4-5-2012

Teach Next Year / Noyce Urban Teacher Scholarship Program

Lisa Gonsalves
University of Massachusetts Boston, lisa.gonsalves@umb.edu

Follow this and additional works at: http://scholarworks.umb.edu/ocp_posters

Part of the Community Engagement Commons, Higher Education Administration Commons, and the Urban Education Commons

Recommended Citation
http://scholarworks.umb.edu/ocp_posters/57

This Presentation is brought to you for free and open access by the Office of Community Partnerships at ScholarWorks at UMass Boston. It has been accepted for inclusion in Office of Community Partnerships Posters by an authorized administrator of ScholarWorks at UMass Boston. For more information, please contact library.uasc@umb.edu.
**Teach Next Year / Noyce Urban Teacher Scholarship Program**

Dr. Lisa M. Gonsalves, Principal Investigator  
Department of Curriculum and Instruction, University of Massachusetts, Boston MA

---

**Introduction and Overview**

UMass Boston has hosted Noyce Scholars for the last four academic years (2006-2010). The program is built upon seven years of an existing program in the UMass Boston Graduate College of Education: Teach Next Year. TNY is an accelerated teacher education program designed to prepare interns for urban teaching as they obtain their initial licensure. Noyce funding supports TNY interns who are dedicated to teaching math and science in urban schools. Graduates have all gone on to teaching positions in the Boston Public Schools.

**TNY/NOYCE Facts & Statistics**

- 44 math and science teachers prepared over four years
- 76% retention rate over three years
- 25% teachers of color prepared over four years
- 43% male and 57% female teachers prepared

- Between 2006 and 2010, the traditional teacher preparation program at UMB graduated 40 STEM teachers. However, 36 of these, or 75%, were already classroom STEM teachers before they started their Masters program. This means that the Noyce program brought 44 new recruits to STEM teaching in comparison to the 10 brought in by the traditional teacher education programs.

**TNY/NOYCE Curriculum**

**Participating Schools**

Over the four years of our Noyce Scholars program we were able to expand our urban school partnerships from one high school to 13 middle and high schools in two high-need, urban districts. Now, the TNY / Noyce students complete their internships at one of the follow participating urban public schools.

- **Dorchester Educational Complex**, comprised of
  - Dorchester Academy
  - TechBoston Academy

- **Hyde Park Educational Complex**, comprised of
  - Community Academy of Science and Health
  - Social Justice Academy

- **South Boston Educational Complex**, comprised of
  - Odyssey High School
  - Excel High School

- **John D. O’Bryant School of Math and Science**

- **Young Achievers Science and Math Pilot K-8 School**

- **Randolph Community Middle School**

- **Randolph High School**

School profiles can be found at [http://www.boston.k12.ma.us/schools/profiles.asp](http://www.boston.k12.ma.us/schools/profiles.asp) & [http://www.randolph.k12.ma.us/pages/index](http://www.randolph.k12.ma.us/pages/index)

---

**Research Project 1**

**Development of a Rubric for Evaluating Science Teachers**

**The Problem** - It is difficult to separate explanations of science from a deliberate attempt to teach science. Relevant research literature:

1. Characterization of how science is explained by science teachers
2. Types of knowledge that teachers possess

**The Rubric** - The rubric runs parallel to what we know about effective science teaching – that it requires three kinds of knowledge:

- **Science content knowledge**
  - Factual knowledge and processes and how well that knowledge is understood in broader contexts
  - Assesses accuracy and depth, including how well the scientist portrays the overall organization of knowledge

- **Pedagogical Knowledge**
  - Evidence of organization of knowledge by the guiding principles of the discipline
  - Ability to transfer knowledge to broader contexts

**The Rationale** - To ensure that we are indeed providing highly qualified teachers for urban students, we must be able to evaluate and understand how alternative certification programs operate in various settings because:

- what is expected to happen conceptually is not often what happens in between the university and the school that these partnerships depend upon
- few TRP/ACP evaluations are grounded in an overarching theoretical framework for examining these programs in a broader context
- TRP-ACP evaluations tend not to examine the relationship between the university and the school that these partnerships depend upon

