



Systems Thinking and Higher Education: Innovation Ecosystem Assessment and Application in the Philippines

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Peter Joyce

Presentation at:

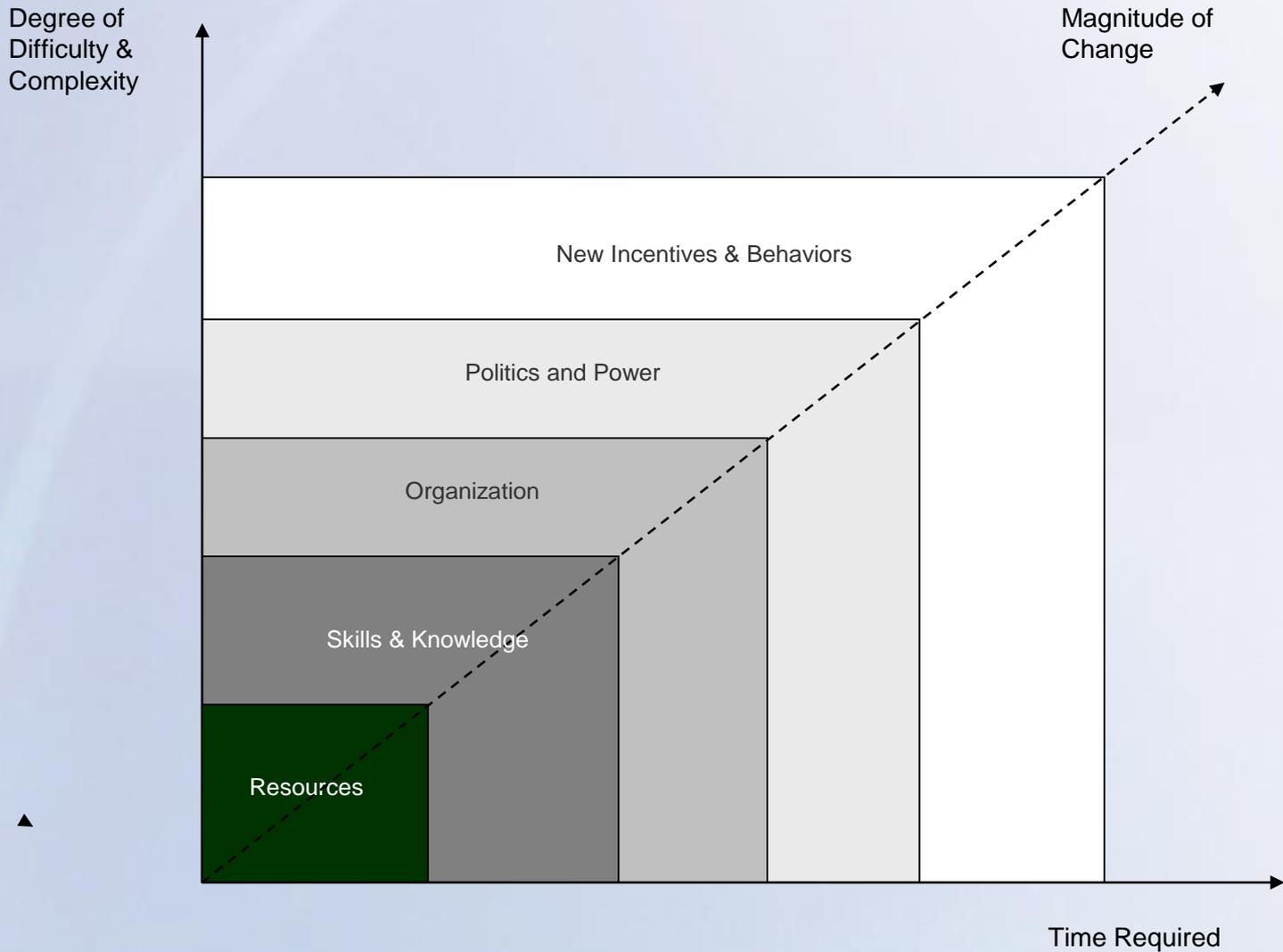
APLU Knowledge Center, Workshop on Local Systems and the
Future of Higher Education Investments

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Systems thinking

A word cloud illustrating systems thinking concepts. The central and largest word is "Interconnectedness" in a bold, dark red font. Surrounding it are other terms in various sizes and orientations, including "Adaptation" (top left), "Feedback" (top center), "Sustainability" (top right), "Learning" (bottom center), "Holistic" (vertical, top right), "Uncertainty" (small, top center), "Unpredictability" (vertical, bottom right), and "Emergence" (vertical, bottom right).

