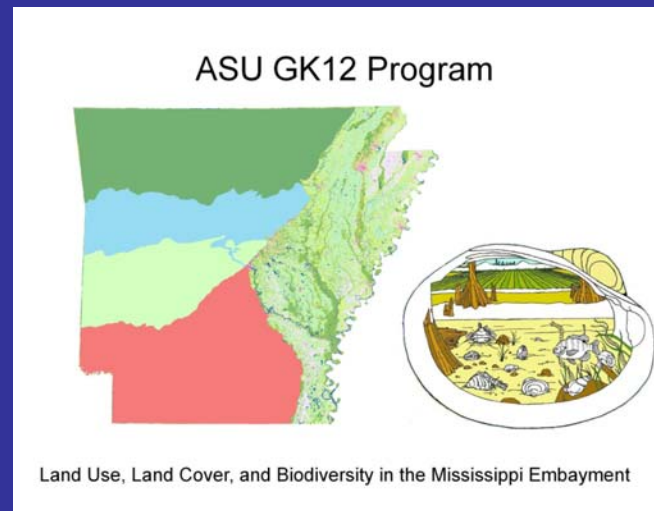


GK12 End of Year Review

May 1, 2010



Jennifer L. Bouldin, PhD
Director
ASU GK12 Program



Welcome



PI: Dr. Jennifer L. Bouldin

Co-PI's:

Drs. Anne Grippo, Tillman Kennon, Cynthia Miller, Tom Risch

The Program

- NSF funded program
 - Implements the knowledge of Graduate Students to enhance Public school K-12 education
 - 8 Fellows per year in public schools
 - To enrich STEM in the classroom
 - Graduate Fellows draw upon current research experiences to develop lesson plans
 - meet state and national standards.
- Environmental Sciences Graduate Program
- Molecular Biosciences Graduate Program
- Department of Biological Sciences

Our Mentor/Teachers

- 6th – 8th grade emphasis
- Lessons meet state and national standards
 - Armorel
 - Cross County
 - Forest City
 - Harrisburg
 - Nettleton
 - Wynne



Our Groups

Armored

- Sarah, Alayna, Kelly

Cross County

- Kevin, Annabelle,
Jacob, Heidi, Jennifer,
Melissa

Forest City

- Mauricio, Lisa, Charity



Our Groups

Harrisburg

- Scott, Teresa, Denise

Nettleton

- Bryan, Matt, Heather

Wynne

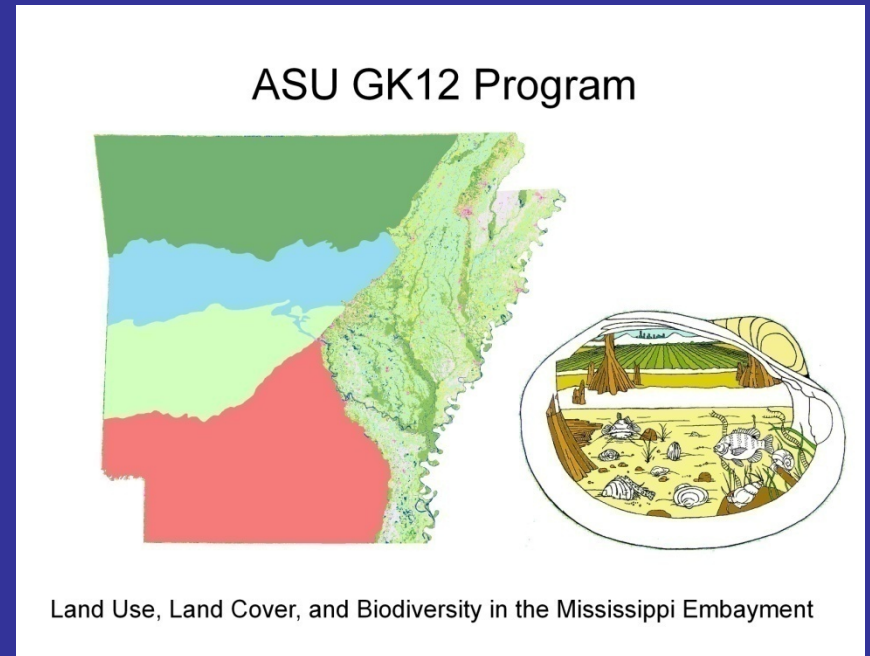
- Seth, Katie, Gaybreia,
Cindy, Marc, Meredith



