**Oregon’s Network for Quality Teaching and Learning**

In order to reach Oregon’s goal of 40-40-20, we must be willing to invest in the state's educator workforce that is being called upon to:

- Rapidly improve performance on several key measures of progress, including Kindergarten readiness, 3rd grade reading proficiency, 9th grade progress toward graduation, high school completion, and college enrollment;
- Adjust the way they teach and engage students and focus instruction more than ever on higher levels of thinking and application of knowledge called for in Common Core Standards and Smarter Balanced Assessment;
- Decrease the achievement gap that exists between historically underserved populations and white Oregonians on key measures of success; and
- Implement new performance evaluation systems as required by SB 290.

These changes do not come quickly or easily and will require an unprecedented investment in professional growth opportunities that can encourage great educators to stay in the profession. This is not a new concept. HB 3619, which passed during the 2012 legislative session, recommended a seamless system of recruitment, preparation, induction-year support, and ongoing professional development for all professional educators. Historically, Oregon has created numerous disconnected programs to support the work that must be done to bolster, support, and recognize the key players in educational reform: the educators who work with students every day in early learning environments and K-12 schools throughout the state. These initiatives have resulted in fragmented efforts that are well meaning but have failed to produce the level of systemic redesign spanning the P-20 system that is now being proposed.

During the last legislative session SB 252 funded the School District Collaboration Grant for $4.825 million to design and implement new approaches to career pathways, evaluation, compensation and professional development. The Chalkboard Project provided technical assistance in 23 school districts and, through third party evaluation efforts, showed results in closing the Achievement Gap for students and in particular groups of under-represented students. This level of strategic investment is only a fraction of what is needed to address the entire state.

A systems approach is needed in Oregon that invests in educators and sustainable models of “professional practice” to implement a mix of best practice (what we know works now) and next practice (what we are creating as best practices of the future). Teachers need to work in well-led, dynamic, strongly supported schools where there is a belief in student success, a knowledge of how to bring it about, and a willingness and

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1 The foundation of the professional practice model is a community of adult learners who engage in continuous inquiry to improve their collective and individual professional knowledge and capacity.
eagerness for everyone to keep learning and improving. This high quality interaction among educators depends on:

- Conditions to meet (more time)
- Expectations and frameworks of learning and curriculum that are challenging and open for teachers to innovate and inquire into their practice together
- Ongoing timely data that can be used for diagnostic purposes
- Outstanding, stable leadership that can galvanize professionals as a team
- Opportunities to learn from colleagues in other classrooms and schools.

The Network for Quality Teaching and learning will:

- Support teachers and administrators through communities of effective practice that can improve student learning
- Develop a culture of collaborative responsibility for advancing and supporting the profession of teaching that involves teachers, building level administrators, district leaders, education service districts, state agencies, professional associations, non-profit groups, and educator preparation programs and universities; and
- Strengthen recruitment, preparation, induction, advancement and support of educators (teachers, administrators, and counselors)

The network supports results by targeting effective practices already closing the achievement gap and link educators so that they can collaborate and grow professionally with their colleagues who are helping to lead successful school improvement. Simultaneously, the Network empowers educators to help implement curriculum needed to help students succeed, document the impacts on results using agreed upon metrics and infuse current preparation programs with in-the-field practices that are working for Oregon’s students.

Operating much like a virtual web, the Network connects communities of professional practice among local, regional, and state stakeholders including schools, school districts, professional associations, post-secondary institutions, ESDs, not-for-profit foundations, state agencies, and business and community partners.

The Network provides a dynamic, yet sustainable process that allows the state to draw upon proven track records of impact to support educators’ efforts to improve educational outcomes in key areas, each of which requires targeted funding to build upon existing local successes and support replication and expansion. The following descriptions offer examples of how strategic funding in four areas of the Oregon Network for Quality Teaching and Learning can support.
1. Curriculum, Instruction and Assessment

**Classroom Implementation of the Common Core State Standards (CCSS)** Newly adopted standards for mathematics and English language arts, as well as soon to follow science standards require K-12 students to demonstrate understanding of core content, use knowledge to solve problems, and communicate using a range of media. This in turn requires professional development models that not only help educators better understand the new standards, but also become nimble and adept at successfully integrating both the content and skills referenced in the CCSS through curriculum that engages students and stimulates higher level learning. Oregon needs to fund professional development and time for teachers to develop and use curriculum maps, instructional strategies, formative assessments, and parent guides to understanding the CCSS. Teachers and administrators need to use new professional development strategies including communities of practices or PLCs, data teams, lesson study, learning circles, instructional coaching, instructional rounds, and shared inquiry models.