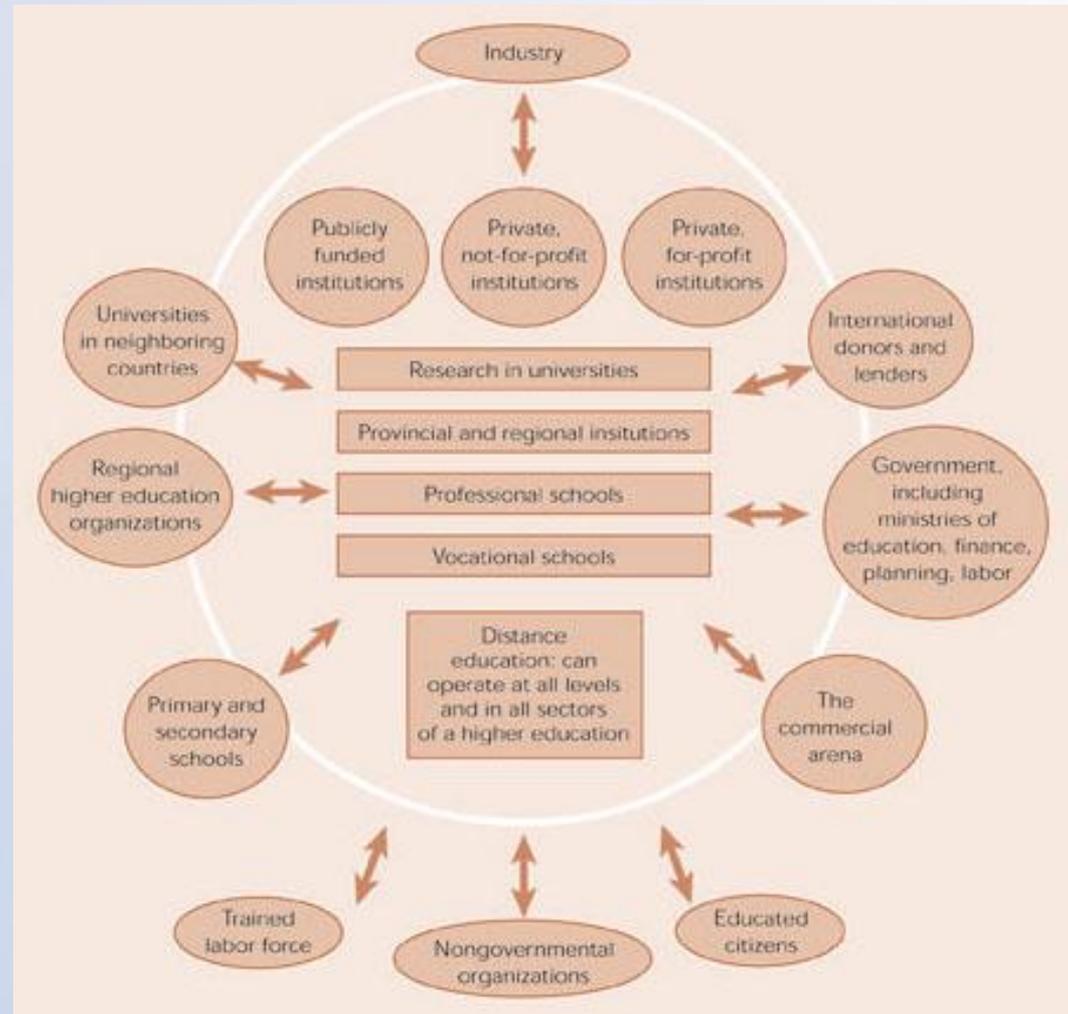
Capacity development and systems



Higher education as a CAS

Functions of higher education:

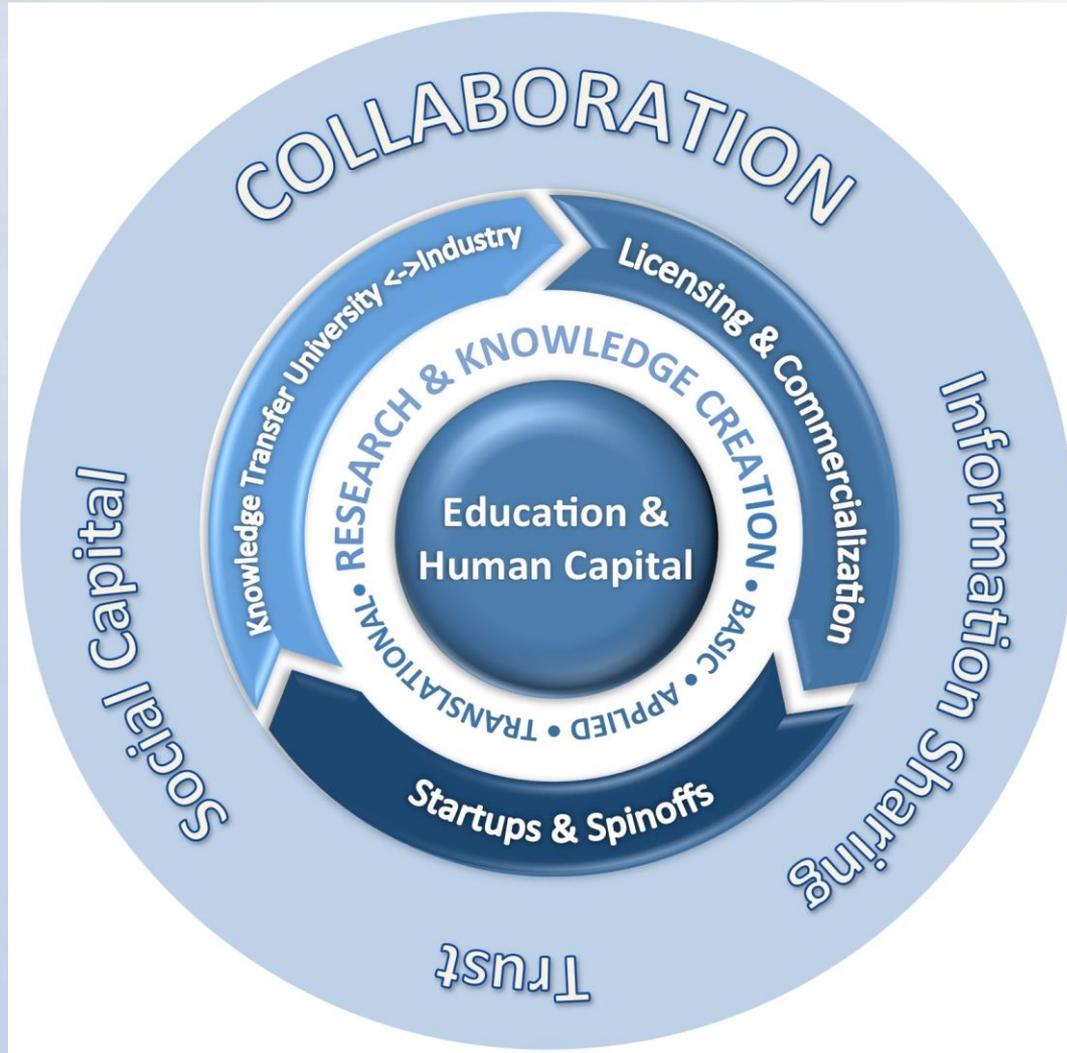
- Production of human capital
- Production of knowledge
- Production of innovation
- Contribution to sustainable socio-economic development