Our Goals

Program Goals:

- 1) improve communication to a broad audience
- deeper understanding of research
- 2) enhance teachers' science experience
- 3) students' interest in STEM
- exposure to enriched STEM environment
- 4) strengthen ASU & school districts' partnerships



Year 2



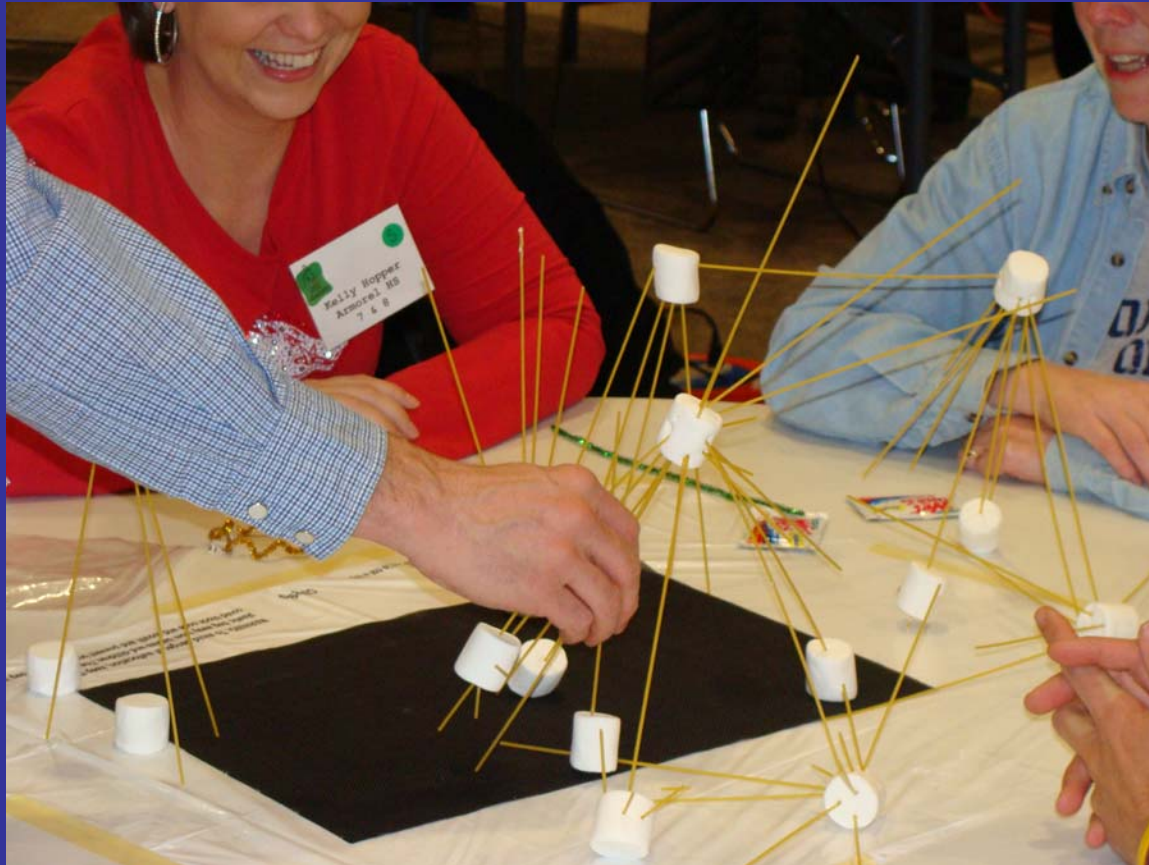
We learned teamwork

Year 2



...and patience!