**The Problem** – TNY/NOYCE has evolved very differently in each new school site, for example:

- Site 1: the balance of program control belongs to the teachers, who exclude administrators from decision-making around the placement of interns
- Site 2: the balance of program control belongs to the administration, who exclude teachers from decision-making around the placement of interns
- Site 3: the administrators are hands off and teachers are not overseeing the program, leaving the university faculty with control over assigning interns to teachers

**The Model** - The above control structures take place within the organizational, relational and socio-cultural contexts of the TNY/Noyce program. Therefore, we propose a three dimensional theoretical model that provides educators, policymakers, and researchers with a way of understanding and evaluating TRPs & ACPs within and between their macro-level socio-cultural contexts and their micro-level daily implementation.

**Research Project 2**

**Navigating the socio-cultural web: Introducing a theoretical model for evaluating teaching residency & alternative certification programs (TRPs & ACPs)**

**The Problem** - To ensure that we are indeed providing highly qualified teachers for urban students, we must be able to evaluate and understand how alternative certification programs operate in various settings because:

1. characterizes Knowledge of how science is explained by science teachers
2. types of knowledge that teachers possess

**The Rubric** - The rubric runs parallel to what we know about effective science teaching – that it requires three kinds of knowledge:

1. Science content knowledge
2. Pedagogical Knowledge
3. Integration of content and pedagogy in the service of a clear explanation

School profiles can be found at [http://www.boston.k12.ma.us/schools/profiles.asp](http://www.boston.k12.ma.us/schools/profiles.asp) & [http://www.randolph.k12.ma.us/pages/index](http://www.randolph.k12.ma.us/pages/index)

---

**Research Project 2**

**Navigating the socio-cultural web: Introducing a theoretical model for evaluating teaching residency & alternative certification programs (TRPs & ACPs)**

**The Problem** - To ensure that we are indeed providing highly qualified teachers for urban students, we must be able to evaluate and understand how alternative certification programs operate in various settings because:

- what is expected to happen conceptually is not often what happens in between the university and the school that these partnerships depend upon
- few TRP/ACP evaluations are grounded in an overarching theoretical framework for examining these programs in a broader context
- TRP-ACP evaluations tend not to examine the relationship between the university and the school that these partnerships depend upon

**The Model** - The above control structures take place within the organizational, relational and socio-cultural contexts of the TNY/Noyce program. Therefore, we propose a three dimensional theoretical model that provides educators, policymakers, and researchers with a way of understanding and evaluating TRPs & ACPs within and between their macro-level socio-cultural contexts and their micro-level daily implementation.

**Research Project 1**

**Development of a Rubric for Evaluating Science Teachers**

**The Problem** - It is difficult to separate explanations of science from a deliberate attempt to teach science. Relevant research literature:

1. Characterization of how science is explained by science teachers
2. Types of knowledge that teachers possess

**The Rubric** - The rubric runs parallel to what we know about effective science teaching – that it requires three kinds of knowledge:

1. Science content knowledge
2. Pedagogical Knowledge
3. Integration of content and pedagogy in the service of a clear explanation

Assesses the ability to integrate content and pedagogy in the service of a clear, coherent, and engaging explanation of scientific research.

Development of a clear explanation of how science is explained by science teachers.

**The Findings**

1. Effective explanation of science is developed in layers
   - Type of knowledge (content or pedagogy)
2. Only when both pedagogy and content are strong is a scientific explanation effective
   - Science explanations in this category exhibit development of powerful mental images, tactical use of media to support explanation, and scaffolding development of concepts
3. Presentation skills add an extra layer that can cause a good presentation to fail or a poor presentation to appear to succeed

The agency of participants within the micro level (i.e., teachers, students, interns) will be influenced by the interactions at the three levels. Depending upon their proximity to the more powerful organizations within the exosystem, individuals will be more or less able to apply their agency in dynamic ways to meet their goals on the classroom level.

Lisa Gonsalves & Tricia Kress Researchers