RTI Innovation Ecosystem Assessment

- Map and score innovation ecosystems and locate higher education within
- Key informant interviews and surveys to identify areas of strength and weakness and dynamic relationships among various parts of the system
- Used as a diagnostic and design tool for higher education capacity building programs

RTI Innovation Ecosystem Assessment



Innovation Ecosystem Scorecard

Factor	Supply	Demand	Enabling Environment
Education and Human Capital Development			
Research and Knowledge Creation			
Transfer of Know-How between Universities and Industries			
Intellectual Property: Protection, Licensing and Commercialization.			
Startup and Spinoff Companies			
Knowledge Sharing, Trust, Social Capital			
<p>Key</p> <p>0 1 2 3 4</p> <p>Poor----->Excellent</p>			

Philippines STRIDE example

- The USAID/Philippines Science, Technology, Research and Innovation for Development (STRIDE) Program is implemented by RTI International with partners Rutgers, Florida State, and the University of Michigan.
- The mission of USAID's STRIDE is to spur inclusive economic growth by boosting the capacity of Philippine universities to conduct science and technology research aligned with the growth requirements of the private sector, building up the innovation ecosystem for the benefit of the country.

Philippines STRIDE example

Global Innovation Index Export

Rank	Country	Score	Value	Percentage Rank	Score View
7	Singapore	59.2	-	0.96	
10	Hong Kong (China)	56.8	-	0.94	
16	Korea, Rep.	55.3	-	0.89	
17	Australia	55.0	-	0.89	
18	New Zealand	54.5	-	0.88	
21	Japan	52.4	-	0.86	
29	China	46.6	-	0.80	
33	Malaysia	45.6	-	0.77	
48	Thailand	39.3	-	0.67	
56	Mongolia	37.5	-	0.61	
71	Viet Nam	34.9	-	0.51	
87	Indonesia	31.8	-	0.39	
88	Brunei Darussalam	31.7	-	0.39	
95	Fiji	30.4	-	0.34	
100	Philippines	29.9	-	0.30	
106	Cambodia	28.7	-	0.26	
140	Myanmar	19.6	-	0.02	

RTI developed and used ecosystem assessment to:

- Identify Priorities for STRIDE
- Look at system performance factors
- Discover hidden, connected issues

1. Reform of procurement rules for research activities

Key Finding: Restrictive regulations make procurement of equipment and consumables for research slow and complex. Equipment may arrive after grant expires.

① Origin is national enabling

environment challenge

① Research progress slowed or stopped: Universities can't deliver results in timely manner; Businesses do not gain / lose confidence in research ② and ③ extension collaboration with universities due to poor/slow performance.

④ Philippine innovations are late to market for licensing and/or spinoff, and miss opportunity for top publications.

⑤ Faculty discouraged, may abandon research profession or leave Philippines

Chain of Impacts: Procurement Rules

	Supply	Demand	Enabling
Education	⑤		
Research	①	②	①
Extension		③	
Licensing		④	
Startups		④	
Collaboration			

STRIDE Action: Work through GUIRR to secure exemptions from procurement regulations for grant-stipulated research equipment, or other appropriate measure(s) to reduce process-time.

Conclusions/Lessons

- Reductionist efforts to focus on separate components of capacity do not provide a sound basis for higher education CD strategies and interventions

- To accommodate the emergent nature of CD
 - recognize no “one best way”
 - focus on identifying local champions and constituencies
 - allow flexibility, learning, and adaptation within donor procedures and regulations

- Higher education can be usefully framed as a nested complex adaptive system

More Information

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SYSTEMS THINKING AND HIGHER EDUCATION IN DEVELOPMENT

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@APLU

on May 2, 2016

Overview

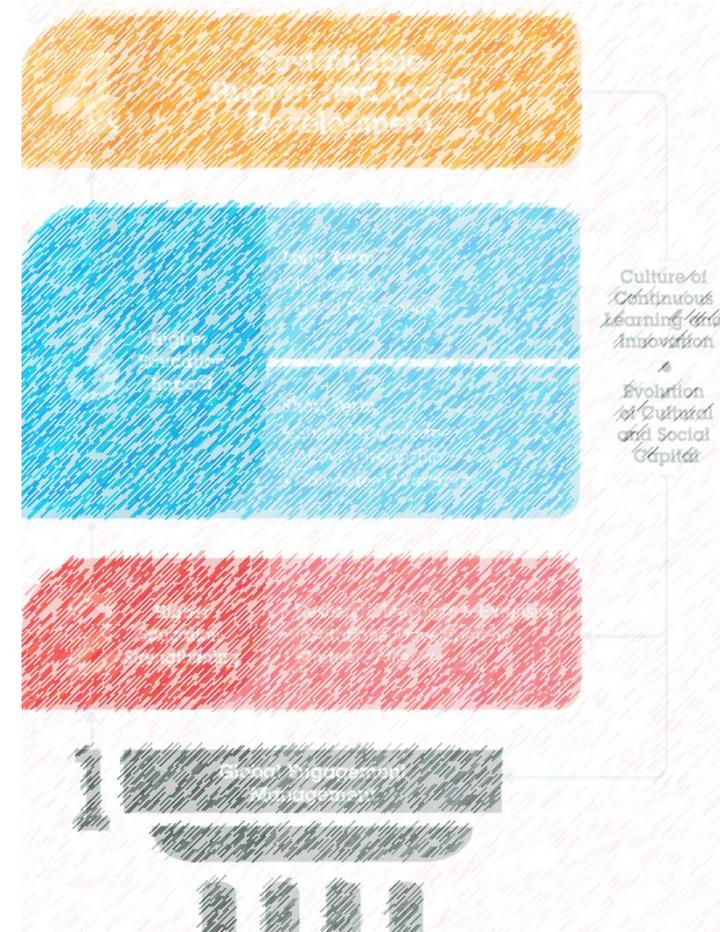
- Context for Presentation
- Applying “Listen, Engage, Discover, Adapt” to Higher Education in Development
- Final Thoughts on “Internationalization and Global Engagement”