Year 2

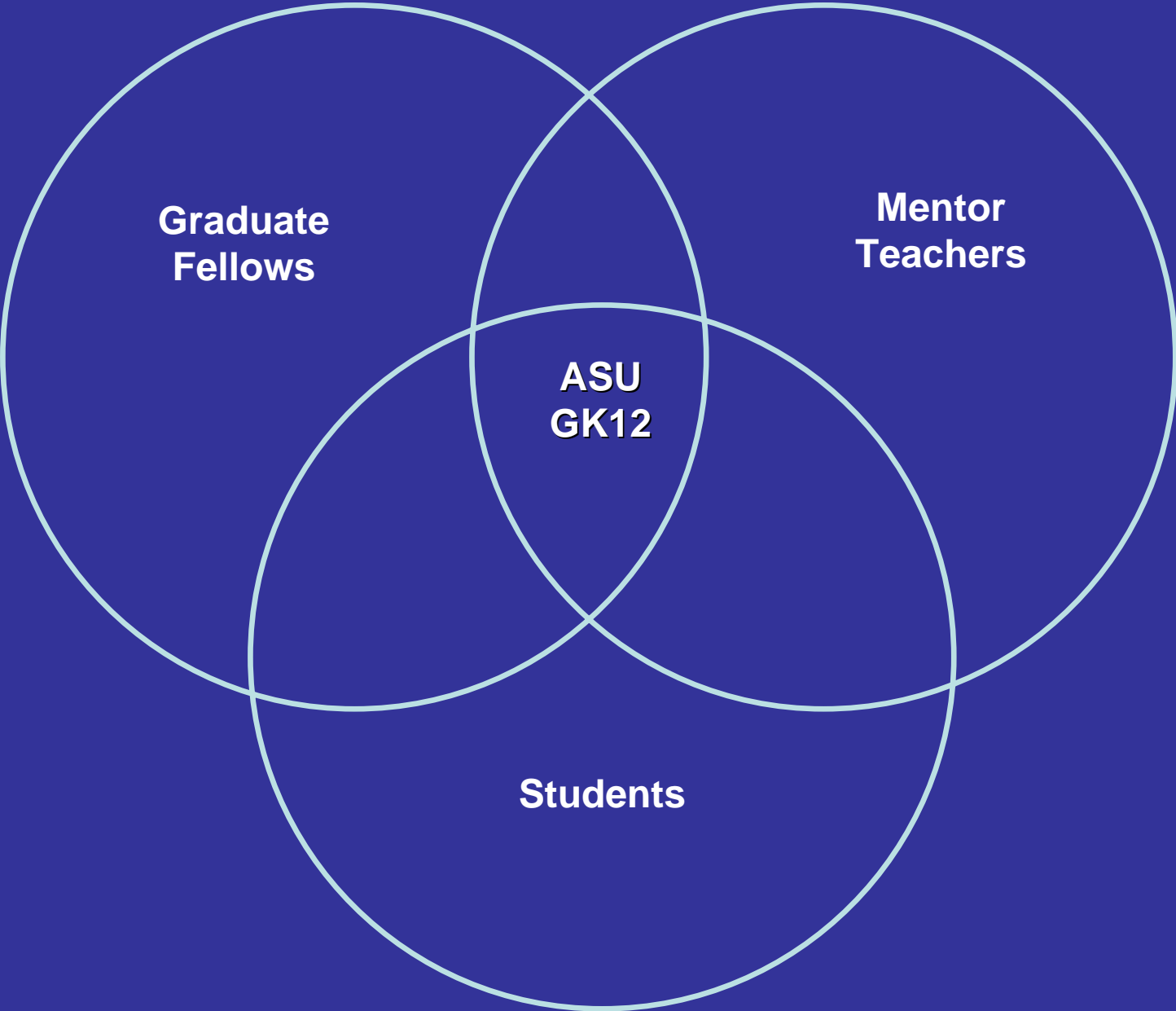


We learned from each other

Year 2



...and we laughed!

