A Center Report . . .

Implementation Science and Complex School Changes

(2021)

Intro: Four Interrelated Considerations in Making Multifaceted and Complex Sustainable Changes at a Site and System-wide

Part I: Multifaceted Interventions Exponentially Increase Implementation Complexity

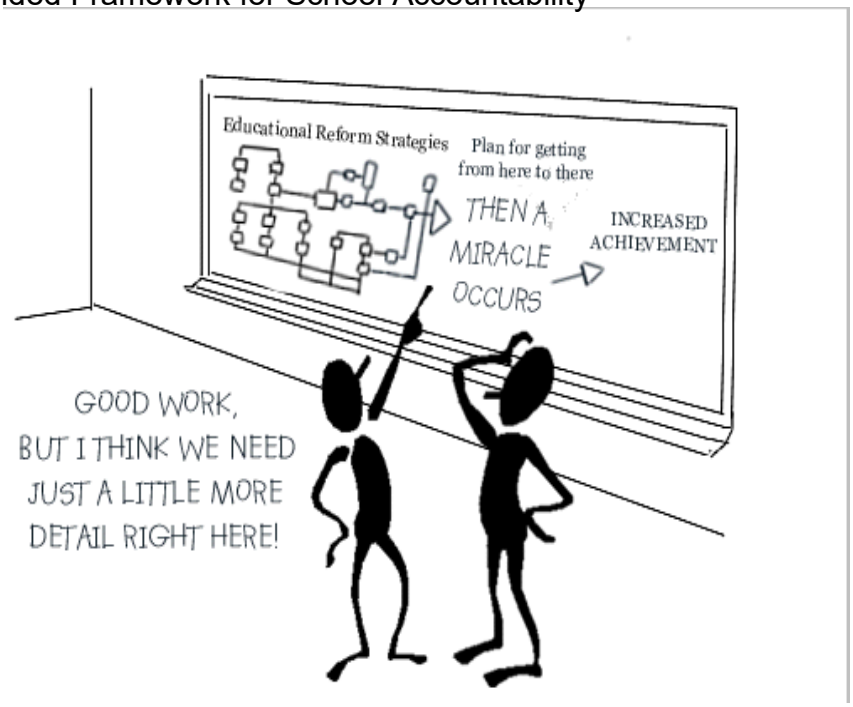
Part II: Reworking Operational Infrastructure at a Site to Maximize Initial Implementation, Daily Operation, and Improvement of Multifaceted Interventions

Part III: Pursuing System-wide Replication to Scale, Sustainability, and Renewal

Part IV: Policy Support/Revision

Appendix A – Contents of *Addressing Barriers to Learning and Teaching: In the Classroom and Schoolwide*

Appendix B – An Expanded Framework for School Accountability



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Implementation Science is the study of factors that influence the full and effective use of innovations in practice. The goal is not to answer factual questions about what is, but rather to determine what is required.

National Implementation Research Network (2015)
http://tmwcenter.uchicago.edu/wp-content/uploads/2018/12/Metz-and-Briggs-IS-and-HS-Presentation-11.27.18.pdf

Implementation science focuses on producing new, generalizable knowledge about effective techniques for supporting program adoption and sustainment. Implementation practice applies that knowledge to install programs and practices in routine service delivery settings.

Aaron Lyon Co-Director
UW School Mental Health Assessment, Research, and Training (SMART) Center
https://education.uw.edu/sites/default/files/Implementation%20Science%20Issue%20Brief%20072617.pdf

Implementation science strives to understand the critical factors and conditions that ensure effective practices are successfully carried out and sustained in typical service settings, whether that practice is just being developed or has already built substantial evidence. It's a field that recognizes that real life often doesn't line up with the parameters of a controlled evaluation — and that leadership qualities and transitions, communication and community dynamics can play a significant yet underappreciated role.

Annie E. Casey Foundation (2017)
https://www.aecf.org/blog/what-is-implementation-science/

Preface

It is encouraging to see increasing attention to and support for transferring research-based interventions into everyday practices in fields such as education, mental health, and public health. The attention has reinvigorated research in what are commonly referred to as the translation, dissemination, and implementation problems. The work draws on several domains of research and continues to advance the field of *Implementation Science.*

Much of the discussion in the implementation 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 implementation is 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 overlapping contexts. Others stress the nature and scope of the intervention, participant characteristics, and more.

Our intent in this report is to contribute to discussions about what is involved in efforts to implement the type of *broad-based, multifaceted system changes* seen as essential for fundamentally improving schools. We know that many stakeholders are concerned more with moving a *narrowly-based* intervention into a school. We think they can extrapolate from our broader focus. We also know that others have offered frameworks and models related to system change. Our intent here is not to review and compare; rather we want to share the evolving frameworks that guide our work.

We begin by stressing four interrelated considerations involved in making multifaceted and complex sustainable changes at a site and systemwide. Then, we highlight how multifaceted interventions exponentially increase implementation complexity. This leads to a discussion of the need to rework operational infrastructure at a site to maximize initial implementation, daily operation, and improvement of multifaceted interventions. We move on to illustrate matters related to pursuing systemwide replication, sustainability, and renewal. We conclude with a look at the necessity of ensuring policy support, and the possible need for policy revision.

We thank Jill Locke and Maria Hugh for their review and feedback of the first draft of this report. We now invite all who read this to provide additional input for a subsequent revision. And we take this opportunity to thank our colleagues and students from whom we continuously learn.

Howard Adelman & Linda Taylor

Implementation Science and Complex School Changes

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

Those concerned with advancing implementation science frequently focus on efforts to bring new practices into schools.[1] Much of the work has involved implementing relatively micro-level changes (e.g., a specific empirically-supported practice). Comparatively little attention has been given to efforts to implement the type of broad-based, multifaceted system changes seen as essential in improving institutions such as schools. Such improvements require sustainable implementation of complex, often transformative, changes at a school and district-wide.[2]

As schools reopen after the COVID-19 disruption, system change is the order of the day. A particular concern is for addressing the needs of an increased number of students manifesting behavior, learning, and emotional problems. Appropriate and effective handling of these students will require a major transformation in how student and learning supports are provided. Attaining more than cosmetic changes will require understanding how major systemic changes are accomplished and how to deal with the inevitable challenges that arise.

Over the years we have pursued fundamental changes to improve how schools address barriers to learning and teaching. Our work has benefitted from what now is designated implementation science, and we frequently have shared what we have been learning about system change in schools.[3] Our experiences have highlighted how much more research is needed to guide multifaceted, complex school improvement.

In this report, we outline what we have learned and formulated conceptually and in practice about pursuing multifaceted and complex changes in school systems. Specifically, we use examples from our work to illustrate that substantively changing organizations such as a school system in sustainable ways involves dealing with four major interrelated considerations.

Four Interrelated Considerations in Making Multifaceted and Complex Sustainable Changes at a School and Systemwide

Our research and development efforts have led us to understand that the following matters are fundamental in making multifaceted and complex system-wide changes (see Exhibit 1):

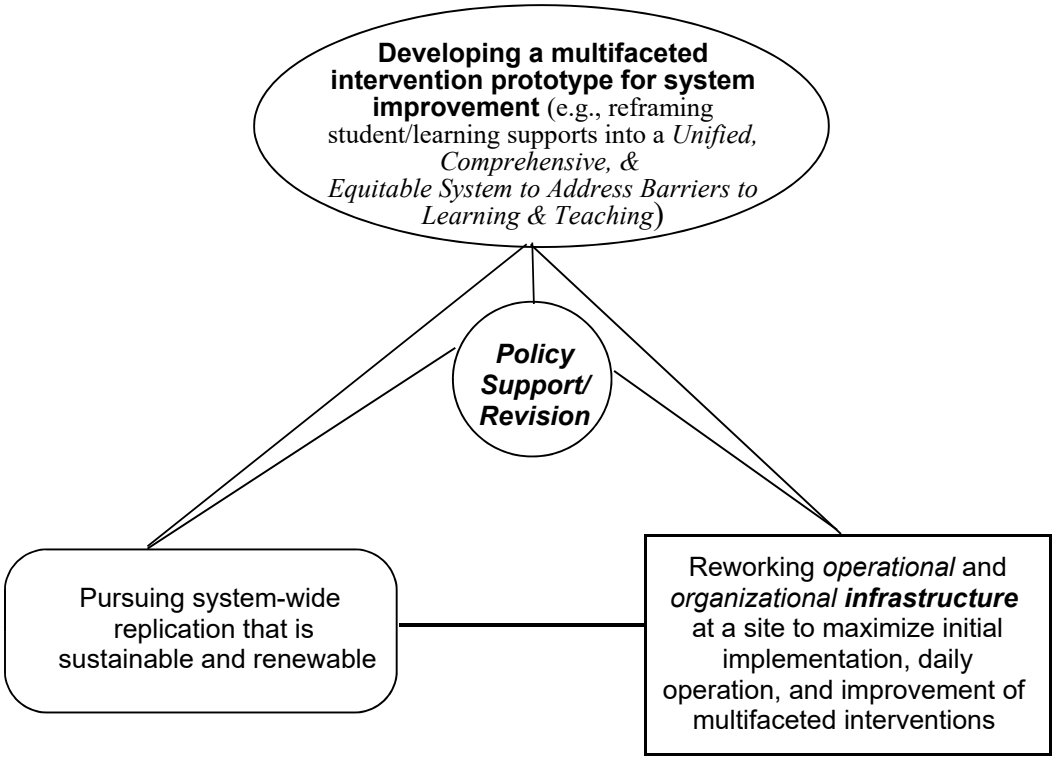
- *Developing multifaceted and complex intervention prototypes for system improvement* – pursuing R&D, dissemination, diffusion (e.g., in our work, the focus is on a prototype for a unified, comprehensive, and equitable system of interventions to address barriers to learning and teaching in-classrooms and schoolwide)
- *Reworking the operational and organizational infrastructure* at a *site to maximize initial implementation, daily operation, and improvement of complex interventions* (e.g., ensuring relevant administrative and team leadership and workgroup support)
- *Pursuing system-wide replication that is sustainable and renewable* (e.g., establishing change agent mechanisms, framing the phases, steps, and tasks involved in "getting from here to there" in terms of system-wide replication and with appropriate recognition of the challenges)
- *Policy support/revision* – ensuring a *high level* of policy support is in place or is enacted so that the above considerations are pursued effectively (e.g., in our work, the need is to end the marginalization of student and learning supports by broadening policy for school improvement to fully integrate, as primary and essential, a comprehensive, multifaceted, and cohesive system for addressing barriers to learning and teaching)

As Exhibit 1 highlights, implementing multifaceted and complex interventions is not a linear process. The work begins with developing a prototype for the desired intervention. The research and development activity may or may not involve changes in current policy. However, policy support is essential from the moment the prototype is translated into initial implementation, starting with processes for dissemination and diffusion.[4] Effective system changes involve simultaneous and transactional attention to reworking the operational and organizational infrastructure for daily implementation and organizing systemic *change mechanisms* for *initial* implementation, replication to scale, and sustainability.

People, of course, are a critical element in all facets of systemic change. Implementation practices must address the range of individual differences in stakeholders' motivation and capability.

Exhibit 1

Four Fundamental and Interrelated Considerations in Making Multifaceted and Complex Systemic Changes*



*Additionally, because of the overemphasis on using extrinsic reinforcers in all aspects of efforts to improve schools, we find it essential to re-introduce a focus on ***intrinsic motivation*** in planning related to all four concerns.

A brief discussion of each of these matters follow. The examples and lessons learned highlight the problems and nonlinearity of complex school changes.

