

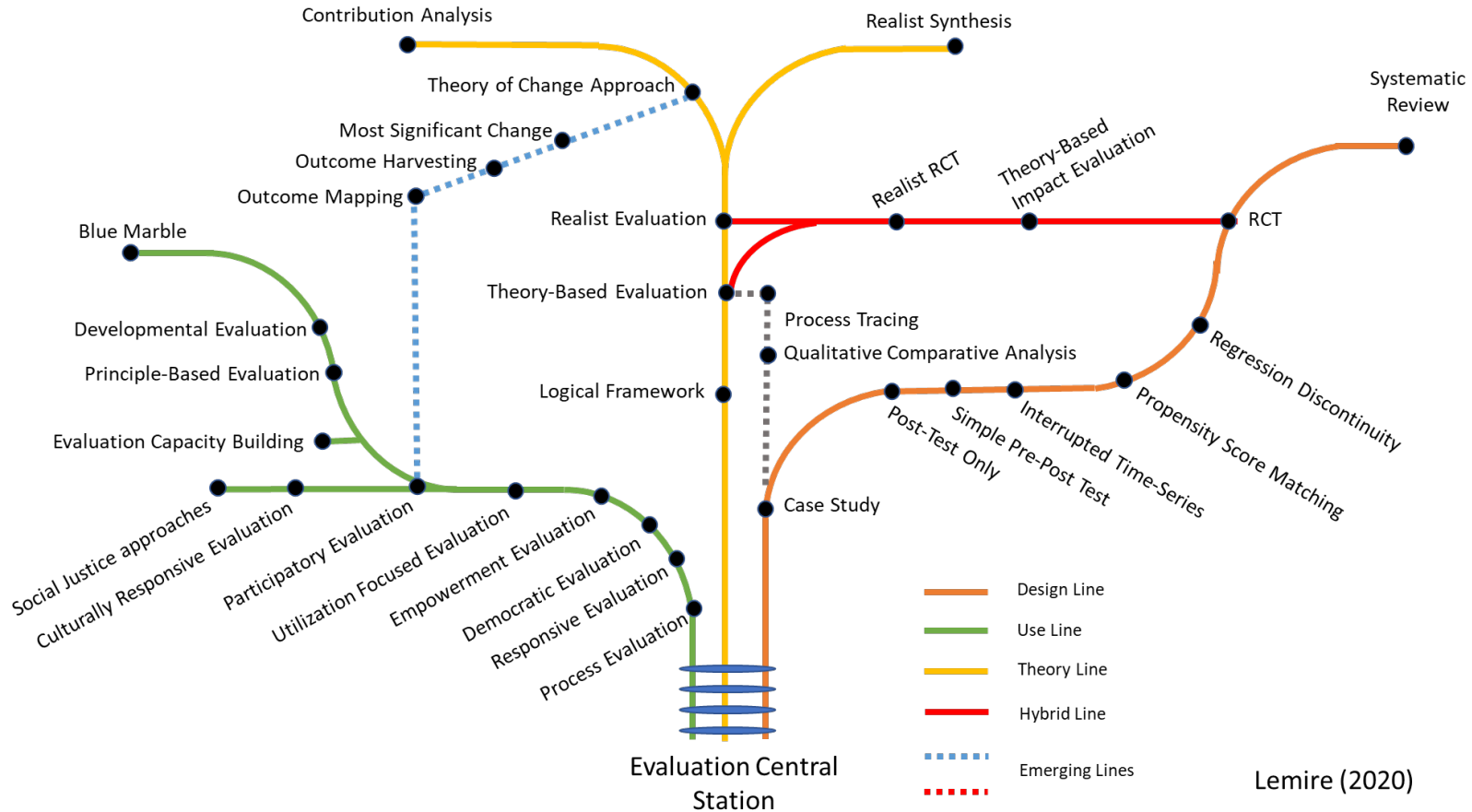


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How We Model Matters: Visualizing Program Theories

Mbuso Jama
Sebastian Lemire
Allan Porowski
Kaity Mumma

Evaluation Metro Map



Lemire (2020)



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The Usual Suspects

Allan Porowski

Logic Model

PROBLEM STATEMENT: Teaching, learning, and assessment in the Trinidad and Tobago primary school system is currently dominated by the Eleven Plus resulting in the absence of diagnostic systems and target setting at early levels (Contained in 1993-2003 White Paper, Trinidad and Tobago Government, 1996, pp. 2, 47). This reduces the capacity of classroom systems to reach all students.

GOAL: To upgrade the practice of on-going teacher-led assessment in the primary school system, thereby establishing benchmarks and targets for diagnosis, remediation and intervention and to improve 'students' readiness for learning'.

RATIONALES

Focus on assessment as learning by teachers and continuous recording of data on students will enhance the quality of classrooms and minimise the current focus and emphasis on Eleven Plus testing.

ASSUMPTIONS

Establishment of an Assessment & Evaluation Unit.

Teachers have the capacity to learn and understand the nature of the reform.