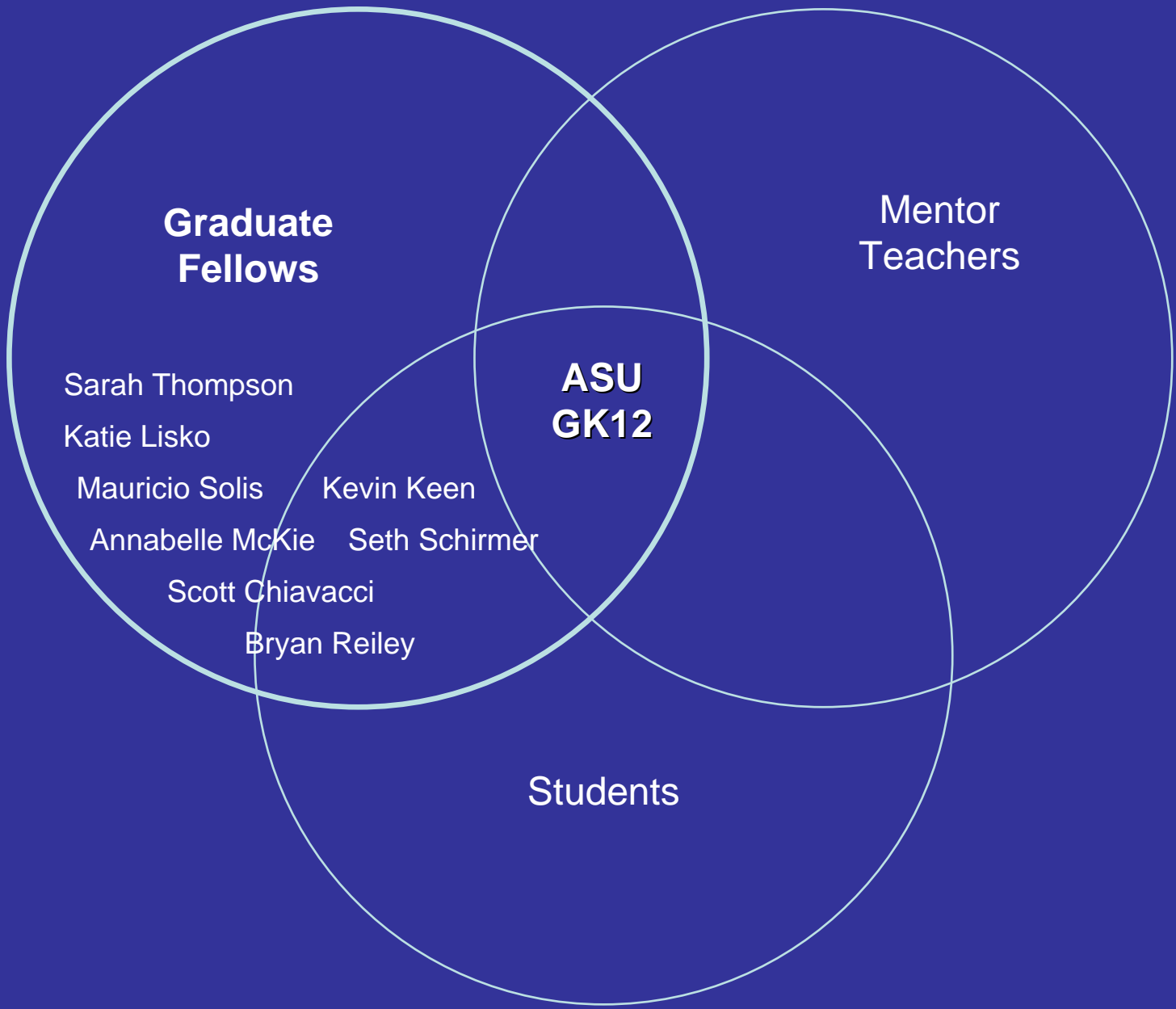


**Graduate
Fellows**

**Mentor
Teachers**

**ASU
GK12**

Students



**Graduate
Fellows**

**Mentor
Teachers**

**ASU
GK12**

Students

Sarah Thompson

