



Welcome to the first LPC Policy Brief

The purpose of this brief—the first in our series—is to set the stage for what to expect from Learning Policy Center Briefs. We describe the foundation of our approach, the value that we believe it adds to current policy discussions, and the mission and people associated with our Center.

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We will focus on research that examines the “teaching and learning” practices that occur inside schools, classrooms, central offices, boardrooms and state capitols.

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Why Learning Policy?

by Mary Kay Stein

It has been suggested that the most direct route to improved student achievement is better teaching.¹ We agree. So do most education policy makers and decision makers. Over the past several years, an increasing number of education policies have been targeted at improving the quality of teaching in our nation’s schools. Most of these policies focus on regulating the credentials of individuals who enter the teaching workforce (teacher quality regulations) or on imposing sanctions/incentives on schools based on student outcomes relative to NCLB requirements.

Although we applaud this long-overdue attention to teachers and their work, we believe that these measures do not draw on the full range of knowledge that our field has to offer regarding how to improve teaching and the conditions under which teachers work. For example, we worry that sanctions and incentives are based on a faulty assumption, that is, that teachers already know how to teach in ways that will assist students to reach ambitious standards, but they are choosing not to do so because they are not properly incentivized. Similarly, a stringent focus on teacher credentialing misses the role that professional development, standardized tests and curricula play in shaping teacher practice.

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Professional learning is essential. Increased pay, threats of school closure, and a highly qualified teacher in each classroom are inadequate to achieve today’s ambitious standards. Reaching those standards requires that professionals at all layers of the education sector—not just teachers—learn to think and behave in new and complex ways. We view the education sector as a set of nested learning communities in which individuals at all layers (e.g., principals, superintendents, policymakers) need to learn to work with stakeholders across levels to implement more effective practices, with a focus on expanding learning opportunities for all students. Thus, we argue that learning theory deserves a place at the table--alongside political, economic and other theories--as an analytic tool for studying and informing education policy and its implementation.



Learning theory can help policymakers to answer the following kinds of questions:

- What do teachers need to know and learn in order to help students reach ambitious goals?
- What does effective professional development for teachers look like?
- What do school and central office leaders need to learn in order to facilitate improved instructional opportunities for teachers and students?
- What features of curriculum support teacher and student learning?
- How can accountability systems be improved to enhance learning?

Learning Policy Briefs will address these and other questions with a particular focus on the demands associated with the implementation of ambitious teaching and learning at scale. We will inform policymakers with high-quality, timely research about how best to promote conceptual understanding and the acquisition of cognitively demanding thinking and reasoning skills in the main subject areas of literacy, history, mathematics and science. In addition, we will host an on-line discussion coinciding with the release of each Learning Policy Brief highlighting the perspectives of diverse stakeholders including researchers, policymakers and educational leaders.

Why Now?

Thoughtful and engaging instructional practice and deep student learning—

as called for by the National Research Council² and most professional associations³—has yet to be realized in the majority of US schools. Mathematics instruction remains procedural and disconnected from conceptual understanding;⁴ science instruction suffers from an emphasis on breadth at the expense of depth;⁵ reading instruction devotes too little time to comprehension instruction⁶ and ELL students typically receive instruction that is passive, teacher directed, and oriented toward low-level skills.⁷ Given the state of teaching in US classrooms, it is not surprising that US students continue to post substandard performance on assessments in all subjects and at all levels.⁸

Our nation's leaders have taken note: More than at any time in our history, student learning is at the heart of local, state and national education policy debates and intentions. Recent policies establishing standards and requirements for testing are all, in principle, aimed at changing the kind and extent of learning in American schools. Despite the fact that learning is at the heart of current education policy, most work in the area of education policy does not draw on learning research to understand what makes change in instructional practice so difficult and what levers for educational change contemporary learning theories might provide. Over the past 30 years, there has been a revolution in our understanding of learning,⁹ but only recently

have scholars begun to apply new understandings about the active, social, and subject-matter-specific nature of learning to the study of policy, organizational change, professional development, leadership, and assessment and accountability systems.¹⁰ The Learning Policy Brief series will attempt to make these linkages explicit and provide policymakers with concrete recommendations.