Part I: Multifaceted Interventions Exponentially Increase Implementation Complexity

> Transformative research involves ideas, discoveries, or tools that radically change our understanding of an important existing scientific or engineering concept or educational practice ....
>
> National Science Foundation

Implementation science must do more to address the products from transformative research and development that are designed to make systemwide changes. This is especially the case with respect to multifaceted intervention prototypes for improving school systems.

The widespread consensus is that schools will undergo fundamental changes in the coming years. Given the federal commitment to science-based schooling, research and development is generating prototypes for sustainable systemwide improvements. The nature and scope of such prototypes will present complex implementation challenges.

To illustrate the point, this section of the report briefly describes the prototype our research and development efforts has generated. Our work focuses on transforming how schools address barriers to learning and teaching. The need for a better approach reflects findings that current student/learning supports are highly fragmented, marginalized in school improvement policy and practice, inequitable in meeting the needs of students, and contribute to counterproductive competition among staff for sparse resources. Improving the situation requires implementing transformative systemic changes.

An Example of a Multifaceted and Complex Prototype for School Improvement

The prototype highlighted here is designed to unify student/learning supports and then develop the various interventions into a comprehensive and equitable system.[5] As a primary school improvement component, it is meant to be an essential facet for schools accomplishing their instructional mission, not an added agenda to that mission.

The prototype has two facets:

(a) a full continuum of integrated intervention subsystems that interweave school–community–home resources and

(b) an organized and circumscribed set of classroom and schoolwide student and learning support domains.

The Continuum

Conceiving interventions along a continuum is a long-standing convention. In the field of education, the recent trend has been to depict the continuum as a tiered model – widely referred to as a *multitier system of supports* (MTSS). This framework is specified in the Every Student Succeeds Act (ESSA). The framework as conceived is sketchy and limited.

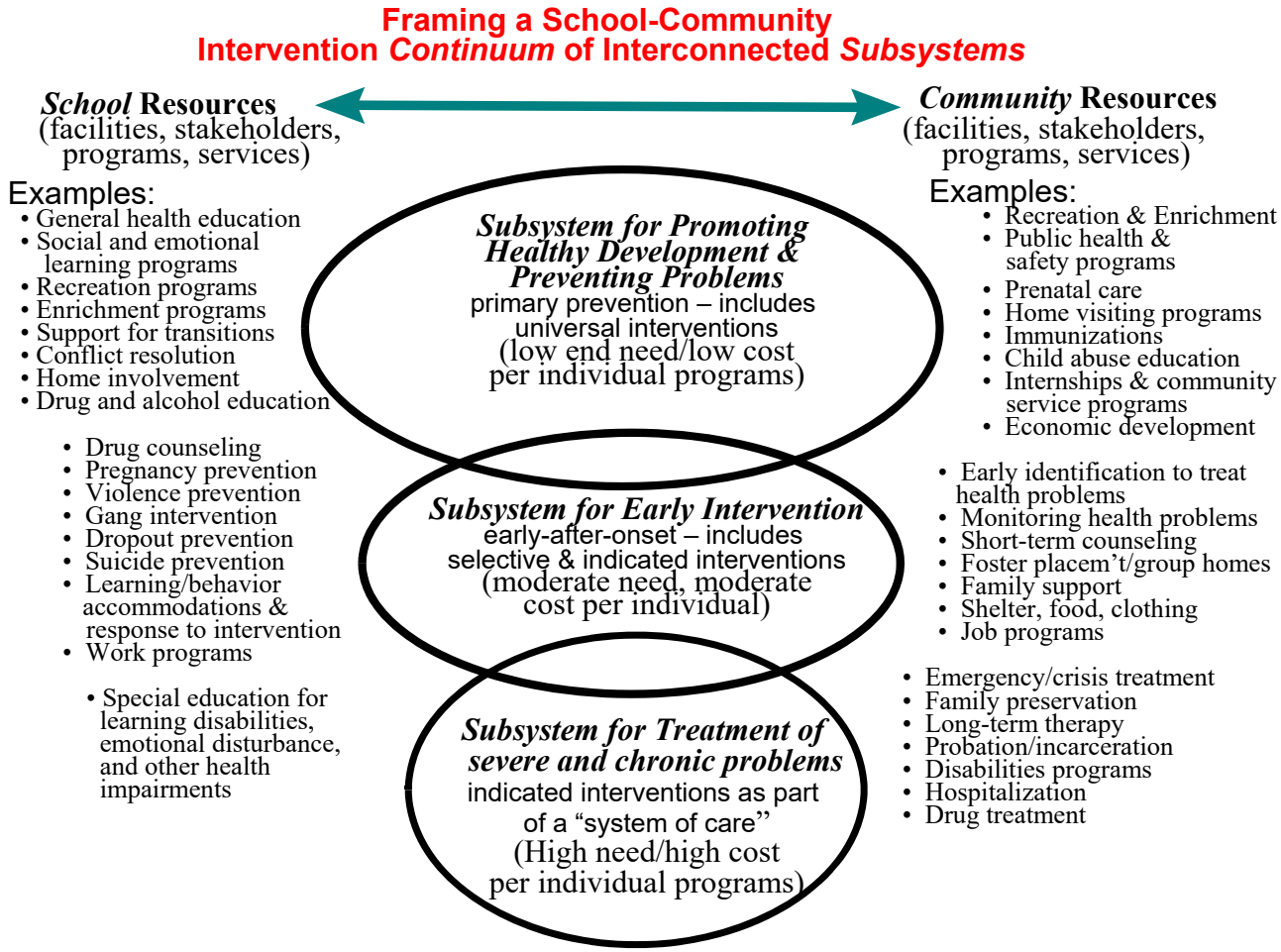
The continuum used in our work is illustrated in Exhibit 2. It conceives the intervention continuum as intertwined sets of subsystems. The subsystems focus on

- promoting whole child development and preventing problems
- addressing problems as soon as they arise
- providing for students who have severe and chronic problems.

The intent at each subsystem level is to braid together a wide range of school and community (including home) resources.

Note that the subsystems are illustrated as tapering from top to bottom. This is meant to convey that if the top subsystem is designed and implemented well the number of students needing early intervention are reduced and fewer need "deep-end" interventions.

Exhibit 2



Domains of Student/Learning Supports

After analyzing typical "laundry lists" of district programs and services used to address barriers to learning and teaching, it became clear that framing a prototype for a system of student/learning supports requires more than conceiving a continuum of intervention. It is necessary in addition to organize interventions cohesively into a circumscribed set of well-designed and delimited domains that reflect a school's daily efforts to provide student/learning supports in the classroom and schoolwide.[6] Our analysis led us to group what we found into the following six domains:

- *Embedding student and learning supports into regular classroom strategies to enable learning and teaching* (e.g., working collaboratively with other teachers and student support staff to ensure instruction is personalized with an emphasis on enhancing intrinsic motivation and social-emotional development for all students, especially those experiencing mild to moderate learning and behavior problems; reengaging those who have become disengaged from instruction; providing learning accommodations and supports as necessary; using response to intervention in applying special assistance; addressing external barriers with a focus on prevention and early intervention);
- *Supporting transitions*, including assisting students and families as they negotiate the many hurdles related to reentry or initial entry into school, school and grade changes, daily transitions, program transitions, accessing special assistance, and so forth;

- *Increasing home and school connections and engagement*, such as addressing barriers to home involvement, helping those in the home enhance supports for their children, strengthening home and school communication, and increasing home support for the school;
- *Responding to—and, where feasible, preventing—school and personal crises* (e.g., by preparing for emergencies, implementing plans when an event occurs, countering the impact of traumatic events, providing follow-up assistance, implementing prevention strategies, and creating a caring and safe learning environment);
- *Increasing community involvement and collaborative engagement* (e.g., outreach to develop greater community connection and support from a wide range of resources—including enhanced use of volunteers and developing a school–community collaborative infrastructure);
- *Facilitating student and family access to special assistance*, first in the regular program and then, as needed, through referral for specialized services on and off campus.

Combining the Continuum and Domains

As illustrated in Exhibit 3, combining the continuum and the six domains of supports provides an intervention framework that can guide development of a unified and comprehensive system of learning supports.

Exhibit 3

Intervention Framework for the Third Component

		Integrated Intervention Continuum (levels)		
		Subsystem for promoting healthy development & preventing problems	Subsystem for early intervention	Subsystem for treatment ("system of care")
Categories of Classroom & Schoolwide Student and Learning Support Domains	Classroom-based learning supports	e.g., personalized instruction	e.g., special assistance in the classroom provided as soon as a problem arises	e.g., referral for specialist assistance
	Supports for transitions	e.g., welcoming newcomers and providing social and/or academic supports	e.g., when problems arise, using them as teachable moments to enhance social-emotional development and learning	e.g., personalized supports for students returning to school from incarceration
	Home involvement & engagement	e.g., outreach to attract and facilitate participation of hard-to-reach families	e.g., engaging families in problem-solving	e.g., support services to assist families with addressing basic survival needs
	Community involvement & collaborative engagement	e.g., outreach to recruit volunteers	e.g., developing community links and connections to fill critical intervention gaps	e.g., outreach to reengage disconnected students and families
	Crisis response & prevention	e.g., promoting positive relationships	e.g., immediate response with physical and psychological first aid	e.g., referral for follow-up counseling
	Student & family special assistance	e.g., enhancing coping and problem-solving capability	e.g., providing consultation, triage, and referrals	e.g., ongoing management of care related to specialized services
		Accommodations for differences & disabilities		***Specialized assistance & other intensified interventions (e.g., special education, school-based interventions)***

The matrix framework provides a guide for organizing and evaluating a system of student/learning supports and is a tool for (a) mapping existing interventions, (b) clarifying which are evidence-based, (c) identifying critical intervention gaps, and (d) analyzing resource use with a view to redeploying resources to strengthen the system. As the examples illustrate, the framework can guide efforts to embed supports for compensatory and special education, English learners, psychosocial and mental health problems, use of specialized instructional support personnel, adoption of evidence-based interventions, integration of funding sources, and braiding in of community resources. The specific examples in the matrix are illustrative of those that schools already may have in place. Using the framework to map and analyze resources provides a picture of system strengths and gaps. Priorities for filling gaps then can be included in strategic plans for system improvement; outreach to bring in community resources can be keyed to filling critical gaps and strengthening the system.[7]

Over time, we have developed detailed discussions and guides related to the practices outlined by the prototype framework (see Appendix A).

We know that our prototype is not the only way to conceive transforming student/learning supports. We also know that the problems indicated by available research indicate the need for an approach that is multifaceted and transformative. And that means efforts to implement whatever is developed will be complex.

The rest of this report illustrates some of the implications for implementation science of pursuing complex institutional changes and offers some of the lessons learned from our efforts to do so in school systems.