RESOURCES

Assessment & Evaluation Unit
Teacher Training
MOE Publications
Informed Leadership
Supportive physical infrastructure

ACTIVITIES

Regularly staggered monthly tests
Performance Assessments
Record Keeping
Screening and Referrals/Diagnostic Assessments
Formative Feedback
Use of multiple assessments

OUTPUTS

Student Cumulative Record Cards
Student assessment products
Diagnostic and Remedial Systems
Teacher Journals and other records

OUTCOMES

Enhanced student learning

Changes in the nature of teaching-learning
Improvement in Student Achievement
Provide data for school and MOE
Support of remediation and diagnostic systems
Improvement in the school's effectiveness as measured by student learning

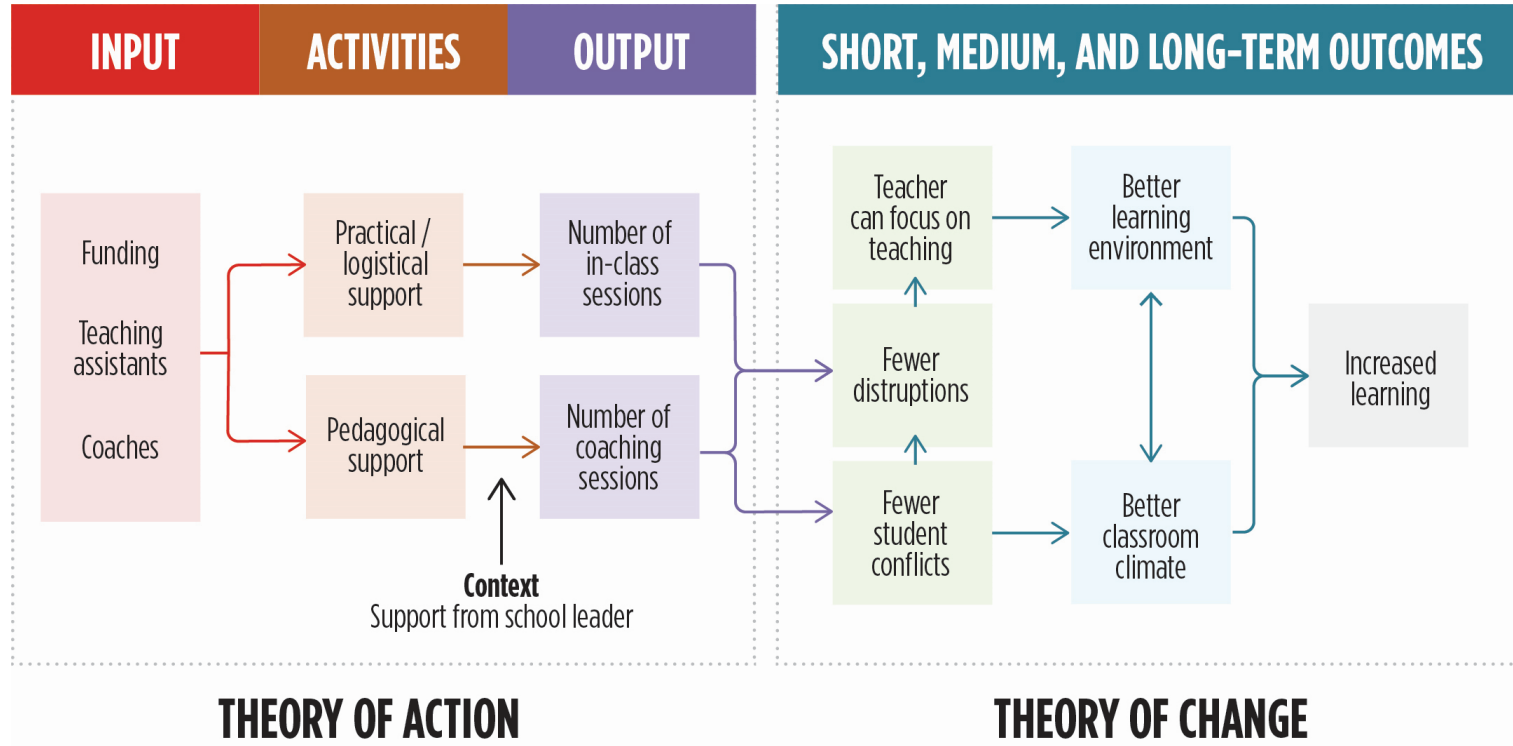
EXTERNAL FACTORS: Some linked components are not as yet fully developed, e.g., SEN. There is also initial opposition by the teachers' union focusing on lack of resources in schools. Another factor is the slow pace of education reform in Trinidad and Tobago.

Logical Framework

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	CRITICAL ASSUMPTIONS
GOAL  Clean and safe water resources in the Chivero Basin	GOAL  Well-being and health of population (human, flora, fauna) is acceptable according to world standards	GOAL  Statistics from: • Department of Health and Child Welfare • Natural Resources Board	GOAL  Water Act of 1998 is implemented and enforced
PURPOSE  Sound water and pollution management in the Chivero Basin	PURPOSE  Feasible options are available that will lead to a measurable decrease of: • Per capita/hectare water use • Water losses • Sediment loads • Pollution and nutrient loads • Eutrophication of Lake Chivero	PURPOSE  Statistics (and baseline) from: • DWD/ZINWA (Hydrology branch, Water Pollution Control Unit) • City of Harare • Department of Environment • Manyame Catchment Council	PURPOSE  • Statistical surveys are reliable and continue to be collected on a regular basis • Institutions and stakeholders are willing to adopt (and adapt) design options
OUTPUTS  1a) Method to identify N and P leachate from diffuse sources 1b) Data on groundwater pollution from selected waste dumps 2a) Alternative operational rules for dams 2b) Alternative land husbandry methods 3) Model for environmental in stream requirement	OUTPUTS  1a) N and P contribution from two commercial farming areas is quantified 1b) Groundwater pollution from two solid waste dump sites is quantified 2a) Two scenarios for the operation of Lake Chivero dam are developed 2b) A method reducing erosion and increasing rain infiltration is identified 3) Environmental in stream flow requirements for Basin established	OUTPUTS  1) Working paper research theme 1 (and conference papers etc.) 2) Working paper research theme 2 (and conference papers etc.) 3) Working paper research theme 3 (and conference papers etc.)	OUTPUTS  Stakeholder groups cooperate with the research, actively participate in workshops, and critically draft design options
ACTIVITIES  1) Identify critical sources of pollution 2) Develop operational rules for dams 3) The environment	ACTIVITIES  Input Personnel 1) Principal investigator (part-time) 3) Senior researchers (part-time) 2) PhD researchers (part-time)	ACTIVITIES  Input Budget (US\$) Equipment 3000 Operating costs 2500 Travel and subsistence 2300 Total 7800	ACTIVITIES  Academic, government and non-government organisations make available existing data

