

Systems Thinking for Senior Leaders

Seeing the whole, finding the leverage

Haverford College – Senior Leadership Workshop

You Already Work in Systems

You just do not call them that.

ERP

SIS

LMS

CRM

Data Warehouse

Advising Platforms

The challenge is not individual platforms. It is the organizational system they all sit inside: the policies, processes, people, and incentives that connect them.

Sound familiar?

- Siloed projects that create downstream surprises
- Reports that get delivered but do not change decisions
- Policy changes that ripple through systems in ways nobody anticipated

For us: Systems thinking is a way of understanding how policies, processes, technology, and people interact over time, so our decisions improve the whole college, not just one office.

One Change. Many Consequences.

A scenario you have probably lived through.

Leadership decides to change the advising model. New policy. New workflow. New expectations.

IR

Redesigned 12 reports overnight. Ad-hoc requests spiked. Historical comparisons broke.

IT

Updated SIS configs, built one-off integrations. Data quality issues surfaced weeks later.

Advising

Caseloads shifted. Some advisors went from 30 to 80 students overnight.

Students

Longer wait times, less personalized guidance, growing frustration.

6 months later

Retention dipped. Leadership asked: why is the new system not working?

The question: Where do you sit in this picture? What happens to your work when one piece changes?

Systems Are Perfectly Designed To Produce The Results They Get

*If you do not like the results, you have to change the system.
Not the people. Not the effort. The system.*

Why This Matters for Your Work

Systems thinking is less about nicer diagrams and more about fewer "we did not see that coming" moments.

1

Better Projects

Fewer surprises after go-live because you anticipate cross-campus impacts before they happen, not after

2

Better Decisions

Data is interpreted with awareness of structures (policies, incentives, workflows), not just numbers on a dashboard

3

Better Collaboration

Shared maps and language reduce the blame cycle between "the system," "the data," and "the users"

Same Data. Different Diagnosis.

Scenario: First-gen students are underperforming in STEM courses despite strong placement scores.

Without Systems Thinking

- IR produces clear report: first-gen STEM GPA 2.4 vs. 3.1 for peers
- Leadership responds: more tutoring, peer mentoring, study skills workshop
- IT builds dashboard to track participation. Attendance is high
- A year later, gap has not closed. Conclusion: need more intensive intervention
- Nobody questions why the interventions are not working

With Systems Thinking

- Before recommending, team asks: what system is this student inside?
- Discovery: first-gen students work 20+ hrs/week. Tutoring scheduled during work hours
- Peer mentors assigned by major, not lived experience. No connection
- Study skills workshop assumes the student is the problem, not the structure
- Leverage point: restructure when and how support is delivered

The difference: IR and IT did their jobs perfectly in both scenarios. Accurate report. Good dashboard. Tracked participation. It still did not work. Systems thinking is not about doing your job better. It is about asking a different question before you start.

Four Habits of a Systems Thinker

Systems thinking is not a methodology to learn. It is a set of habits to practice.

1

Check Your Lens

See differently

Before reacting, ask: what am I assuming? What am I not seeing?

2

Trace the Loop

Understand the dynamics

When something keeps happening, ask: what is feeding this pattern?

3

Map Before You Act

Make it visible

Before committing to a solution, make the dynamics visible so the team can see the same picture.

4

Find the Lever

Act with precision

Not all interventions are equal. Ask: where will a small change have the biggest lasting effect?



**Think about a challenge in your area
that keeps coming back no matter what you do**

What is it? Why does it persist?

01

Habit 1: Check Your Lens Mental Models

The invisible assumptions that shape what we see,
what we ignore, and what we decide.

The Iceberg Model

Most of what drives outcomes is below the surface.



The Iceberg in Action

One scenario. Four layers. Watch the picture deepen.

Event

"First-year retention dropped 3 points this year."



Pattern

Retention has been declining for three years. Student satisfaction scores are following the same trajectory.



Structure

Advising caseloads doubled when two advisors left and were not replaced. Faculty teach more sections with less time for mentoring. New programs launched without new support infrastructure.



Mental Model

"More programs will attract more students, and the existing support system can absorb the growth. Success means applications, not experience."

Notice: Each layer reveals more about why the problem persists. Most organizations stop at Events. Systems thinkers go deeper.

Recognizing Each Layer

Where does your attention usually go?

