ASSESSING-TEACHING-IMPROVING-LEARNING CONVENING

Data for Improving Human Capital Systems

Meeting Summary

Report prepared by: Alicia Grunow, Jeannie Myung, Anthony S. Bryk and Paul LeMahieu

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Carnegie Foundation for the Advancement of Teaching

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Meeting Summary

On January 5th-6th, 2012, the Carnegie Foundation for the Advancement of Teaching convened a group of 20 leaders in the use of data for improving human capital systems in K-12 districts. We collectively explored the potential of information on human capital processes to contribute to broad-based improvements in teaching and learning.

Our previous two convenings focused on measurement for evaluating teaching and measurement for improving teaching. This convening broadened our scope for measurement—rather than focusing on measuring the outcomes of teachers on the individual level, we focused on a conceptualization of human capital development in a district as a network of interdependent processes working together to create a stronger teacher workforce, and we began the development of a family of measures for tracking the effectiveness of such a system.

Our objectives for this convening were to (1) test and refine an initial framework of the human capital system, (2) identify the critical elements of information systems that can support the continuous improvement of local strategies for identifying, matching, developing, sustaining and evaluating teachers, and (3) articulate the challenges faced in assessing human capital systems and develop a shared research agenda to advance this field.

Human Capital System Framework

Background. Human capital is the largest investment K-12 districts make—staff salaries account for 80 percent of district budgets. Many districts have come to recognize the skills and competencies of their teaching staff as essential to their capacity to provide high quality educational opportunities for students. However, large-scale, immediate adoption of hastily developed solutions has come to characterize the nature of school reform\(^1\), and consistent with this historical trend, school systems tend to focus intensely on one human capital issue at a time (e.g. pay-for-performance, professional development, new policies for placing teachers, etc.), usually abstracting it from the rest of the human capital system, to say nothing of the

larger system. Most well-intentioned solutions and programs often fail to take into account the complex human capital system within which processes operate.

**Human Capital System Alignment**

A district’s human capital system sits within a greater district teaching-learning information system. Figure 1 depicts an aligned system in which the district’s vision of effective teaching and learning drives the instructional guidance system adopted, the measures collected, and the human capital processes enacted. Feedback loops between components inform the continuous improvement of the system.

Figure 1. Human Capital System Alignment

In this convening, we focused on the conceptualization of human capital system in a district as a network of four interdependent microsystems (Identifying & Matching, Developing, Sustaining, and Evaluating teachers) working toward creating a stronger teacher workforce. We created an initial draft of our understanding of the human capital system which we tested with our participants. We incorporated their feedback to create a version 2.0 of our human capital framework (see Figure 2). This is a preliminary version that we plan to refine over time with additional research, testing, and consultation with experts in the field.
Embedded in the diagram are the major pathways through which microsystems influence the system aim. Within the Identification and Matching microsystem, the relationships with upstream providers, recruitment, hiring and matching processes work to acquire talent aligned with the district’s vision of strong teaching and strategically match those teachers with positions in schools in which they can be most impactful and successful. The Development processes strengthen the practice of current teachers in supportive school-based learning communities to increase the effectiveness of their practice. The Sustaining processes recognize the achievements of effective teachers and provide them with advancement opportunities, challenging them and nurturing them to stay in the district. The relationship between Evaluation and the aim of a stronger teacher workforce is both direct and indirect. Evaluation can contribute to the strength of the teacher workforce through the removal of the weakest performers, but its impact is best leveraged through its mediated effect via Identification and Matching, Development, and Sustaining.
Other considerations:

A human capital system framework is a high-level conceptual diagram, but for it to be useful it must go through local adaptation. The following illustrates the problem with failing to grant due consideration to the local contextual factors within which systems operate:

\[ x + xy = 8 \]

Solve for \( x \).