Part II: Reconceiving Infrastructure at a Site to Maximize Initial Implementation, Daily Operation, and Improvement of a Multifaceted Interventions

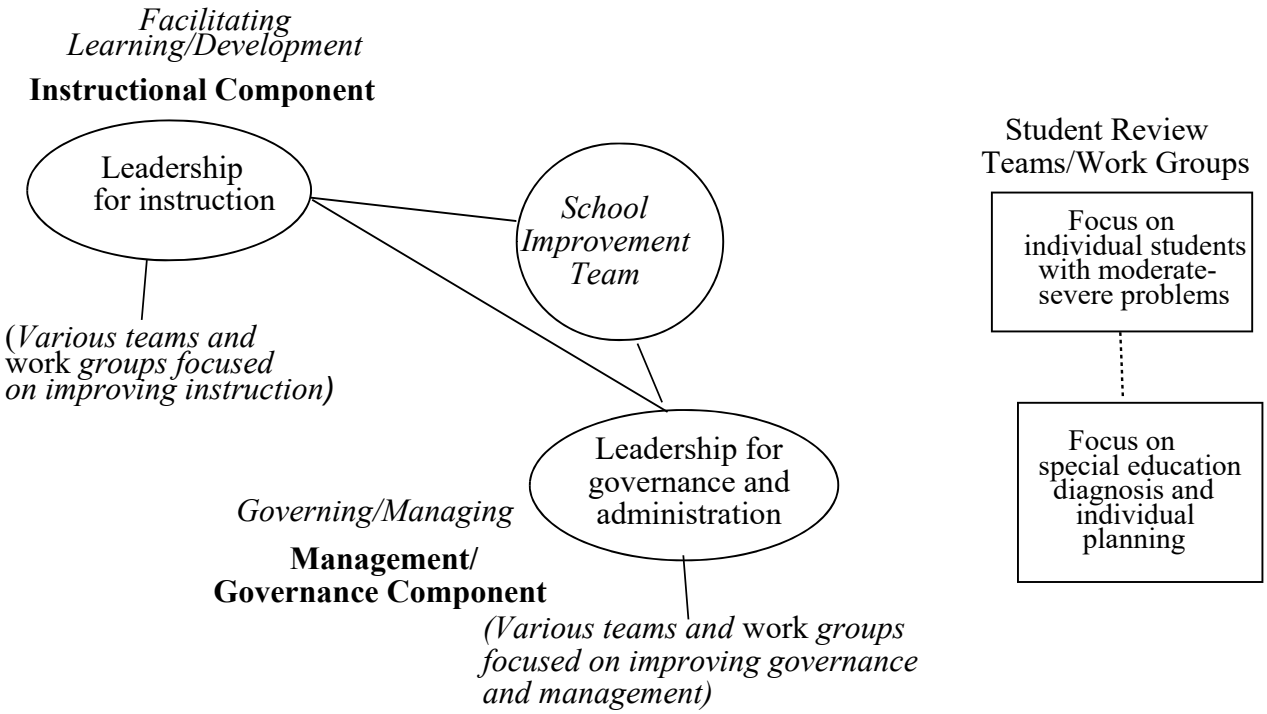
Implementing multifaceted interventions at a site requires complex *systemic change* processes. As implementation research stresses, system change requires leadership and developing a climate for desired changes. Included are concerns for overcoming stakeholder negativity, creating readiness, fostering commitment, personnel development, building organizational capacity, providing essential ongoing supports, and much more. These are matters we cover in Part III.

Our emphasis in this section is not on systemic change per se. It is on a critical implementation concern that is given too little attention in the literature. Our focus here is on the need to *rework the operational and organizational infrastructure at a site* to support initial and ongoing daily implementation and improvement. This is not a matter of adding an implementation team. It is about assuring there is ongoing administrative leadership, a system improvement team, and workgroups that can ensure ongoing advocacy and development of what has been adopted..

To illustrate the matter, we briefly describe the operational infrastructure changes at school sites that were needed in order to implement the intervention prototype described in Part I of this report.

About Reworking Operational Infrastructure for Student/Learning Supports

Because student and learning supports currently are so-marginalized, the operational infrastructure at schools reflects this state of affairs. It tends to look like this:



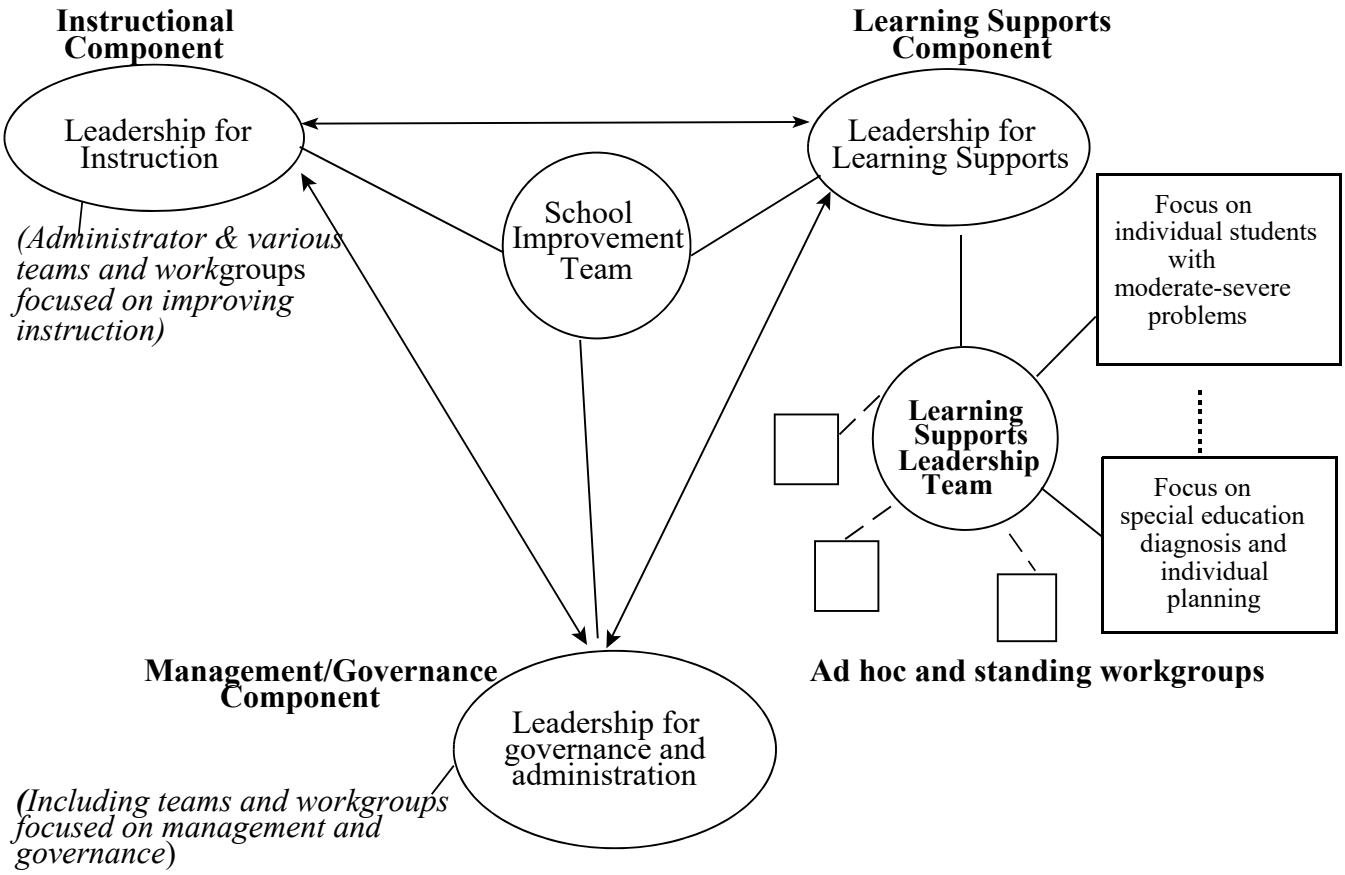
What's missing? Note the absence of a component and designated leadership for student and learning supports. There are two teams (work groups) that focus on supports for individual students experiencing learning, behavior, and emotional problems. However, the main functions of these work groups are to review and make decisions for designated students about special assistance needs and referrals. With respect to operational infrastructure, these work group members are not formally connected to the operational mechanisms where policy is made and budget priorities are determined. While these "support" staff invariably have information relevant systemic improvements that could prevent problems and reduce unnecessary referrals, their lack of formal connection interferes with their contribution to school improvement.

A fundamental organizational principle states that *structure follows function*. We pursue that principle in adding key mechanisms (i.e., leaders, teams, workgroups) needed to transform how a school maximizes initial implementation, daily operation, and ongoing improvement of student/learning supports.

As noted above, comparable mechanisms are in operation for the instructional and management/governance components at a school. Exhibit 4 illustrates an integrated set of daily operational mechanisms designed to implement the intervention prototype described in Part I as a primary and essential learning supports component.

Exhibit 4

Prototype for an Integrated Operational Infrastructure at the School-Level



Note: The instructional, learning supports, and management/governance component each has

- an administrative leader with responsibility and accountability for ensuring the component is implemented effectively
- a leadership team to work with the administrative leader on prototype daily operation and ongoing improvement
- standing workgroups with designated ongoing functions and occasional ad hoc workgroups to accomplish specific short-term tasks.

To ensure coordination and cohesion, the leaders for the instructional and learning supports components are full members of the management/governance component, and when a special team is assigned to work on school improvement, the leaders for all three components are on that team.[8]

Contrasting *the Functions of Individual Student-focused* Work Groups and a *School-Based System Improvement* Leadership Team

As noted, most schools have work groups that focus on individual student and related family problems (e.g., a student assistance team, an IEP team). These teams pursue functions such as referral, triage, and care monitoring or management. They are not, however, empowered or positioned to focus on systemic improvements that could prevent problems and stem the tide of referrals. Below, with respect to our prototype, we highlight the different functions involved in a case-by-case focus and those required to improve system functioning.

An Individual Student-focused Work Group

Focuses on specific individuals and discrete services to address barriers to learning

Sometimes called:

Child Study Team
Student Study Team
Student Success Team
Student Assistance Team
Teacher Assistance Team
IEP Team

EXAMPLES OF FUNCTIONS:

>triage
>referral
>case monitoring/management
>case progress review
>case reassessment

A System Improvement Leadership Team*

Focuses on all students and the resources, programs, and systems to address barriers to learning & promote healthy development

Possibly called:

Learning Supports Leadership Team
Learning Supports Resource Team
Resource Coordinating Team
Resource Coordinating Council
School Support Team

EXAMPLES OF FUNCTIONS:

>aggregating data across students and from teachers to analyze school needs
>mapping resources at school & in the community
>analyzing resources & formulating priorities for system development (in keeping with the most pressing needs at the school)
>recommending how resources should be deployed and redeployed
>coordinating and integrating school resources & connecting with community resources
>planning and facilitating ways to strengthen and develop new programs and subsystems
>developing strategies for enhancing resources
>establishing workgroups as needed
>social "marketing"

*Besides the administrative leader, a Learning Supports Leadership Team might include a school psychologist, a counselor, a school nurse, a school social worker, a behavioral specialist, a special education teacher, representatives of community agencies involved regularly with the school, student representation (when appropriate and feasible), and others who have a particular interest and ability to help with the functions. Schools with few staff begin with only a small group. Because schools have work groups that focus on individual students, such a group may be trained to expand its focus to cover the functions of a system improvement team.

The reworking of a school's operational infrastructure is essential to implementing a multifaceted intervention. The infrastructure changes illustrated above provide a template for replication at other schools and have implications at district and state levels. As discussed in Part III, additional mechanisms are needed to address the system change functions involved in initial implementation at a site and systemwide.

Part III: Pursuing System-wide Replication to Scale, Sustainability, and Renewal

Michael Fullan 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. That is, successful systemic transformation of established institutions requires organized and effective facilitation, especially when change is to take place at multiple sites and at several levels.

Of particular concern to change agents is the need to (a) overcome stakeholder negative reactions, (b) enhance motivation for and commitment to proposed changes, and (c) build capacity for effective implementation. With respect to addressing negative reactions and enhancing motivation, we have observed an overemphasis on using extrinsic reinforcers in all aspects of efforts to improve schools. Research related to intrinsic motivation indicates how overeliance on extrinsics can be counterproductive.[9] These all are matters highlighted in this section of the report.