Context for Presentation



HED Meta-Analysis

- Analysis of 6 regional impact assessments of 64 partnerships conducted 2006-2012
 - Partnerships active 1998-2007
 - Eastern Europe (4)
 - Middle East Partnership Initiative (12)
 - South East Asia (13)
 - South Asia (15)
 - Sub-Saharan Africa (12)
 - Training, Internships, Exchanges, and Scholarships (TIES) in Mexico (8)
- In-depth case: Eastern European Impact Assessment



HED Meta-Analysis

- Merriam's Constant Comparative Method of Case Study Analysis
 - Data read and re-read for comparative examination
 - Open, axial, and selective coding – inductive and deductive
- Data Management -Nvivo 10
- Data Quality
 - Peer Debriefing
 - Data Triangulation
 - Inter-rater/Observer Triangulation

Category Name	Definition		Example from text	Subnodes	
Higher Education Strengthening	Impact of partnership on the development or strengthening of host country higher education				
Goal Name: Theme	Definition	Inclusion Criteria (include if text discusses)	Exclusion Criteria (exclude if text discusses)	Example from text	Subnodes
EDUCATIONAL EFFECTIVENESS: Education programs, courses and/or curriculum were created, improved and/or sustained via existence of partnerships	Impact of partnership on education-based factors within the host country institution	Educational offerings related to curriculum development and teaching methods; non-formal education (e.g. extension); exchanges; research	Weakened instructional offerings; improvements that are non-education related; mention of strengthened partnership without referencing a specific component, program, or collaborative effort	Maybe by ourself we might have changed the curricula, arranged some in it. But the project brought to us a consolidated experience of teaching them curricula, and, I think, with that without project, maybe we would not get the curricula in this table that we have now...	1) Educational Offerings a) Curriculum Development b) Teaching Methods 2) Exchanges a) Activities b) Results 3) Extension and Community Outreach 4) Research a) Conducting Research b) Conferences and Publications c) Skill-building
INSTITUTIONAL SYSTEMS DEVELOPMENT: Gains in institutional capacity building at host institution	Impact of partnership on the development and strengthening of host country higher education institution	Institution/program/department-level advancement; support or development of campus plans for growth and improvement (goals, mission, strategic plan, programs); institution/program/department-level awards; visibility or recognition/reputation-building	Human-level capacity building; pre-partnership institutional capacity building; loss in institutional capacity	We have, we have now probably one of the best business schools in Albania and this is due to the contribution of Hawaii University.	1) Centers, Departments & Institutes 2) Human Resources 3) Institutional Policies, Processes, & Strategies 4) Institutional Reputation 5) Leadership & Governance 6) Material & Technical Resources 7) Student Services
STRATEGIC PARTNERSHIPS AND ALLIANCES: Alliance building and growth of partnership-related network	Development of partnerships with constituents beyond the two partner institutions. Constituents should have a direct role/contribution in the formal partnership or became involved as a result of the partnership.	involvement of local actors; involvement of NGOs; involvement of political actors; involvement of private sector; expanded number of stakeholders and/or partnerships	Human-level capacity building; network contraction	So the ministry generally have been supportive. Yeah, this a general collaboration, but the project, we have got close collaboration now with the extension service ministry. I mean, there's more close collaboration, due to the fact of the project, you know?	1) Global Partners 2) Higher Education Consortia 3) Local Partners a) Embassy b) Government c) Local Organizations 4) USAID

Global Engagement Management	Relationship Management (Individual Level)	Relationship Sustainability	Yes	
			No	
		Establishing Relationships		Research
		Types of Engagement		Personal
				Administrative Support
	Partnership Management (Organization Level)	Nature of Relationship		Teaching and Educational Offerings
		Expanding Networks		
		Limited or No Connections		
		Quantified Interaction		
		Individual Commitment		
Partnership Creation	Partnership Strength	Partnership Strength	Strong	
			Weak	
		Partner Contributions	Skills (Curriculum, Research, Technical)	
			Involvement and Collaboration	
			Infrastructure or Resources	
	Impact of Conditions	Partner Dynamic	Equal	
			Unequal	
			Local Ownership	
		Partnership Sustainability	Yes	
			No	
External Conditions	Institutional Conditions		Technology Infrastructure	
			Physical Space and Resources	
			Institutional Policies or Processes	
			Personnel	
			Fiscal	
Assessment	Impact of Conditions		Cross Cultural Context	
			Institutional Leadership	
	External Conditions		Country Conditions	
			High/Pol/Eco	
			International Context	
Goal-Setting	Reasons for Creation	How	Assessment	
			Process of Creation	
		Why	Goal-Setting	
			Reasons for Creation	