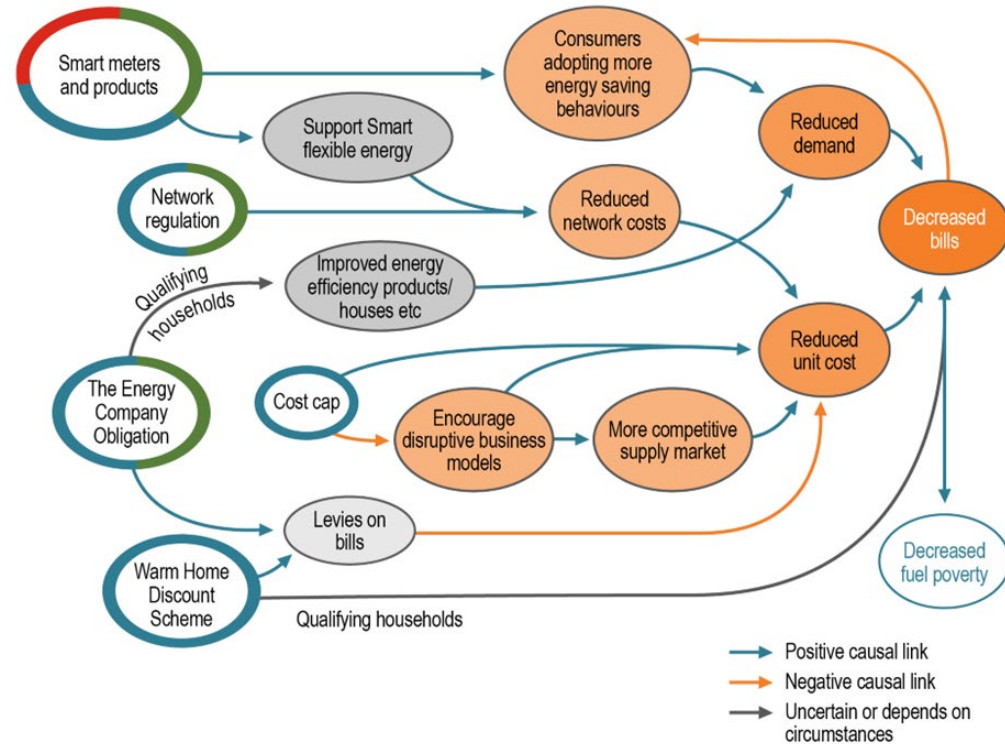
Source: Adapted from Wright (2003)

Theory of (Action) Change



Easy-To-Use Visual Techniques

- Color-coded lines to indicate degrees of evidence or positive versus negative causal links
- Line thickness to distinguish between short- and medium-term outcomes
- Double bars “||” to indicate delayed outcomes
- Plus “+” and minus “-” signs or icons, such as smiley/frowny faces to reflect the direction and polarity of causal connections
- Differently shaped boxes or color-coding for program components, context, mechanisms, and outcomes



Source: Adapted from Wilkinson et al. (2021)

