Identifying Best Practices in Mathematics and Science: Teacher Preparation in APEC Economies

Purpose: Information
Submitted by: United States
Improving the Preparation of Secondary Mathematics and Science Teachers

Identifying Best Practices in Mathematics and Science: Teacher Preparation in APEC Economies

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Project Goals

- Compare teacher preparation programs in APEC Economies in order to identify, describe, and share promising practices for teacher preservice preparation
  - Identify and promote best practices and policies
  - Help to develop new models for the improvement of teacher quality
- Provide a knowledge base from which Economies can adapt interventions and assess their effectiveness
- Bridge the experiences of the East and West
- Facilitate mutual learning from diverse approaches
### Project Activities

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1. Develop Education Profiles

**Lead:** United States (University of Pennsylvania)

**Outcome:** To provide necessary background information about the APEC member education systems and operations of teacher education schools to better understand the preparation of secondary math and science teachers.
Progress on Profile Analyses

- Writing profiles that focused on:
  - General economic, educational, and demographic context of each economy.
  - Teaching force and working conditions.
  - Major characteristics of teacher preparation programs.
  - Characteristics preparation programs-within institutions.
  - After preparation programs.

- **Timeline**: to be completed in early 2012

2. Compare Mathematics and Science Standards for Secondary Education

**Lead**: United States (University of Pennsylvania)

**Outcome**: Compare mathematics and science standards for secondary/upper secondary grades
Progress on Standards

• Currently collecting and studying standards with attention to qualitative analyses of similarities and differences between standards of different economies, such as
  – proportion of time spent on particular topics
  – focus of standards
  – format of standards

• Timeline: to be completed in early 2012

4. Conduct Case Studies

• Lead: Singapore

• Outcome: Conduct case studies of teacher preparation systems in each Economy.
Progress on Case Studies

- Template for case studies developed and distributed
- Economies preparing one draft case study in February 2012
- Additional case studies to be written and shared
- **Timeline:** Case studies completed by early 2013

4. Conduct Mathematics and Science Assessments

- **Lead:** United States
  - United States (mathematics lead)
  - Australia and New Zealand (science leads)

- **Outcome:** Develop and administer assessment for graduating prospective secondary mathematics and science teachers
Progress on Assessments

• Each Economy selects teacher preparation institutions
• Assessment development is underway
• Assessment administration during the last semester of teacher training
  – Southern Hemisphere: Fall 2012

• Timeline: Assessment completed by May 2012; administration/scoring completed by June 2013.

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