



A Center Report*

Bringing New Prototypes into Practice: Dissemination, Implementation, and *Facilitating Transformation* (January, 2014)

I. Efforts to Improve Dissemination and Implementation of Good Practices

To underscore the current state of the art, we highlight prominent examples from clinical psychology, public health, and education and indicate a sampling of major organizations that intend to advance implementation research.

II. Enhancing Basic Dissemination and Implementation Research

We outline some basic matters that warrant greater attention by implementation researchers.

III. Focusing on *Facilitating* Institutional Transformation:

Our Center's Pursuit of New Directions for Student & Learning Supports

Based on our work, we (1) differentiate *direct* implementation from the process of *facilitating* implementation and (2) differentiate implementation of a *specific practice or program* from efforts to *transform institutions* such as schools.

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We invite all who read this to provide additional input for a subsequent revision.

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*Good ideas and missionary zeal are sometimes enough
to change the thinking of individuals; they are rarely, if ever,
effective in changing complicated organizations ...
with traditions, dynamics, and goals of their own.*

Seymour Sarason

It is encouraging to see increasing attention to improving interventions in fields such as mental health, public health, and education. This includes the growing emphasis on transferring evidence-based interventions into practice. The trend continues to be stimulated and supported by the high priority endorsement of federal, state, and local governments, foundations, and third-party payers.

All of the work has reinvigorated research in what are commonly referred to as the translation, dissemination, and implementation problems. Much of the discussion in the literature focuses on bringing a specific prototype developed and researched in a rarified setting into the “real world.” An eventual aim in most instances is to replicate the prototype on a large scale and often in diverse settings. And, in some instances, the aim is not just to replicate a practice or program but to transform the nature and scope of a field. In these latter cases, the problems of translation, dissemination, and implementation become enmeshed with the problems of institutional transformation and sustainability.

Not surprisingly, the aims, nature, and scope of how knowledge transfer problems are discussed varies greatly within and between disciplines and fields, and at this juncture, little cross fertilization is apparent. However, there are some common themes. One is that of preserving the integrity of the prototype by ensuring fidelity in translating research into practice. Another theme is the influence of context.

While an interesting literature is evolving, analyses make it evident that research on the problems of translation, dissemination and implementation is in its infancy. This reality is illustrated by current initiatives that are striving to advance understanding and action related to these matters. Therefore, we begin this report by featuring prominent examples from clinical psychology, public health, and education and indicating a sample of major organizations that intend to advance implementation research. This is followed by a brief discussion that highlights some basic matters that warrant greater attention by implementation researchers. Then, we go beyond the prevailing research emphasis. Using our work on new directions for schools to address learning, behavior, and emotional problems, we (1) differentiate *direct* implementation from the process of *facilitating* implementation and (2) differentiate implementation of a *specific practice or program* from efforts to *transform institutions* such as schools. Our intent is to broaden discussions of translation, dissemination, implementation and system transformation.

I. Efforts to Improve Dissemination and Implementation of Good Practices

Fields concerned with clinical treatment of individuals' physical and mental health, public health interventions, and public education are at a stage where many professionals are just becoming knowledgeable about the complexities and strategies involved in translating research into practice (Centers for Disease Control and Prevention, 2012; Flaspohler, Lesesne, Puddy, Smith, & Wandersman, 2012; Institute of Education Sciences, 2013; Norcross, Beutler, & Levant, 2005; Rabin & Brownson, 2012; Tabak, Khoong, Chambers, & Brownson, 2012; U.S. Department of Education, 2011; U.S. Department of Health and Human Services, 2013). Besides the growing number of individual researchers focusing on advancing such work, a variety of organized units (e.g., networks, centers, collaboratives) are supporting efforts to improve understanding and provide training and guidance (see Exhibit 1).

Below are three examples that illustrate prominent, but differing, major initiatives intended to advance understanding and action related to translation, dissemination, implementation, and system transformation.

Clinical Psychological Science: Bridging the Translation-Implementation Divide

In 2011, a conference at the University of Delaware spawned what is being called the Delaware project. The aim is to redefine psychological clinical science training “in ways that emphasize continuity across a spectrum of intervention development activities ranging from basic research to implementation and dissemination” (Shoham, Rohrbaugh, Onken, Cuthbert, Beveridge, & Fowles, 2014; also see www.delawareproject.org).

The conference also led to a special 2014 series in the journal *Clinical Psychological Science* on “Reenvisioning Clinical Science Training.” As reported in the journal, a major concern at the conference was training for research dissemination and implementation. The following is a brief excerpt from the section entitled *The Translation-Implementation Divide* in the article authored by Shoham, et al. (Varda Shoham guest edited the series.) It provides a perspective on how translation of research into practice was discussed at the conference.

“Translational science follows a clear pathway, using knowledge gained from basic research on mechanisms of clinical problems and clinical change to generate, implement, and evaluate an intervention. This intervention focus typically requires developing methods to evaluate the fidelity with which clinicians implement clinical procedures (based on a manual of principles and procedures) before testing the intervention in a randomized efficacy trial and moving on to effectiveness research in real-world settings. This then extends to studying how best to implement and disseminate the intervention, while preserving its integrity (fidelity) in the field. The NIH stage model embodies good translational science while highlighting its nonlinear, recursive aspects, where findings or experiences at a later stage (e.g., an effectiveness trial) feed back to inform research questions at an earlier stage (e.g., treatment refinement), and where intervention development work is not complete until the intervention achieves its maximal level of implementability (Onken et al., 2014).

Exhibit 1

Organized Units Focused on Enhancing Effective Implementation

The following organized units provide a range of resources.

National Implementation Research Network (NIRN). For over the last decade, working with colleagues around the globe, *the National Implementation Research Network* (NIRN – <http://nirn.fpg.unc.edu/about-nirn>) has had the mission of contributing “to the best practices and science of implementation, organization change, and system reinvention to improve outcomes across the spectrum of human services. ... Currently, the NIRN is engaged in building a better laboratory in which the Active Implementation components are in use and available for study. ... Active Implementation promotes the full and effective use of evidence-based programs and evidence-informed innovations so that student outcomes are improved.”

To this end, a major project of NIRN, the *State Implementation of Scaling-Up Evidence-based Practices* (SISEP), focuses on helping states “establish adequate capacity to carry out effective implementation, organizational change, and systems transformation strategies to maximize the academic achievement and behavior outcomes of students statewide.” An example is seen in the SISEP developed series of four (30-45 minute) online modules that can be self-paced or blended into professional development. The series discusses “Active Implementation Frameworks” designed to provide “the foundation for putting evidence-based programs and evidence-informed innovations into practice.” The modules present (1) an overview of active implementation, (2) implementation drivers, (3) implementation teams, and (4) implementation stages as guiding frameworks. The work stresses that:

- Conducting stage-appropriate implementation activities is necessary for successful service and systems change.
- Developing core implementation components results in an implementation infrastructure that supports competent and sustainable use of innovations.
- Creating Implementation Teams that actively work to support the implementation of interventions results in more efficient, higher-quality implementation.
- Connecting policy to practice can help reduce systems’ barriers to sustainable, high-fidelity practice.

Dissemination & Implementation Research Core (DIRC). Housed at Washington University in St. Louis, DIRC stresses methodological expertise to move efficacious health practices from clinical knowledge into routine, real-world use. The work is led by researchers from WU’s Schools of Social Work and Medicine, and the Institute for Public Health. – <http://cmhsr.wustl.edu/PractitionersResearchers/DIRC/Pages/DIRC.aspx>

Seattle Implementation Research Collaborative. This organization brings together implementation stakeholders committed to evaluating implementation of evidence based psychosocial interventions. – <http://www.seattleimplementation.org/>

The National Center for Posttraumatic Stress Disorder, Dissemination and Training Division. As a part of its mission, this center combines dissemination and implementation research with development of educational and training content, including developing and studying the effectiveness of materials designed for websites, on-line trainings and use of other technologies. - <http://www.ptsd.va.gov/about/divisions/dissemination-training-division.asp>

(cont.)

Clinical Translational Science Institute (CTSI) at the University of California, San Francisco. This group “facilitates the rapid translation of research to improvements in patient and community health. It is a cross-school, campus-wide institute with scientist leaders at its helm. To achieve its goals, CTSI provides infrastructure, services, and training to support clinical and translational research. To advance its mission, it develops broad coalitions and partnerships at the local and national levels to enable a transformation of the research environment.” (<http://ctsi.ucsf.edu/about-us>) CSTI’s *Community Engagement Program* website “is designed to provide a single place for UCSF and affiliated investigators to access CTSI research services and resources, find funding and training opportunities, and develop skills.” – <http://accelerate.ucsf.edu/research/community>

Implementation Network. This organization distributes information on late-breaking research, practice, and policy activities in the area of dissemination and implementation in health care and public health. It includes a range of staff and postdoctoral opportunities related to the emerging area of implementation science. – <http://www.implementationnetwork.com/home>

Institute of Education Sciences, U.S. Department of Education’s What Works Clearinghouse. This dissemination website “identifies studies that provide credible and reliable evidence of the effectiveness of a given practice, program, or policy (referred to as ‘interventions’), and disseminates summary information and reports.” It has over 700 publications available and more than 6,000 reviewed studies and many guides to enhance implementation in an online searchable database to inform researchers, educators, and policymakers. – <http://ies.ed.gov/ncee/wwc/>

The Cochrane Collaboration. This is an international network of researchers, multiple centers and branches (more than 31,000 people from over 120 countries). Prepares, updates, and promotes the accessibility of over 5,000 online Cochrane Reviews. Has reviews on physical and mental health care practices, including studies of cost-effectiveness. The secretariat is based in Oxford, England – <http://www.cochrane.org/>

The Campbell Collaboration. This international research network produces systematic reviews of the effects of social interventions (e.g., crime, justice, education, social welfare). The secretariat is in Oslo, hosted by the Norwegian Knowledge Center for the Health Services. -- <http://www.campbellcollaboration.org/>

Note: Many of the above provide information on current practices and provide reference to other websites that disseminate data-based interventions (e.g., SAMHSA’s National Registry of Evidence-Based Programs and Practices).