**Deeper Learning Assessments** As a member of the Smarter Balanced Assessment Consortium (SBAC), Oregon must be ready for new summative, interim, and formative assessment for mathematics and English language arts beginning in the 2014-2015 school year. These assessments differ dramatically from previous state assessments in that they rely on more sophisticated tasks and performance assessments. These deeper learning assessments require teachers to play a greater role in assessing student performance than they do now. Teachers need to know how to develop and review assessment tasks, how to score them accurately and reliably, how to develop and employ effective formative classroom assessments to track student knowledge and skills over time, how to interpret assessment results, and how to modify instruction based on assessment results.

**Science, Technology, Engineering, and Mathematics (STEM)** STEM focused professional development in Oregon requires ongoing, job-embedded professional learning focused on improving the quality of instruction offered to students related to STEM content knowledge and integration of project based learning, technology skills, internships, and
career linkages. Funding is necessary to provide ongoing coaching for teams of teacher leaders to develop local plans for STEM integration for their districts and leverage resources developed through OEIB’s Connecting to the World of Work STEM network, flagship schools, and learning opportunity grants.

**Student-Centered Learning** Changes in standards and assessments alone will not impact student academic success unless these are accompanied by instructional approaches that (1) embrace students’ experience and learning theory as the starting point of education, (2) better harness the full range of learning experiences at all times of the day, week, and year and (3) determine instructional progression based upon proficiency in meeting standards rather than seat-time. Oregon has already witnessed successes in schools using proficiency based teaching and learning models but funding is still needed to support communities of practice for sharing teacher-developed proficiency assessments, creating access to content coaches regardless of geography, and technical assistance systems to analyze results and track student proficiency.

**2. Student Equity**

**English as a Second Language** One of Oregon’s most dramatically changing demographics is the number of K-12 enrolled students for whom English is a second language. The increasing achievement gap for these students is simply unacceptable. Ensuring academic excellence for English language learners requires more funding for the development of native literacy and bi-literacy skills as a pathway to strong English language development, development of assessment and accountability systems that support bi-literacy and bilingual programs and increased attention to all teachers’ understanding of language acquisition and needs of this population.

**Cultural Sensitivity** Effective classroom teachers and administrators regularly acknowledge and reflect on their own perceptions about socioeconomic disparities, institutional racism, and inequity of services. This is necessary in order to help educators respond to inequity on a daily basis whether it be reducing racial slurs among students, resolving racial achievement gaps, or helping students and families obtain access to educational resources. Funding for cultural competency and race awareness training and new structures such as equity coaches and innovation site models are needed to address the disparities that exist for Oregon’s underperforming students, many of whom are students of color.

**Inclusive Classroom Supports** Educators need to respond to the wide variety of challenges that all children bring to school. Funds must move beyond the one shot workshop intended to support educators who have growing numbers of students with identified special needs in their classrooms to help educators create inclusive opportunities. All teachers need knowledge and skills that include:

1) The understanding and acceptance that disability, and “differences” are normally occurring phenomena.
2) Basic understanding of the effects of the most common disabilities on children’s development and learning.
3) Mastery of positive behavior approaches and functional behavior assessment.
4) Skill in data collection and analysis.
5) Ability to provide direct instruction using well sequenced materials.
6) Strong collaborative skills and ability to lead and participate in teams.
7) Skills in providing oversight to and working with para-educators.

Poverty The Oregon Center for Public Policy reports that the share of Oregon children living in poverty has been rising and now exceeds one in five. Specifically, the rate of child poverty in Oregon jumped from 16.9 percent in 2007 to 21.6 percent in 2010. Acquiring knowledge and skills relative to poverty can help educators implement changes in communication, and understand learning styles to enhance education success for students from poverty, in order to develop a welcoming climate and meaningful curriculum for students goals for students and families from poverty.