This undefined equation was posed by W.E. Deming to represent an important point. Consider a situation in which the contribution of an individual to the outcome can be represented by \( x \), and the contribution of the individual and the system together is \( xy \). We have the ability to see the outcome, but we do not have the ability to see the interaction between the individual and the system. The overwhelming tendency is to ignore the influence of the system and attribute the outcome entirely to the individual. However, contextual considerations that can influence the outcomes of human capital systems are numerous, including the governance structure of the district; local, state, and federal policies; collective bargaining conditions; as well as culture and engagement, to name just a few. It is essential that districts take a framework such as this one and develop their own operational definitions and measures of human capital process adjusted to their local theories of action and local contexts.

Human Capital System Measures

Strategic management of human capital holds great potential for increasing the strength of the teacher workforce, however, remarkably little data exist to enable the management of human capital processes or to inform and support their improvement within districts. Data on the operations of the human capital processes are scarce; as a consequence, districts tend to focus single-mindedly on the few outcome measures available – student achievement scores and teacher retention rates. These are lagging indicators that are far down the causal chain from human capital processes such as recruitment, hiring and matching processes. As such, they provide little information on the effectiveness of the processes. These lagging indicators measure how well they system is doing, but they do not provide information about how to improve it. No single measure can adequately inform the improvement of an entire system. In this convening, we engaged participants to consider the human capital development as a system of interrelated processes and worked toward developing a family measures tightly coupled to the efficiency and effectiveness of processes to inform the management of the continuous improvement of both the processes and the system.

We drew inspiration from the field of quality improvement, which continuously examines processes to make them more effective at achieving their aim. A core tenet of quality improvement is the principle that all work is a process. Outcomes are the result of processes. Figure 3 represents a simple diagram that illustrates the tiered levels within systems. Systems are composed of various Microsystems that all contribute to an outcome. Within each Microsystems are individual process measures. The process measures themselves reflect a theory of action of what it takes to achieve the microsystem outcome and eventually the system outcome. Attaining quality at scale is contingent upon executing, measuring and improving the processes that aggregate into system outcomes.
In the convening, participants divided into groups and each group was tasked with developing indicators for core processes within one microsystem of the four human capital microsystems. Each group was assigned one white board. Participants took a moment to write down what they considered to be indicators for core process within the assigned microsystem on post-it notes. Proposed indicators were discussed and ideas were posted and consolidated. What emerged was a preliminary set of process measures of the human capital microsystem. Using the Identification and Matching microsystem as an illustration, measures of the recruitment process included an increased applicant pool of desired applicant profile, increased applicants from highly ranked teacher preparation programs, recruitment process begun earlier in the year, cost efficiency of recruitment, number of high quality preparation programs tapped (these process measures are presented in Figure 3). Measures of the hiring process included increased percentage of schools applying a multi-dimensional selection process for hiring (including demo lessons, portfolio reviews, reference checks, community interviews, etc), increased number of vacancies filled by August, decreased average time to fill vacancies, and increased candidate satisfaction with the hiring process. Match measures included increased percentage of high poverty student who have an effective teacher, equitable spending on staffing across schools, decreased percentage of first year teachers placed in high need schools, decreased percentage of out of field placements per school, and decreased percentage of forced placements per school. We are grateful to our participants for bringing their experience with human capital systems to bear on generating these human capital process indicators. We will continue to refine and expand the initial set of indicators developed through this activity.
Appendix A: Convening Agenda

Carnegie Foundation
for the Advancement of Teaching

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January 5-6, 2012
Stanford, CA

Participant Agenda

Thursday, January 5

8:30-9:00am Breakfast

9:00-9:30am Welcome & Introduction to the Assessing-Teaching-Improving-Learning Program

9:30-10:25am Seeing the System

10:25-10:40am Participant Presentations

10:40-11:00am Break

11:00-11:15am Participant Presentations

11:15-11:45am Measurement of Core Human Capital Processes

11:45-12:00pm Participant Presentations

12:00-1:00pm Lunch

1:00-1:15pm Participant Presentations

1:15-2:20pm Identifying Measures of Human Capital Processes

2:20-2:35pm Participant Presentations

2:35-2:50pm Break

2:50-3:15pm Gallery Walk of Human Capital Measures

3:15-4:15pm Plenary

4:15-4:30pm Closing

4:30pm- Reception and Dinner
Friday, January 6

8:00-8:30am    Breakfast

8:30-9:00am    Opening and Summary of Day 1

9:00-10:00am   Informing the Dynamic Multi-Stakeholder R&D Agenda to Improve Human Capital Processes