Shoham and her colleagues continue their discussion of the translation-implementation divide by emphasizing that: “Translational intervention development research also places heavy emphasis on how interventions work and for whom they work best.” In this respect, they mention that “mediators and mechanisms of change can suggest how to increase efficiency (and economy) by paring an intervention down to its essential ingredients (e.g., by eliminating unnecessary procedures or reducing the number of sessions), whereas research on moderators of treatment effects (what works for whom) has obvious implications for personalized treatment.”

These authors contrast this research with the dissemination-implementation perspective that suggests studying the social/organizational context of an intervention has greater importance than the clinical procedures themselves.

“For example, according to Rogers’s (2003) influential model of innovation adoption, the potential for sustained adoption of an intervention (and ultimate patient benefit) should be greatest when the intervention is simple rather than complex, is compatible with existing agency practices, and adds benefit to what clinicians are already doing. An interesting and controversial corollary is that treatment fidelity may be less crucial to successful outcome than translational scientists assume: In Rogers’s view, adoption and patient benefit depend instead on locally relevant adaptations, through which clinicians to some extent ‘reinvent’ evidence-based interventions rather than strive for rigorous fidelity to a treatment manual (cf. Chorpita & Regan, 2009, p. 991).”

They stress that, “on balance, dissemination scientists attach more importance than translational scientists to studying the social processes that influence successful implementation of effective treatments in community settings. These processes include the behavior and attitudes of the clinicians who implement the treatments—hence the call for ‘practice-based evidence’ to balance the ‘evidence-based practice’ mantra of mainstream clinical science.”

Finally, they note that “many implementation scientists on the ground adopt elements of both perspectives.”

Another article in the above mentioned 2014 special issue of *Clinical Psychological Science* is authored by Weisz, Ng, and Bearman. It focuses entirely on reenvisioning the relation between dissemination-implementation science and practice. The authors’ abstract provides a good overview of their views and agenda:

“Decades of clinical psychological science have produced empirically supported treatments that are now undergoing dissemination and implementation (DI) but with little guidance from a science that is just taking shape. Charting a future for DI science (DIS) and DI practice (DIP), and their complex relationship, will be complicated by significant challenges— the implementation cliff (intervention benefit drops when tested practices are scaled up), low relevance of most clinical research to actual practice, and differing timetables and goals for DIP versus DIS. To address the challenges, and prepare the next generation of clinical psychological scientists, we propose the following: making intervention research look more like practice, solving the ‘too many empirically supported treatments’ problem, addressing mismatches between interventions and their users (e.g., clients, therapists), broadening the array of intervention delivery systems, sharpening outcome monitoring and feedback, incentivizing high-risk/high-gain innovations, designing new professional tracks, and synchronizing and linking the often-insular practice and science of DI.”

Public Health: CDC's Focus on Dissemination and Implementation

The Centers for Disease Control and Prevention (CDC) has developed an agenda to help apply scientific knowledge to the preventive practices. Recognizing the need for flexibility in pursuing a broad range of prevention and health promotion initiatives, CDC is exploring several approaches for translating research into practice.

Focusing on violence prevention from a public health perspective, CDC has adopted an *Interactive Systems Framework (ISF) for Dissemination and Implementation*. The intent is to "address the 'how to' gap that exists between scientifically determining what works and moving that knowledge into the field for the benefit of the public." This framework consists of three systems: (1) the Prevention Synthesis and Translation System, (2) the Prevention Support System, and (3) the Prevention Delivery System. Its intent is to show key elements and relationships involved in the movement of knowledge of research into practice. As described by Wandersman and his colleagues (2008):

“the function of the Prevention Synthesis and Translation System is conceptualized as distilling information about scientific innovations and preparing them for implementation by end users (e.g., practitioners). The function of the Prevention Support System is conceptualized as supporting the work of those who will put the innovations into practice. The primary function of the Prevention Delivery System is the implementation of innovations (e.g., delivery of programs) in the field.”*

As featured in a 2013 Congressional briefing, the ISF was offered as a promising approach for promoting governmental adoption of evidence-based prevention programs in many policy areas (e.g., interventions that prevent chronic health or environmental problems, those that reduce incarceration, homelessness, high school drop-out rates).

It should be noted that CDC's Division of HIV/AIDS Prevention (DHAP) also has a research-to-practice model. In comparing the two approaches, Collins, Edwards, Jones, Kay, Cox, and Puddy (2012) conclude the ISF and DHAP frameworks are “complementary with some unique differences, while both contribute substantially to addressing the gap between identifying effective programs and ensuring their widespread adoption in the field.”

CDC's emphasis clearly is on a wide range of health and psychosocial problems. Moreover, CDC's Prevention Research Centers (PRC) provide a constant public health focus on highlighting dissemination and implementation tools and frameworks (Jacobs, Jones, Gabella, Spring, & Brownson, 2012; Tabak, Khoong, Chambers, & Brownson, 2012). For example, the PRC recently reviewed the inventory of 61 implementation frameworks/models developed by Tabak and her colleagues and suggested that future research could increase the understanding and generalizability of the listed models. As a result, CDC's focus on translating research into practice broadens the discussion of implementation science and practice beyond empirically supported clinical treatments.

*Note that Wandersman and his colleagues also stress use of a “Quality Implementation Process (QIP) and provide an implementation “tool” consisting of six components, each of which has “a set of action steps that provide concrete guidance on how to implement with quality.” The six components focus on (1) Developing an implementation team, (2) fostering a supportive climate and conditions for the initiative, (3) developing and monitoring an implementation plan, (4) providing and receiving professional development, (5) collaborating with program or initiative developers, and (6) evaluating the effectiveness of implementation (Meyers, Katz, Chien, Wandersman, Scaccia, & Wright, 2012).

Transforming Public Education: Focusing on Comprehensive Systemic Change

Traditional efforts to improve schools tend to tinker with current practices and introduce narrow-band new initiatives and practices. This is well illustrated by the *What Works Clearinghouse* (<http://ies.ed.gov/ncee/wwc/>). It should be noted that this federal dissemination organization strives in its practice guides to formulate specific and coherent evidence-based recommendations for use by educators, but also recognizes that many education challenges (e.g., addressing the dropout problem) involve use of newly developed approaches that lack desired empirical support.

In contrast to piecemeal and often ad hoc approaches to improving schools are the calls for a complete transformation of public education. And given such transformation requires major systemic changes, the need for a focus on comprehensive institutional change becomes essential.

Current discussions of systemic change in schools are rooted mostly in the literature on organizational change and design (e.g., Rami Shani, Woodman, Pasmore, & Fredberg, 2011), the seminal work on diffusion of innovations by E.M. Rogers (2003), theories of change (Taplin, Clark, Collins, & Colby, 2013), complexity and chaos theory (Mason, 2009), and intervention theory (Adelman & Taylor, 1994). Applications to transforming public education are seen in the work of such diverse thinkers and researchers as Duffy, Fullan, Hargreaves, Reigeluth, Sarason, and Senge, as well as the work of our Center (see reference list).

As so many leaders across the country stress, strengthening young people, schools, families, communities, and the nation requires a well conceived and implemented system of public education. Given this, improving schools is not just a concern for educators. It has major implications for mental and public health, civil rights, and the well-being of society.

Two current applications are highlighted in this report. The first is the following brief description of the general guidance system developed by Reigeluth and his colleagues. In a later section, we outline our comprehensive systemic change process for transforming student and learning supports.

The *Guidance System for Transforming Education* (GSTE) is a set of guidelines for facilitating systemic change in school districts. The system was developed by Reigeluth and his colleagues (Jenlink, Reigeluth, Carr & Nelson, 1998).

As described by Joseph and Reigeluth (2005)

“the GSTE is a process model for facilitating systemic change. It was designed to provide process guidelines to a facilitator engaging in a district-wide systemic change effort. It does not provide any indication of what needs to be changed in the district. The GSTE is comprised of ‘discrete events’ ... which are a chronological series of activities for engaging in systemic change, and ‘continuous events’, which are activities that must be addressed continuously throughout much or all of the change process....”

“The discrete events involve five phases:

1. assess readiness and negotiate an agreement;
2. prepare the core team for the change process;
3. prepare expanded teams for the process;
4. engage in design of a new educational system; and
5. implement and evolve the new system.

The continuous events focus on 18 concerns. They look to: (1) evaluate and improve the change process, (2) build and maintain political support, (3) sustain motivation, (4) develop and sustain appropriate leadership, (5) build and maintain trust, (6) evolve mindset and culture, (7) periodically secure necessary resources, (8) develop skills in systems thinking, (9) periodically and appropriately allocate necessary resources, (10) develop group process and team-building skills, (11) build team spirit, (12) engage in self-disclosure, (13) engage in reflection, (14) develop design skills, (15) communicate with stakeholders (two way), (16) build and evolve community, (17) foster organisational learning and (18) build an organisational memory.”