3. Educator Preparation

Recruitment As the median age of licensed teachers in Oregon increases, we can anticipate retirements and subsequent changes in the job market for new teachers, particularly in high need areas like Math, Science, Career Technical Education and Special Education. At the same time, Oregon needs to increase the diversity of the future teaching workforce. Funding is needed to support recruitment efforts, including a statewide plan to attract, support, and retain a more diverse and highly motivated future educator workforce from current K-20 students, volunteers, instructional aides, and content experts. The Oregon Teacher Corps as described in ORS 329.757 to 329.780 and the Minority Teacher Act of 1991, as described in ORS 342.433 to 342.449 and 351.077 must help drive financial incentives for recruitment. User-friendly licensure materials, access to supports (test preparation and advising), targeted financial aid, and apprentice/volunteer opportunities are paramount to this initiative.

Clinical Practice Effective teacher preparation must include a strong clinical component where candidates can test theory and practice methods discussed in methods courses. In 2010 a “Blue Ribbon Panel” created by the National Council for the Accreditation of Teacher Education issued a report calling for vast improvements in the clinical experiences of teacher candidates and they created a consortium of states dedicated to pursuing this agenda. Oregon is among those states and efforts are taking place at individual universities or among groups of educator preparation providers. In 2011 the Oregon Legislature passed HB 3474 which provided a small amount of funding for this work. Unfortunately that funding was lost due to budget shortfalls. The Chalkboard Project is funding several groups of EPPs and school districts to help strengthen clinical
experience. But all the work being done in Oregon is, to date, disconnected and underfunded. Funding provided through the Oregon Network for Quality Teaching and Learning can establish additional linkages between classroom teachers and teacher preparation faculty directed at improving practice and supporting the profession.

**Accountability** Recent changes in the state’s program review standards have increased the rigor and expectations for all of Oregon’s preparation programs. Not only are the standards aligned with the same standards being used for educator evaluation, the new standards focus on systematic use of data on candidate performance to refine and improve program preparation. However, funding is still needed to strengthen the fidelity of Teacher Work Samples required of all teacher preparation programs to document new teachers’ ability to impact student learning. The state also lacks coordinated resources and statewide focus needed to access and use timely data on hiring of new educators, tracking where they are placed, how long they stay in the profession and comparative data from follow up and employer satisfaction surveys.

4. **Educator Effectiveness**

**Hiring, Induction, and Mentoring** Every new educator hired in Oregon is a valued resource and investment. Since the passage of HB 2574, progress has been made in providing support for new teachers, principals, and superintendents. In 2011-12, 44 districts, 323 new teachers, and 80 new administrators were part of the state’s mentoring project. Last year, 1783 new teachers were prepared in Oregon’s public and private preparation programs. The Network supports access to as well as technical support and ongoing evaluation of mentoring services for all new teachers and administrators.

**Educator Evaluation System** As a result of SB 290, Oregon will be implementing a new educator evaluation system in 2013-14. Principals need training and support in using the new evaluation tools and teachers need to meet with administrators to understand how the evaluative process will be implemented. With help from the Center for Great Public Schools at the Oregon Education Association and the Chalkboard Foundation, the Oregon Department of Education needs to support districts’ use of the system in ways that provide ongoing professional learning, growth and collaboration with the goal of continuous improvement in teaching and learning.

**Career Advancement** As teachers progress through their careers and demonstrate their skills as leaders, we must recognize and support their ability to lead within the profession. Teachers need avenues for career advancement beyond those opportunities provided through principal or district administrator positions. Teachers are needed to help guide and facilitate professional development, coach other teachers, develop curriculum and assessment resources, serve as demonstration and quality models, and lead school improvement. Funding is needed to provide paid professional development both during the summer and academic year to develop leadership skills and study and
discuss effective professional practices with other colleagues via video and visits.