Systems Practice in Higher Education

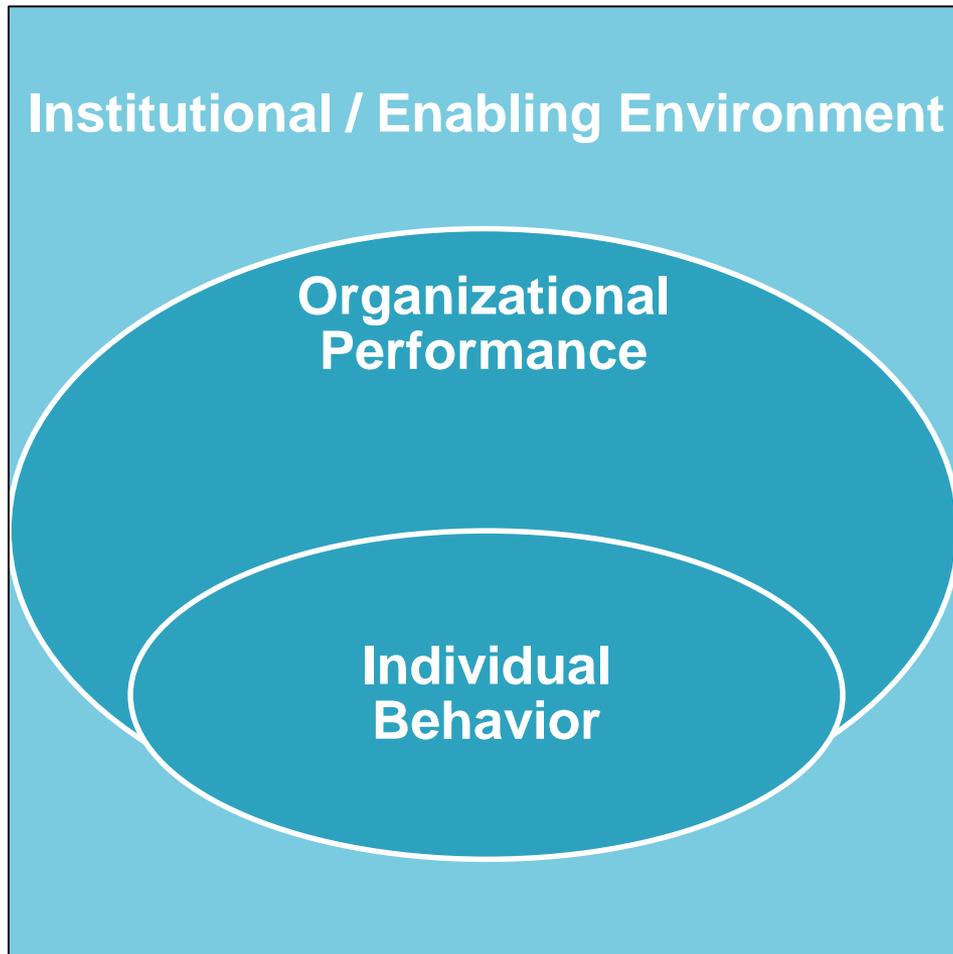


Listen: *Seek to understand the system “as is”*



- More than 90% cited planning stage as critical
 - Doing “more homework in advance”
- Evidence of higher level outcomes when both institutions felt planning reflected mutuality characterized by:
 - Local ownership (HEI and other local organizations)
 - Sustainability of results discussed at start; created space for adaptive management

Engage: *Identify & initiate changes*



- Engage diverse stakeholders
 - Horizontal and vertical
 - Internal and external
- Design interventions. In your theory of change, consider:
 - Level of change
 - Sequencing of change
- Intentionally plan and attend to feedback loops
 - Process and results

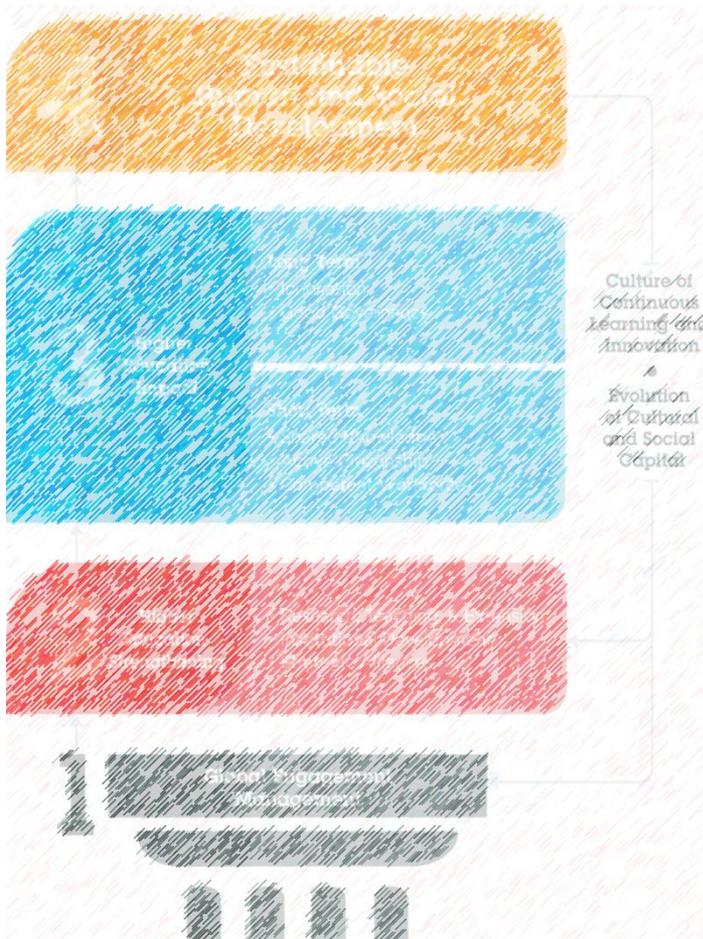
Discover: *Assess for effects on the system*

“The real voyage
of discovery
consists not in
seeking new
landscapes, but in
having new eyes.”

– Marcel Proust

- Establish, manage, utilize, & adapt systems
- Look for both repeating and one-off, line and non-linear patterns
- Examine relationship between process and outcomes
- Apply rigor! Qualitative and quantitative

Adapt: *Modify interventions based on discovery*



- Collaborating - C
 - Internal & external (i.e., not for benefit of implementers)
- Learning - L
 - Deliberate learning agenda
 - M&E system
 - Theory of change
- Adapting - A
 - Pause and Reflect

Final Thoughts



Internationalization ≠ Development

- Transactional vs. Transformational Partnership
 - “Partnerships focused exclusively on student exchange are at the transactional end because students are traded in a manner that resembles transactions in a marketplace.”
 - “Transformational collaborations, in contrast, are those that change or transform entire departments, offices, and institutions, through the generation of common goals, projects, and products.”

