Building a Classroom Community in the STEM Fields with Peer Learning Facilitators

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STEM GATEWAY

The University of New Mexico STEM Gateway program seeks to increase the number of Hispanic and other low-income students attaining STEM degrees.

STEM Gateway initiatives focus resources on undergraduate science and math courses that serve as gateways to STEM degrees, and that traditionally have had low success rates.

The Peer Learning Facilitator Program

is one of four initiatives under the STEM Gateway grant.

It consists of peer-assisted collaborative learning activities in large gateway sections. The assistance of facilitators allows instructors to incorporate a wider variety of effective instructional strategies.

Who Benefits from the PLF Program?

Peer Learning Facilitators

Greater immersion in foundational STEM material

Academically-based on-campus student employment

Opportunity for mentorship among their students, other PLFs, and faculty

STEM Students

Building a foundation of support among peers

Better absorption of concepts and theories

Increased course completion

Greater retention in the STEM field majors

STEM Faculty

Connect with more students personally

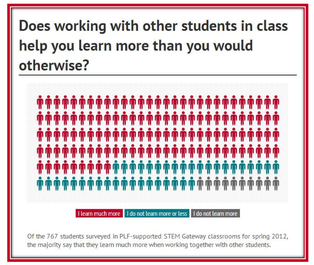
Collaborative work more manageable in large classrooms

Strengthened community of upper-level STEM students

Higher pass rates

Does having a classroom community even matter?

Undergraduate students process material in a variety of ways. For students who crave hands-on learning, even the most vibrant lecture can leave them disconnected from course content



Allowing collaborative group work in the classroom provides opportunities for students of different academic backgrounds, learning styles, and personalities to join together and use their strengths to grasp complex concepts.

Who are the PLFs?

- ✓ Undergraduate students *(Graduate students also welcome)*
- ✓ Academically qualified in the course *(Received A or B grade or have tested out)*
- ✓ Young women and men who understand firsthand the challenges that come in gateway STEM classes
- ✓ Eager to help their peers succeed academically through collaboration and mentorship

PLFs collaborate on a team-building science project as part of their professional training, Spring 2012

"The PLFs push us to take the initiative by asking for help and not only helping us through the problem but by giving us the tools we need to be able to figure it out on our own."

-STEM Student, Spring 2012

"I am very happy with the program and my PLFs.

They really make the class much better."

-STEM Faculty, Fall 2012

"I really can't express how helpful it is to work with another, more experienced PLF.

His insight in [my] situation was really helpful."

- PLF, Spring 2012

What are "Gateway" Classes?

For purposes of STEM Gateway, they are defined as those which meet at least one of the following criteria:

- Core Requirement, Entry Level Program Requirement, and/or Survey courses within Dept. of Education-approved STEM disciplines that can be applied towards degrees in these disciplines
- Companion courses (labs, problem solving courses, etc.) that are connected to Core Requirement or Program Requirement courses
- Pre-requisite courses that are required by students to take Core Requirement or Program Requirement courses

What classes have PLFs served in the past?

- ✓ Chemistry 121, 122
- ✓ Earth & Planetary Science 101, 201
- ✓ Math 121, 150, 180
- ✓ Physics 167

I want to see more data!

Spring 2013 marks the beginning of Year Two for the five-year STEM Gateway grant. Stay tuned for more data, but here is what we've learned so far:

The program continues to grow

Spring 2011: 26 PLFs serving 14 classes
Fall 2012: 42 PLFs serving 24 classes
Spring 2013: 45 PLFs serving 20 classes

During the first semester of implementation, student successful completion rates increased **from 57.6%** prior to STEM Gateway PLF implementation (Fall 2011, all sections) **to 61%** after implementation (Spring 2012, PLF-supported sections only).

For Hispanic and low-income students, success rates increased **from 53.71% to 58.4%.**

Within the Spring 2012 PLF-supported sections, 47% of enrolled students were Hispanic, compared to the UNM average of 37%.

For more information on PLFs and the STEM Gateway grant:

stemgateway.unm.edu

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