The developers of this framework stress that GSTE is based on a commitment to caring for children and their future, systemic thinking, inclusivity, stakeholder ownership, co-evolution, facilitator, process orientation, context, time, space, participant commitment, respect, responsibility, readiness, collaboration, community, vision, wholeness, language, conversation, democracy, and culture. They also note that particularly important to the success of the change effort is the role of a neutral facilitator who has experience in district-wide systemic change.

Detailed guidance for the GSTE is provided by Jenlink et al (2004) and updated information can be accessed at <http://www.indiana.edu/~syschang/decaturn/>.

It should be noted that, during the last decade, Reigeluth merged his *GSTE* model with an approach developed by Duffy called *Step Up To Excellence*. The resulting hybrid transformation process model is called *The School System Transformation Protocol* (See Duffy, 2010; Reigeluth & Duffy, 2010).

Clearly, the above examples reflect a multifaceted range of endeavors designed to advance the translation of research into practice. Each field has a separate agenda and a different set of policy forces and perspectives that shape the direction of the activity. And, while all the above work is contributing to advancing efforts to bring research into practice, the efforts are still in their infancy. It is not our intent to promulgate current approaches; criticisms permeate the literature. Among the specific concerns raised by many are disagreements about criteria for deciding on what warrants dissemination and implementation, how best to deal with the broad array of real life factors in the real world "ecosystem," and the premature commercial marketing of programs/practices.

II. Enhancing Basic Dissemination and Implementation Research

Given the increasing attention and early stage of development related to dissemination and implementation in research, training, practice, and policy, it was not surprising when the National Implementation Research Network (NIRN) concluded:

"... very little is known about the processes required to effectively implement evidence-based programs on a national scale. Research to support the implementation activities that are being used is even scarcer."

Our analyses suggest that improving the state of the art requires taking a step back to address some basics. In particular, we find too little attention has been paid to (1) understanding the nature and scope of phenomena encompassed by the terms dissemination and implementation, (2) classifying important differences in the prototypes to be implemented, and (3) clarifying key *direct* implementation process concerns. And as we will emphasize in the last section of this report, too little attention has been paid to differentiating *direct* implementation from the process of *facilitating* implementation and differentiating implementation of a *specific practice or program* from efforts to *transform institutions* such as schools.

What is Dissemination and Implementation?

Current work on translation of research into practice stresses the terms dissemination and implementation. These terms encompass a host of problems that have long plagued practitioners and require considerable attention by researchers.

Dissemination

The term dissemination encompasses the many challenges involved in dispersal of information, ideas, and recommendations to individuals, groups, and organizations. The process often is described as that of distribution or circulation. Questions arise about how best to design and package products (e.g., brochures, fact sheets, frequently asked questions, presentations, courses, workshops, manuals, articles, books). When it comes to wide-spread distribution, questions arise about how best to use the variety of available delivery systems (e.g., email, webinars, websites, social media, mailers and public relations ads, networks of professionals, news outlets, clearinghouses) to create awareness, interest, and acceptance.

Distribution alone, however, does not guarantee communication and understanding. That is, while distribution is a necessary precursor, it is insufficient with respect to assuring understanding, never mind *mobilizing acceptance and action*. So, a fundamental concern is how to pursue dissemination efforts in ways that can increase the likelihood that proposed changes will be accepted and acted upon. Clues from various lines of work (e.g., Rogers, 2003; Greenlaugh & colleagues, 2004) suggest that dissemination should be designed to enhance perceptions of:

- (1) *Benefits*. This includes delineating what is to be gained from use and action (e.g., how ideas and recommendations meet an organization's needs). With respect to new information or innovations, Rogers emphasizes the concept of *relative advantage*. The degree to which an innovation is perceived as better than the idea it supercedes. The greater the degree of perceived relative advantage, the more rapid its rate of adoption.

- (2) *Compatibility* (fit, match). This refers to the degree to which an idea or recommendation is perceived as consistent with the existing values, past experiences, and needs of potential adopters. Rogers states that the more compatible it is, the more rapidly it will be adopted.
- (3) *Usability*. Language and design should maximize the likelihood that what is sent can be readily understood by the intended audience. The content should highlight use, including how ideas and recommendations might be integrated into existing activity and leverage available resources. Rogers emphasizes the concept of *trialability*. This is the degree to which a prototype may be experimented with on a limited basis. An approach that is triable represents less uncertainty as it is possible to learn by doing.
- (4) *Evidence of sufficient resources*. Specific information should be communicated about the resources allocated for moving the research into regular practice and sustaining it.
- (5) *Evidence that others are on board*. Messages should clarify who is ready to and who has already adopted the work and that high-ranking decision makers have made it a priority.
- (6) *Evidence of impact*. This requires references to data, opportunities to observe demonstrations, compelling anecdotes, or any other ways to convey the potential credibility and impact of acting on recommendations.

In terms of strategic approaches, it is usually emphasized that processes should initially target specific stakeholders and do so in a personalized manner. Furthermore, the communication should provide a succinct overview and stress the credibility of both the content and its advocates.

It should be noted that dissemination research tends to focus on current practices rather than experimenting with what might transform such practices to make them highly effective. Available research suggests that dissemination is most useful related to technological innovations. Also note that Greenhalgh and colleagues (2004) go so far as to outline what research on dissemination they see as worth pursuing and what isn't.

Obviously, all the above extrapolations are matters requiring deeper research. And as more is learned about what enables successful implementation, greater understanding is likely with respect to designing and carrying out dissemination strategies in ways that promote recipient acceptance and action.

Implementation

At its roots, the implementation problem, as frequently discussed, refers to efforts to ensure that a given prototype is effectively put into practice. Taking prototypes that are found efficacious under highly controlled conditions and moving them efficaciously into the real world is a prominent example. Much of the recent research on implementation has focused

on this particular example. This has resulted in the tendency for some researchers, practitioners, and policy makers to skip by fundamental considerations that are at the core of efforts to *transform* major societal institutions. Such major transformations increase implementation complexities. These include, for instance, (1) diffusing comprehensive and multifaceted innovations and (2) doing so in the context of organized settings with well-established institutional cultures and infrastructures that must change if effective widespread application is to take place (Centers for Disease Control and Prevention, 2012; Institute of Education Sciences, 2013).

It cannot be stressed enough that the complexity involved in implementation increases when the focus is on transformation because of the many contextual variables that play a role in systemic institutional change. For example, agencies, schools, and neighborhoods are all organized settings with well-established institutional cultures and infrastructures which are not easily changed. In established organized settings, those who set out to implement new policies and practices generally are confronted with the enormous and complex tasks of producing systemic changes and taking them to scale and doing so in ways that lead to sustainability. When this is the case, the implementation problem is better viewed from the vantage point of the growing bodies of literature on *diffusion of innovations* and *institutional transformation*. These literatures provide a broader lens than that found in much of the current literature on implementation.

Some see diffusion as a unilateral and not sufficiently active intervention process. We think the term can readily be adapted to encompass a transactional and highly active process that *facilitates* mobilization of complex prototypes and their large scale application. Such facilitation addresses the problems of effecting major systemic changes related to institutional transformation/reculturalization.

The figure below illustrates differences in focus as related to dissemination and diffusion.

		<i>Focus</i>			
		Information/ Knowledge	New Practice	New Policy	Major Systemic Changes
<i>Process</i>	Dissemination (distribution, dispersal)				
	Diffusion/ Implementation (facilitating mobilization on a large-scale)				

Classifying Critical Differences in Focus When Implementing a Prototype

Terminology concerns aside, immediate attention is needed to classify critical differences related to

- prototypes being discussed (e.g., a narrowly focused empirically supported treatment or psychosocial intervention; a comprehensive set of interventions)
- the aim of the prototype (e.g., to introduce a locally relevant adaptation of current practices, minor-to-radical innovations, major systemic transformation)
- the roles and functions of practitioners who are to implement the prototype (e.g., position and level of training, independent practitioner or agency staff member)
- the scale of implementation (e.g., one setting, one catchment area, city or state-wide)
- cost-benefits (e.g., expenses, iatrogenic effects, outcomes that exceed current practices)
- the forms of designated leadership, operational infrastructure, and capacity building required to facilitate implementation, sustainability, and creative renewal

Delineating Key Process Considerations

Based on our analysis of the literature and our efforts to move schools in new directions for providing student and learning supports, we view the following as major process concerns in need of research.

- What criteria should be used in deciding about what to disseminate and implement? How should the criteria differ with respect to the nature and scope of the prototype and the state of the art and the scope of need in a given field?
- How do the nature and scope of implementation processes influence the reaction and acceptance of adopters? For example, what role do adopters' perceptions play? What is the impact of budgetary costs? Is acceptance lower when a prototype is viewed as not highly important to an organization's overall mission? Do high costs and low valuing work against implementation and sustainability?
- To what degree must individual and contextual readiness differences in motivation and capability for change be addressed to ensure successful implementation and sustainability?

