

**Welcome and Summary Remarks: CSU Summit on Teacher Preparation**  
**Jay Labov, Senior Advisor for Education and Communications**  
**National Academy of Sciences**  
**February 14, 2011**

- On behalf of the National Academy of Sciences and the National Academy of Engineering it is my pleasure to welcome you to our western conference site here at the Arnold and Mabel Beckman Center. We are pleased to be co-hosting this event with the California State University and with a group of outstanding public and private sector partners.
- As you have experienced throughout the day, this Summit has been designed with a set of attributes that position it to be a major milestone in the improvement of education and teacher preparation in the United States. It has elucidated some of the most important concepts of our times pertaining to teacher education. Central among these are re-envisioning and re-designing teacher education as a clinical endeavor, similar to the preparation of physicians. It is a vision that has significant implications not only for teacher preparation but for the entire P-12 educational enterprise. As has been discussed, the ground-breaking report of the *NCATE Blue Ribbon Panel on Clinical Teacher Preparation, Partnerships, and Student Achievement* provides the essential foundation for moving this concept forward.
- This clinical preparation design has special importance for developing new teachers in science and mathematics. These teachers will then prepare future generations of students who are ready to enter both higher education and the STEM workforce. Schools, ranging from pre-schools to high schools, must be equipped with the resources that are critical for students to have access to *real* and *authentic* STEM challenges. This is going to require wholly new

investments and partnerships to develop school laboratories in which students interact, actually and virtually, with the most current of scientific and technological advances.

- It is also critical to re-emphasize that these new approaches to the education of future teachers must be applied with the same commitment for those who are preparing to teach in Grades K-8 as it does to the secondary grades, and probably even more so. In April 2009 the National Academy of Sciences and National Academy of Engineering, in association with the California Council on Science and Technology and the Beckman and Bechtel Foundations, organized a two-day convocation at this facility to examine the importance of nurturing and sustaining effective science education for grades K-8. The insights that emerged from that convocation and the ensuing report have set the stage for events like this one. The research evidence that was reviewed and the consensus of the expert participants at that event made clear that a child's educational pathway is formed and often set during those early years. By 6th grade, too many students have decided that science, math, and technology are too boring, too difficult, or irrelevant to their lives. Research increasingly demonstrates that the teacher in front of the classroom is one, if not the, most important factor in shaping student achievement. Students who are taught by teachers who have little pedagogical content knowledge in STEM and who themselves have gone through their preparation disliking or fearing the STEM disciplines are not likely to impart to their students either the importance and the joys of learning in these subject areas. We must commit ourselves here and in the future to doing better.
- One way that we can look to doing better is through the new emphasis on using afterschool learning opportunities to help students become more engaged with

STEM. This movement is one of the most important and exciting innovations that I've observed in California. The available infrastructure of afterschool programs that are associated with elementary schools in this state, along with the clear commitments of CSU, the private foundations and businesses represented in this room today, and many parts of state government to couple these two sectors of the education system more closely and deliberately could be the beginning of what is needed to show teachers, parents, and students themselves that "STEM learning can be *everywhere*." It is an experiment that needs to be closely monitored, evaluated, and widely disseminated if it proves to be successful.

- Effective educational reforms build and thrive based on solid evidence about the factors associated with their success; they use robust assessment measures and approaches to examine the impacts they have on students, teachers, and systems. The design of the Summit with its focus and emphasis on evidence-based approaches has set both the tone and the bar for initiating successful transformative changes in teacher education.
- Transformative change of the kind and scope that has been discussed here today requires vision and careful planning, but it also requires highly effective leadership. CSU has at its helm, as is recognized in California and nationally, one of the most effective higher education leaders in the nation. And the Summit participants represent an exceptional group of leaders from across P-12, after school, and post-secondary education and the philanthropic and corporate communities. These are the partners who *together* can bring about transformative change. I hope we are able to seize the opportunity afforded by this Summit and continue to move forward in identifying the most promising of paths and in collectively exploring how best to join together in successfully

pursuing and evaluating them and then making a concerted effort to implement what is shown to be effective.

- While vision, leadership and the infrastructures to utilize partnerships and evidence are all essential for transformative change, they are not sufficient. Commitment to action—sustained, long-term action—is equally critical. Transformative change requires making strategic choices, committing sufficient amounts of resources and energy into supporting them on a sustained basis, and the willingness to regularly review progress and make mid-course corrections based on solid research evidence.
- Since the April 2009 convocation I personally have worked closely with leaders at CSU and with a number of the other entities which have become partners in this effort. All of the evidence to date makes me confident that everyone assembled here can be counted upon for their commitment to sustained and long-term action. The work that has begun here today must be expanded to include both your colleagues who wanted to attend this summit but were precluded from doing so by order of the fire marshal and your colleagues who knew nothing about this event or had decided that this work need not concern them.
- I have enjoyed greatly today's discussions. On behalf of the leadership and my staff colleagues at the National Academies, I look forward to finding ways that we can continue to work with you in the future so that the ideas generated here today can become realities in the near future.

Thank you!