

ISSUES IN TEACHER EDUCATION

A publication of California Council on Teacher Education

Call for Papers for Theme Issue

STEM Education: Educating Teachers for a New World

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Manuscript Deadline: March 30, 2013

Readers are invited to submit manuscripts for a theme issue of *Issues in Teacher Education* focusing on STEM education. The editors will entertain articles that present new approaches to and designs for teacher education that place emphasis on STEM education and integration, as well as research that explores the role that STEM education can, and should, play within our evolving national curriculum and system of teacher preparation.

Topics may include, but are not limited to:

Teacher Preparation Programs

- How must teacher education programs change to address current curricular reforms, including preparation to support new approaches to STEM content in the Common Core State Standards for Mathematics and the Next Generation of Science Standards?
- What alternative route structures exist and how effective are they in preparing second career teachers in STEM disciplines?
- What exemplary models exist for teacher education programs that prepare students for teaching and integrating the STEM disciplines, and what evidence do we have relative to supporting teacher effectiveness and student learning, particularly for underachieving subgroups?

Elementary Teacher Education

- How can we best prepare elementary teachers to teach mathematics and science in ways that support students' conceptual understandings and achievement?
- What types of curricula and approaches are effective in helping elementary teachers gain knowledge needed for teaching and an appreciation of the important connection between content and pedagogy within STEM?

Secondary Teacher Education

- What kind of learning experiences and/or approaches to learning content should secondary teachers in STEM disciplines have to help them effectively implement standards-based curricula?
- How can content and methods courses be designed to help prospective teachers transform their images of traditional roles within content classes?
- Which content course designs are effective in fostering the content and pedagogical content knowledge needed for mathematics and science teaching in middle grades that integrates STEM applications and connections across the sciences?

Field Experiences

- What changes are we making in the structure of field experiences for prospective mathematics and science teachers and how effective are they in preparing teachers for the realities of classroom practice, our changing curriculum, and a vision for integrating STEM applications?
- Are candidates observing any instruction in Engineering, and if not, what additional instruction is needed in teacher education programs?
- What types of support and modeling do teachers need during field and induction experiences to support STEM education?

Connections and Partnerships

- What are the best ways to build effective partnerships among schools of education, mathematics departments, science departments, schools of engineering, and K-12 districts that will facilitate teacher development in STEM?
- How can we measure the effectiveness of such partnerships on both candidates' and students' learning and achievement?

TPACK & Technology as a Tool

- What types of knowledge and beliefs do teachers need in order to be effective at utilizing technology as a tool to support students' learning of STEM disciplines?
- What role can/should online learning play in preparing teachers for STEM disciplines?
- What models exist for implementing TPACK in teacher education?

Professional Development of Teacher Educators

- In what types of ongoing professional development is it important for teacher educators to engage?
- What pedagogical content knowledge is needed to prepare teachers for STEM teaching that genuinely integrates all STEM-related disciplines?

Role of STEM

- What role should STEM education play within teacher development and K-12 schooling?
- In what ways is our evolving national curricula/standards placing or not placing emphasis on STEM education?
- In what ways can and should STEM education be integrated with the arts and other non-STEM disciplines?

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Publication is tentatively scheduled for Spring 2014

- To submit a manuscript, go to the *Issues in Teacher Education* website: http://www1.chapman.edu/ITE/public_html/Manuscripts.html. You will register and create a login; you will then proceed to the journal page.
- Only complete manuscripts will be considered; all manuscripts will undergo blind, peer review by at least two reviewers.
- Manuscripts should be 3000-5000 words in length, double-spaced, and referenced in APA (6th Edition) format.
- Questions regarding submission should be directed to: Dr. Babette Benken, babette.benken@csulb.edu.