**New Compensation Models** Oregon is already part of a national action research project involving school districts receiving Teacher Incentive Funds in partnership with the Chalkboard Project\(^2\) to design support and leadership programs for educators that raise the bar on student outcomes. This work in Oregon has garnered recognition and interest from others who want to grow the model and expand to other districts.

**How might a Network for Quality Teaching and Learning operate?**

The Oregon Network for Quality Teaching and Learning provides linkages among innovation sites where practitioners are already making a difference in schools and classrooms in Oregon as evidenced by results on Network approved outcomes. The Network provides funding to support on demand, differentiated and selective access to professional development offerings and online resources as well as coaching and technical assistance that can help educators adopt successful practices with fidelity.

The Network funds those who can:

1. Improve the quality of teaching by supporting the development and implementation of effective instructional practices;
2. Enhance the quality of professional growth and opportunities for educators to collaborate with other educators;
3. Maximize existing resources and support professional development and services more effectively and efficiently in ways that connect educators using 21\(^{st}\) century tools and technology;
4. Align and strengthen educator preparation in ways that close the gap between preparation and practice and develop strong partnerships between schools and preparation programs;
5. Strengthen the supports needed at each stage of an educator’s career;
6. Create a stronger network for disseminating information about best practices, replicable instructional models, and ways to bring effective practices to scale;
7. Drive policy improvements based on the innovative instructional practices that are found to be effective.

**Qualifications for funding consideration:**

1. Demonstrated record of active and ongoing engagement with evidence-based practices that have demonstrated a positive impact on selected metrics provided by the Network;
2. Demonstrated experience in supporting professional development and other services (may include induction and mentoring) to educators;
3. Willingness to engage with educators in other schools or communities to identify and respond to instructional needs and to identify a higher education partner committed to

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\(^2\) Thirty percent of Oregon’s students are in districts where the CLASS ("Creative Leadership Achieves Student Success") Project has been helping school district and union leaders design new teacher evaluations, compensation models, career paths and professional development systems since 2006.
the identified scope of proposed services and activities;
(4) Willingness to partner with an educator preparation program to align preparation and practice and maximize the resources of a post-secondary institution;
(5) Demonstrated capacity to leverage existing resources and engage local community partners to enhance and extend the breadth of the proposed services and activities;
(6) Willingness to increase alignment, coherence and collaboration among other providers of the approved scope of services and activities;
(7) Familiarity with technology needed to support the professional development and services offered and to increase access by others not able to attend all events in person;
(8) Demonstrated capacity to assess the impact of professional development and other instructional services on student, teacher, families and results that effect student achievement;
(9) Demonstrated capacity to carry out research and a commitment and willingness to work with ODE/OEIB researchers to improve the quality of professional development and services provided.

Responsibilities for those who receive funding from the Network:
(1) Use student and district data to document the impact and improve the approved scope of services and activities;
(2) Coordinate local teams, collaboratively develop plans and implement professional practice models to replicate and expand needed expertise at both local and regional levels;
(3) Use innovative means to foster ongoing collaboration among educators working in various parts of the state on shared initiatives;
(4) Identify statewide needs and the means to coordinate expansion and distribution of professional development and findings that can inform practice;
(5) Create professional practice connections with higher education faculty and staff who in turn will influence preservice and inservice offerings at a college or university level;
(6) Develop partnerships with those who prepare teachers and administrators to support strategic recruitment, align preparation, create more robust clinical experiences and assessments, and examine evidence on those candidates who graduate and join the educator workforce;
(7) Complete regular reports on services/activities and their impact on identified outcomes to share with faculty, staff and external stakeholders.

How will the Network partner with Oregon’s Educator Preparation Programs?

Every one of Oregon’s 19 educator preparation programs will also benefit from the Oregon Network for Quality Teaching and Learning. Faculty and their students will be able to access professional development, online resources, and professional colleagues to help connect theory to practice. Faculty from Oregon’s educator preparation programs will be able to participate in an annual three day Summer Institute funded by the Network and co-sponsored by the ORATE, COSA, OEA, and OACTE that brings together practitioners, administrators, prospective educators, and faculty to learn from each and examine evidence and high impact practices in greater detail.
Every initiative funded in the Network will include educator preparation faculty who will be able to participate in the development and delivery of professional development, identify the best way to embed the work in their own institution's program offerings, and engage in collaborative inquiry and research on the effectiveness and impact of the identified practices in Oregon school settings.