- With respect to cost-effective implementation, what are the implications of differences in the nature and scope of factors such as
 - >organizational culture?
 - >policy support and mandates?
 - >procedures for introducing prototypes and creating readiness, commitment, and engagement?
 - >mentoring and coaching (external and internal) necessary for guiding and building capacity (including professional and other stakeholder development)?
 - >strategic planning for *direct* implementation?
 - >strategic planning for *facilitating* implementation?
 - >adaptations of prototypes?
 - >operational infrastructure, including leaders, teams, workgroups, for *facilitating* systemic change, sustainability, and creative renewal?
 - >operational infrastructure, including leaders, teams, workgroups, for daily *direct* implementation?
 - >standards, measures, and accountability for implementation (including unintended effects)?

In addition, research needs to clarify factors likely to be barriers to implementation and sustainability and the degree to which they interact and their relative impact (e.g., policy that works against dissemination and implementation; insufficient capacity for developing and maintaining essential changes). The 23 factors identified as affecting implementation by Durlak and Dupre (2008) provide a starting point.

And, of course, moving beyond the current unsatisfactory status quo requires developing a critical mass of researchers, institutional leaders and administrators, technical assistance providers, policy makers, and so forth who are prepared to pursue a broad approach to addressing dissemination, diffusion/implementation, and system transformation. Accomplishing this will benefit from research on what and how to transform current preparation and continuing education programs.

Theories that Inform Systemic Change

Building on theories of change, it is time to clarify and analyze theories of *systemic* change. For example, Stachowiak (2013) has summarized 10 social science theories that are used to inform advocacy and policy change efforts. The theories are from political science, sociology, psychology, and communications. They include global theories that broadly explain the policy change process, and tactical theories for common advocacy activities that are part of broader policy change efforts.

Global theories include:

1. Large Leaps or Punctuated Equilibrium theory
2. Policy Windows or Agenda-Setting theory
3. Coalition theory or Advocacy Coalition Framework
4. Power Politics or Power Elites theory
5. Regime theory

Tactical theories include:

1. Messaging and Frameworks theory
2. Media Influence or Agenda-Setting theory
3. Grassroots or Community Organizing theory
4. Group Formation or Self-Categorization theory
5. Diffusion theory or Diffusion of Innovations

Each theory is accompanied by a visual outcome map that shows the connection between strategy activities and expected outcomes and can help guide advocacy evaluations.

Efforts are underway to catalogue and eventually categorize dissemination and implementation frameworks/models. For example, Tabak, Khoong, Chambers, and Brownson (2012) have inventoried and analyzed 61 frameworks. Over time, such analyses can be expected to contribute to theory development.

With specific respect to transforming schools, several researchers have drawn on branches of systems theory and complex systems science that elaborate chaos theory and applied complexity theory (e.g., Argyris, 1993; Despres, 2008; Duffy, 2008; Fullan, 2004; Hargreaves & Fink, 2003; Reigeluth, 2008; Senge, 1999). Such theories provide a basis for enhancing understanding of highly complex systems and provide testable hypotheses related to producing systemic changes.

However, current theories need to delve more deeply into different forms of systemic change and particularly into systemic *transformation* of organizations such as schools, where the ultimate aim is to produce a cultural shift in institutionalized values (i.e., reculturalization). This is a pressing matter since it appears that the greater the distance and dissonance between the current organization culture and intended changes, the more difficult it is to successfully accomplish systemic transformation. Research can clarify if this is indeed the case. And both theory and research need to address how to create an effective match between organizational factors and transformation aims.

Finally, there is the matter of evaluating the iatrogenic effects of systemic changes. Of current relevance efforts to develop “unintended harm theory.” For example, see Allen-Scott, Hatfield, and McIntyre’s (2014) typology for and underlying factors related to unintended effects in applications of public health interventions.

III. Focusing on *Facilitating* Institutional Transformation: Our Center's Pursuit of New Directions for Student & Learning Supports

As already noted, improving schools is not just a concern for educators. It has major implications for mental and public health, civil rights, and the well-being of society.

With this firmly in mind, our work focuses on transforming a key component of public education, namely *addressing barriers interfering with learning and teaching* (e.g., Adelman & Taylor, 2006, 2010). More specifically, we are pursuing the complexities involved in weaving together the many fragmented, discrete student and learning supports used by schools into a unified and comprehensive system. This includes any specific empirically supported practices that schools have adopted/adapted.

Because our prototype frameworks call for institutional transformation, a major focus of our work encompasses dissemination and diffusion/implementation not only at specific school sites, but at school district, regional, and state levels (see Adelman & Taylor 1997, 2006, 2008; Center for Mental Health in Schools, 2000; 2006, 2008, 2013a; Taylor, Nelson, & Adelman, 1999). The nature and scope of this work has forced us to recognize that much of the current discussion about dissemination and diffusion of prototypes, while providing a good foundation, is insufficient for facilitating major transformation and facilitating replication-to-scale, sustainability, and creative renewal.

As we have increased our understanding of the role of dissemination and diffusion/implementation in institutional contexts, we have stressed the differences between *direct* implementation processes and the processes involved in *facilitating* implementation and the importance of differentiating implementation of a *specific practice or program* from efforts to *transform institutions* such as schools.

Some Key Considerations In Facilitating Transformative Systemic Changes

Fullan (2005) stresses that effective systemic change requires leadership that “motivates people to take on the complexities and anxieties of difficult change.” We would add that such leadership also must develop a refined understanding of how to *facilitate* and *sustain* difficult systemic change.

Appreciating Phases of Systemic Change

A common conceptual starting point for translational efforts is to formulate implementation stages/phases/steps. For example, Rogers' (2003) delineates five diffusion steps/stages (i.e., knowledge, persuasion, decision, implementation, and confirmation). Magnabosco (2006) formulates three phases in her research on implementation of evidence-based practices (i.e., pre-implementation, initial implementation, and sustainability planning). The State Implementation and Scaling-up of Evidence-based Practices Center (<http://implementation.fpg.unc.edu/resources/stages-implementation-analysis-where-are-we?o=sisep>) outlines four stages, namely exploration, installation, initial implementation, full implementation, and stresses that sustainability is an active focus during every stage.

In our work, we conceptualize four overlapping phases of systemic change that underscore the need to plan for facilitating the changes:

- (1) *creating readiness, commitment, and engagement* – increasing a climate/culture for change through enhancing the motivation and capability of a critical mass of stakeholders (including design work and strategic and action planning),
- (2) *initial implementation* – introducing changes in stages using a well-designed facilitative operational infrastructure to provide guidance and support,
- (3) *institutionalization* – ensuring that policy guidelines and a daily operational infrastructure for maintaining and enhancing the productive changes are fully integrated into long-term strategic plans,
- (4) *ongoing renewal and evolution* – using of mechanisms to provide continuous quality and ongoing support in ways that enable stakeholders to become a community of learners who creatively pursue renewal.

Each phase encompasses a range of tasks and steps related to key facets of facilitating implementation at every organizational level. Elsewhere (e.g., Adelman & Taylor, 1997), we have discussed the four phases and related tasks and steps in some detail and emphasized that effective dissemination and diffusion requires careful strategic and action planning based on sound intervention fundamentals.

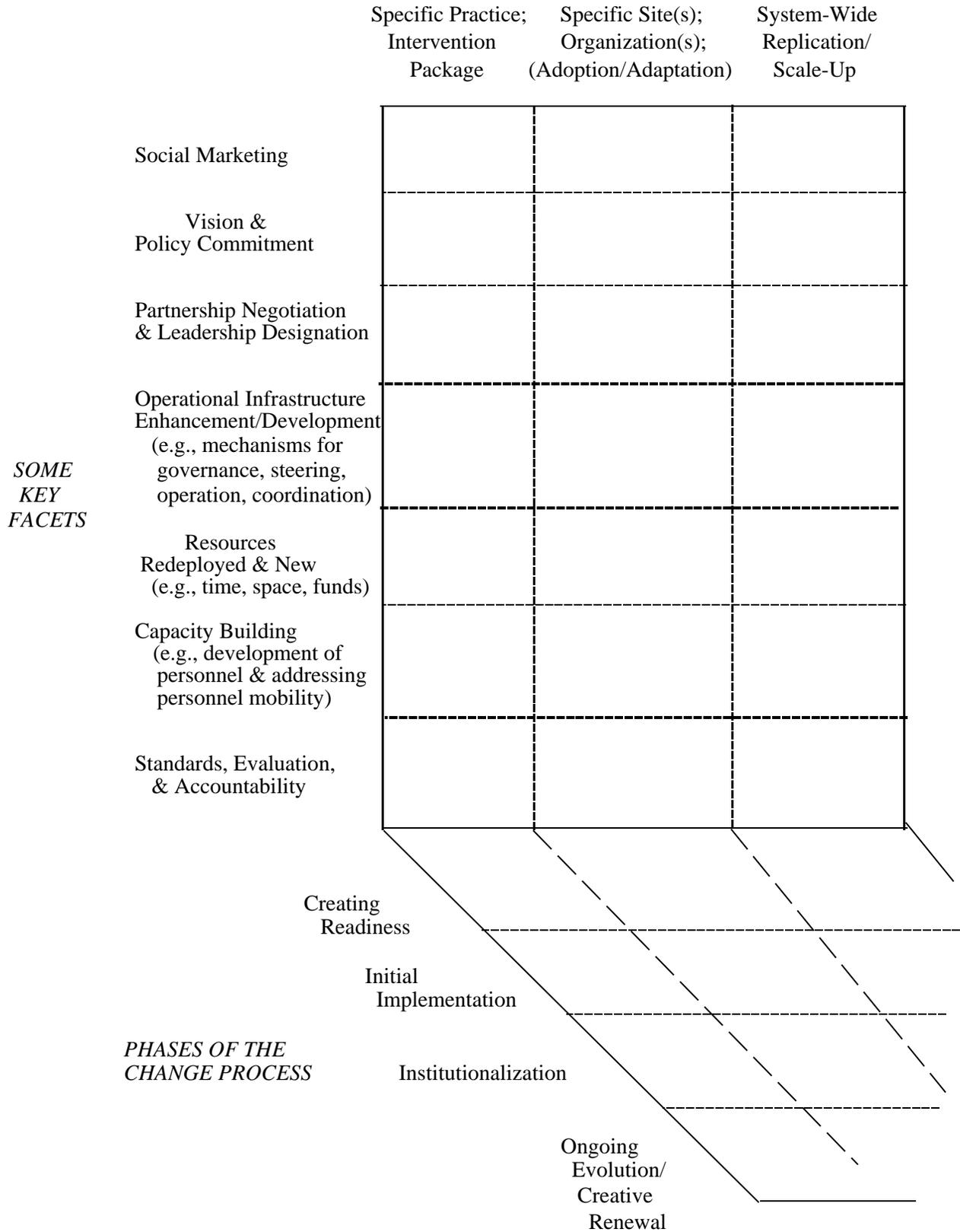
Exhibit 2 highlights the phases in relation to key facets of *facilitating implementation* of systemic change and recognizes that at any time an organization may be involved in introducing one or more innovations at one or more sites and may also be involved in replicating one or more prototypes on a large-scale. This matrix reflects realities we have had to deal with in working with schools and service agencies. We have used it as a guide in planning and for formative and impact evaluation related to implementing systemic changes, sustaining them, and going-to-scale.