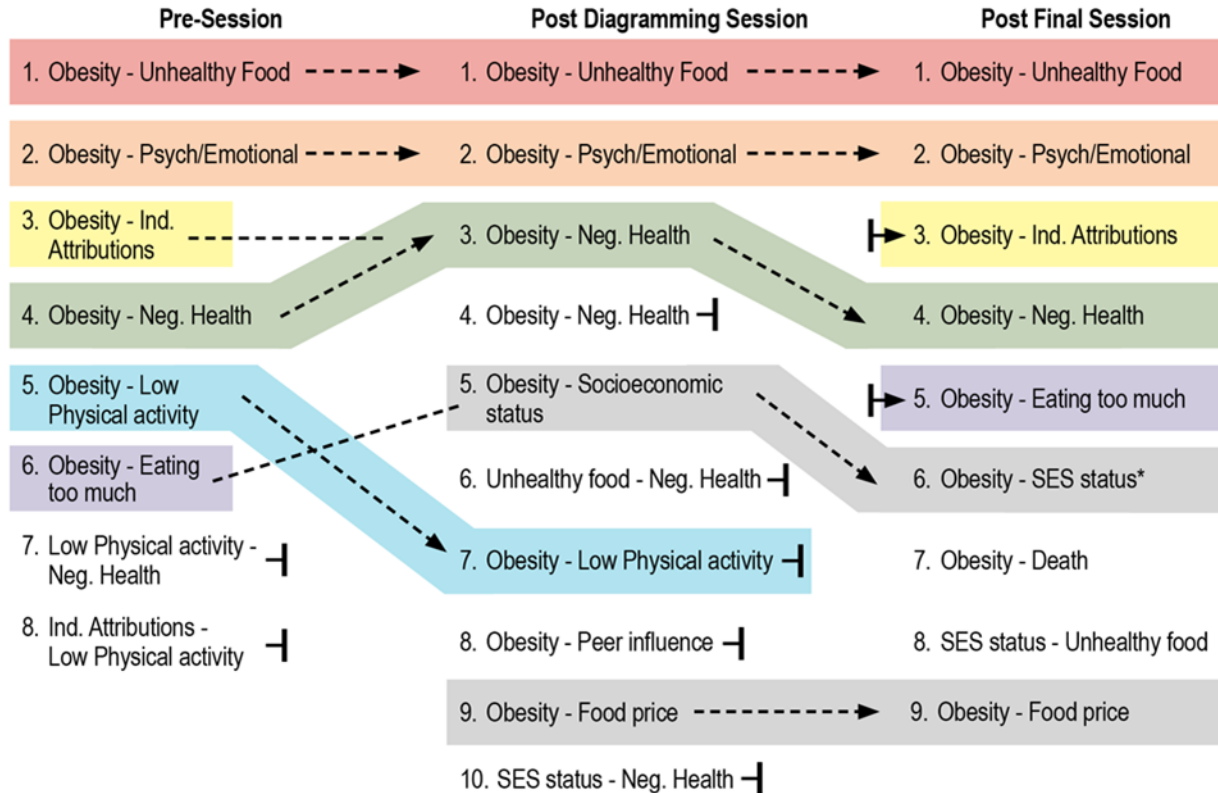


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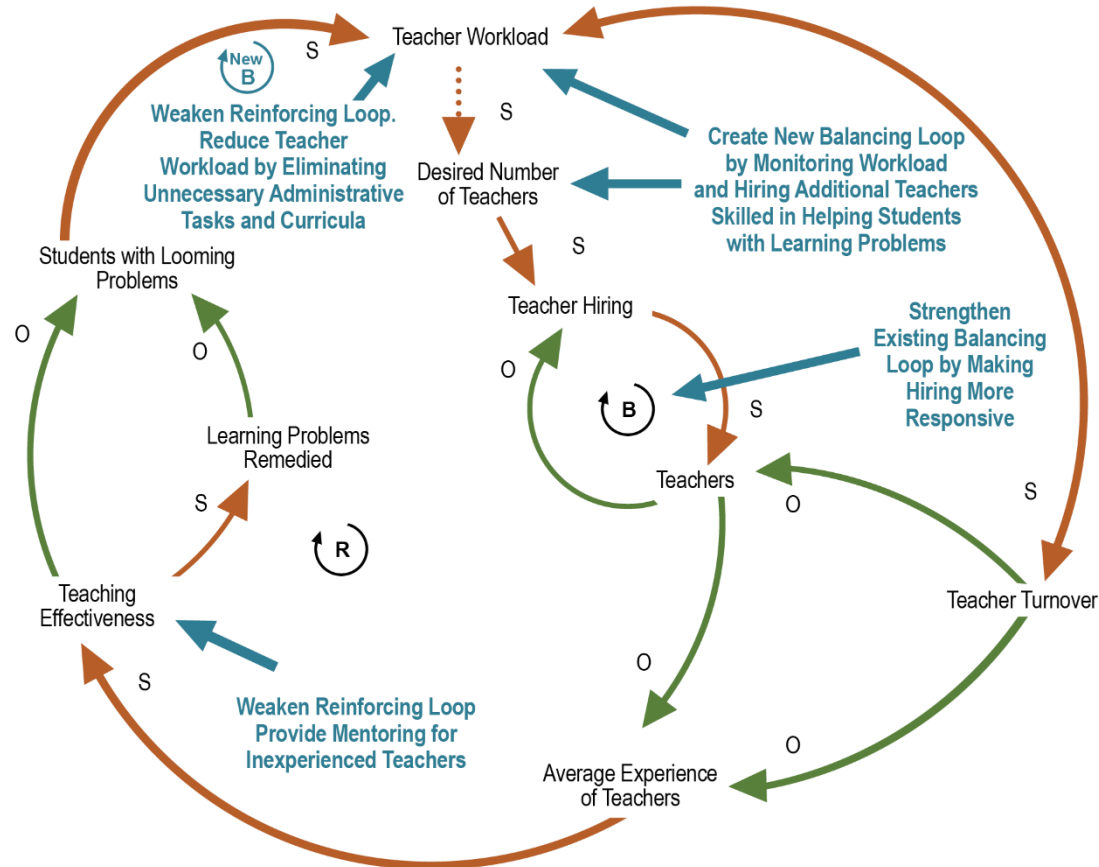
Capturing Complexity in Program Theories