Achieving a quality workforce requires strategic attention and focused investment on improving the ways future educators are recruited, prepared, hired, supported, and advanced during each stage of their careers. As Fullan and Hargreaves (2012) remind us: “We can treat teaching as just a short-term investment of business capital, and finance the present by mortgaging our children’s future. Or we can make teaching a sustainable investment for professional capital...” p. 186
Getting Ideas into Action: Building Networked Improvement Communities in Education

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The slides in this deck directly summarize key statements from the essay by Bryk, Gomez, and Grunow. No attempt was made to paraphrase their ideas. Rather, the intent of these slides is to provide a quick and accurate summary of key concepts provided by the authors.
Current educational research and development (R&D) infrastructure fails to connect to enduring problems of improvement in our nation’s schools and colleges (Bryk and Gomez 2008).
To improve R&D

• First, what problem(s) are we trying to solve?
• Second, whose expertise is needed to solve these problems?
• And third, what are the social arrangements that will enable this work?

• When the answers to these questions are disorganized, the natural result is a cacophony of questions and innovations that fail to accumulate into real progress on core concerns.
Large societal concerns such as improving community college success are complex problems composed of multiple strands (with numerous embedded micro-level problems) that play out over time and often interact with one another.
While innovations abound in education, the field suffers from a lack of purposeful collective action. Instead, actors work with different theories of the same problem, activities are siloed, and local solutions remain local.
Why doesn’t most innovation work?

• The history of educational innovation is replete with stories that show how innovations work in the hands of a few, but lose effectiveness in the hands of the many (Gomez, Gomez, and Gifford 2010).

• We need design which explicitly aims to function in the hands of diverse individuals working in highly varied circumstances.
Benefits of a network

• Networks enable individuals from many different contexts to participate according to their interests and expertise while sustaining collective attention on progress toward common goals.

• A networked improvement community is a distinct network form that arranges human and technical resources so that the community is capable of getting better at getting better (Englebart 2003).
Englebart’s three levels of activity

• A-level activity is the on-the-ground work of carrying out the organization’s primary business.

• B-level activity describes within-organization efforts that are designed to improve the on-the-ground work.

• C-level activity is inter-institutional, representing the capacity for learning to occur across organizations.
Example

A. Front-line teaching and the work of classrooms and support systems

B. Local data collected about student success and shared with faculty and staff with the expectation that data will inform subsequent improvements.

C. Multiple sites engage in concurrent development, working on problems and proposed solutions that have a strong family resemblance.
Englebart’s claim

C-level activity affords mechanisms for:
• Testing the validity of local knowledge
• Adjusting local understanding of the true nature of the problem, and
• Advancing local support structures for improvement
Carnegie’s Current Use of NICs

• Studying the failure rates in developmental mathematics in community colleges that contribute low graduation rates
• There is a complex of sub-problems operating within the institutions that contribute to the high failure rates
• Small gains may be possible by focusing on single elements, but dramatic change ultimately requires a systems view of how these elements (and others) inter-lock to create the overall outcomes currently observed.
Carnegie’s Use of Nics

Carnegie Foundation is supporting a networked improvement community aimed at doubling the proportion of community college students who, within one year of community college enrollment, are prepared mathematically to succeed in further academic or occupational pursuits.
• 19 community college teams (3 faculty members, an institutional researcher and an academic dean or vice-president.

• Faculty are using a lesson study methodology and continuous improving instructional materials and assessments over time.

• Institutional researcher are working together to build common evidence systems to enable the network to measure, compare and improve the performance of students in the institutions.

• Deans and administrators are addressing the logistical issues that arise in embedding an innovative design with their institutional contexts.
• The network will form a robust information infrastructure to inform continuous improvement.

• A “collaboratory” is formed as other specialized practitioners, design developers and research are needed.