As the Exhibit indicates, our work underscores that key facets of facilitating systemic change include continuous social marketing and articulation of a clear and shared vision for the changes. The work also involves ensuring a major policy commitment from all participating partners, negotiating partnership agreements, designating leadership, and enhancing/developing operational infrastructure based on essential functions (e.g., governance and priority setting, steering, operations, resource mapping and coordination). Effectiveness requires redeploying resources and establishing new ones, building capacity (especially, but not limited to, personnel development and including strategies for addressing personnel mobility). Finally, processes for quality improvement (e.g., formative evaluation), impact evaluation, and accountability call for establishing standards and related indicators (see Center for Mental Health in Schools, 2013b).

Understanding the above lays a foundation for differentiating the process of *direct* implementation from the process of *facilitating* implementation.

Exhibit 2. Considerations Related to Direct Implementation and Facilitating Systemic Changes

NATURE & SCOPE OF FOCUS



Some Lessons Learned

Obviously, well-designed and carried out leadership coaching and mentoring makes a critical difference in effectively building capacity for systemic change. Thus, special research attention needs to be given to the problem of mentoring and coaching. To illustrate this critical matter, Appendix A uses our work to highlight examples of major tasks for coaches/mentors. Also see special references provided to coaching and the recent work of Wandersman and his colleagues on moving toward an evidence-based system for implementing innovations (Wandersman, Chien, & Katz, 2012).

In our work, we often hear mentors/coaches say: *It's all about relationship building*. However, they often do not distinguish between just building a few good personal relationships and the importance of developing an extensive network of productive working relationships that go beyond specific individuals (some of whom aren't interested in a personal relationship).

In our experience, fundamental and sustained system changes require developing effective *working* relationships among *all* who are involved. Such relationships emerge from establishing a set of steering, planning, and implementation mechanisms and weaving them into an effective operational infrastructure for systemic change. And from this perspective, we stress that mentors and coaches are only one element in such an infrastructure.

Facilitating Transformative Systemic Change

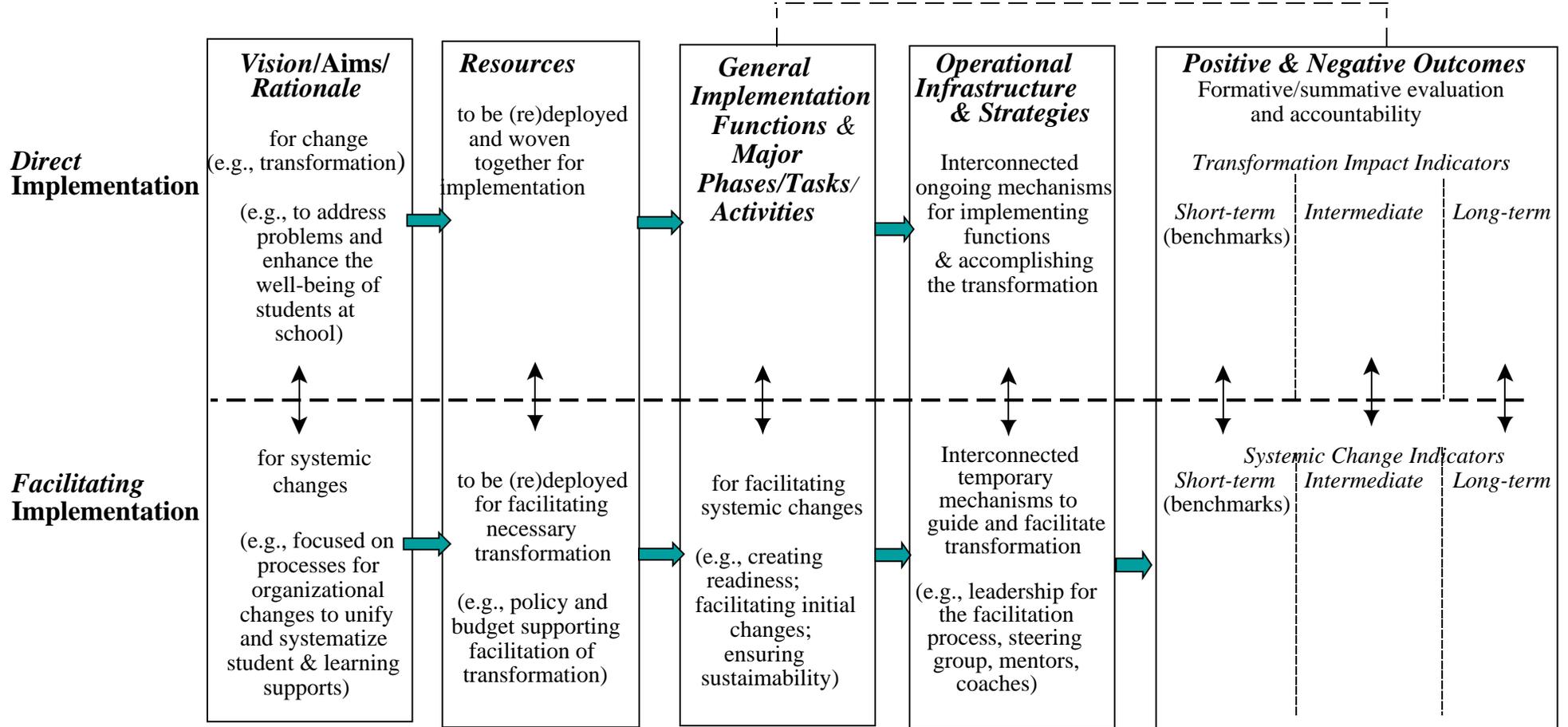
Successful implementation of systemic transformation in established institutions requires effective facilitation, especially when change is to take place at multiple sites and at multiple levels. While neither direct implementation nor the processes for facilitating implementation play out in a linear manner, logic models are helpful in planning strategically.

Facilitating Transformation: A Logical, albeit, Nonlinear Process

While the foundation for innovative change is a well articulated vision, clear aims, and a sound rationale, each facet of a logical framework stresses how to get there from here. So, in our school transformation work we use the linked logical frameworks illustrated in Exhibit 3 as a planning guide.

Note especially that Exhibit 3 underscores the need to allocate resources for both direct implementation and the processes involved in facilitating the transformation. Given that budgets for schools are always tight, we place considerable emphasis on identifying ways to redeploy and pull together existing resources and weave them with whatever new funds can be mustered, as well as any other resources that come along (e.g., extra-mural support).

Exhibit 3. Linking Logical Frameworks for Planning Direct Implementation and its Facilitation



Some Major Facilitative Problems

Among the most flagrant deficiencies associated with facilitating systemic change are failure to give sufficient strategic attention and time to

- (1) establishing an effective systemic change operational infrastructure,
- (2) creating readiness among a critical mass of key stakeholders in a setting where changes are to be introduced,
- (3) developing a design document to communicate and guide the work,
- (4) developing a multi-year strategic plan
- (5) ensuring policy is instituted that makes the changes a high priority,
- (6) reworking an organization's daily operational infrastructure to support development and sustainability of the changes.

(1) Operational Infrastructure for Accomplishing Systemic Change

Transforming systems requires a facilitative operational infrastructure consisting of mechanisms, such as steering groups, planning and implementation teams, and external and internal coaches (see Exhibit 4). Facets of this infrastructure are temporary – put in place until the transformation is successfully made. Effectively establishing such an infrastructure requires ensuring enough resources are devoted to developing the mechanisms and building their capacity to carry out a multi-year strategic plan.