Multifaceted and Complex Systemic Changes: A Logical Framework

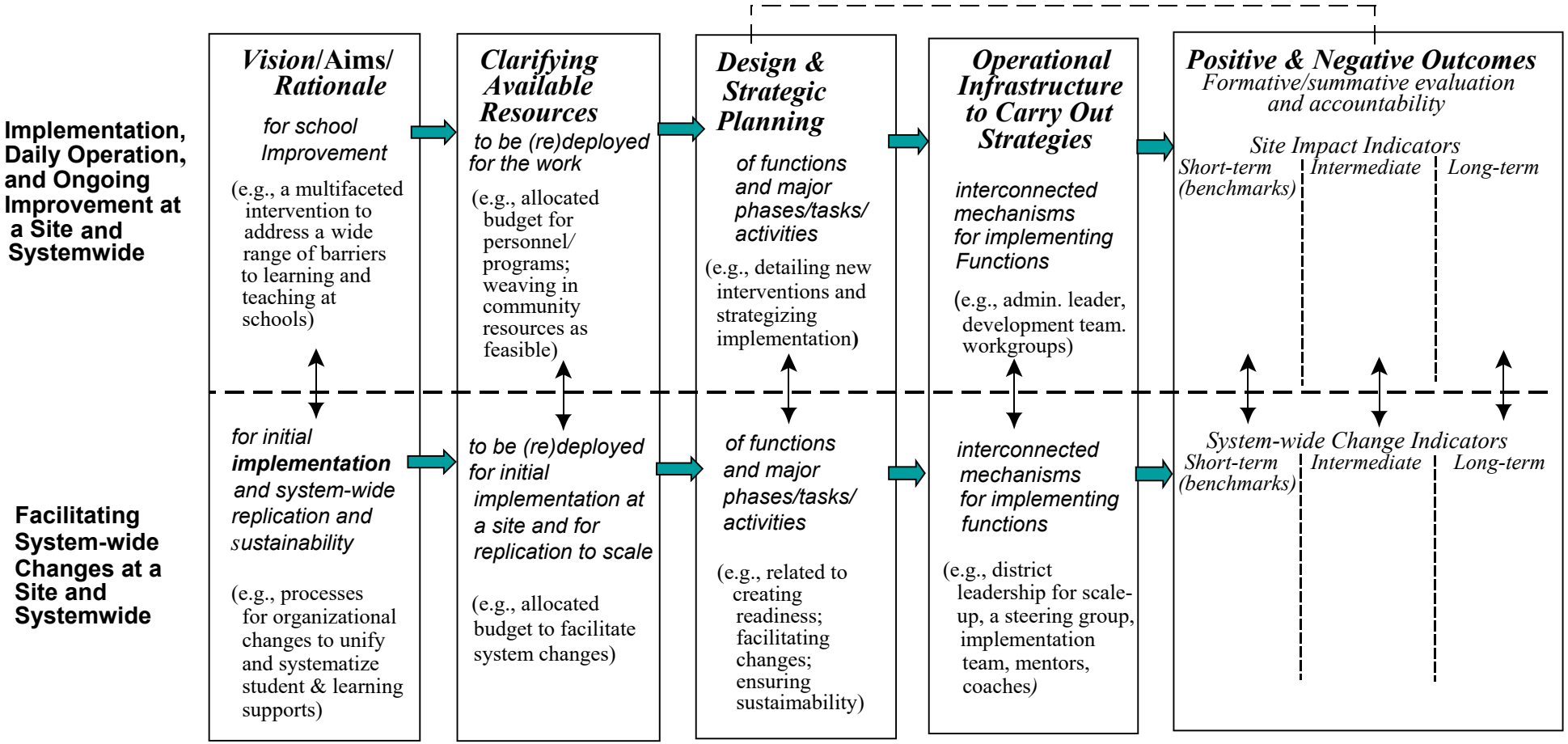
As we have pursued the complexities of implementing a multifaceted intervention at school sites and district-wide, we have come to appreciate the need to address the similarities and differences between (1) initial implementation at a site and (2) system-wide replication. We highlight the logical and parallel sequence of activity in Exhibit 5. The framework has proven helpful in strategic planning.

At the same time, we hasten to acknowledge that plans rarely play out in a linear manner. Moreover, implementation plans often vary in how well they anticipate common problems associated with making complex systemic changes. In our work, we have identified failure to give sufficient strategic attention and time to the following matters:

- underwriting and establishing an effective systemic change operational infrastructure
- overcoming stakeholder negative reactions to proposed changes
- creating readiness and commitment (enhancing motivation and capability) among a critical mass of key stakeholders in a setting where changes are to be introduced
- developing a design document to communicate and guide the work
- developing a multi-year strategic plan
- ensuring policy for making necessary changes is instituted as a high priority
- reworking an organization's daily operational infrastructure to support development and sustainability of the changes

Exhibit 5

Linking Logical Frameworks for Planning Multifaceted Systemic Changes



What Are Major Phases, Steps, and Key Facets of Systemic Changes Involving Multifaceted and Complex Interventions?

Adding to the logic model, Exhibit 5 provides an outline of major phases and key facets. These guide strategic planning for implementing at a site and replicating systemwide in ways that are sustainable. The following discussion highlights the the processes we pursued in working with school districts.

Phases

A common conceptual starting point for systemic change 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 outlines four stages, namely exploration, installation, initial implementation, full implementation, and stresses that sustainability is an active focus during every stage. In the 2020 *Handbook on Implementation Science*, the emphasis also is on four stages: exploration, preparation, implementation and sustainment labeled the (EPIS) framework.[10]

We formulate four overlapping phases of systemic change:

- *creating readiness*, *commitment, and engagement* – increasing a climate/culture for change through countering old ideas, enhancing the motivation and capability of a critical mass of stakeholders, and outreaching to those who are reacting negatively; arriving at policy decisions and generating memoranda of agreements; developing a design document and strategic and action plans
- *initial implementation* – introducing and phasing in changes using a well-designed facilitative operational infrastructure to provide guidance and support
- *institutionalization* – ensuring that policy guidelines and a daily operational infrastructure for maintaining and enhancing productive changes are fully integrated into long-term strategic plans, guidance documents, and capacity building
- *ongoing renewal and evolution* – providing for continuous quality improvement and ongoing support in ways that enable stakeholders to become a community of learners who creatively pursue renewal

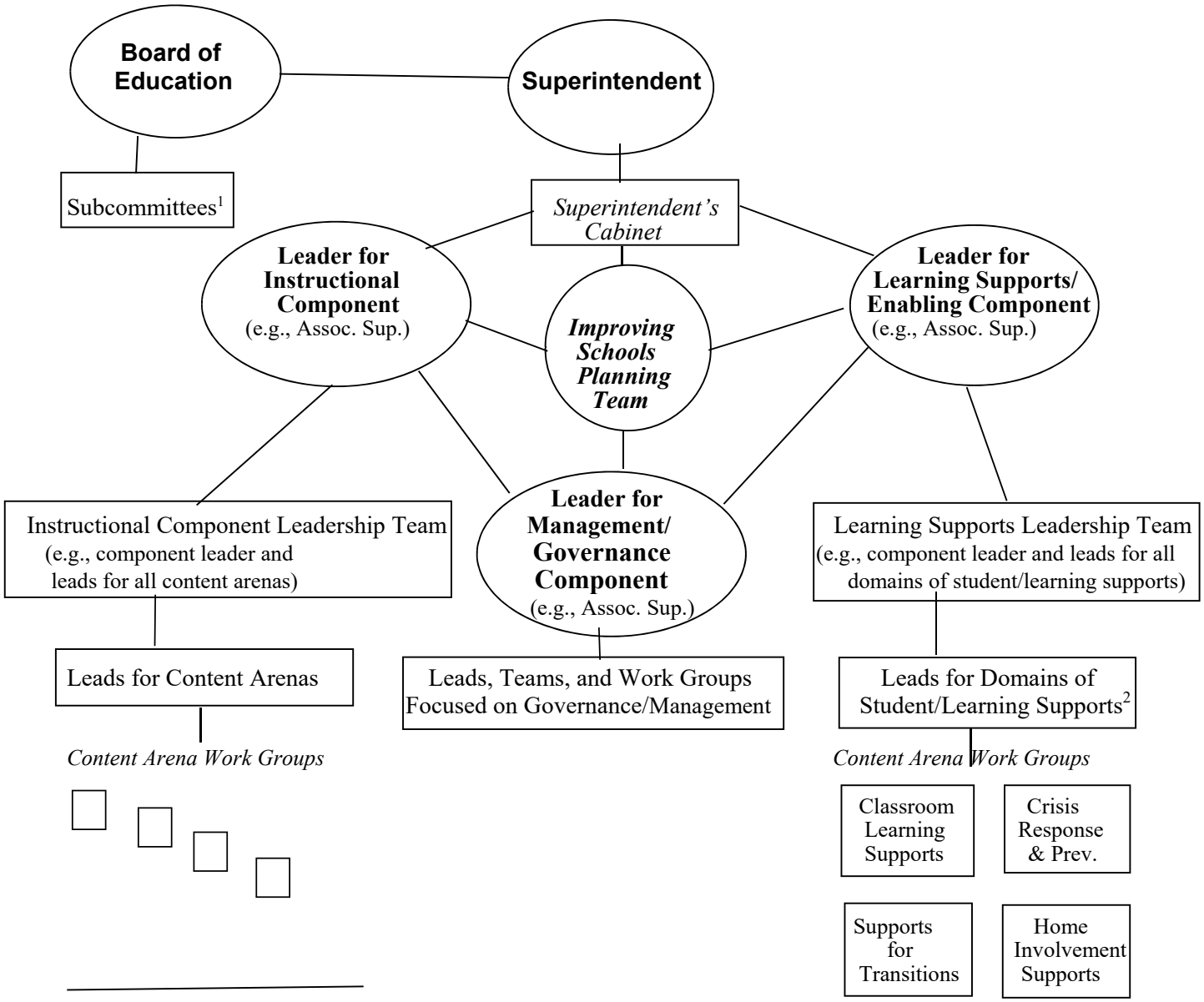
Each phase encompasses a range of tasks and steps related to facilitating implementation at every organizational level.[11] A major focus is on (a) establishing mechanisms that facilitate site and systemwide changes and (b) initiating replication in cycles at cadres of schools.[12]

In our work, we emphasize

- reworking a district's operational infrastructure to ensure it provides essential guidance and support (See Exhibit 6 for an example related to our work on developing a unified, comprehensive, and equitable system of learning supports. Note that the infrastructure parallels what is developed at school sites.)
- establishing change agent mechanisms (e.g., a high level, committed steering group, organization facilitators, implementation team (see Exhibit 7)
- connecting a cohort (complex/"family") of schools (see Exhibit 8)
- establishing school-community collaborative mechanisms for each family of schools (see Exhibit 9)

Exhibit 6

Prototype for Operational Infrastructure at the District Level Developed for Our Work