What a Learning Lens Adds: An Example

The Pennsylvania governor's office was recently awarded a grant from the National Governor's Association to establish Science, Technology, Engineering, and Mathematics (STEM) Centers around the state whose goal is to increase the numbers of students who are engaged in STEM disciplines. As members of the Design Team for this grant, LPC staff work with policymakers from the Pennsylvania Departments of Education, Labor and Industry, and Community and Economic Development. While the policy voices at the table focus on conventional (and important) issues such as inputs (per capita spending) and outputs (test scores, numbers of students declaring majors in STEM disciplines), LPC staff will provide knowledge of STEM teaching and learning, and policy implementation in complex organizations to round out the conceptualization of the problem. For example, if the goal is to increase students' engagement in the STEM disciplines, research on learning suggests



that the overly procedural instruction in most mathematics and science classes needs to be re-examined, as do the opportunities for teachers to learn how to relate content to students so that students view mathematics and science as both meaningful and relevant to a variety of societal problems. Moreover, research reveals that effective education leaders know quality STEM instruction when they see it, know how to develop it when they don't, and know how to hold teachers accountable for continuously improving their practice.¹¹ The bottom line from a learning perspective: Student engagement is a function of meaningful learning inspired by instructional opportunities, not the amount of money spent on computer labs or the number of STEM clubs in the building. This formulation of the problem enlarges the target student population from the "already inclined" to all students, as well as suggesting new leverage points for STEM policy (e.g., principal training).

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As suggested by this example, the Learning Policy Brief Series will focus on research that is noticeably different from standard policy research that focuses on causal relationships between macro inputs (e.g., funding) and general

outputs (e.g., standardized test score averages). We will examine inputs and outcomes, but we will also focus on research that examines the "teaching and learning" practices that occur inside schools, classrooms, central offices, boardrooms and state capitols. In so doing, this research sheds light on the black box of our educational system that much policy research leaves in the shadows.

Why Us?

The University of Pittsburgh has a long and distinguished history in the study of teaching and learning and is well positioned to address policy issues from a learning perspective. Faculty in the School of Education have contributed extensively to research on effective teaching, learning, and leadership across multiple subject areas and a diverse range of students. The Learning Research and Development Center has been a major contributor to, indeed a founder of, the cognitive science of instruction. Jointly sponsored by the School of Education and LRDC, most LPC faculty have appointments in each. All LPC faculty also draw on the expertise of distinguished practitioners associated with the Institute for Learning, an LRDC-based institute headed by Lauren Resnick, that has been addressing the challenge of improving teaching on a large scale in some of the largest school districts in our country. Colleagues nearby include researchers at Carnegie Mellon and the RAND Corporation who have stellar reputa-

tions in the evaluation of policies and projects for educational improvement and who have pioneered sophisticated statistical approaches needed to empirically test policy implementation.

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The mission of the Learning Policy Center—established in 2007—is to infuse into policy decisions research-based evidence on teaching and learning and the school, district, and policy conditions that support their improvement. Toward that end, we have attracted faculty that are engaged in forward-looking research at the intersection of educational policy and learning. In addition, a new Ph.D. program in Learning Sciences and Policy (LSAP) will admit its first students in fall 2008. This program will produce the next generation of policy analysts and scholars committed to examining the relationship between policy and practice with a special emphasis on the role of learning—from both an individual cognitive perspective and a social/organizational perspective. Students will benefit from apprenticing themselves with active researchers who possess major grants in these areas. Students, in turn, will be expected to produce original research that moves the emerging field of learning policy forward. Together, the Policy Center and degree program hope to play a nationally visible role in



theory development and methodological advances for the study of how various domains of learning play a role in education policy and reform.

Mary Kay Stein (Professor, University of Pittsburgh's School of Education and Senior Scientist, Learning Research and Development Center) is the Center's founding director. Her scholarship combines insights gained in over a decade of intensive research conducted inside classrooms with analyses of the social and institutional policies and practices needed to support effective teaching and learning. Sarah Coon, a graduate of Carnegie Mellon's Heinz School of Public Policy, serves as LPC's Executive Director. Other faculty associated with the LPC include Lindsay Clare Matsumura (a graduate of UCLA who has held research positions at CRESST and brings expertise in the measurement of teaching and a strong background in learning theory), Jennifer Russell (a graduate from UC-Berkeley who brings deep understandings of how schools as workplaces shape teachers' practice and deep conceptual grounding in organizational theory and policy implementation) and Richard Correnti (a recent graduate of the University of Michigan who brings expertise in using large-scale data sets to make claims about the efficacy of professional development and other reform initiatives on teacher practice and student learning). These core faculty of the LPC are joined by a variety of other faculty with similar interests and complementary

kinds of expertise who are affiliated with LSAP program (see <http://www.lpc.pitt.edu/lsap>).

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Learning Policy Center at the University of Pittsburgh

The mission of the Learning Policy Center is to foster high quality learning environments for both students and professionals in public schools. Toward that end, we aim to infuse into policy decisions high quality, timely research on effective teaching and learning and on the school, district, and policy conditions that support their improvement.

The Learning Policy Center utilizes the rich talent pool of the University of Pittsburgh School of Education, the Learning Research and Development Center, the Institute For Learning and other regional assets to connect high quality learning research with education policy decision-makers.

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