In our work, the mechanisms and their functions are customized with respect to differences at state, regional, district, and school levels and differences within regions, districts, and schools. The customization is done to ensure that capability for accomplishing major tasks is not undermined (e.g., special attention is given to ensuring these mechanisms are not created as an added and incidental assignment for staff).

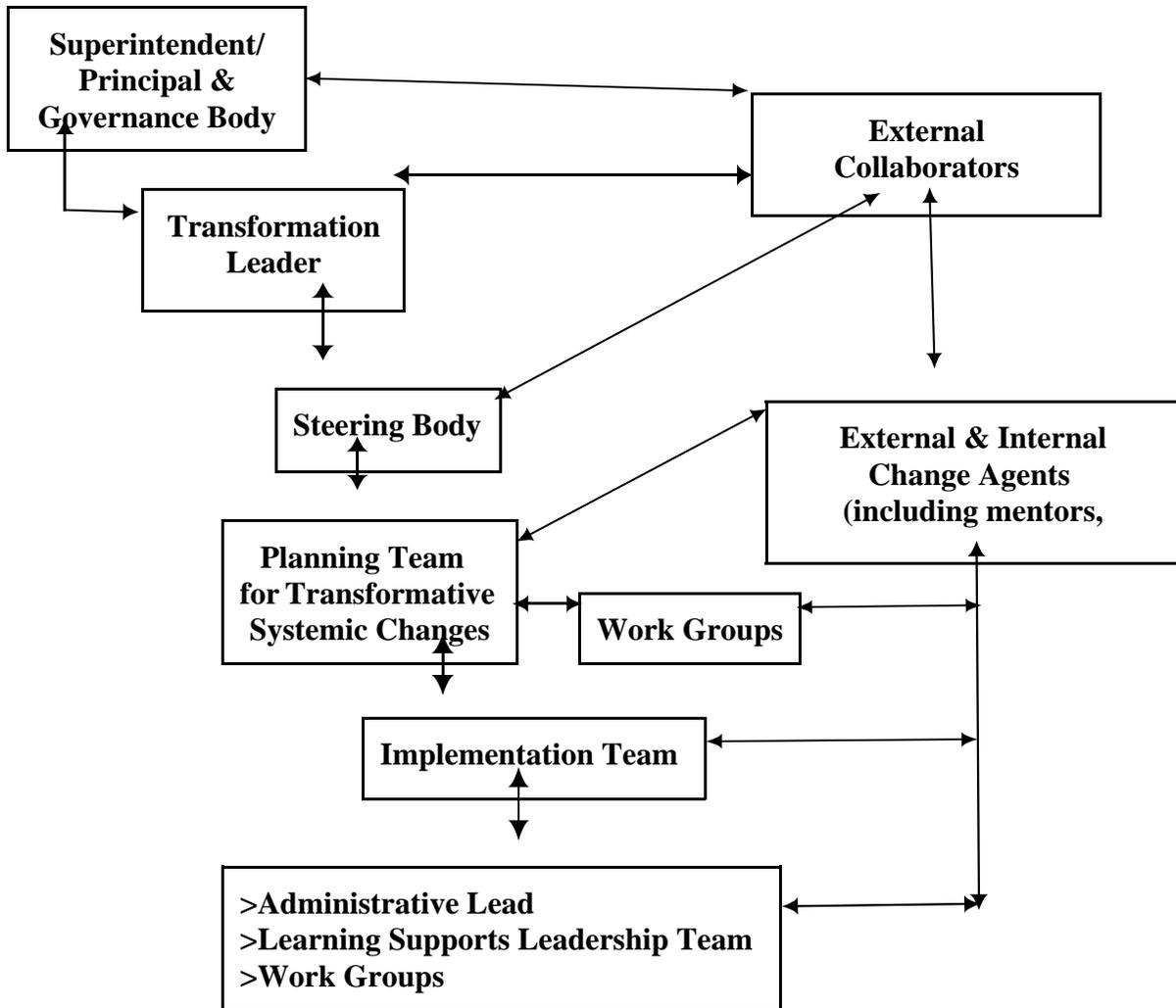
Establishing the operational infrastructure for systemic change is an essential task for mentors/coaches guiding the work. As each mechanism is established, the focus is on

- (1) enlisting a broad enough range of key leaders and staff (e.g., leaders directly involved with student and learning supports and others such as leaders for instruction, school improvement, data/evaluation; a given staff member may be part of several workgroups/teams)
- (2) ensuring group/team members understand each mechanism's functions and interrelationship (see Appendix B for examples)
- (3) providing the type of capacity building that ensures members understand the essence of what needs to be accomplished and are committed to the importance of the work*
- (4) assisting in development of clear action plans.

In sum, our work underscores the importance of using a significant portion of implementation resources for a temporary, but essential, operational infrastructure to facilitate the change process itself. At the same time, as discussed later, the daily operational infrastructure is reworked to continue developing and sustaining the protocol.

*Capacity building involves ensuring sufficient resources for the transformation (e.g., staffing; budget; guidance materials; external mentoring, coaching, development of effective of each systemic change mechanism, professional development, and TA for deepening understanding, commitment, and skills).

Exhibit 4. Prototype for a Temporary Operational Infrastructure to Facilitate Implementation



A couple notes of caution: We find that effective and integrated administrative leadership is key to the success of any systemic change initiative in a complex organization. And everyone needs to be aware of who is leading and is accountable for the development of the planned changes. We find it imperative that the leaders are specifically trained to understand systemic change. And, they must be sitting at key decision making tables when budget and other fundamental decisions are discussed. In our experience, this often is not the case. Moreover, we find it common for leaders to start strong but given the many challenges of their jobs and the complexities of systemic transformation, a good deal of focused ongoing support is needed to keep them from becoming distracted and/or overwhelmed. It is also common to find staff who viewed the work as a distraction from and a competition with their current job descriptions. Continuous monitoring is required to watch for and strategically address all this.

Some Lessons Learned

Operational infrastructure for change. We find that establishment of a transformation leader and implementation team is readily comprehended; however, the importance of establishing the other temporary mechanisms is less appreciated. In observing efforts to transform schools, we rarely find an operational infrastructure for facilitating implementation in place. More characteristically, ad hoc mechanisms (e.g., a coach, an implementation team) have been set in motion with personnel who often have too little training related to systemic change and without adequate processes for formative evaluation. And, it is common to find individuals and teams operating without clear understanding of functions and major tasks. Therefore, at the onset, we now strive to establish and build the capacity of such an infrastructure.

Champions/advocates. A well-chosen steering group can champion, guide, and remove barriers to moving the work forward. To do all this, the group needs a core of high level decision makers. In addition, we find it invaluable to cultivate an additional cadre of influential advocates who are highly motivated not just to help get things underway, but to ensure sustainability.

Administrative leader and workgroup staff. Systemic transformation requires that the work not just be tacked on to someone who is already overly committed. Job descriptions should be modified to reflect new responsibilities and accountabilities and provision must be made for capacity building related to the functions to be accomplished. (Sample job descriptions are provided in our Center's System Change Toolkit <http://smhp.psych.ucla.edu/summit2002/resourceaids.htm>).

Outreach to resistant parties. To the degree feasible, we find it useful to make continuous efforts to reach out and include in work groups those who are resistant to the transformation and who are reluctant to give up protecting their turf.

Revisiting agreements. As understanding of what is involved deepens, we have learned to review and revise initial agreements and procedures as necessary.

Protecting those making change. Because they are called upon to do many things that may be unpopular with some stakeholders, it is essential to put appropriate protections in place for those on the front line of change.

(2) Creating Readiness, Commitment, and Engagement

The rebirth of social network, systems thinking, and interpersonal influence thinking in diffusion, dissemination, and implementation research, and the reformulation of these bodies of literature in umbrella concepts of knowledge utilization and knowledge integration, has given greater attention to the receptor end of the research pipeline.

Green, Ottoson, Garcya, and Hiatt (2009)

Any move toward systemic change should begin with activity designed to create readiness by enhancing a climate/culture for change. Organization researchers in schools, corporations, and community agencies have clarified factors related to creating an effective climate for institutional change (e.g., Argyris, 1993; Fullan & Steigelbauer, 1991; Rami Shani,

Woodman, Pasmore, & Fredberg, 2011; Sarason, 1996). Moreover, there is a body of work suggesting that the success of a variety of initiatives depends on interventions that can empower stakeholders and enhance their sense of community (Beeker, Guenther-Grey, & Raj, 1998; Trickett, 2002). However, the proper design of such interventions requires understanding that empowerment is a multifaceted concept. In discussing power, theoreticians distinguish “power over” from “power to” and “power from.” *Power over* involves explicit or implicit dominance over others and events; *power to* is seen as increased opportunities to act; *power from* implies ability to resist the power of others (Riger, 1993).

In our experience, enhancing readiness for and sustaining innovations involves ongoing attention to daily experiences. Stakeholders must perceive systemic change in ways that make them feel they are valued members who are contributing to a collective identity, destiny, and vision. From the perspective of intrinsic motivation theory, their work together must be facilitated in ways that enhance feelings of competence, self-determination, and connectedness with and commitment to each other (Deci & Ryan, 1985; Reeve, Ryan, Deci, & Jang, 2007).