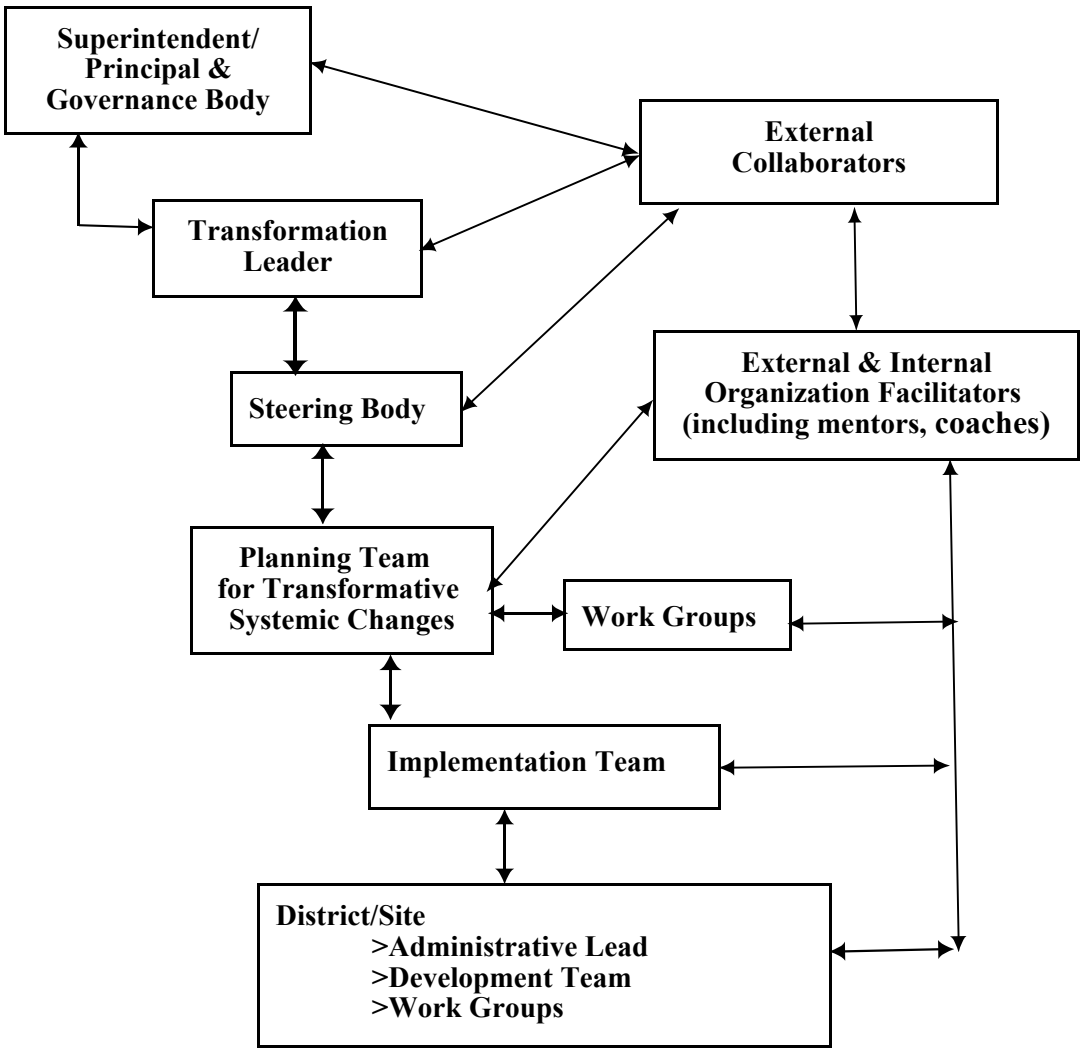
Notes:

1. If there isn't one, a board subcommittee for learning supports should be created to ensure policy and supports for developing a comprehensive system of learning supports at every school(see Center documents *Restructuring Boards of Education to Enhance Schools' Effectiveness in Addressing Barriers to Student Learning* (http://smhp.psych.ucla.edu/pdfdocs/boardrep.pdf) and Example of a Formal Proposal for Moving in New Directions for Student Support (http://smhp.psych.ucla.edu/pdfdocs/newdirections/exampleproposal.pdf)

2. All resources related to addressing barriers to learning and teaching (e.g., student support personnel, compensatory and special education staff and interventions, special initiatives, grants, and programs) are integrated into a refined set of major domains of student/learning supports such as those indicated here. Leads are assigned for each domain arena and work groups are established.

Exhibit 7

Prototype for a Transitional Infrastructure to Facilitate Transformative Changes



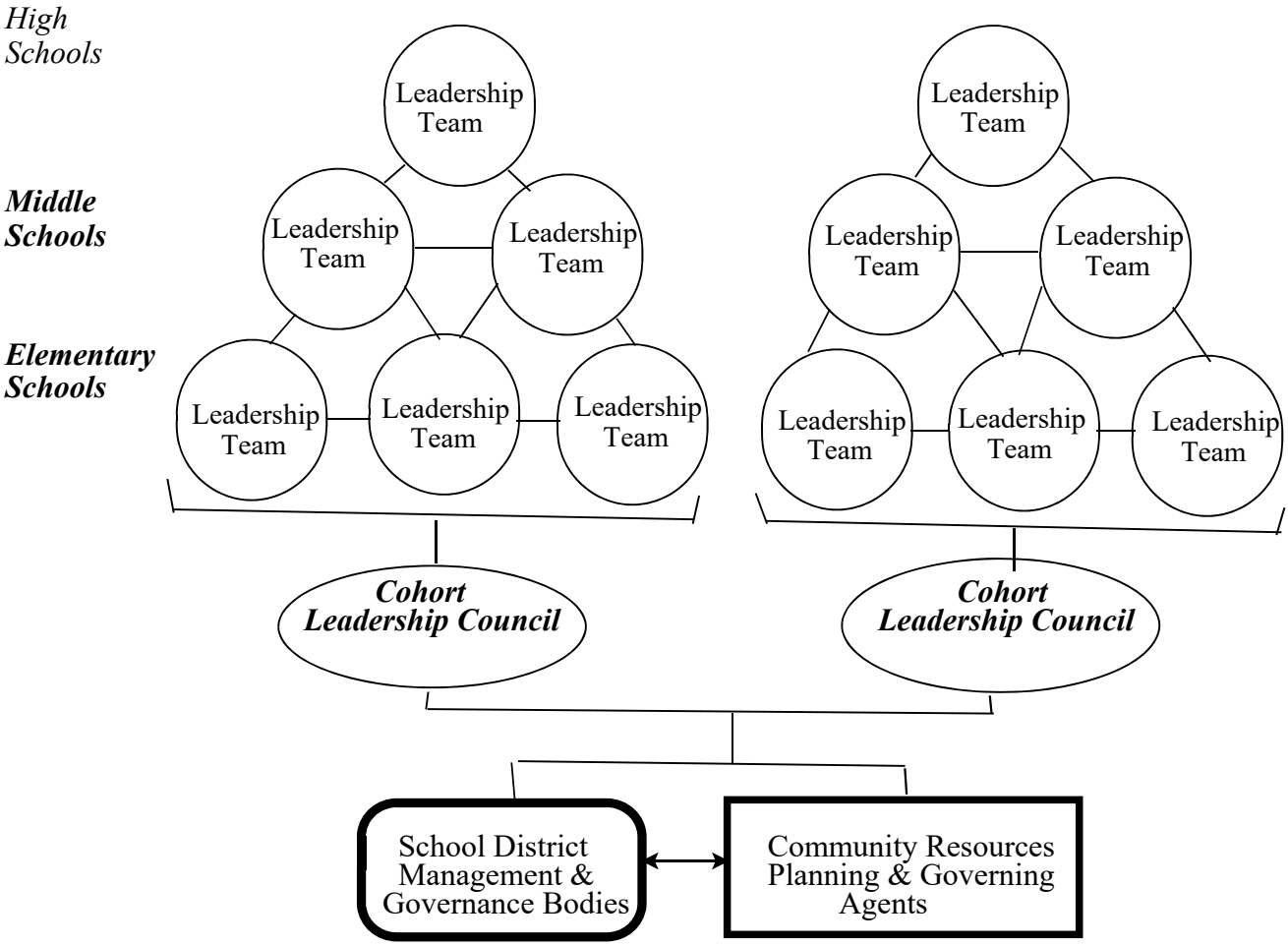
Note: Change agents often state: *It's all about relationship building.* In doing so, they often do not distinguish the difference between just building a few good personal relationships and the importance of developing an extensive network of productive *working relationships* that go beyond specific individuals (some of whom aren't interested in a personal relationship).

Fundamental and sustained system changes require developing effective *working* relationships among a critical mass of stakeholders. Such relationships emerge from establishing a set of steering, planning, and implementation mechanisms and weaving them into an effective operational infrastructure for systemic change.

Effectively establishing a transitional infrastructure to facilitate site and systemwide changes such as the one illustrated here initially requires building staff capacity. At the same time, capacity building focuses on reworking the daily operational infrastructure to support the phasing in and continued development and sustainability of the changes.

Exhibit 8

Connecting Resources Across a Cohort of Schools, a District, and Community-Wide



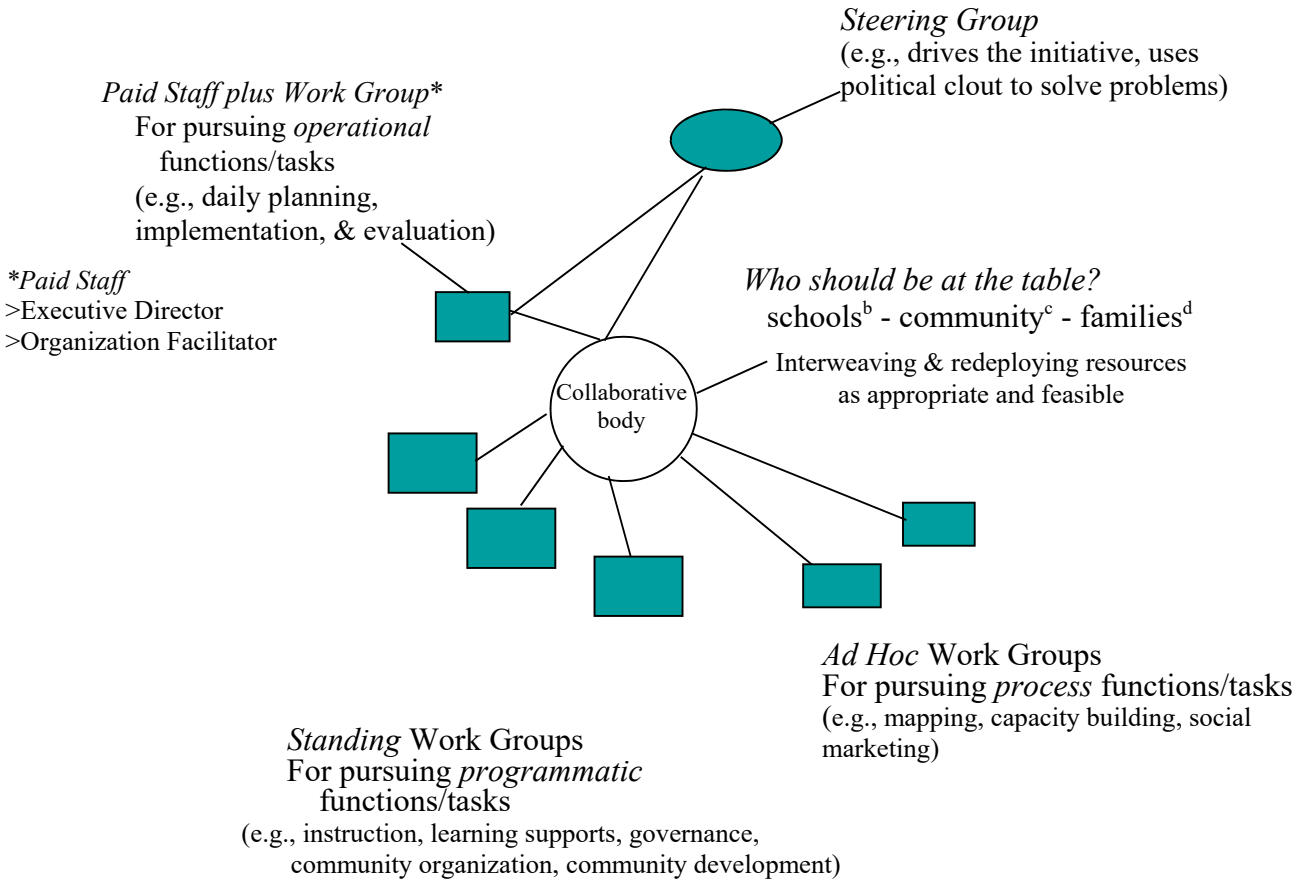
As illustrated, the mechanism for connecting schools is a multi-site body, what is designated here as a *Cohort Leadership Council*. It brings together one-two representatives from a *Leadership Team* (e.g., for the learning support or the other two components) at each participating school. Besides supporting system changes, the objectives are to

- identify and meet common needs with respect to common functions, concerns, and certain personnel development efforts
- create processes for communication, linkages, coordination, and collaboration among schools and with community resources (note: multi-school councils are especially attractive to community agencies lacking the time or personnel to link with each individual school)
- ensure cohesive and equitable deployment of student/learning support resources
- weave together human and financial resources from public and private sectors and encourage the pooling of resources to minimize redundancy, reduce costs, and achieve economies of scale

District leadership (a) helps develop cohort leadership councils and (b) plays a role in establishing school-community collaboratives. A family of schools, such as a high school and its feeder schools, provides a good nucleus for creating a school-community collaborative.