Kaity Mumma

Concept Map



Causal Loop Diagram



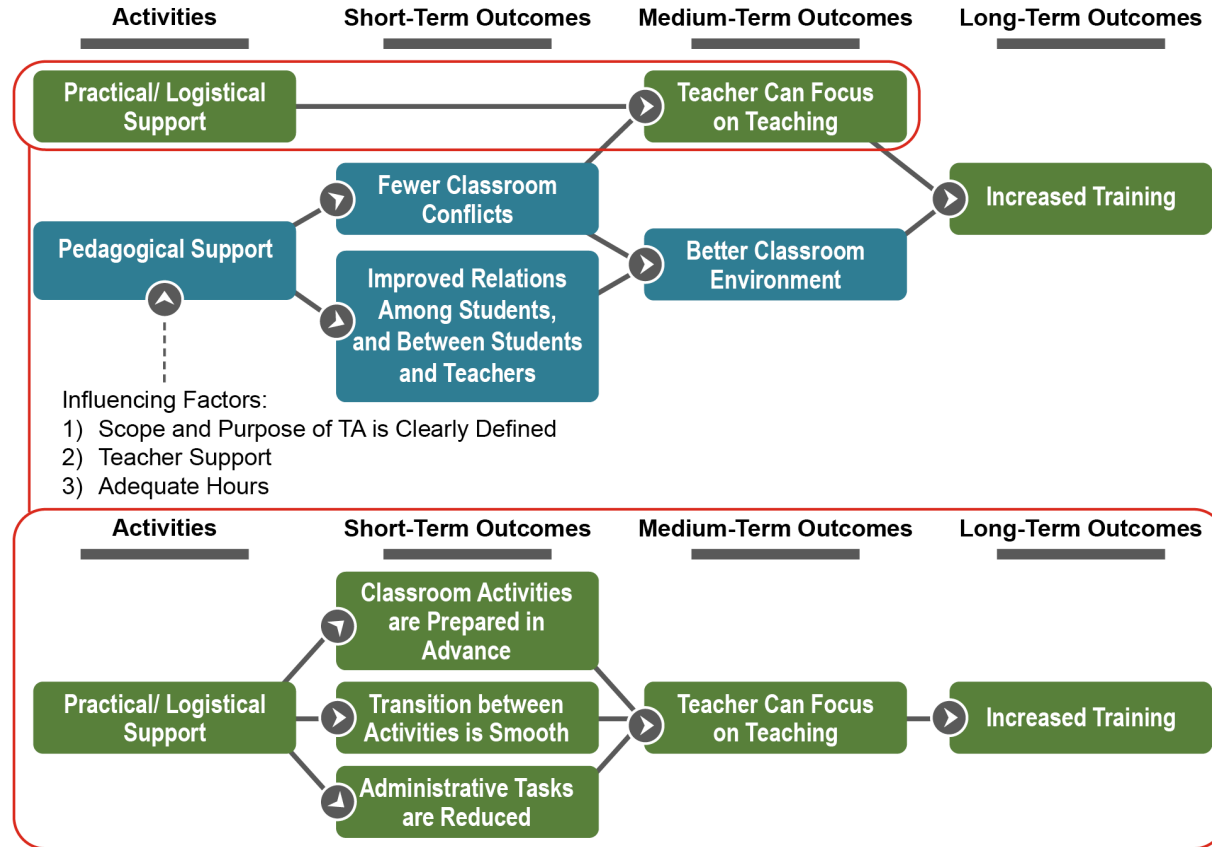


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Nested and Hybrid Program Theories

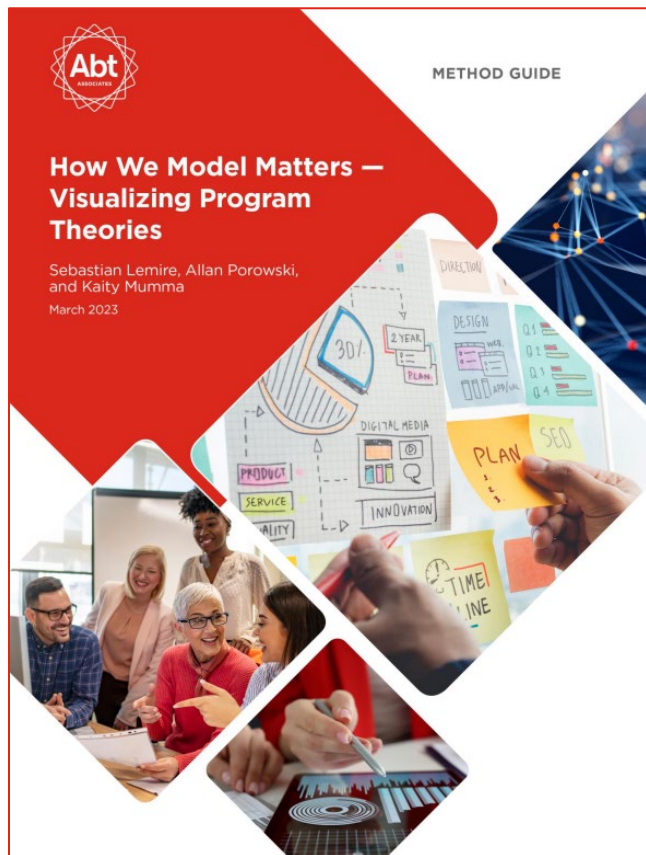
Sebastian Lemire

Nested Model





How We Model Matters!