Events

- A department chair resigned
- The board asked why enrollment is flat
- A new program got low first-year reviews

Patterns

- Faculty turnover has risen for 3 straight years
- Every new initiative starts strong, then fades
- Student complaints about advising spike every fall

Structures

- No workload impact assessment before launching new programs
- Advising is optional, not required or incentivized
- Budget decisions made annually with no multi-year modeling

Mental Models

- *"Growth means more programs"*
- *"If we build it, they will come"*
- *"Retention is an admissions problem, not an experience problem"*

Two Ways of Seeing

Linear thinking is not wrong. It is incomplete for complex challenges.

Linear



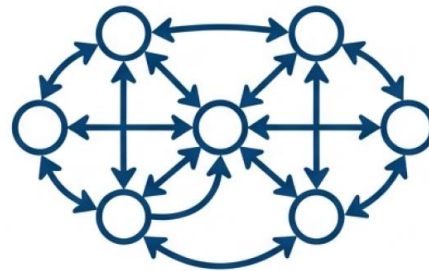
Works

- ✓ Debugging code or reconciling data
- ✓ Well-bounded technical problems
- ✓ Clear input → output processes

Breaks down when

- Multiple stakeholders are involved
- Causes loop back on themselves
- Effects are delayed or hidden
- Fixing one thing creates new problems

System



Adds the

- See the
- Trace interconnections across units
- Look for patterns over time, not events
- Examine the system, not the person
- Find where a small change has big impact

The reframe: You already have a strong analytical toolkit. Systems thinking adds another lens for the problems your current tools cannot fully explain.

Two Ways of Seeing

Linear thinking is not wrong. It is incomplete for complex challenges.



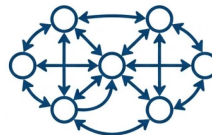
Linear Thinking

Works well for

- ✓ Debugging code or reconciling data
- ✓ Well-bounded technical problems
- ✓ Clear input → output processes

Breaks down when

- Multiple stakeholders are involved
- Causes loop back on themselves
- Effects are delayed or hidden
- Fixing one thing creates new problems



Systems Thinking

Adds the ability to

- See the structure producing behavior
- Trace interconnections across units
- Look for patterns over time, not events
- Examine the system, not the person
- Find where a small change has big impact

PRACTICE

Diagnose One Challenge

In your group, pick one real challenge from your area.

On a sheet of paper, write one sentence at each layer of the iceberg.

Event

What happened? The thing that triggered the conversation.

Pattern

What trend has this been part of? How long has it been going on?

Structure

What policy, process, or design is producing the pattern?

Mental Model

What assumption is nobody questioning?

10 minutes in groups | Then each group shares their Mental Model layer with the room

02

Habit 2: Trace the Loop

Feedback Loops & Unintended Consequences

Why good intentions often produce bad outcomes
and why problems keep coming back.

Two Types of Feedback Loops



Reinforcing Loops

Amplify change in one direction. Can be virtuous (growth spirals) or vicious (death spirals).

Example: Strong reputation attracts better faculty, which improves programs, which strengthens reputation further.



Balancing Loops

Resist change and push toward equilibrium. They explain why initiatives plateau or meet resistance.

Example: Hiring more advisors reduces caseloads, which reduces perceived urgency, which slows further hiring.

Key insight: Every persistent organizational problem is sustained by at least one feedback loop. Find the loop, and you understand why the problem keeps coming back.

Loops Are Everywhere

You experience feedback loops every day. You just do not call them that.



The Coffee Cycle

- I need coffee to wake up
- I drink too much coffee
- I cannot sleep well
- I am tired the next morning
- ↻ I need more coffee...



The Stress Cycle

- Stress builds from overwork
- You take a break or indulge
- Stress drops temporarily
- You feel better, return to overwork
- ↻ Stress builds again...

The pattern: Reinforcing loops compound (the coffee problem gets worse). Balancing loops oscillate (stress drops then rises). Now imagine these same dynamics inside your institution.

03

Habit 3: Map Before You Act

Systems Mapping

You now know what loops look like.

The next step is making them visible.

Meet Bridgewater College

A fictional small liberal arts college facing a familiar challenge.

The Situation

Enrollment has been flat for three years. Leadership invested in **six new programs** and increased marketing 40%.