Katie Lisko

Mauricio Solis

Kevin Keen

Annabelle McKie

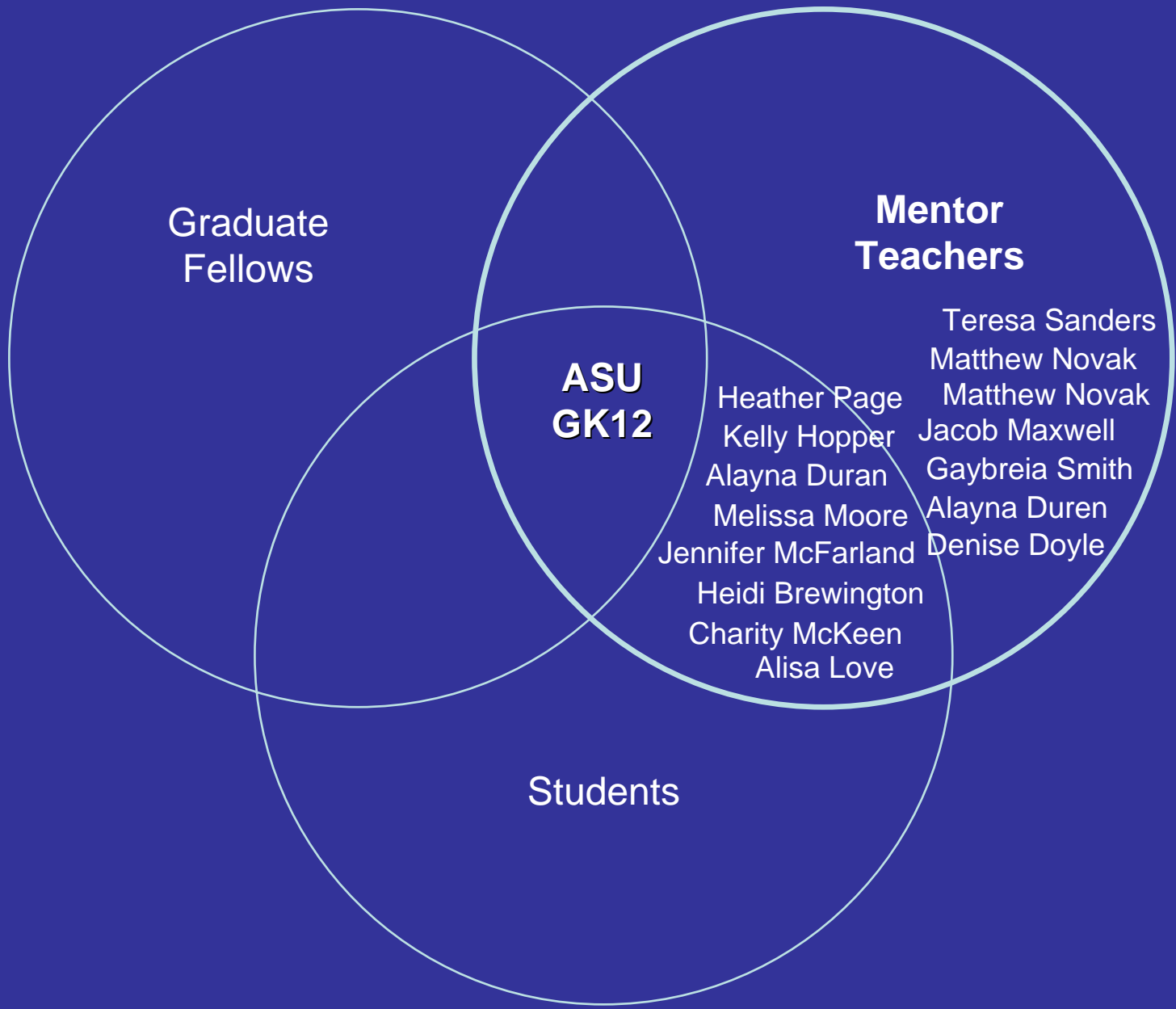
Seth Schirmer

Scott Chiavacci

Bryan Reiley

Graduate fellows





Graduate
Fellows