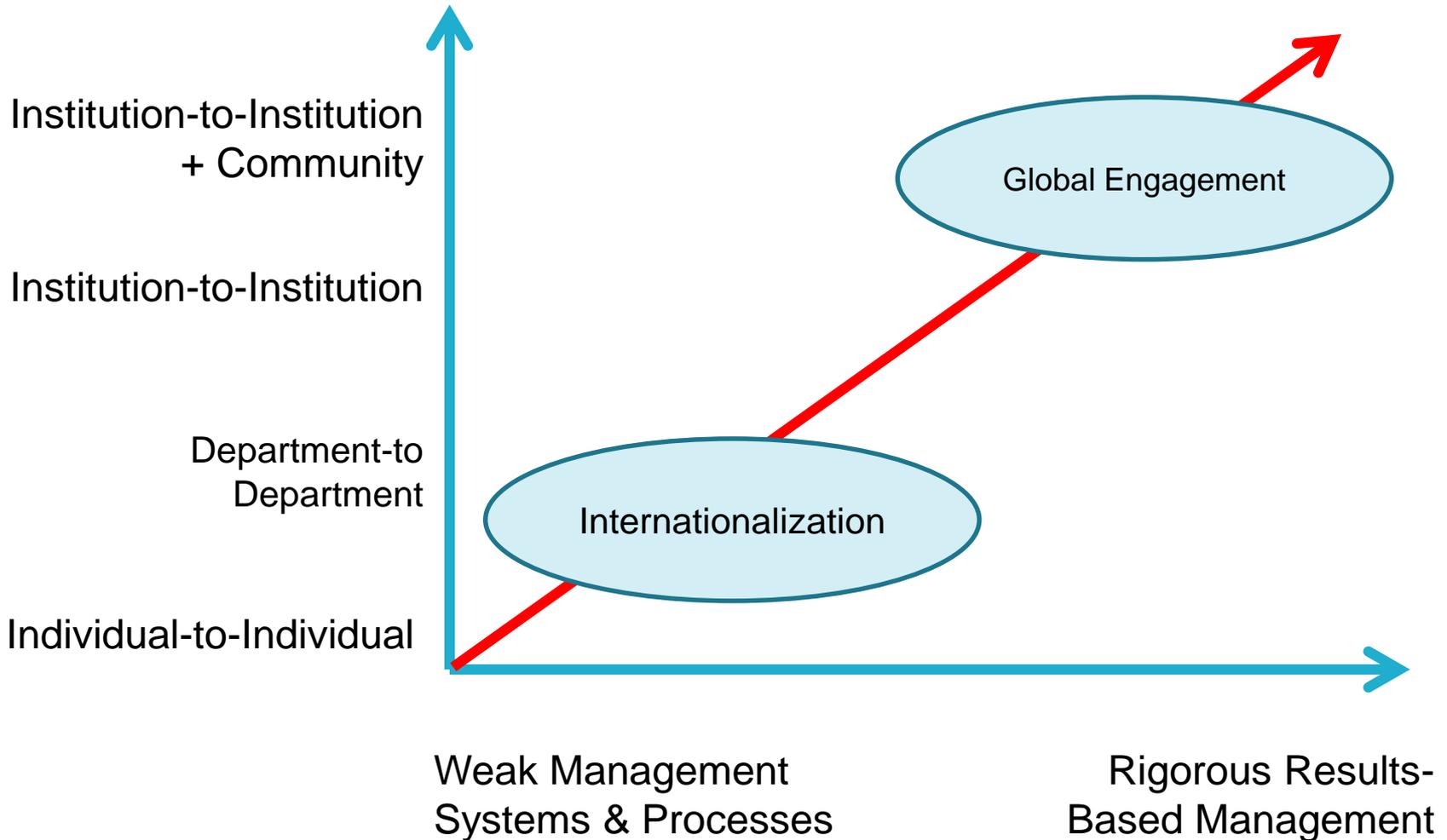
(Susan Buck Sutton & Daniel Obst, 2011)

Why?

“Global engagement encompasses a vast range of activities, which seldom add to a coherent strategy on campus. While many universities have included internationalization as part of an institutional strategy, few go beyond platitudes. Few define the nature of global engagement or internationalization and few operationalize how broad goals might be achieved... Academic institutions need a foreign policy. Such a policy needs to answer fundamental questions about motivations and means, aspirations and expectations. Most important *why* is the university involved.”

-Philip Altbach, The Boston College, CIHE, 2012

Putting it All Together



THANK YOU!