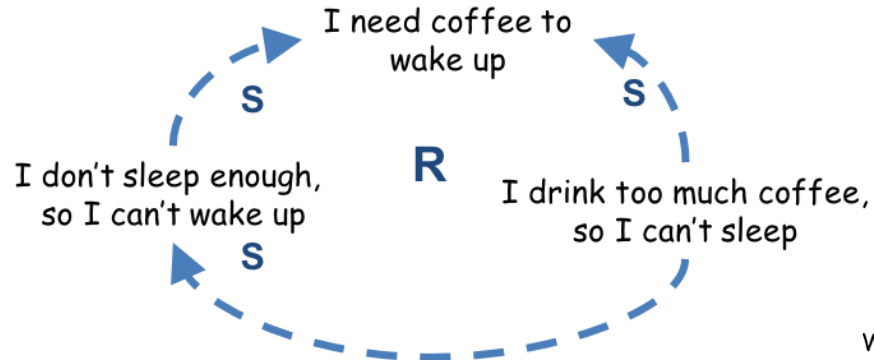
Applications are up 18%. But behind the good news:

- Faculty workload increased 25%. Advising caseloads doubled.
- Student satisfaction dropped 12 points. Retention fell from 89% to 83%.
- Two senior faculty left. Campus visit conversion rates declining.
- IR fielding ad-hoc report requests weekly. IT managing 4 new one-off integrations.
- Data quality issues emerging across SIS, LMS, and advising platforms.

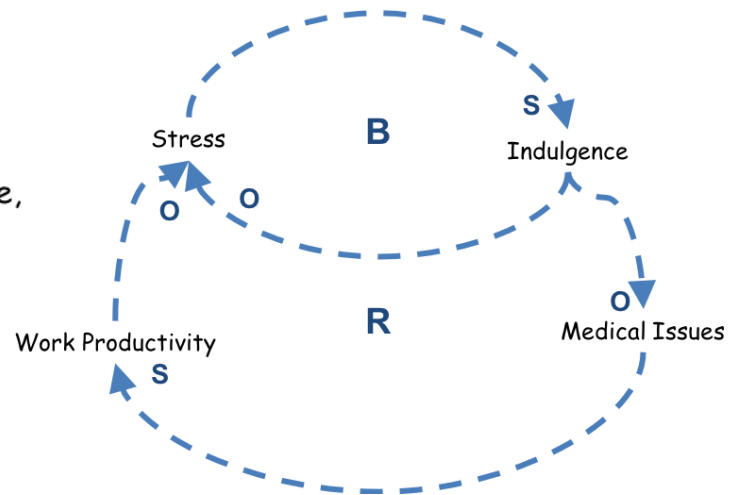
The board is asking: why is enrollment growth not translating to institutional strength?