**Mentor
Teachers**

**ASU
GK12**

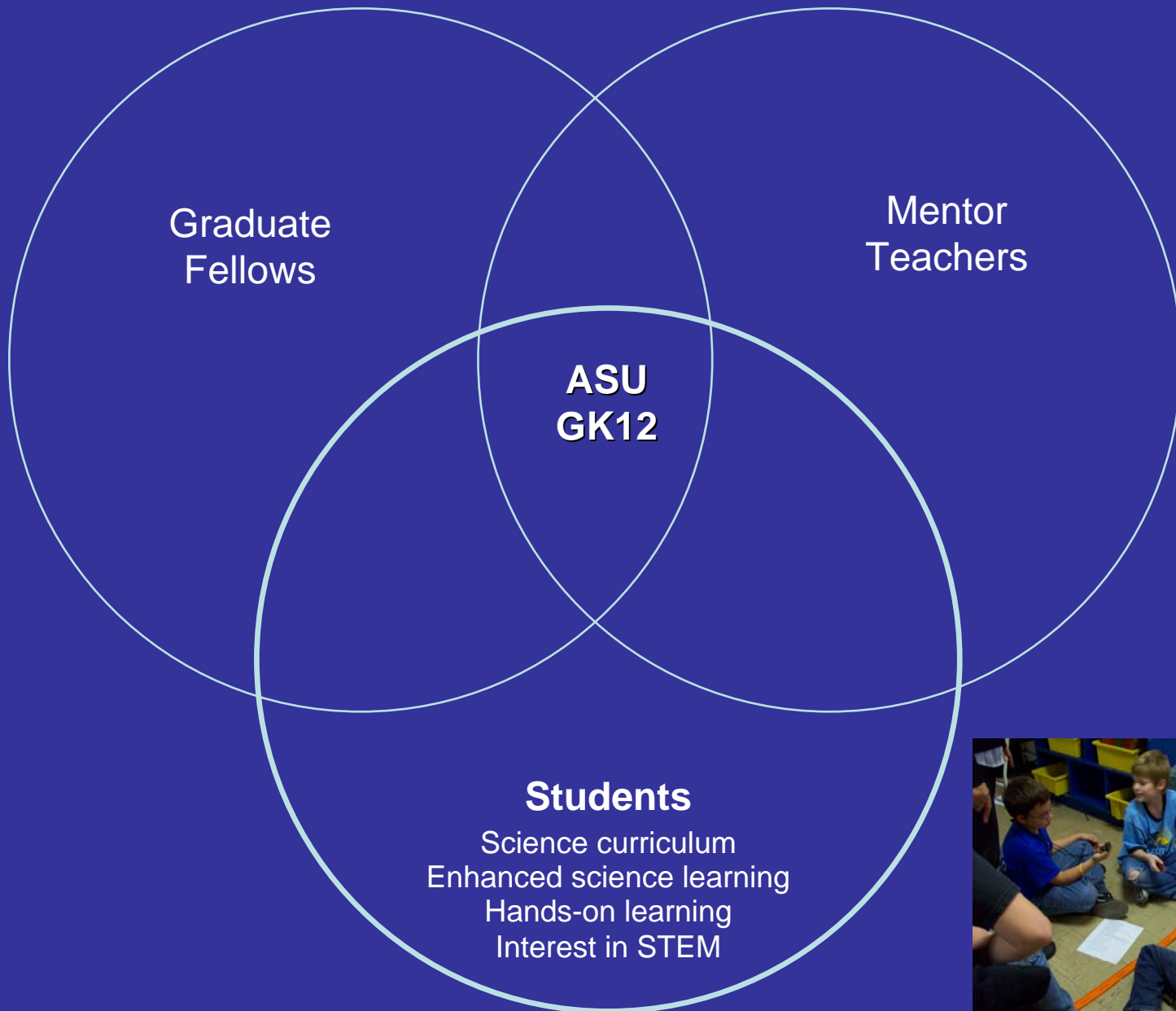
Heather Page
Kelly Hopper
Alayna Duran
Melissa Moore
Jennifer McFarland
Heidi Brewington
Charity McKeen
Alisa Love