The guide is structured ten different types of models:

1. Logic model
2. Logical framework
3. Theory of change
4. Context-mechanism-outcome configuration
5. Causal loop diagram
6. Stock and flow diagram
7. Concept map
8. Network map
9. Path model
10. Nested/Hybrid model



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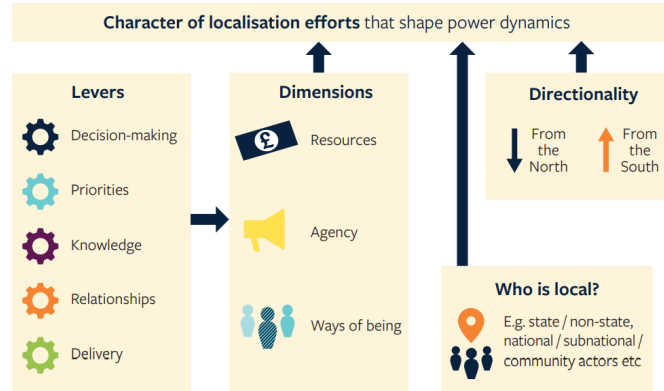
How we Model Matters in MEL and Program Development in the UK Context

Mbuso Jama

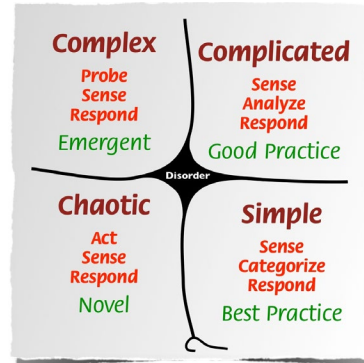
Current Conversations in Program Design



A framework for localization, ODI



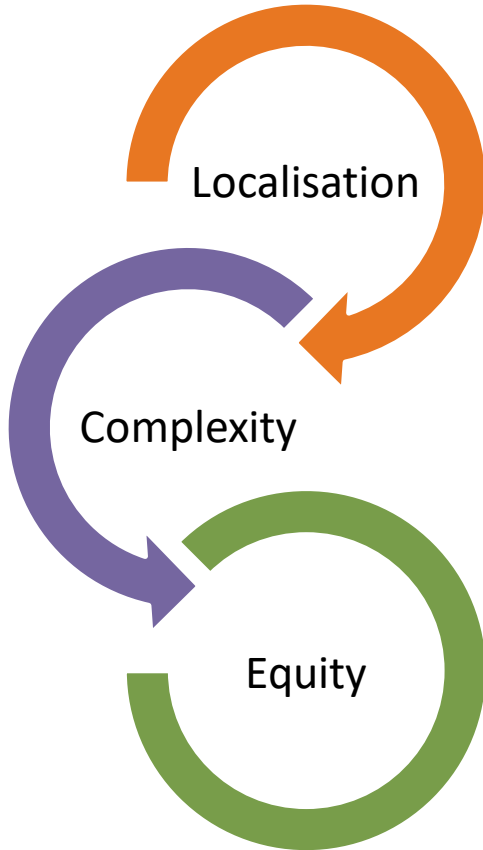
A cynefin diagram, Wieckzorek



IWGS FCDO, 2023

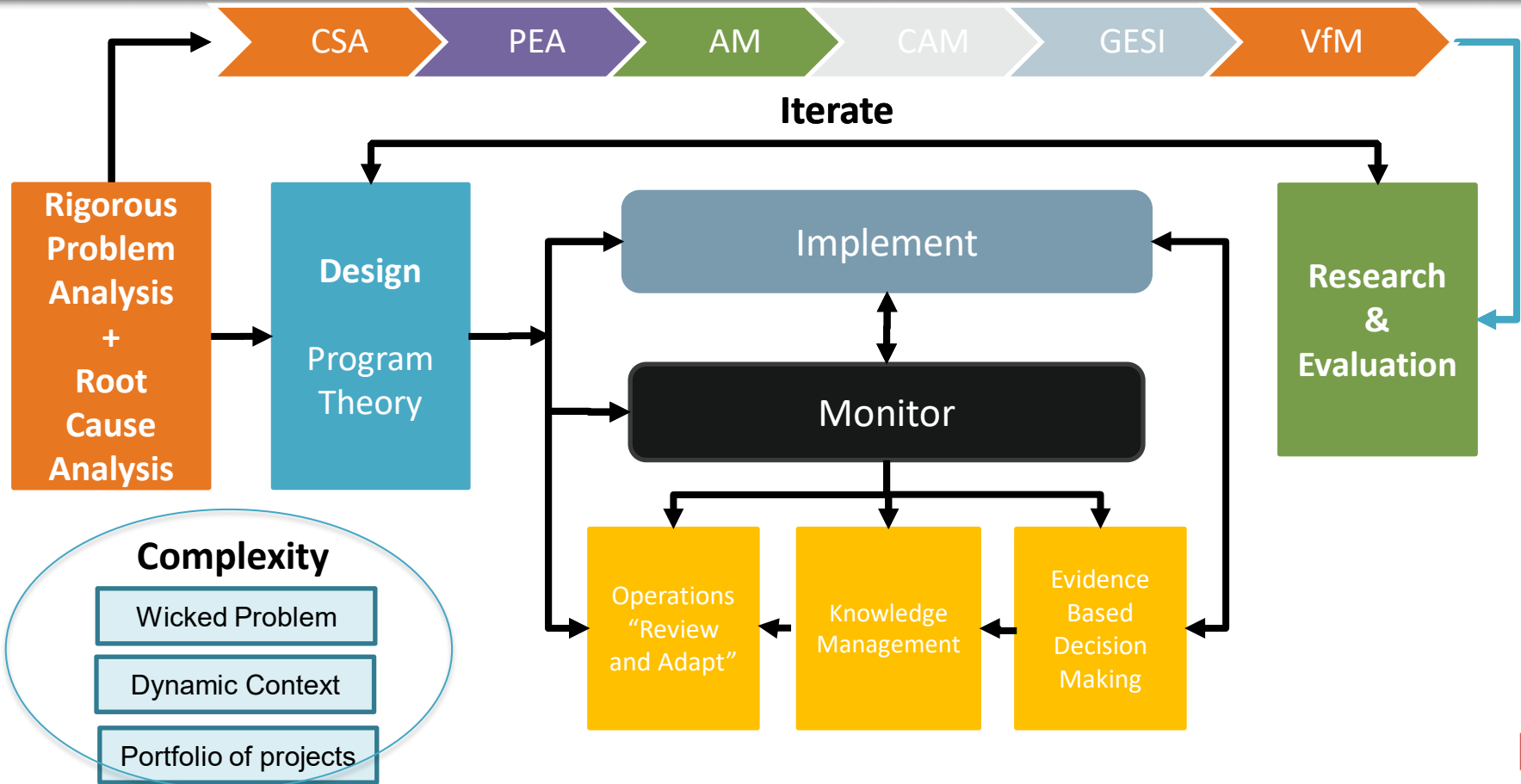
Foreign, Commonwealth
& Development Office