Feedback Loops Explain Why Patterns Persist

Reinforcing (R) Loops

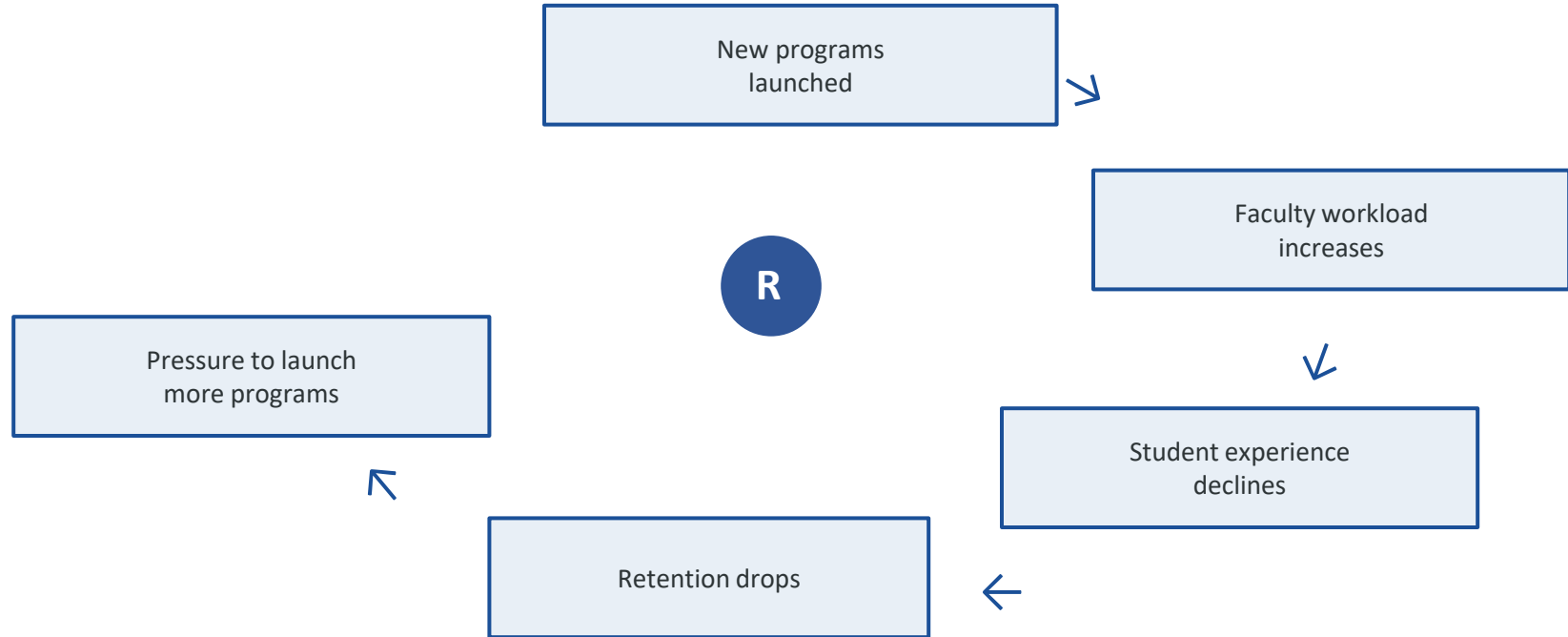


Balancing (B) Loops



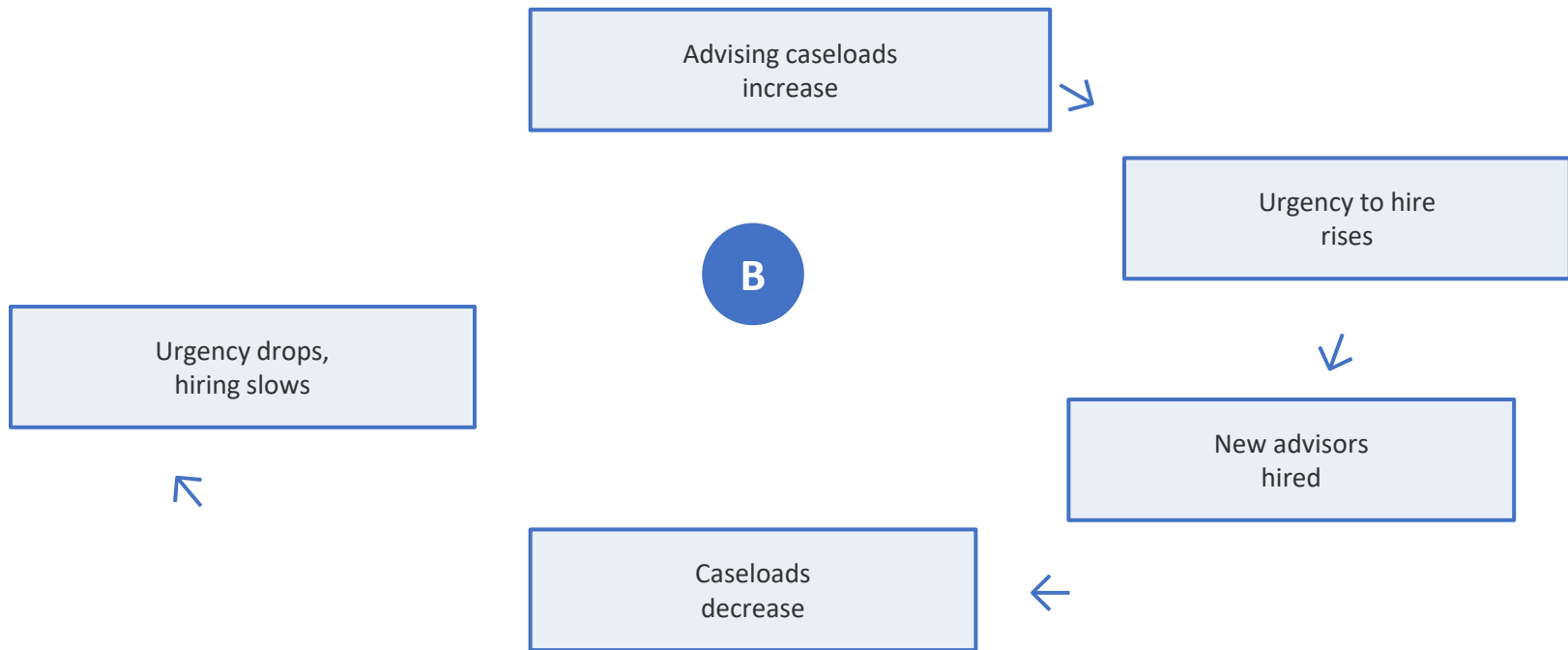
Tracing a Reinforcing Loop

A vicious cycle hiding inside the growth story.



Tracing a Balancing Loop

Why the advising problem never fully gets solved.



The contrast: Reinforcing loops accelerate (things get worse and worse). Balancing loops oscillate (things improve, then slide back). Both are happening simultaneously at Bridgewater.

Constraints Shape What Is Possible

Systems do not just have loops. They have limits.



Time

Delays between action and feedback. Good decisions look bad in the short term.



Capacity

High staff-to-student ratios, overloaded faculty, stretched support services.



Participation

Voluntary vs. required engagement. The default determines behavior at scale.



Priorities

Competing demands on time and attention. Everything is urgent, so nothing is.



Policy

Rigid rules, procedures, and eligibility requirements that limit flexibility.

For mapping: As you map the Bridgewater system, look for where constraints are limiting what the system can do, not just what loops are driving it.

ACTIVITY 1

Map the System

- 1 In small groups (3-4 people), use the Bridgewater scenario
- 2 Map as many feedback loops as you can find
- 3 Label each loop as Reinforcing (R) or Balancing (B)
- 4 Identify: which loop is the most dangerous? Which is an opportunity?

25 minutes

Debrief: What Did You See?

1

What loops did your group identify that others missed?

2

Where did you find reinforcing loops creating vicious cycles?

3

What balancing loops are keeping Bridgewater stuck?

4

What surprised you about how interconnected the issues are?

Now Think About Us

Bridgewater is fictional. But the dynamics are not.

- 1 Where are Bridgewater's dynamics showing up at Haverford?
- 2 What loops might be operating in your area that nobody has named?
- 3 What data are you producing that nobody is using to change the system?

Hold these thoughts. After the break, we will explore where to intervene.

Break

10 minutes

When you return, we shift from diagnosis to action.