In general, we have extracted the following points from the literature as most relevant to enhancing readiness for change:

- a high level of policy commitment that is translated into appropriate resources, including leadership, space, budget, and time;
- incentives for change, such as intrinsically valued outcomes, expectations for success, recognition, and rewards;
- procedural options from which those expected to implement change can select those they see as workable;
- a willingness to establish mechanisms and processes that facilitate change, such as a governance mechanism that adopts ways to improve organizational health;
- use of change agents who are perceived as pragmatic – maintaining ideals while embracing practical solutions;
- accomplishing change in stages and with realistic timelines;
- providing progress feedback;
- institutionalizing mechanisms to maintain and evolve changes and to generate periodic renewal.

Some Lessons Learned

In our experience, the complexity of dissemination means that it is almost always the case that initial introductory presentations are only partially understood and this interferes with creating informed readiness. Planning for creating readiness, commitment, and engagement must account for a variety of strategies to deepen understanding and counter misinterpretations of intended changes. It is essential to do this early to minimize the problems that will arise from uninformed “grape vine” gossip. Of particular importance is ensuring understanding and commitment to the essential elements that must be implemented and sustained if there is to be substantive rather than cosmetic change. Furthermore, given the inevitability of staff changes, it is essential to plan a process for bringing newcomers up to speed.

(3) Document Delineating Prototypes for Proposed Changes

Development of a design document has been key in communicating and guiding the work at state and local levels. Examples of such a document were developed in Alabama, Louisiana, and Iowa (see <http://smhp.psych.ucla.edu/summit2002/trailblazing.htm>).

These examples demonstrate how to use a design document to articulate

- *the imperative* for the proposed transformative changes
- *policy changes* that ensure the intended transformation is not marginalized (e.g., that policy explicitly supports, at a high priority level, the development and sustainability of the impending changes)
- a prototype *intervention framework* (e.g., that illustrates the nature and scope of a unified and comprehensive system of student and learning supports)
- a prototype of an *organizational and operational infrastructure* (e.g., that illustrates how existing mechanisms need to be reworked to support and sustain the transformation)

As can be seen in the examples of design documents, organizations adopt and also adapt prototypes to account for situational opportunities, strengths, and limitations. We find that a critical role for us as mentors/coaches has been to guide the design preparation process and review and provide feedback to ensure essential facets of the prototype are not lost (Center for Mental Health in Schools, 2013b).

(4) Developing a Multi-year Strategic Plan

Strategic and action planning are key to effective implementation, sustainability, and replication to scale of any major transformation. Strategic planning is a systematic process that translates a desired future into a broad set of goals or objectives and a sequence of strategic activity to accomplish the major phases and tasks involved in achieving the transformation vision. The planning spells out an answer to: *How do we get there from here?*

In pursuing such planning related to schools, it is essential not to lose sight of a simple truth: *If innovations do not end up playing effective roles at a school and in the classroom, staff will not view them as worth the time and effort.* Thus, schools and classrooms must be the center and guiding force for all strategic education planning.

With this in mind, we work with sites to develop a multi-year strategic plan that

- (1) provides an *overview* of how the intended transformation will be pursued,
- (2) conveys a *detailed plan for initial direct implementation and its facilitation* (with an emphasis on strategies that anticipate sustainability, renewal, summative evaluation and accountability),
- (3) delineates strategic approaches to each key facet of facilitating implementation, such as establishing a temporary operational change infrastructure, capacity building, and formative evaluation.

The multi-year plan stresses objectives, steps, and tasks to be accomplished during each phase of systemic change and the general strategies for accomplishing them. The plan must account for implementing the prototype in a given setting and facilitating prototype replication and scale-up. (We have developed a *General Guide for Strategic Planning Related to Developing a Unified and Comprehensive System of Learning Supports* (<http://smhp.psych.ucla.edu/pdfdocs/genguide.pdf>).

Some Lessons Learned

In all strategic and action planning, it is essential to account for situational opportunities, strengths, and limitations. It is also necessary to address points meant to block change usually raised by those who are reluctant or resistant to making the transformation. Most fundamentally, we hear it argued that there is no money for the work. Effective responses to such challenges are essential to ensuring that the work is not undermined.* Regular reviews of plans and monitoring how they are carried out also is essential, and we find that, as the work proceeds and understanding deepens, initial agreements and procedures often must be revised.

*Our response with respect to the financial argument is that, for many LEAs and schools, it appears that about 25% of the budget is being expended to address barriers to learning and teaching. Strategic planning focuses on redeploying such resources and using them in ways that benefit from economies of scale.

(5) Ensuring Policy that Facilitates Transformation

Early in our work it became evident that efforts to address barriers to learning and teaching were marginalized in school policy (discussed in Adelman & Taylor, 2006). That is, school reform is currently dominated by a two-component systemic model that maintains a primary emphasis on improving instruction and school management and treats efforts to improve student and learning supports as a low priority. In our view, any efforts to introduce innovations designed to directly address learning, behavior, and emotional problems in schools must overcome this policy marginalization in order to be well-developed and sustained.

With this in mind, we focus extensively on strategies to elevate policy for addressing barriers to learning and teaching. In some situations, we have succeeded in elevating this facet of schooling to the point where it is cited as a third primary and essential component for school improvement.

At the same time, we recognize that two fundamental policy drivers are accountability and standards for guiding practice. So we have generated and advocated for (1) an expanded accountability framework that includes leading indicators of direct outcomes of student and learning supports (Adelman & Taylor, 2006) and (2) common core standards for a learning supports component (Center for Mental Health in Schools, 2013c).

Finally, with scale-up and sustainability in mind, we work with policy makers to ensure that sufficient resources are allocated for establishing and building the capacity of the temporary

operational infrastructure for accomplishing systemic change. Furthermore, we stress a multi-year plan because implementing and scaling-up a comprehensive prototype almost always requires strategically *phased-in* change over 3-5 years .

(6) Reworking Daily Operational Infrastructure

Organizational culture and priorities are maintained by a daily operational infrastructure. At all organizational levels of public education, we find the daily operational infrastructure reflects the policy marginalization of efforts to address barriers to learning and teaching. This fundamentally works against transformation.

This realization led us to design of a prototype framework for a transformed daily operational infrastructure and resource aids to enable its development. And because we know that for the transformation to be meaningful it has to occur within schools, we designed the prototype to begin at the school level. Then, to enhance outcomes, produce efficiencies, and achieve economies of scale, we added mechanisms to connect a family or complex (e.g., feeder pattern) of schools and establish collaborations with surrounding community resources. District level reworking of the operational infrastructure parallels the framework at the school level with a view to supporting the changes at school and school complex levels. (See the Center’s Systemic Change Tool kit section on reworking infrastructure – <http://smhp.psych.ucla.edu/toolkitb3.htm>).

Note that the protocol for reworking the daily operational infrastructure includes embedding the functions of the temporary infrastructure for facilitating implementation of the systemic changes. That is, functions necessary for the protocol’s continuing development, sustainability, and creative renewal are embedded into the daily operational mechanisms.

Some Lessons Learned

Frequent leadership changes (e.g., superintendents, principals, other key stakeholders) can undermine agreements. This requires early attention to institutionalizing policies and procedures so they can withstand such changes. It also calls for planning strategies to effectively bring new arrivals up to speed.

Focusing demonstrations at one or two sites can work against replication and can contribute to maintaining existing societal inequities. Addressing inequities requires effective replication and sustainability that addresses the scale of need.

A related problem is escaping “project mentality” (sometimes referred to as “projectitis”). We find a common tendency is for those involved in the transformation process to think about their work only as a temporary project (e.g., “It will end when this superintendent/principal leaves.”). This mind set often leads to a general view that the work doesn’t warrant serious engagement. The history of schools is strewn with valuable innovations that were not sustained.

Concluding Comments

A paradox in bringing empirically supported prototypes into real world settings is that there is no empirically supported process for facilitating implementation. And, clearly, prototypes are not easily replicated in institutions when major systemic changes are required. The many steps and tasks involved in disseminating and diffusing innovative prototypes are especially challenging.

Fundamental institutional changes call for a high degree of commitment and relentlessness of effort. Facilitating such changes is not straight-forward, sequential, or linear. Rather, the work proceeds and changes emerge in overlapping and spiraling ways; time frames for building capacity to accomplish the changes must be realistic; change agents must be opportunistic. The work can be frustrating and tiring and those leading the way sometimes become professionally vulnerable.

Success can be ephemeral. A constant concern is failure to implement essential elements with fidelity. And fidelity problems compound with efforts to replicate and sustain a protocol to scale. The underlying reasons for a lack of faithful implementation are many, including policy, planning, and facilitation deficits. Such factors also affect sustaining the work at a site and replicating it on a large scale. These are all matters for in-depth study.

Despite the myriad political and bureaucratic difficulties involved in transforming institutions, we remain confident that research will increasingly clarify better strategies for facilitating institutional transformation. As we stated in the introduction, the primary purpose of this report is to help broaden the discussions of translation, dissemination, and implementation in ways that will focus not only on *direct* implementation but on *facilitating* institutional changes.

We look forward to continuing to learn as research on dissemination and implementation matures and hope to contribute to that body of work. And we look forward to responses to this report that can help in both these respects.

At the same time, we recognize that dissemination and implementation of improvements are matters of such pressing concern in many institutions that immediate applications must be made. So we will continue to extrapolate from a wide range of available literature as we bring protocols for new directions into schools and facilitate institutional transformation.

