom. For some students, this is their first experience of ‘seeing’ a college student. It may help some elementary students see the option of university as a reality.”*

*“They see young people excited about school and enrolled in college and adults they can talk to about their learning and relate to more.”*

*“Having a college student interested in science there and interacting with the kids was a benefit. My students enjoyed asking them questions.”*

*“My students looked forward to the days when the SMI students were in the classroom.”*

# Challenges and Next Steps

- Institutionalize the program
- Continue to establish a robust Quality indicator System
- Research, Evaluate, Improve
- Connect with other systems