04

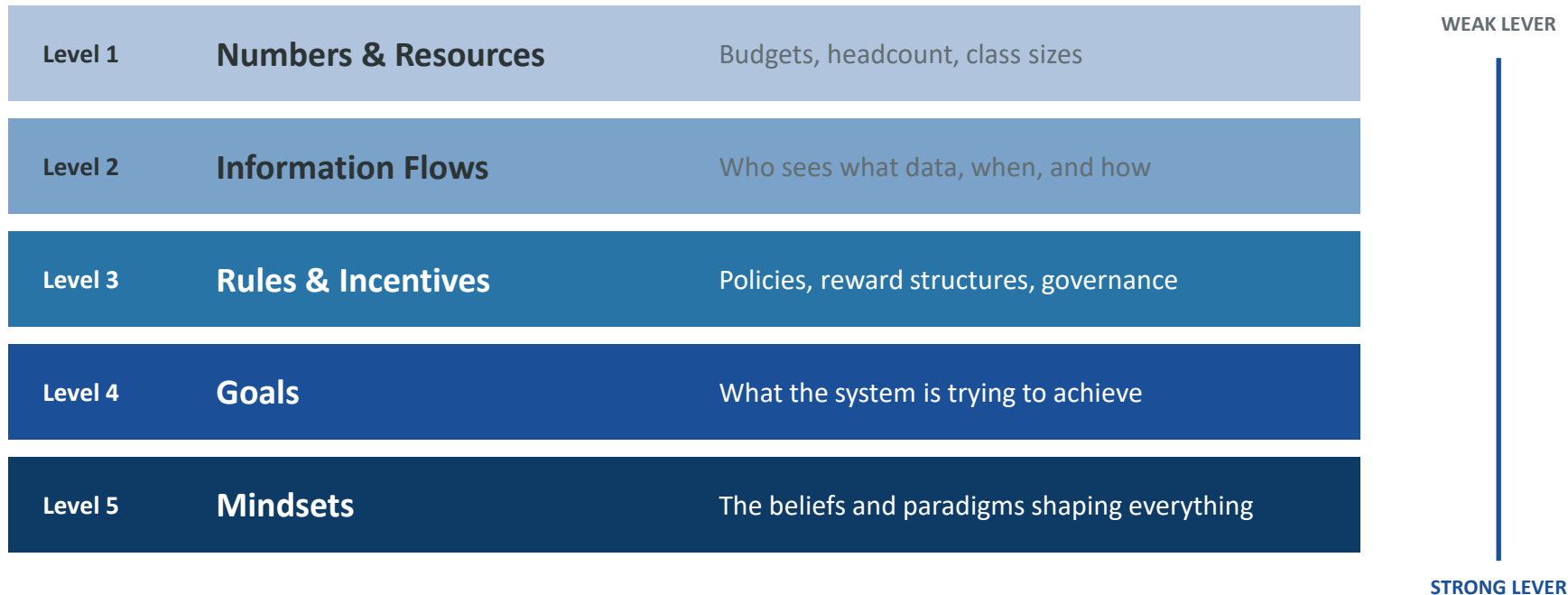
Habit 4: Find the Lever Leverage Points

Not all interventions are created equal.

Where you push matters more than how hard you push.

The Leverage Spectrum

Adapted from Donella Meadows' Places to Intervene in a System



Key insight: We default to Level 1. The real leverage is almost always at Levels 3-5.

Same Problem, Different Levers

Challenge: Student retention is declining at Bridgewater

L1: Numbers

Hire 3 more advisors

Quick but temporary. Caseloads drop, then creep back up.

L2: Info Flows

Build an early warning dashboard

Better visibility, but only works if people act on the data.

L3: Rules

Require faculty to flag struggling students within 3 weeks

Structural change. Creates accountability. May meet resistance.

L4: Goals

Redefine success as student thriving, not enrollment growth

Changes every downstream decision.

L5: Mindsets

Challenge the belief that growth = more programs

Most powerful. Hardest. Changes the paradigm.

Why We Default to Weak Levers

They are visible and concrete

Adding budget or headcount feels like action. Changing mindsets does not.

They are politically safe

Tweaking numbers does not challenge anyone's assumptions or authority.

They show quick results

Weak levers produce fast, measurable change. Strong levers take time.

They are within our control

We can approve a hire today. Changing a culture takes years of sustained effort.

ACTIVITY 2

Where Would You Intervene?

- 1 Using the Bridgewater scenario and the maps you already built...
- 2 Brainstorm 4-5 possible interventions as a group.
- 3 Place each intervention on the Leverage Spectrum (Levels 1-5).
- 4 Choose your highest-leverage intervention and prepare to defend it.

25 minutes

Debrief: Where Is the Real Leverage?

1

Where did most of your initial interventions land on the spectrum?

2

What made you choose your highest-leverage intervention?

3

What would it take to actually implement a Level 4 or 5 intervention?

4

What resistance would you expect, and from where in the system?

Bringing It Home

Now think about your world.

- 1 • What is one real challenge in your area that might be driven by a feedback loop?
 - 2 • What level of the leverage spectrum are your current interventions targeting?
 - 3 • Where is the highest leverage point you have not tried yet?
-

Key Takeaways

1

Look below the surface. Events are symptoms. Structures and mental models are causes.

2

Trace the loops. Every persistent problem is sustained by feedback loops you may not be seeing.

3

Map before you act. Making the system visible changes the conversation.

4

Push on the right lever. Changing mindsets and goals is harder but far more powerful than changing numbers.

5

Ask different questions. Not "who is to blame?" but "what structure is producing this behavior?"

Your 30-Day Commitment

• In the next 30 days, what is one thing
you will do differently as a systems thinker?

Write it down. Share it with a colleague. Hold yourself accountable.

Thank You

*"The solution to a problem is rarely found at the level
at which it manifests itself."*