Exhibit 9

Prototype of a School-Community Collaborative Operational Infrastructure[a]



[a] Connecting the resources of schools, families, and a wide range of community entities through a formal collaborative facilitates all facets of school improvement. Effectiveness, efficiencies, and economies of scale can be achieved by connecting a cohort ("family,"complex) of schools (e.g., a high school and its feeder schools, schools in the same neighborhood). In a small community, the feeder pattern often is the school district.

[b] *Schools*. This encompasses all institutionalized entities that are responsible for formal education (e.g., pre-K, elementary, secondary, higher education). The aim is to draw on the resources of these institutions.

[c] *Community entities*. These encompass the many resources (public and private money, facilities, human and social capital) that can be brought to the table (e.g., health and social service agencies, businesses and unions, recreation, cultural, and youth development groups, libraries, juvenile justice and law enforcement, faith-based community institutions, service clubs, media). As the collaborative develops, additional steps must be taken to outreach to disenfranchised groups.

[d] *Families*. All families in the community should be represented, not just representatives of organized family advocacy groups. The aim is to mobilize all the human and social capital represented by family members and other home caretakers of the young.

Systemic Change Involves Escaping Old Ideas

Some time ago, John Maynard Keynes cogently stressed:

The real difficulty in changing the course of any enterprise lies not in developing new ideas but in escaping old ones.

In espousing school transformation, we quickly became aware of the wisdom of Keynes insight that success requires leaving some established ideas behind. With respect to our focus on student and learning supports, we found the challenge is to escape:

- the idea that student and learning supports are not essential
- the ideas that addressing barriers for the large number of students in need can be accomplished by relying ***primarily*** on direct services for individuals and an emphasis on wrap-around services
- the idea that improving student and learning supports ***mainly*** involves enhancing coordination of current interventions and co-locating community resources on a school campus
- the idea that adopting *a simple continuum* of interventions *is a sufficient framework* for transforming the nature and scope of school-based student/learning supports
- the idea that effective school improvement can be accomplished without ending the continuing marginalization of student and learning supports in school improvement policy
- the idea that transformation of student and learning supports can be achieved without considerable attention to the challenges of promoting and facilitating systemic changes.

Escaping old ideas. of course, is just a beginning.

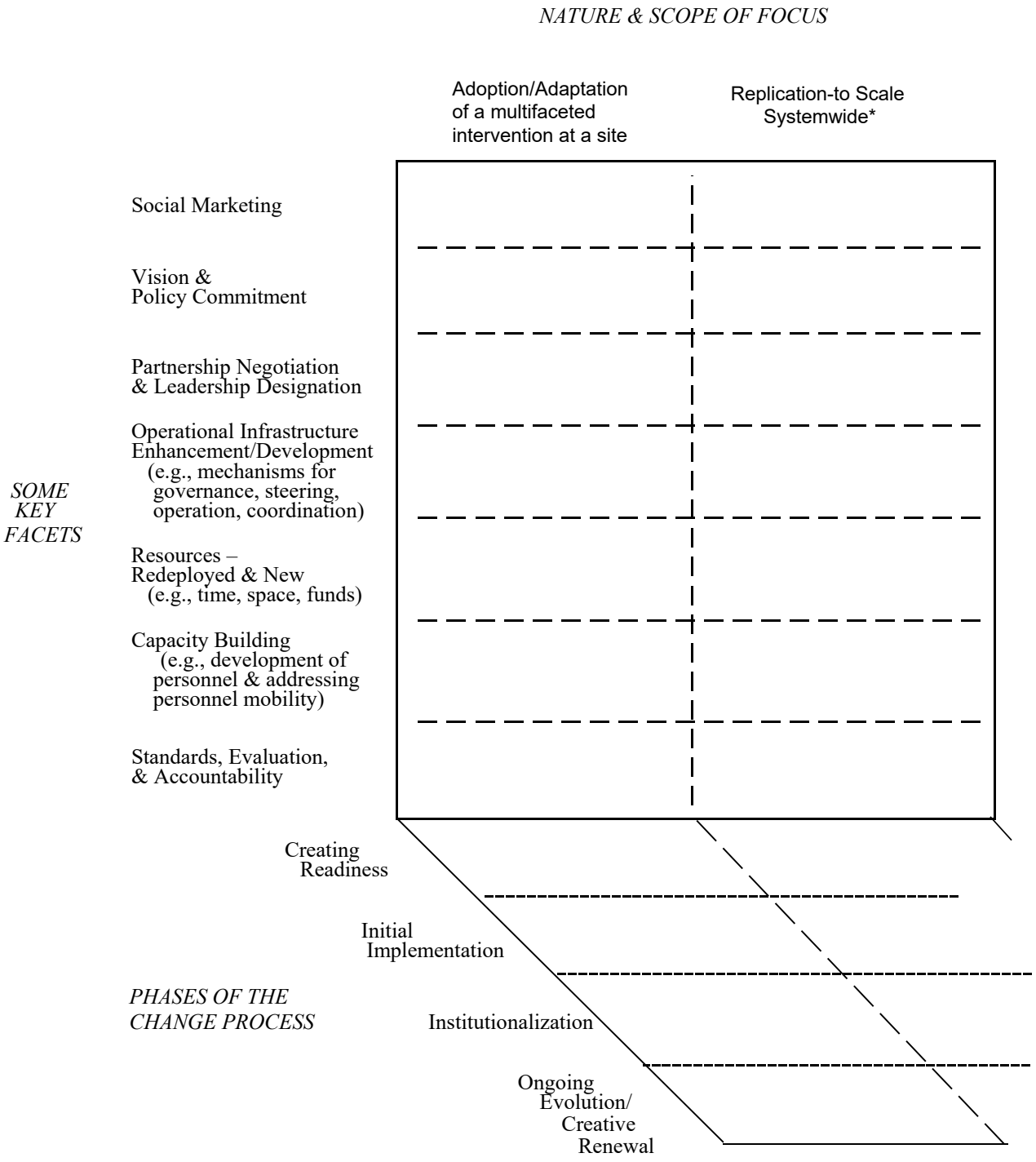
Key Facets

As indicated in Exhibit 10, transformation includes continuous social marketing based on articulation of a clear and shared vision for desired changes. It necessitates a major policy commitment and formal partnership agreements. Effectively carrying out essential functions (e.g., governance, priority setting, steering, operations, resource mapping, coordination) requires qualified leadership and an appropriately designed operational infrastructure. Clearly, effectiveness also requires redeploying and generating some new resources.

The type of operational infrastructure for daily implementation discussed in Part II needs to be augmented with a set of transitional mechanisms that can effectively facilitate systemic transformation. In building capacity, substantial attention must be paid to personnel development, including strategies for addressing the reality that personnel leave and newcomers appear with regularity. Finally, processes for quality improvement (e.g., formative evaluation), impact evaluation, and accountability call for establishing standards and related indicators.

Exhibit 10

Considerations Related to Implementing Complex Site and Systemwide Changes



Highlighting Some Key Points and Sharing Some Lessons Learned About Complex System Changes

Substantive change begins with a design, well-developed multi-year strategic and action plans, and resources to facilitate making it a sustainable reality.

As noted, basic deficiencies associated with making systemic changes are failure to give sufficient strategic attention and time to

- underwriting and establishing an effective systemic change operational infrastructure
- overcoming stakeholder negative reactions to proposed changes
- creating readiness and commitment (enhancing motivation and capability) among a critical mass of key stakeholders in a setting where changes are to be introduced
- developing a design document to communicate and guide the work
- developing a multi-year strategic plan
- ensuring policy for making necessary changes is instituted as a high priority
- reworking an organization's daily operational infrastructure to support development and sustainability of the changes.

Here we address each of these matters and share some lessons learned from our work with school systems.

Transitional 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. Exhibit 7 offers a prototype operational infrastructure for facilitating system change. This is a transitional infrastructure – put in place until the transformation is successfully made. For systemwide school changes, such an infrastructure is established at a district level (sometimes with facilitation from state and regional education agencies). 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.

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 transitional infrastructure for systemic change is an essential task for change agents guiding the work. As each mechanism is established, the focus is on

- enlisting a broad enough range of key leaders and staff (e.g., leaders from all three primary and essential components for school improvement; a staff member with data/evaluation expertise; each staff member may be part of several workgroups/teams)
- ensuring group/team members understand each mechanism's functions and interrelationship
- 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*
- assisting in development of clear action plans.

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

Creating Readiness, Commitment, and Engagement

Any move toward systemic change should begin with activity designed to create readiness by enhancing a climate/culture for change. Enhancing readiness for and sustaining systemic change involves ongoing attention to daily experiences. Stakeholders must perceive the changes 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.

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

- a high level of policy commitment that is translated into appropriate resources, including leadership, space, budget, and time, with particular attention to ensuring enough time for enhancing motivation and capacity to move forward;
- incentives for change that promote a sense of self-determination and satisfaction, such as intrinsically valued outcomes, expectations for success, recognition, and appropriate rewards;
- personalized outreach to those who react negatively to proposed changes;
- personalized capacity building designed to enhance competence related to the systemic changes;
- 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 empower* stakeholders, enhance their sense of community, and 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 early and frequent indicators of progress;
- institutionalizing mechanisms to maintain and evolve changes and to generate periodic renewal.

*Empowerment is a multi-faceted concept. 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.

Some Lessons Learned

In our experience, the complexity of communication and capacity building 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 arise from uninformed "grape vine" gossip about intended changes. 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.

Design Document

Development of a design document is key to communicating and guiding the work at all levels of system change. A design document articulates

- ***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 the new practices)
- 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)

Organizations adopt and adapt prototypes to account for situational opportunities, strengths, and limitations.*

---

*As examples, see the design documents developed for a comprehensive system of learning supports. Start with the state department examples developed in Alabama, Louisiana, and Iowa (online at http://smhp.psych.ucla.edu/summit2002/trailblazing.htm.) For an example of work at the district level, see Gainesville (GA) City School District's overview (http://smhp.psych.ucla.edu/pdfdocs/wheresithappening/gainesvillebroch.pdf) and case study (http://smhp.psych.ucla.edu/pdfdocs/casestudy.pdf.) It should be noted that mentors/coaches played a major role in guiding design preparation and offering feedback to ensure essential facets of the prototype were not lost.