• What is developed belongs to the Network Improvement Community and advances the participants’ expertise, thus, creating a cadre of leaders and champions for expansion of the network.
The Trouble with Communities of Practice

• While communities of practice may form around a common concern, the goal is to support individual action rather than execution of common work, shared outcome measures and mechanisms for comparing results-progress towards specified goals.

• Coordination in a community of practice is limited to maintaining a social focus on a common problem.
Network Improvement Communities

• Participants in a NIC endorse shared, precise, measurable targets.
• Participants agree to use what is learned, from working toward meeting the targets, to setting new targets aimed at ever more ambitious goals.
• Shared measurable targets help a community stay focused on what matters, from the community’s perspective.
Network Improvement Communities

• NICs shift the location of goals from the personal “I” to the collective “we”.
• Participants work under a shared understanding that, “some is not a number and soon is not a time.”
• Defining measurable outcomes and timelines to achieve these outcomes guides efforts in improvement communities.
Benefits of shared targets

• Much like Wikipedia functions as an argument platform through a peer-to-peer platform that structures and propels conversation, the act of setting common targets in NICs allows community members to vet goals and sharpen shared understandings.
Targets gone bad

- NCLB established measurable targets (100% proficiency on state tests in math and reading by 2014.
- Learning standards were revised, tests were built, data warehouses were built to report performance data, etc.
- BUT...NCLB goals represented an expression of valued social aims imposed by legislative actions.
Targets gone bad

• No empirical evidence existed from past practice that the goals could be achieved and no community formed around their continued elaboration and refinement.

• Thus, although NCLB motivated individual actions, accumulating R&D was never vitalized.
Key to establishing feasible targets

• Variability in results is made public to the participants

• There is collective agreement to use results to continually refine targets in order to insure community ownership.

• As the network focuses on comparative analysis of results for its ongoing target setting, the same processes also function to incent individual learning and improvements network-wide.
Importance of roadmaps

• Mapping the space for innovation development is another critical structuring agent for an educational improvement network.

• The intrinsic complexity of most problem systems means that most participants appreciate only the parts of the system that seem particularly relevant to their role.

• Absent a working theory of the whole, interventions fail because of externalities not considered, even though these are often predictable.
Importance of roadmaps

• The end product of road mapping is a common language for organizing the diverse efforts occurring within a design and development community.

• Highly independent activities may occur across time and space, but the overall endeavor now coheres.

• The roadmap also provides the natural framework for accumulating field knowledge as it is developing.
Program Improvement Maps

• Aligns a network around a common understanding of the problem at hand
• Decomposes a complex improvement problem into component parts
• Identifies interacting subsystems, specified targets by domain, and the particular audiences for whom the outcomes are especially relevant
An Example of a Map
Benefits of a Map

• In short, the purpose of a tool like a program improvement map is to provide an end-to-end description of the challenge space.
• It encourages members of a networked improvement community to locate specific interventions in the larger problem space and begin to anticipate and problem solve around the systemic inter-connections of any intervention.
Driver Diagrams

• Drawing on a practice from improvement science (Langley et al. 1996), a driver diagram encourages network actors to explicate causal thinking; that is, how a proposed solution path responds to current understandings of the problem.

• In general, a driver diagram has three key elements: targets, primary drivers, and secondary drivers.
Part of a Driver Diagram

• The target is one of the community’s agreed upon outcomes from the program improvement map.

• The primary drivers are the major causal explanations hypothesized to produce currently observed results.

• Secondary drivers, in contrast, are interventions in the system aimed at advancing improvement toward targets.
Sample Driver Diagram

**Improvement Target**

Doubling the proportion of students who earn college credit in math within 1 year of continuous enrollment

**Primary Causes for high failure rates**

- Losing large numbers of students at the transitions
- Course material is unengaging
- Students’ beliefs and attitudes undermine motivation
- Students have weak ties to peers, faculty and program of study

**Solution Drivers: organizing hypotheses**

- Consolidate the courses into a 1-year pathway
- Real world problems from statistics as the organizer
- Faculty development
- Psycho-social interventions
- Learning Communities
Common Protocols

• Effective network action also requires common protocols that allow participants to share, test, and generalize local learning across a professional community of practice.