*What the best and wisest parent wants for his [or her] own child,
that must the community want for all of its children.
Any other ideal for our schools is narrow and unlovely;
acted upon, it destroys our democracy.*
John Dewey, *The School and Society*, 1907

Appendix A

Illustrating the Key Role of Coaches/Mentors: Some Major Tasks Related to Addressing a Unified and Comprehensive System of Learning Supports is Established

In our work, the essential role of coaches and mentors is to prepare leaders to

- Deepen understanding of and enhance committed readiness for what is involved in
 - >unifying & developing a comprehensive learning supports system
 - >making systemic changes
- Establish and build the capacity of the administrative leader for the learning supports component and of a Learning Supports Leadership Team
- Engage a critical mass of key stakeholder groups (building interest and consensus for the work and garnering feedback and support)
- Guide development of a design document and strategic system change plan
- Establish and build the capacity of a set of system change mechanisms
- Build the capacity of work group(s) to
 - >map prevailing status of student and learning supports within the district (e.g., current activity, gaps, redundancies, priority needs, etc.) using the intervention framework in the design document
 - >analyze the resource map and priority needs and recommend
 - >>how to unify the work into a system
 - >>yearly priorities for developing the system into a comprehensive approach
 - >analyze and recommend changes that fit with the design for a unified and comprehensive system of learning supports with respect to
 - >>current policies (bulletins, guidelines, etc.)
 - >>current operational infrastructure
 - >>current programs and initiatives
 - >>possible ways to redeploy resources
 - >>adapt benchmarks & mechanisms to monitor progress at district/school levels
- Provide a set of recommendations for change that will be submitted to the agency head (e.g., changes in policy and operational infrastructure)
- Fully integrate the system as a primary and essential component of school improvement
- Enhance component visibility, communication, sharing, and problem solving (e.g., within the district and beyond)
- Establish a system for continuous quality improvement and evaluation of impact and integrate it into regular planning, evaluation, and accountability
- Connect resources to enhance effectiveness and achieve economies of scale (e.g., weave resources at SEA/LEA levels; connect a "Family" of schools/a feeder pattern)
- Enhance outreach to establish formal collaborative linkages with community resources
- Update and deepen resource mapping and analyses
- Plan and implement continuous capacity building and technical assistance
- Celebrate progress

Appendix B

About the Functions of the Systemic Change Mechanisms

Once the design document is produced, the need is to establish and prepare a set of temporary systemic change mechanisms. These are illustrated in Exhibit 4. Below are some of the key functions of each mechanism. Note these functions are working examples meant to clarify what each does and how it interacts with the others.

Superintendent and Governing Body

Functions

- appoints the transformation leader
- ensures policy is in place to facilitate unifying and developing a comprehensive system of learning supports and implementing the necessary systemic changes
- uses a variety of platforms and venues to indicate championship of the new system and to inform and engage key stakeholders
- reviews regular reports on progress and addresses barriers that interfere with moving forward
- institutionalizes the changes into policy, the organizational and operational infrastructures, strategic plans, budgets, and standards and accountability indicators
- uses external collaborators to obtain consultation, professional development, and technical assistance as necessary
- celebrates progress

Transformation Leader – In our work, this logically is the administrative leader for student and learning supports.

Functions

- provides leadership and oversight in maintaining the vision and supporting progress
- works with superintendent and governing body to facilitate the above functions
- establishes and works with all systemic change mechanisms
- ensures provisions are made for the capacity building of each mechanism to ensure each can carry out its functions effectively
- provides opportunities for interchange & additional in-depth presentations to build a critical mass of consensus for and engagement in systemic changes
- works with external collaborators to obtain consultation, professional development, and technical assistance as necessary
- monitors and evaluates progress and addresses barriers that interfere with moving forward
- provides regular reports on the work to superintendent and governing body
- celebrates progress

Steering Body – consists of "champions" who agree to steer the process. (Some members of the group may also be internal coaches and mentors.) The members must have an in-depth understanding of what is involved in unifying and developing a comprehensive system of learning supports and be highly motivated not just to help get things underway but to ensure sustainability.

Functions

- provides a broad-based and potent leadership and oversight mechanism for maintaining the vision and overseeing and supporting progress
- provides support for the Transformation Leader
- champions the new system and ensures that key stakeholders are informed and engaged
- arranges for and analyzes the mapping of resources and infrastructure and delineates implications for systemic change
- reviews and approves the action plan the Planning Team develops
- monitors and evaluates progress and addresses barriers that interfere with moving forward
- works with external collaborators to obtain consultation, professional development, and technical assistance as necessary

- recommends policy changes to facilitate unifying and developing a comprehensive system of learning supports and implementing the necessary systemic changes
- uses a variety of platforms and venues to indicate championship of the new system
- recommends ways to institutionalize and sustain the systemic changes (e.g., changes in organizational and operational infrastructure, strategic plans, and budgets; capacity building)
- celebrates progress

Composition. The Steering Group should not be too large. For example, membership should include a few well-connected "champions" and the key change agents (e.g., the administrative leader and other system change staff) who have responsibility for implementation.

Process. Initially, the group probably needs to meet formally once a week, with informal contacts among members as needed. The external collaborators can help provide capacity building input for the group (and the other systemic change mechanisms as they are established). Progress monitoring and process problem solving requires regular input from key change agents. Periodically, to work against the perception that it is a closed, elite group, it can host "focus groups" to elicit input and feedback, provide information, and problem solve.

Planning Team for Transformative Systemic Changes – This team develops action plans accounting for both direct implementation and systemic change considerations. The focus of initial action planning is on start-up and phase-in. These involve specific steps and can be broken down into specific tasks for action planning and monitoring of progress. The members must have an in-depth understanding of what is involved in unifying and developing a comprehensive system of learning supports and be highly motivated not just to help get things underway but to ensure sustainability.

Functions

- prepares draft action plan for start-up and phase-in
- establishes work groups as necessary to help with plan development
- submits plan for revision and eventual approval
- once approved, prepares a draft plan for sustainability
- submits sustainability plan revision and eventual approval
- ensures the Implementation Team develops the capacity to carry out the plan effectively
- develops a benchmark tool to monitor progress
- works with external collaborators to obtain consultation, professional development, and technical assistance as necessary
- adapts and reworks plans as needed

Composition. The Planning Team should not be too large. It needs members who are experienced in formulating action plans and who understand the limitations and gaps in the current system. Logical members are representatives from the Steering Group, the Design Team, and others involved in leadership for school improvement and providing learning/student supports. Where special expertise is needed, work groups can be used.

Process. This should be a time-defined task requiring about 4 weekly meetings, with drafts prepared and shared between meetings. The focus in meetings is on clarifying feedback and guidance for improving sections of the plan that are under development. The external collaborators can help provide capacity building input for the group. To ensure input from those who have been identified as key stakeholders, the team can share the working products of their efforts and encourage feedback. Such an interactive process helps to build consensus and create readiness for action.

Implementation Team – This team facilitates both direct implementation and systemic change as laid out in the action plan.

Functions. Focus is on implementing specific start-up and phase-in action plan with a view to sustainability. Examples of tasks include

- establishing operational infrastructure for unifying and developing a comprehensive system of learning supports (e.g., Administrative Lead, Learning Supports Leadership Team, Work Groups)
- ensuring infrastructure establishes processes for communication, visibility of the work, information management, problems solving, etc.
- working to increase stakeholder readiness for, commitment to, and engagement in planned changes
- ensuring capacity building for implementation
- ensuring progress is monitored and that plans are revised as needed
- working with external collaborators to obtain consultation, professional development, and technical assistance as necessary
- celebrating progress

Composition. At each level (department, region, district, school), an Implementation Team consists of 2-3 personnel who are specifically designated and trained to facilitate the planned systemic changes at that level.

Process. At each level (department, region, district, school), an Implementation Team works with the leader who is responsible for the systemic changes. At the department and regional levels, the transformation leader and the Steering Team can constitute an implementation team.

At the district level, each district will need to develop such a team. The team will first facilitate the changes at the district level and then establish a pattern and schedule for working with each participating school and families of schools.

The external collaborators/change agents can help provide capacity building input for all involved in implementation.

Examples of Benefits from Drawing on External Expertise

External Change Agents (including mentors, coaches). Such change agents can add major value in deepening understanding and facilitating implementation of a unified and comprehensive system of learning supports and doing so in ways that enhance sustainability.

Functions. Focus is on facilitating the development and operation of all mechanisms, including

- capacity building (including mentoring and coaching) with an emphasis on creating readiness and commitment both in terms of motivation and skills, team building, providing technical assistance, and organizing basic interdisciplinary and "cross-training"
- priority setting
- support in carrying out specific tasks
- communication, liaison, interface among mechanisms
- formative evaluation, progress monitoring, rapid problem solving, and accountability
- ongoing support
- recommending revisions in planning as needed
- celebrating progress

External Collaborators (e.g. UCLA)

Functions

- providing prototypes and expertise for both direct implementation and systemic change considerations
- providing professional development and ongoing technical assistance
- customizing and creating additional implementation and outreach tools as needed
- championing and sharing the work nationally and providing regional and state level platforms
- including the work as part of new directions for student and learning supports dissemination and diffusion efforts
- connecting leadership with other state and district leaders who are implementing the work in order to help problem solve and share best practice
- supporting overview documentation and progress/outcomes/impact
- celebrating progress

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