International Women and Girls Strategy 2023–2030





FCDO Program Design & MEL



Problem Analysis

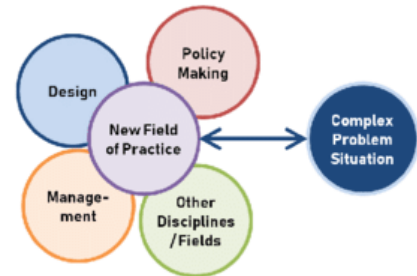
Rigorous
Problem
Analysis
+
Root
Cause
Analysis

- **A wicked problem** is a problem that is complex, including lots of other problems that are intertwined and that cause unexpected consequences over time and with change.
- **High degree of uncertainty**, delving in uncharted waters
- **Multi-disciplinary teams** - problem-solving process should be characterised by divergence and convergence. The problem is decomposed into sub-problems and managing these within each of the disciplines.
- **Process and Product** - If we are to get more value in these tools, the process is as valuable as the product if not more.

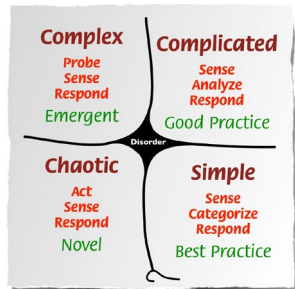
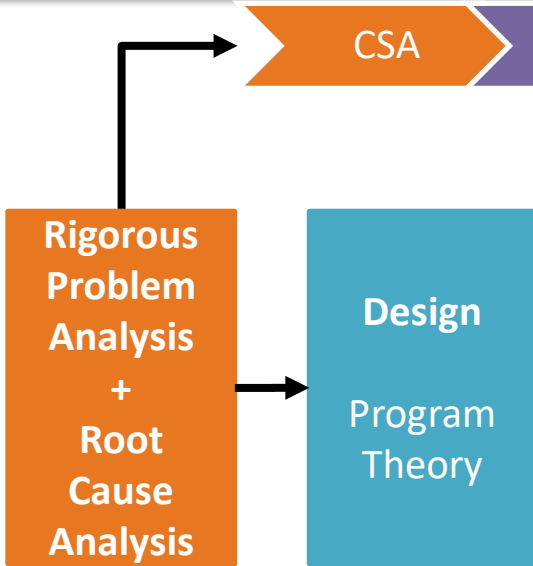
Multi-disciplinarity