• These protocols guide local efforts to introduce changes and examine whether these changes actually are improvements.

• The breadth of evidence generated, coupled with diversity among network contexts and participants, creates opportunities for new synthetic insights to arise that are unlikely to occur within any one study.
Translational research

• After an initial pilot, the intervention is then typically field tested in a small number of sites in an efficacy trial. If this proves promising, the intervention is then subject to a rigorous randomized control trial to estimate an overall effect size. Along the way, the intervention becomes more specified and detailed. Practitioner advice may be sought during this process, but the ultimate goal is a standard product to be implemented by practitioners as designed. It is assumed that positive effects will accrue generally, regardless of local context, provided the intervention is implemented with fidelity.
Action Research

- Action research places the individual practitioner, or some small group of practitioners, at the center. The specification of the research problem is highly contextualized and the aim is localized learning for improvement. While both theory and evidence play a role, the structures guiding inquiry are less formalized. How this practitioner knowledge might be further tested, refined and generalized into a professional knowledge, however, remains largely unaddressed (Hiebert et al. 2002).
Science of Improvement

• A science of improvement offers a productive synthesis across this research-practice divide. It aims to meld the conceptual strength and methodological norms associated with translational research to the contextual specificity, deep clinical insight and practical orientation characteristic of action research.
• Shared narratives integrate collective experience. The main theme in the narrative for an improvement network is *Learning through Doing*.

• Multiple cycles of design-engineering-development characterize the improvement efforts occurring within a participating classroom, college, or individual commercial firm. In principle, each cycle propels some bit of local learning.

• When parallel development activities occur in different sites at the same time, a network can learn from the ensemble of these experiences. This increases the overall odds of efficacious outcomes emerging more reliably at scale.

• This practice of learning through doing enlivens the mantra of continuous improvement that deficits are a treasure. Each process failure provides an opportunity to learn and to improve both locally and network wide.
Attention to variability in performance

• Most field trials formally assume that there is some fixed treatment effect (also known as a standardized effect size) to be estimated. If pressed, investigators acknowledge that the estimate is actually an average effect over some typically non-randomly selected sample of participants and contexts. Given the well-documented experiences that most educational interventions can be shown to work in some places and not others, we would argue that a more realistic starting assumption is that interventions will have variable effects and these variable effects may have predictable causes.
Rather than asking whether an “intervention works,” a network improvement community asks, “what works, when, for whom and under what sets of circumstances?”
Rather than thinking about a tool, routine or some other instructional resource as having proven effectiveness, improvement research directs efforts toward understanding how such artifacts can be adaptively integrated with efficacy into varied contexts, for different kinds of students, and for use by diverse faculty.
Integrative Adaptability

• Rather than conceiving of scaling, solely as a matter of implementing these artifacts as designed (or what some describe as “with fidelity”), the NIC also focuses on integrative adaptivity as a core design problem. It assumes that any new intervention subsequently will be picked up by different participants who must make it work within their particular organizational context.
C-level activity focuses explicitly on how an innovation can be made to function well in the hands of diverse individuals working under highly varied circumstances.
Opinion leaders

In each of the effective networks we have examined, a small number of opinion leaders played a critical role in building followership and securing moral authority for organizing the rules of the game.

Each, with their own style, evangelized the vision, set goals for the collective project, persuaded others of its viability and invited participation.
Network Designers

The job of the network designer is to identify possible partners, bring all the relevant stakeholders to the table, analyze current in-house operations, determine and communicate to all the members the expectations of how the network will function, assemble and enmesh all the pieces of the network, devise strategies to maintain the network and finally, activate it.
The Hub of the Network

• The hub aims to build field consensus on the importance of the problem and promising pathways to solutions.
• It seeks to catalyze network engagement, bringing more leaders and champions to the movement.
• It develops the initial version of the structuring agents and norms for participation.
• It maintains a technology core, such as a dynamic knowledge repository organized around the program improvement map and community use platform.
• It also provides analytic capacity to support B-level activity out in individual sites and has lead responsibilities for cross-institutional, C-level learning.
• Finally it needs to secure lines of support that flow to network participants for initiation and growth.