10:00-10:15am  Break

10:15-10:45am  Forum for Feedback on Next Steps for the Carnegie Foundation for the Advancement of Teaching

10:45-11:00am  Closing

11:00am-       Lunch
Appendix B: Convening Participants

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Stanford, CA

PARTICIPANT LIST

Brandon Bennett
Principle Advisor for Improvement
Institute for Healthcare Improvement
improvement.science@gmail.com

Leo Brown
Executive Director
Human Capital and Performance Management
Kansas City Public Schools
lbrown@kcmsd.net

Clover Codd
Director of the Teacher Incentive Fund (TIF)
Seattle Public Schools
clovers@seattleschools.org

Alison Egan
Senior Managing Director
Student Achievement Analytics
Teach for America
alison.egan@teachforamerica.org

Drew Furedi
Executive Director
Talent Management
Los Angeles Unified School District
drew.furedi@lausd.net

Billie Gastic
Director of Research and Assistant Professor
Relay Graduate School of Education
bgastic@relayschool.org

Paul Goren
Lewis-Sebring Director
University of Chicago Consortium on School Research
pgoren@uchicago.edu

Rob Johnstone
Senior Research Fellow
Research & Planning (RP) Group for California Community Colleges
johnstoner@smccd.edu

James Kemple
Executive Director
Research Alliance for New York City Schools
james.kemple@nyu.edu

Heather Kirkpatrick
Vice President of Education
Aspire Public Schools
heather.kirkpatrick@aspirepublicschools.org

William Marinell
Research Associate
Research Alliance for New York City Schools
william.marinell@nyu.edu

Sandy Matthews
Coaching Resources Manager
Success for All Foundation
smatthews@successforall.org

Steven Means
Senior Policy Advisor
Office of Elementary and Secondary Education
US Department of Education

Robert Meyer
Professor and Director
Value-Added Research Center
rhmeyer@wisc.edu
Tony Milanowski  
Associate Scientist  
Westat  
anthonymilanowski@westat.com

Emily Mohr  
Strategic Data Project Fellow  
Los Angeles Unified School District  
emily.mohr@lausd.net

Jennifer O'Day  
Managing Director and Policy Analyst  
Education, Human Development, and Workforce Program  
American Institutes for Research  
joday@air.org

Lindsay Page  
Senior Research Manager  
Strategic Data Project  
lindsay_page@gse.harvard.edu

Larry Rosenstock  
CEO and Founding Principal  
High Tech High  
lrosenstock@hightechhigh.org

Laura Sonn  
Associate, State Policy Initiatives  
Data Quality Campaign  
laura@dataqualitycampaign.org

Thomas Tomberlin  
Strategic Data Project Fellow  
Charlotte-Mecklenburg Schools  
thomasr.tomberlin@cms.k12.nc.us

Monica Vasquez  
Partner, Performance Management  
The New Teacher Project  
mvasquez@tntp.org
CARNEGIE STAFF

Tony Bryk
President
bryk@carnegiefoundation.org

Alicia Grunow
Senior Managing Partner
grunow@carnegiefoundation.org

Paul LeMahieu
Senior Managing Partner
lemahieu@carnegiefoundation.org

Krissia Martinez
Research Assistant
martinez@carnegiefoundation.org

Jeannie Myung
Research Associate
myung@carnegiefoundation.org

Sandra Park
Improvement Specialist
park@carnegiefoundation.org

Sola Takahashi
Research Associate
takahashi@carnegiefoundation.org

Thomas Toch
Consultant
tom@thomastoch.com

Amaya Webster
Administrative Assistant
webster@carnegiefoundation.org

Kareen Yang
Program Manager
yang@carnegiefoundation.org