

VISTA

VIRGINIA INITIATIVE FOR SCIENCE TEACHING AND ACHIEVEMENT



WHERE INNOVATION MEETS SCIENCE EDUCATION



VMI STEM Education Conference October 3, 2012



Virginia Initiative *for*
Science Teaching and Achievement

VISTA.GMU.EDU

FOSTERING THE DEVELOPMENT OF
SCIENCE EDUCATORS AND STUDENTS



V *irginia*

I *nitiative*

S *cience*

T *eaching*

A *chievement*

What is VISTA?

- A **professional development** program designed to to improve teaching effectiveness in science at the elementary, middle and high school levels
- A **research program** designed to verify that Problem-Based Learning (PBL) and “inquiry-based” teaching is effective on a broad-based scale
- It is the start of a **community of “best practice”** which incorporates all elements of the K-12 teaching and research community



VISTA is Collaborative



- 6 Virginia Universities
- 67 School Divisions
- VA Dept of Education
- US Dept of Education “Investing in Innovation” (i3) Program
 - 1 of 49 awards out of nearly 1,700 submissions
 - \$34M including \$5.7M Private Sector Matching Requirement
(Exemplary Project and Validation Project)
- Corporate Donors



Pilot Program Results

VISTA's inquiry-based teaching methodologies for STEM subjects were developed and tested among more than 10,000 secondary school students in three Northern Virginia school districts.

The results of the peer-reviewed and published research were impressive:

35%

reduction in the number of failed students for provisionally licensed teachers – a measure of student performance and teaching effectiveness

38%

increase in the number of high-achieving students—a measure of student achievement the equivalent of receiving a grade of A in secondary science



Four Main Professional Development Programs

In-depth professional development programs for elementary science teachers

Graduate-level academic certification and support for new middle and high school science teachers

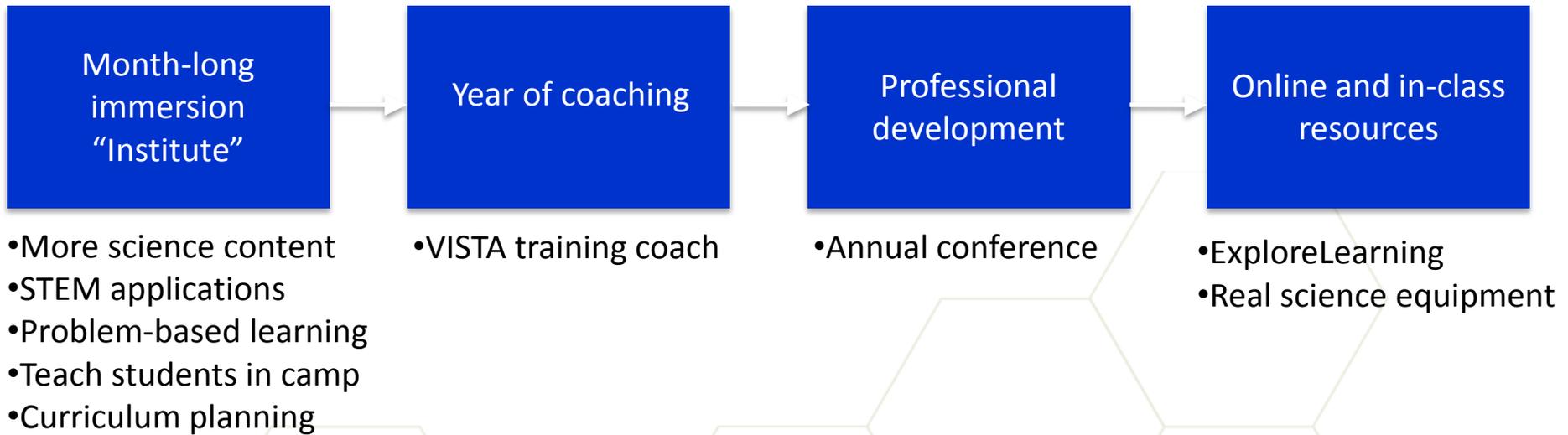
New school district science coordinator professional development

College-level professional development for science education faculty



Elementary Teacher Professional Development

540 elementary teachers who teach 37,000 elementary students will receive

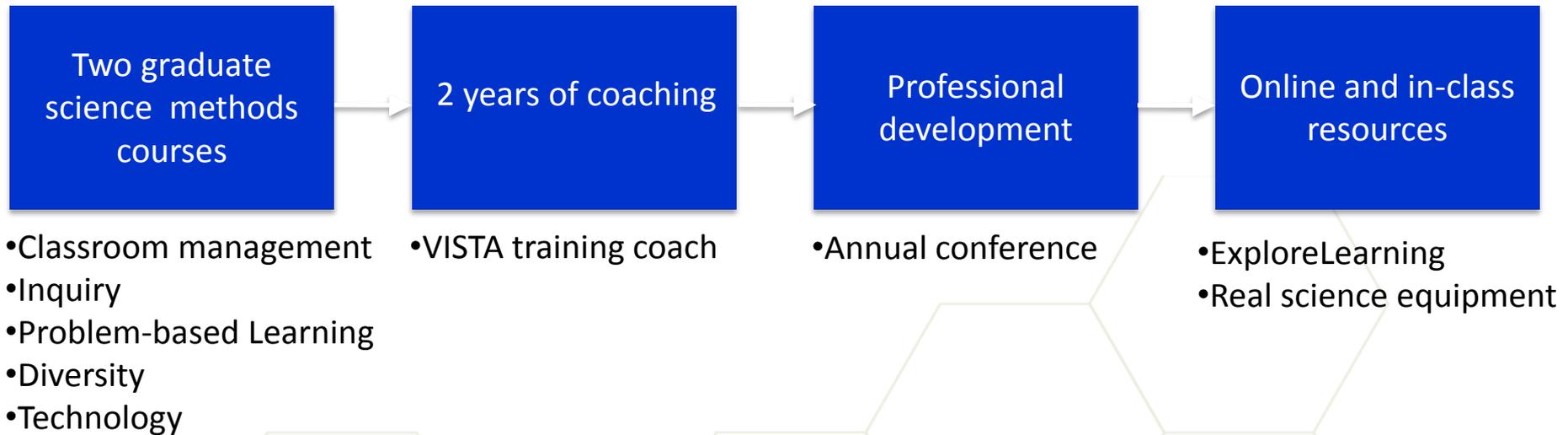


Validating research: Each teacher is evaluated six different ways throughout the year to validate the impact of Problem-Based Learning and "inquiry based" teaching



Secondary Teacher Professional Development

300 secondary school teachers who teach 112,000 middle and high school students will receive



Validating research: Each teacher is evaluated six different ways throughout two years to validate the impact of Problem-Based Learning and “inquiry based” teaching



Leadership

*New district science coordinators
will receive*



Five day
immersion
“Academy”

- District-level “inquiry-based” strategic planning
- Develop effective teacher leadership capacity
- Data-based science program decisions

*Science education college faculty
will receive*



Five day
immersion
“Academy”

- Learn about new science research
- Share effective teaching strategies
- Collaborate to identify challenges



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To Learn More About VISTA:

<http://vista.gmu.edu>

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VISTA – Virginia Initiative for Science
Teaching and Achievement