Some Lessons Learned

Design documents need to stress the intent for systemwide replication. Otherwise there is a tendency for the intervention to be viewed as a demonstration or pilot project. This can be counterproductive for system-wide change. In the culture of schools, projects hardly ever are sustained past a few years and rarely are scaled-up. In our work, we have commonly heard school staff say "This will end when the current superintendent/principal leaves." "This will end when the special funding runs out." This contributes to a mind set that the work doesn't warrant serious engagement. Design documents need to counter what has been designated as "project mentality" (sometimes referred to as "projectitis").

Developing a Multi-year Strategic Plan

Once a good design is documented, the next step is to develop a multi-year strategic plan that is fully integrated into an organization's ongoing work. Strategic and yearly 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) a broad set of goals or objectives and (b) a sequence of strategic activity to accomplish the major phases and tasks involved in achieving the systemic changes. The planning spells out an answer to: *How do we get from here to there?*

For school sites, the need is to develop a multi-year strategic plan that is fully integrated into the district's strategic planning. Such a plan

(1) provides an *overview* of how the intended changes will be pursued,

(2) conveys a *detailed plan for facilitating and implementing changes* (with an emphasis on strategies that anticipate sustainability, renewal, summative evaluation and accountability),

(3) delineates strategic approaches to each key facet of facilitating and implementing changes, such as establishing an 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. A multi-year plan is essential because implementing and scaling-up a plan for substantive systemic change usually requires strategic *phasing-in* over several years.*

In pursuing planning related to schools, it is essential not to lose sight of a simple truth: *If improvements do not end up effectively playing out at a school and in classrooms, 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.

_____ The strategic plan is the basis for specific action planning.

*As an example, we have developed a *General Guide for Strategic Planning Related to Developing a Unified and Comprehensive System*

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 changes. 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.

Part IV: Policy Support/Revision

Implementation and sustainability of multifaceted interventions at a site and systemwide generally requires *high level* policy support and often revision of established policy. The following example from our work can help clarify the matter.

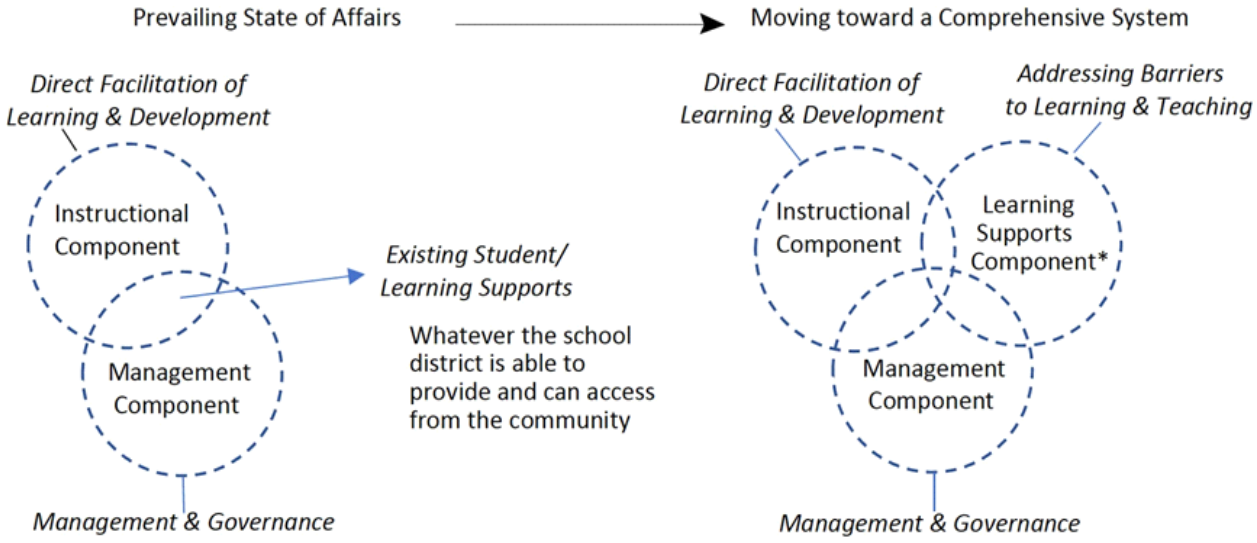
Expanding Policy to Transform Student and earning Supports

Our analysis of school improvement policy under the *Every Student Succeeds Act* (ESSA) indicates that the efforts are guided primarily by a two-component framework, namely (a) instruction and (b) governance/management. School improvement plans focus mainly on these two components; interventions for addressing learning and teaching barriers are given secondary consideration at best. As a result, districts and schools tend to marginalize student and learning supports. This marginalization is a fundamental cause of the widely observed fragmentation and disorganization of student and learning supports.

The intervention prototype described in Part I is designed to end the marginalization and fragmentation of student/learning supports by transforming the way schools address barriers to learning and teaching. The degree of system change called for by the multifaceted intervention prototype requires broadening school improvement policy to fully integrate, as primary and essential, a unified, comprehensive, and equitable system of student/learning supports. Exhibit 11 illustrates such an exapnded policy framework. The designated *learning supports component* elevates efforts to address barriers to learning and teaching to equal status with the other two components.

Exhibit 11

Expanding the Framework for School Improvement Policy and Practice



*The learning supports component is intended to enable learning by (a) addressing factors that affect learning, development, and teaching and (b) reengaging students in classroom instruction. The component includes programs, services, initiatives, and projects that provide compensatory and special assistance and promote and maintain safety, physical and mental health, school readiness, early school adjustment, and social and academic functioning.

Ensuring Policy Facilitates System Change/Transformation

Policy for introducing multifaceted and complex interventions into an organization must be translated into clear guidelines and properly supported for effective development and sustainability. This includes delineating the nature and scope of systemic changes, budgetary allocations, and accountability mandates. With scale-up and sustainability in mind, policy makers must ensure that sufficient resources are allocated for establishing and building the capacity of the transitional infrastructure for accomplishing systemic changes and for eventually subsuming the functions of the transitional infrastructure into daily operational infrastructures.

In our work, given the sparse resources available to schools, the expanded policy involves deploying, redeploying, and weaving together all existing resources used for student and learning supports. The focus is on *braiding together all available school and community resources* to equitably strengthen interventions and fill critical gaps.

And because accountability and standards for guiding practice are two fundamental policy drivers for public education, we recommend (1) an expanded accountability framework that includes leading indicators of direct outcomes of a learning support system and (2) standards for a learning supports component (see Appendix).

Some Lessons Learned

Frequent leadership changes can undermine recently implemented improvements. (In school systems, superintendents, principals, other key stakeholders commonly move on every few years.) Countering this problem requires early attention to *institutionalizing* policies and procedures so they can withstand such changes. It also calls for planning effective strategies to bring new arrivals on board and up to speed.

Coda

Pooh's dilemma. Everyone agrees that this is a critical time for improving schools. Unfortunately, everyone seems so busy meeting each day's demands that too little thought is given to finding better ways. One is reminded of Christopher Robin taking Winnie-the-Pooh down the stairs with Pooh's head – ***bump, bump, bumping*** *on every step*. Pooh has come to think it is the only way to go down stairs. Still, he sometimes thinks there might be a better way if only he could stop bumping long enough to figure it out.

And a note about the pressure to simplify. The frameworks in this document are meant to deepen appreciation for what is involved in planning transformative changes. The complexity of system transformation makes some stakeholders uncomfortable. The temptation is to simplify. When it comes to school improvement, simplification generally leads to dressing up old ideas in new language and losing the promise of substantive and sustainable change. And decisions to focus on "low hanging fruit" to harvest early "wins" often result in turning the chosen schools into demonstration sites and prematurely ending systemwide replication.

Appendix A

Contents of *Addressing Barriers to Learning and Teaching: In the Classroom and Schoolwide*

https://escholarship.org/uc/item/55w7b8x8

Introduction

1. Barriers to Learning and Teaching
    - Different Causes
    - Watch Out for the Labels
    - Barriers and Beyond

2. Good Schools
    - Some Basic Principles
    - Some Added Assumptions
    - Being Equitable, Just, and Fair
    - Creating a Positive Context for Learning
        - Toward Enhancing School and Classroom Climate
        - An Emphasis on Caring
    - Teachers Can't Do it Alone
        - Opening the Door for Assistance and Partnerships
        - Opening the Classroom Door to Enhance and Personalize Staff Development

3. Personalizing Learning: Making it More than another Buzzword
    - Addressing Barriers to Learning in the Classroom
    - A Sequential and Hierachical Framework for Enabling Classroom Learning
    - Understanding Personalization
        - Defining Personalization
        - Underlying Assumptions and Major Elements
    - So, What Does it Take to Personalize a Classroom?
        - Personalized Structure for Learning
        - Learner-Valued Options and Mutual Decision Making
        - Flexible Interest Grouping to Enable Personalization
        - Homework that Motivates Practice and Everyday Use
        - Conferencing
        - Response to Intervention (RtI): Assessment to Plan; Feedback to Nurture

4. Addressing Learning, Behavior, and Emotional Problems
    - Understanding Special Assistance
        - Sequence and Hierarchy
        - About Remediation
    - Providing Special Assistance *in the Classroom*
        - Focusing Directly on Observable Problems
        - Developing Prerequisites
        - Addressing Factors Interfering with Learning
    - Reducing Unnecessary Referrals: Response to Intervention and Accommodations
        - Response to Special Assistance Interventions
        - A Wide Range of Accommodations
    - Providing Special Assistance *Out of the Classroom*
        - Referral and Care for Specialized Services
        - A Cautionary Note

5. Classroom Behavior Management: It's Not Just About Controlling Kids; It's About Engaging and Re-engaging Them in Learning
    - Managing Behavior at School: Overreliance on Strategies to Control Behavior
        - About Punishment
        - About Logical Consequences
        - Is Skill Training an Answer?
    - A Broad Perspective on Addressing Behavior Problems
    - Engagement in Learning
        - Engagement is About Motivation
        - Valuing and Expectations: Key Components of Motivation
        - Overreliance on Rewards
        - Don’t Lose Sight of Intrinsic Motivation
    - Re-engaging Disconnected Students
        - Addressing Underlying Motivation
        - General Strategies
        - A Bit More About Options and Decision Making

6. Establishing a Schoolwide Student and Learning Supports Component
    - The Current State of Affairs
    - Adopting a Component to Address Barriers to Learning
    - Delineating the Nature and Scope of a Unified, Comprehensive, and Equitable System of Learning Supports
        - Reframing Student and Learning Supports
        - Reworking the Infrastructure
    - School and Community Collaboration
        - What Resources are in the Community?
        - Framing and Designing Interventions for Community Involvement and Collaborative Engagement

7. Getting From Here to There
    - The Problems of System Change Implementation and Scale-up
    - It’s About What Happens at the School and in the Classroom
    - Some Key Facets of Facilitating System Change
        - Operational Infrastructure for Accomplishing Systemic Change
        - Creating Readiness, Commitment, and Engagement
        - Design Document
        - Multi-year Strategic Plan
        - Ensuring Policy Facilitates Transformation
        - Reworking Daily Operational Infrastructure

Appendix B

An Expanded Framework for School Accountability

School accountability is a policy tool with extraordinary power to reshape schools – for good and for bad. Systems are driven by accountability measures. This is particularly so when school improvement is underway.

For some time, school accountability indicators have marginalized almost every effort not seen as directly and quickly leading to higher achievement. ESSA's emphasis on at least one additional "nonacademic" indicator will not counteract the long-standing marginalization. Indeed, the tokenism of the act underscores the need for an expanded framework for school accountability – a framework that includes not only direct measures of achievement but also data directly related to that facet of schools that strive s to address barriers to learning and teaching. Such data and related standards are essential for both formative and summative evaluation of school improvement. We view this as a move toward what has been called *intelligent accountability.*

The Exhibit on the next page highlights a prototype for an expanded school accountability framework. As illustrated, there is no intent to deflect from the laser-like focus on meeting *high academic standards*. Debate will continue about how best to measure academic outcomes, but clearly schools must demonstrate they effectively teach academics.

