

“The Globalization of Technology Development: Implications for U.S. Skills Policy” (2010) Leonard Lynn and Hal Salzman: in *Transforming The U.S. Workforce Development System: Lessons from Research and Practice* David Finegold, Mary Gatta, Hal Salzman, Susan Schurman (eds.) Cornell University/ ILR Press Book. LERA Research Volume 2010. Book with the full chapter is available at:
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ABSTRACT

Throughout most of the 20th century, the U.S. “skills system” was a model in many ways for the rest of the world. Primary and secondary schools offered mass education to provide industry with a large supply of literate and numerate workers. Land grant and other universities trained people in practical skills such as engineering, medicine and agriculture, and they also created new knowledge useful in these and other fields. American firms drew on these skills to develop new technologies and to gain global leadership. Government supported the enterprise by funding K-12 schools, universities, pure research projects, and U.S. firms. The “best and the brightest” from around the world were drawn to the U.S. by the quality of its education system and career opportunities.

In the late 20th century a confluence of trends such as reductions in barriers to international travel, communications, collaborative activity and trade introduced a number of changes in the demands on the U.S. science and technology (S&T) workforce. While each of these trends has been widely commented on, we believe there is still an insufficient understanding of how the various trends interact, and in so doing how they change the nature of skills policies needed for the 21st century. This lack of understanding leads American policymakers to believe they can restore the superiority the U.S. enjoyed in earlier stages of globalization by recreating or expanding the U.S. advantages of those earlier periods. Thus, for example, we see national “competitiveness” strategies placing “college for all” approaches at the top of their lists of policy priorities (e.g., Competitiveness Council, 2004; National Academy of Science, 2007; Lederman, 2009). The notion is that the U.S. will maintain its leadership position and economic vitality by dominating global innovation, by having an economy that focuses primarily on the “top of the pyramid” jobs and activities (e. g., National Center on Education and the Economy, 2007), and by developing policies to attract and sequester the best global talent within the national borders of the U.S.

Although these approaches worked well in supporting economic growth and national security over the past half century, they are woefully inadequate and misguided for this century. In this chapter we argue that not only are such efforts unlikely to succeed, but they may deflect us from developing the skills policies most likely to be beneficial to Americans. The first need for policy-makers is to come to a clearer understanding of how S&T human resources can and should fit into 21st century globalization. Such an understanding can only come by looking at the collective and interactive impacts of the various widely noted trends. We call this new environment the “third generation globalization of knowledge work.” In this chapter we examine its implications for skills development needs and policies.

To assess what a skills policy should be for this new era of globalization, we first consider the nature of third generation globalization, to understand its drivers, structure, and dynamics. Then we assess the commonly proposed responses. We offer a critical focus on five inter-related assumptions and tactics that underlie many current skill development and education proposals: (1) That U.S. “competitiveness” vis-à-vis other countries is best judged by readily available metrics on test scores or numbers of engineering graduates and that they provide a helpful benchmark by which to set our goals for S&T and workforce development policy; (2) That creating a sense of crisis in which the U.S. is depicted as losing a Sputnik-style race with formidable adversaries will spur policy makers to take beneficial actions such as improving our education system; (3) That national boundaries can “contain” innovation and that just increasing our strength in basic science and innovation will lead to a new period of U.S. dominance in the world (or at least keep us “ahead” of others); (4) That since China, India and other countries are crafting strategies to build up their S&T workforces and capabilities, the U.S. would be well-advised to follow similar strategies, and (5) That restoring U.S. global “dominance” in S&T is the most direct approach to ensuring U.S. economic and social vitality.

After a brief discussion of “Third Generation Globalization”, we examine the evidence supporting these assumptions in the context of recent patterns of globalization. Based on this analysis, we conclude the chapter by discussing the implications for what skills policies should and should not be.