Teresa Sanders
Matthew Novak
Matthew Novak
Jacob Maxwell
Gaybreia Smith
Alayna Duren
Denise Doyle

Students

School Districts

- **Armored**
- **Cross County**
- **Forest City**
- **Harrisburg**
- **Nettleton**
- **Wynne**



We travelled



Our Fellows demonstrated their skills
Hands-on demonstrations
We learned about other programs
We enhanced our science learning

Back to the goals

- Were the goals achieved?
- How can we improve?

Program Goals:

- 1) improve communication to a broad audience
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- exposure to enriched STEM environment
- 4) strengthen ASU & school districts' partnerships

Improved communication

- Fellow could break down the vocabulary
 - Use synonyms, analogies
- Increased communications skills with students and Mentor/Teachers
- Definitely feel more secure in speaking
 - Increased understanding in science
- Forced to understand science on a basic level before teaching it
- Mentor/teachers have come into the 'texting world'

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Goal 2

- Inspired Mentor/Teachers to re-evaluate the way and sequence of their teaching
- Developed lesson plans
 - Fellow could re-teach old techniques as refresher knowledge
- Helped to organize resources available in each school and also at ASU

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Interest in STEM careers

- Sparked a lot of interest
 - This is highly class and grade specific
- Students wanted to job shadow
 - Suggested possibly assess at beginning and end of year
- ‘Hard to reach’ or uninterested students have been reached

Program Goals:

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Strengthen partnerships

- Increased interest in ASU advanced degrees
- Mentor/Teacher participation in other STEM projects
- ASU visits from schools (field trips)
 - Exposure to research laboratories
- Increased interest from Parents in ASU STEM projects
- Student interest in ASU STEM programs
 - Noyce, McNair, RISE, ARISE, CSI

Program Goals:

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Suggestions for improvement

- Pedagogy inservices/learning during school year
- Planning time for Fellow/teacher throughout year
- Mid semester (X2) evaluations of Fellow by Mentor/Teacher
- Exchange of Fellows in classrooms
 - Brings a new face & new ideas/research
- More time for Mentor/Teachers with ASU
 - Mid-semester meeting (Oct & March)
- Communicate, communicate, communicate

Summer Workshop Improvement

- Make Mentor/Teachers aware of availability in
 - TAC house
 - ASU researchers and research labs
 - Expertise the Fellow brings
 - Spend time with Fellow in his/her lab
- Introduce classroom management
 - Specific for each district/classroom
- Bring textbook for Fellow to review
- Time for lab quest, probes, flip video cameras
- Fewer lesson plans and planning time later in semester