SUNY Global

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SUNY



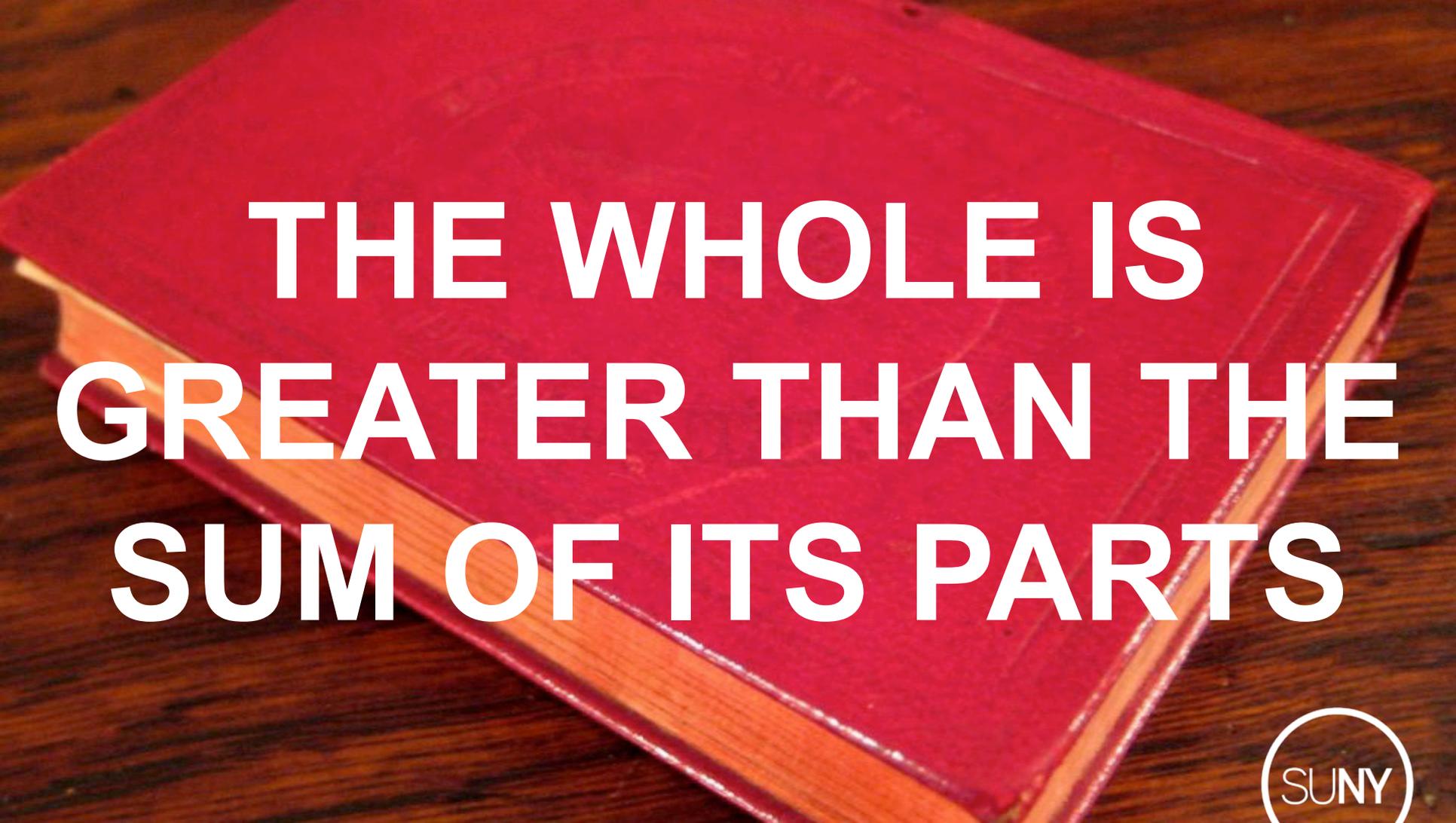
The State University of New York



- University Centers and Doctoral Degree Granting Institutions
 - University Colleges
 - Technology Colleges
 - Community Colleges
- * Empire State College has 35 locations throughout New York State.

systemness ['sɪs-təm-nəs] n

1. the coordination of multiple components that when working together create a network of activity that is more powerful than any action of individual parts on their own.

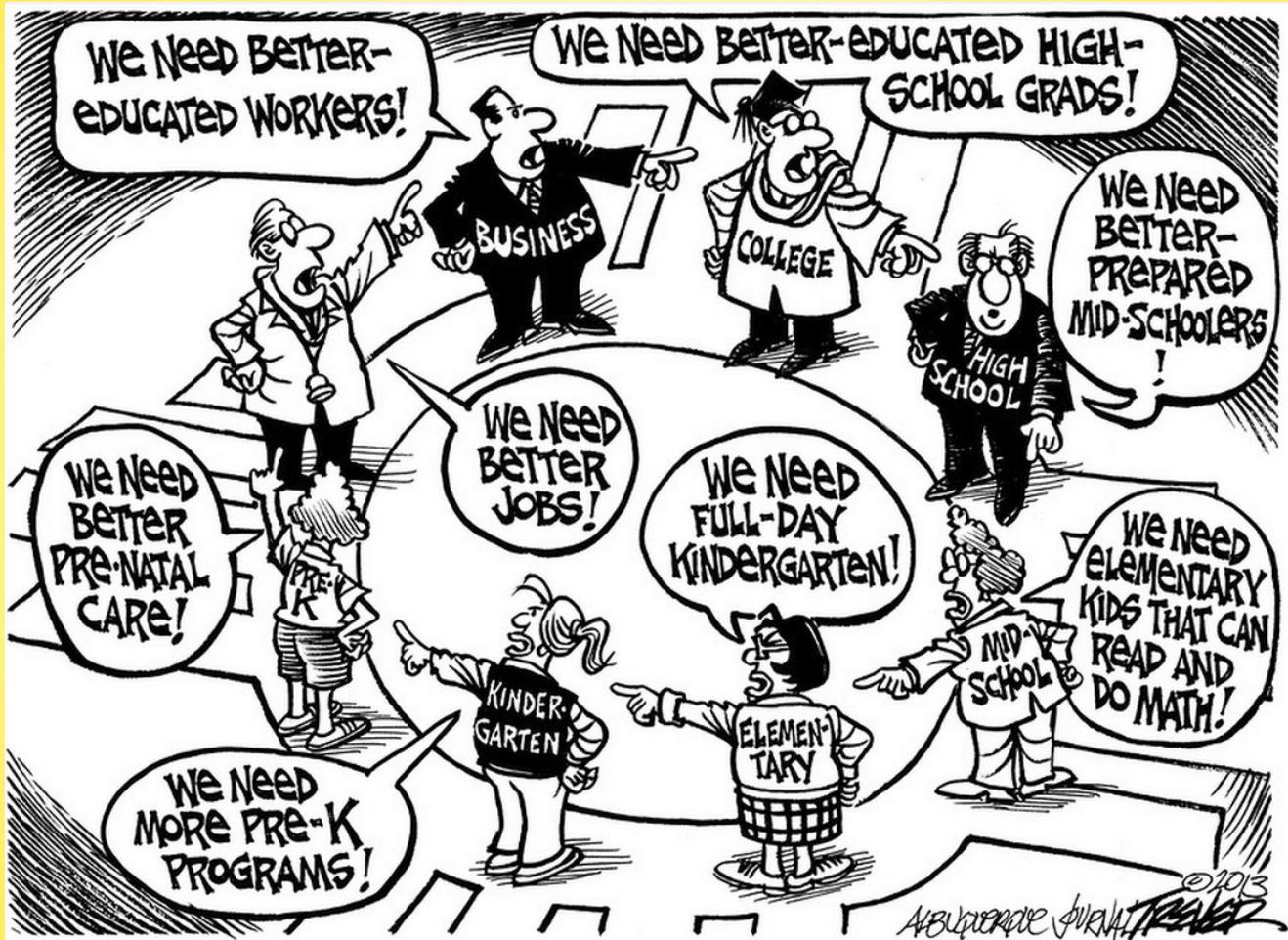
A red book with a textured cover is shown from a slightly elevated angle, resting on a dark wooden surface. The book is closed, and its pages are visible at the bottom edge. Overlaid on the book in large, bold, white, sans-serif capital letters is the text: "THE WHOLE IS GREATER THAN THE SUM OF ITS PARTS".