Trans-disciplinarity

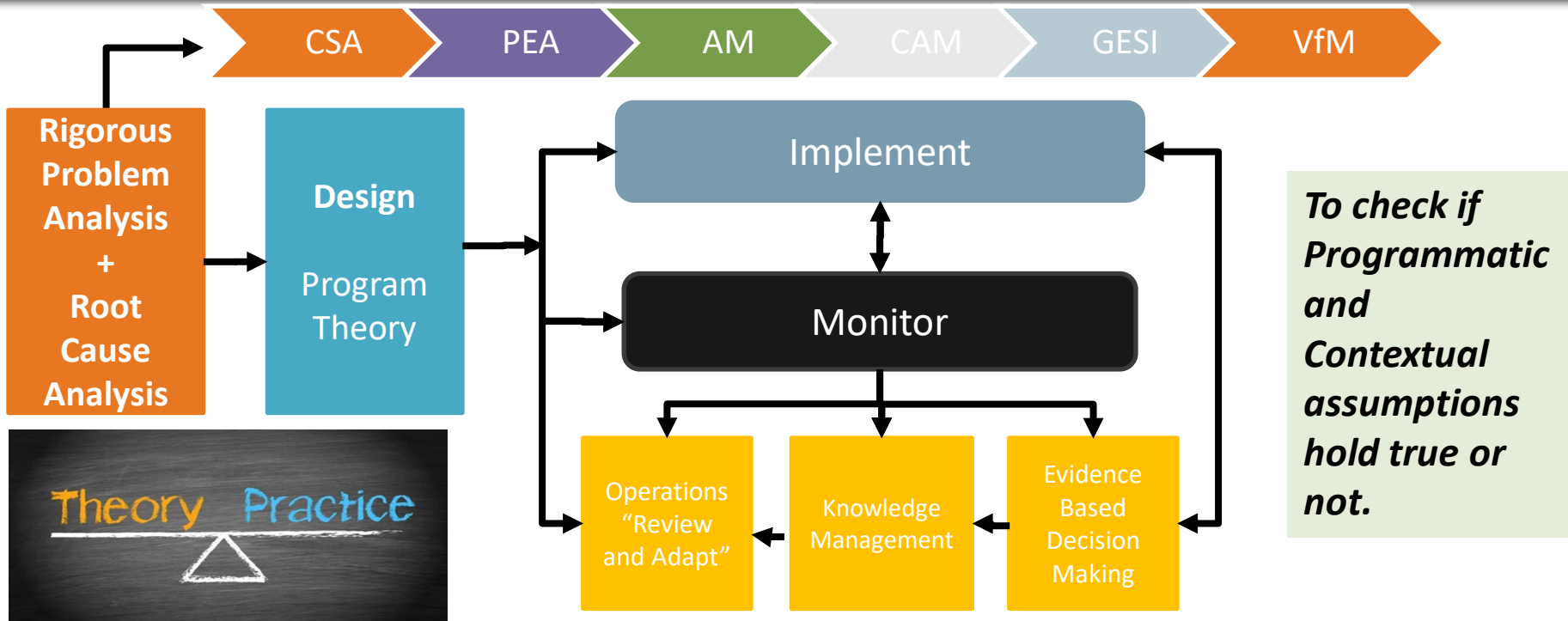


Programme Design



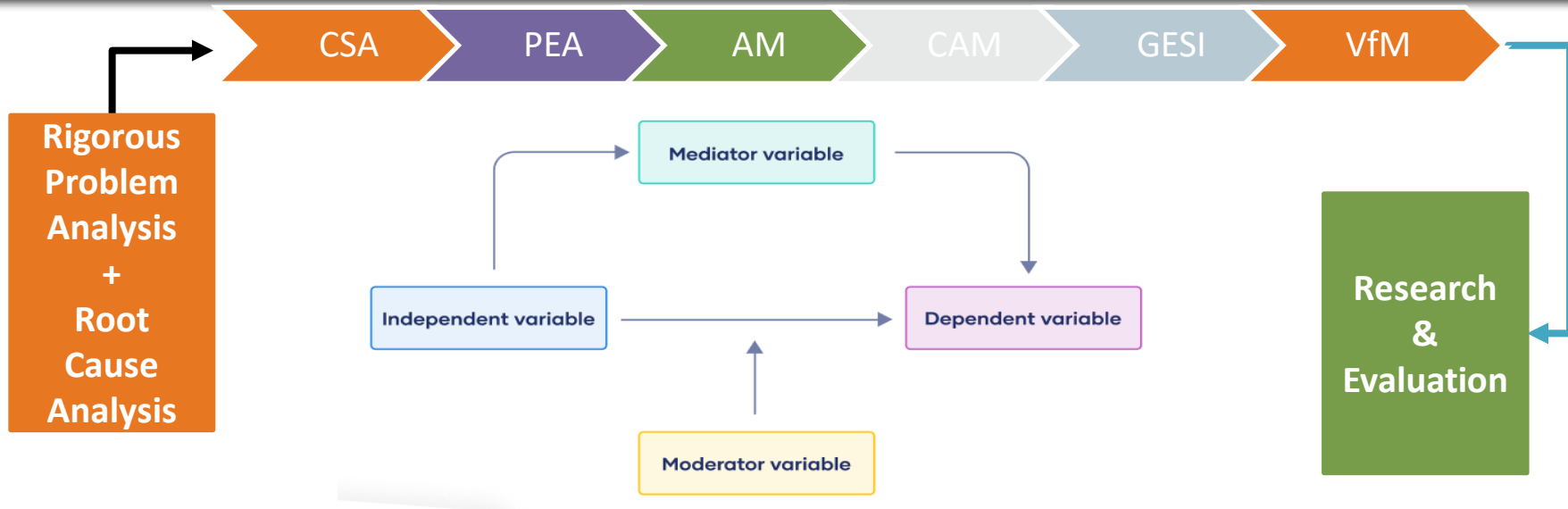
- Now that we have understood the problem – how do we intervene?
- Tools that help explain the **relationship** between a development **problem** being addressed and the **strategies** used to address it, showing **why** and **how change** takes place.
- We have to develop a good programme theory demonstrating the relationship between the problem and strategies.
- We can weave in some of the global discussions around – being politically smart, locally-led, inclusive, etc
- FCDO increasingly using integrated Portfolio Programmes which lead to Portfolio MEL
- **Communicating tools => IF** we do X **THEN** we expect Y **Because...**
- **Determine what is Known - Knowable - Unknown**

When Theory Meets Reality



- Using program logics and theories of change as **monitoring tools**;
- Checking if the theory works - mainly based on **predictive assumptions**; ■

Using Program Logics as Evaluation Tools



- Designing evaluation tools, proving **cause and effect**, which **mechanisms are firing**, why, what is working and for whom or Not;
- *Using program logic and theories of change as **learning tools**, and generalizing theory for **scaling-up or replication***



Common Threads '5Cs' Across These Tools

- **Context** – understanding the problem and where its situated;
- **Causal effects** – If I do X then Y will occur because..;
- **Change** – what change should we expect;
- **Catalyst** – what are the intervention / strategies;
- **Critical Assumptions** – what underpins the success of the theory;
- **Core Indicators** – how does progress unfold or demonstrate change.



Potential Challenges



- **Time** – If you give me 6 hours to cut a tree I will spend hours sharpening my axe; (Abraham Lincoln)
- **Capacity** – In line with localization, participation etc, how easy are these tools to develop and use
- **The right choice** - When is complicated not complex and complex not complicated
- **Quality** – how do we pressure test the quality of these processes and products
- **Reality** – How can we capture some reality like ‘punctuated equilibrium’ in complex contexts





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