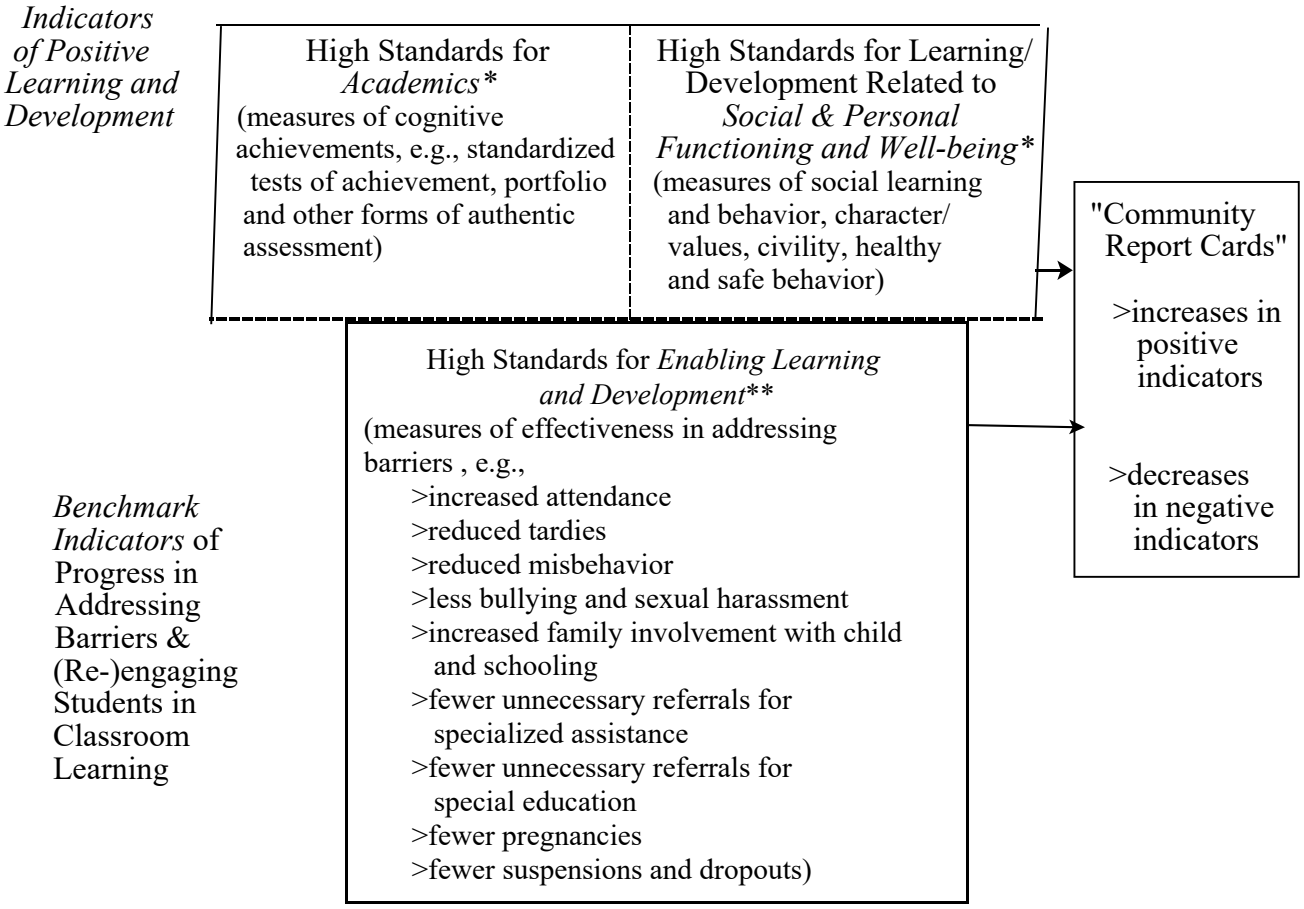
At the same time, the expanded framework recognizes that schools are expected to promote positive *social and personal functioning and well-being*, including enhancing civility, teaching safe and healthy behavior, and some form of "character education." And there is a growing movement for mandating a focus on social emotional learning in schools. Every school we visit has specific goals related to this facet of student development and learning. But, there is no systematic evaluation or formal accountability. As would be expected, with no accountability, schools direct few resources and too little attention to the impact of efforts in this arena. The expanded framework holds schools accountable for improving students' social and personal functioning and well-being.

With respect to *addressing barriers to learning and teaching*, the expanded framework includes benchmark indicators. These reflect the *direct* intervention focus of school staff whose efforts are designed to enable improved academic performance through providing student and learning supports. For example, ESSA's emphasis on adding a "nonacademic" indicator has led to increased interest in using improved attendance as an accountability indicator. Clearly, schools cannot teach children who are not in class. Therefore, increasing attendance always is an essential concern (and an important budget consideration). In addition, other basic indicators of school improvement and precursors of enhanced academic performance are reducing tardiness and problem behaviors, lessening suspension and dropout rates, and abating the large number of inappropriate referrals for special education. Given the importance of addressing barriers to learning and teaching, the progress of schools with respect to this arena needs to be an integral part of school accountability.

School outcomes, of course, are influenced by the well-being of the families and the neighborhoods in which they operate. Therefore, performance of any school should be judged within the context of the current status of *indicators of community well-being*, such as economic, social, and health measures. If those indicators are not improving or are declining, it is patently unfair to ignore these contextual conditions in judging school performance.

Exhibit

Expanding the Framework for School Accountability



*Results of interventions for directly facilitating development and learning.
**Results of interventions for addressing barriers to learning and development.

About Standards and Quality Indicators

Related to policy and accountability is the matter of standards and associated quality indicators. For example, school improvement discussions across the country are standards-based and accountability driven. However, the standards' movement continues to give short shrift to factors that *interfere* with successful teaching and that result in too many students manifesting moderate-to-severe learning, behavior, and emotional problems. As a step toward establishing standards and related quality indicators for a system of student/learning supports, our work has generated a prototype; see *Standards for a Learning Supports Component* http://smhp.psych.ucla.edu/pdfdocs/commcore.pdf .

Notes

[1] As stated in the preface, we know that others have offered frameworks and models related to system change. Our intent here is not to review and compare; rather we want to share the evolving frameworks that guide our work. For discussions about implementation science, see
>the University of Washington's *Implementation Science Resource Hub* https://impsciuw.org/
>the *National Implementation Research Network*
http://implementation.fpg.unc.edu/resources/stages-implementation-analysis-where-are-we?o=sisep
>*the Center for Implementation* https://thecenterforimplementation.com/courses;
>Society for Implementation Research Collaboration (SIRC)
https://societyforimplementationresearchcollaboration.org/
>UC San Diego Dissemination and Implementation Science Center
https://medschool.ucsd.edu/research/actri/centers/DIR/aboutus/Pages/default.aspx
>for recent edited compendiums, see
>>Albers, B., Shlonsky, A., & Mildon, R. (Eds) (2020). *Implementation science 3.0*. NY: Springer.
>>Nilsen, P., & Berken, S. (Eds.) (2020). *Handbook on implementation science*. Elgaronline – https://www.elgaronline.com/view/edcoll/9781788975988/9781788975988.xml

[2] Ideas for facilitating mobilization on a large-scale come from various lines of work. For example, see Rogers, E.M.. (2003). *Diffusion of innovation.* (5th ed.). New York: Free Press; Greenhalgh, T.; Robert, G.; MacFarlane, F.; Bate, P. & Kyriakidou, O. (2004). Diffusion of innovations in service organizations: Systematic review and recommendations. *The MilbankQuarterly, 82*, 581-629.

[3] See attached list.

[4] The term dissemination encompasses the many challenges involved in dispersalof 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 do this (e.g., brochures, fact sheets, frequently asked questions, presentations, courses, workshops, manuals, articles, books). When it comes to wide-spread distribution (i.e., diffusion) 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 challenge is how to pursue dissemination efforts in ways that can increase the likelihood that proposed changes will be accepted and acted upon.

[5] For a recent policy brief describing the intervention prototype, see Adelman & Taylor (2020b).

[6] Student/learning supports are defined for policy purposes as the resources, strategies, and practices that support physical, social, emotional and intellectual development and well-being to enable all students to have an equal opportunity for success at school. The supports are deployed in classrooms and schoolwide.

[7] The specific examples inserted in the matrix are just illustrative of those schools already may have in place. For a fuller array of examples of student/learning supports that can be applied in classrooms and schoolwide, see the set of surveys available at http://smhp.psych.ucla.edu/pdfdocs/surveys/set1.pdf . For an aid in mapping and analyzing resources, see http://smhp.psych.ucla.edu/summit2002/tool%20mapping%20current%20status.pdf

[8] For examples of a job description for an administrative leader for learning supports, see http://smhp.psych.ucla.edu/toolkitb4.htm

[9] See the work of Deci, Ryan, & colleagues on self-determination theory http://selfdeterminationtheory.org/

[10] See

Rogers, E.M.. (2003). *Diffusion of innovation.* (5th ed.). New York: Free Press

Magnabosco, J.L. (2006). Innovations in mental health services implementation: A report on state level data from the U.S. Evidence-Based Project. *Implementation Science, 1*:13. http://www.implementationscience.com/content/1/1/13

State Implementation and Scaling-up of Evidence-based Practices Center online at https://osepideasthatwork.org/state-implementation-and-scaling-evidence-based-practices-center

Moullin, J.C.,Dickson, K.S., Stadnick, N.A., et al., (2020) Exploration, preparation, implementation, sustainment (EPIS) framework. In P. Nilsen & S. Berken (Eds.) (2020). *Handbook on implementation science.* Elgaronline – https://www.elgaronline.com/view/edcoll/9781788975988/9781788975988.xml

[11] For a detailed discussion of the four phases and related tasks and steps, see *Scaling-Up Reforms Across a School District* http://smhp.psych.ucla.edu/publications/21 scaling-up reforms across a school.pdf

[12] Our work was limited to K-12. In the future, preschools need to be included in working with cadres of schools. For a perspective on this, see "Research-Practice Partnerships to Strengthen Early Education" (2021) in *Futures of Children, 31*. https://futureofchildren.princeton.edu/sites/futureofchildren/files/foc_combined_4.26.21.pdf

Quotes from Fullan and Sarason found in:

Fullan, M. (2005). *Leadership & sustainability: System thinkers in action.* Thousand Oaks, CA: Corwin Press.

Sarason, S.B. (1996). *Revisiting "The culture of school and the problem of change"* New York: Teachers College Press.

Previous Work on System Change from the Center for MH in Schools & Student/Learning Supports

Adelman, H.S. & Taylor (1997). Toward a scale-up model for replicating new approaches to schooling. *Journal of Educational and Psychological Consultation, 8,* 197-230. http://smhp.psych.ucla.edu/publications/06 toward a scale up model for replicating new approaches.pdf

Adelman, H.S. & Taylor, L. (1999). Addressing barriers to student learning: Systemic changes at all levels. Intro to thematic section for *Reading and Writing Quarterly, 15*, 251-254.

Adelman, H.S. & Taylor (2003). On sustainability of project innovations as systemic change. *Journal of Educational Psychological Consultation, 14,* 1-25. http://smhp.psych.ucla.edu/publications/45 on sustainability of project innovations as systemic change.pdf

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