Mid Year Workshop Improvement

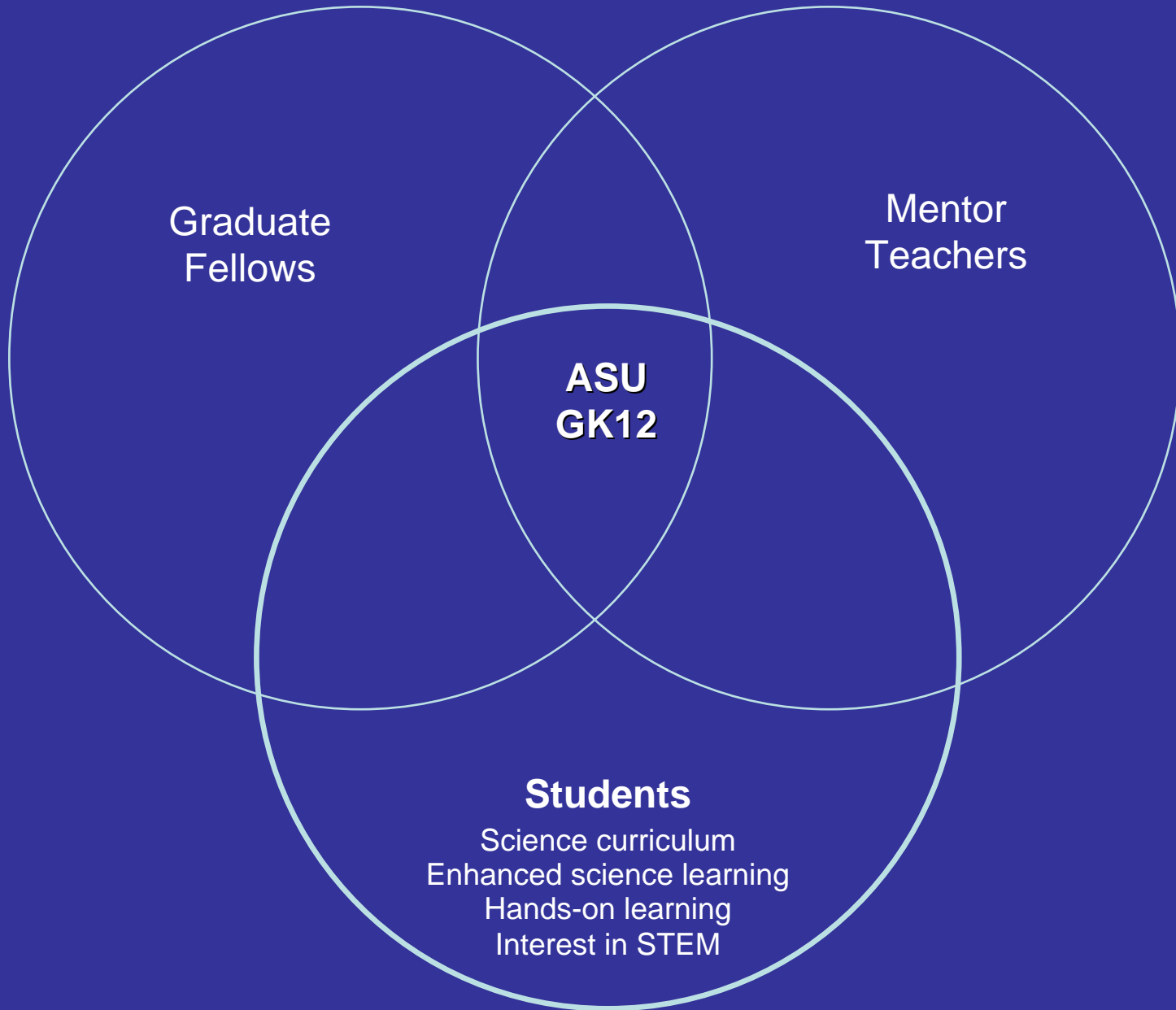
- Time for lesson plans
- Less team building and substitute motivational speaker
- Successful lab/lesson plan demonstration
 - Specific for each district/classroom
- Review time for any technology lab quest, probes, flip video cameras

Suggestion from Local Advisory Committees

- Require fellows to be involved with extra-curricular activities
 - Parent teacher conferences
 - Open houses
 - Family “make a difference” nights
 - Science fair project development and judging
 - Quiz bowl
 - Presentation at science clubs, etc.
 - Attend proms/homecomings/fall festival, afterschool enrichment etc.

Suggestion from Local Advisory Committees

- Powerpoint with embedded video about STEM careers by all Fellows
- Fellow & PIs prepare powerpoint about ASU STEM initiatives
- PIs prepare press release for Sept and May
 - Send to Mentor/Teachers and Fellows for local newspapers
- Locate funding for ASU tours
- ASU 'giveaways' for students
- EAST lab/journalism/language arts – monthly article about GK12



Graduate
Fellows

Mentor
Teachers

**ASU
GK12**

Students

Science curriculum
Enhanced science learning
Hands-on learning
Interest in STEM

Students

1353 students in 6 rural school districts

Caucasian	African American	Hispanic	Other
957	353	31	12
71%	26%	2%	1%

Diversity

1353 students in 6 rural school districts

Caucasian	African American	Hispanic	Other
957	353	31	12
71%	26%	2%	1%

Student Diversity by % total