**THE WHOLE IS
GREATER THAN THE
SUM OF ITS PARTS**

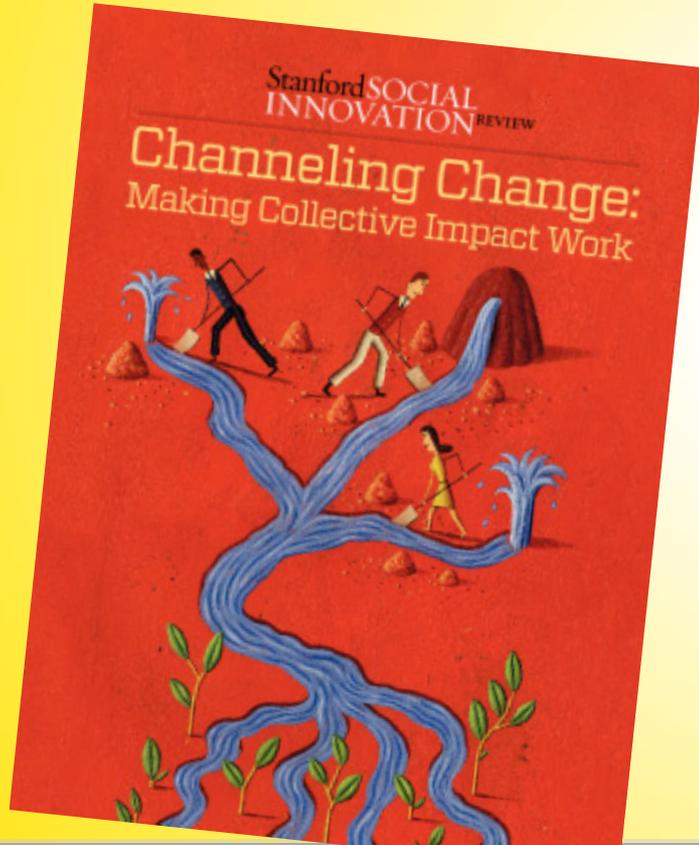




COLLECTIVE IMPACT



What is Collective Impact?



Five Conditions of Collective Success:

- Common Agenda
- Shared Measurement Systems
- Mutually Reinforcing Activities
- Continuous Communication
- Backbone Support Organizations

What is Collective Impact?

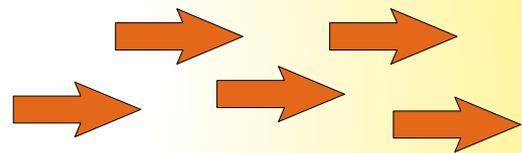
Collaborative Action

A group working towards the same outcome
Using disaggregated **data**
Continuously improving practices over time



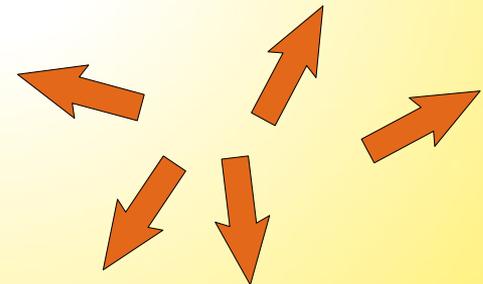
Coordinated Action

A group of practitioners working on a specific issue
Sharing program information/design
Aligning efforts around a specific issue or population



Individual Action

Individual practitioners working on specific issues
Collecting qualitative and quantitative data for their individual programs
Demonstrating impact



What is Collective Impact?

COLLABORATION

Convene around
programs/initiatives

Use data to prove

Addition to what you do

Advocate for ideas



COLLECTIVE IMPACT

Work together to
move outcomes

Use data to improve

Is what you do

Advocate for what works

Four Pillars for Collective Impact

**Pillar 1:
Convening Key
Stakeholders**

**Pillar 2:
Identifying
Shared Goals**

**Pillar 3:
Evidence-Based
Decisions**

**Pillar 4:
Sustaining
Success**

Strategies for Collective Impact

**Disciplined
Approach**

**Data and
Technology**

**Shared
Accountability,
Individual
Responsibility**

**Foundation
in Policy**



COLLECTIVE

IMPACT

Goes GLOBAL

Learning through Development

A new SUNY initiative that endeavors to provide service learning, research and development opportunities for SUNY students and faculty through guided and supported placements in the developing world

Long-term
commitment
to regional
priority area

Campus
engagement:
research,
exchange,
service
learning

Vital
partnerships
with local
stakeholders

University
exchange to
support
program
sustainability

Learning through Development



Learning through Development

- ➔ Foster capacity building with local universities
- ➔ Partner with local organizations and NGOs
- ➔ Collaborate with U.S. and international organizations with exceptional experience and knowledge of priority region
- ➔ Support linkages between development projects and economic sectors