Systems-Based Thinking



Purpose

Systems-based thinking is the art of analyzing situations in hyper complex ways, recognizing that our decisions rarely lead to one outcome. In the real world, we don't do "x" to get "y." Instead, when we do "x", it impacts "y" as well as "a" "b" "c" "d" and so on. For example, the Butterfly Theory suggests that very small changes can have a massive impact on the world around us. Oftentimes, these impacts are untended. To look at systems, we consider how we can change fundamental processes about how we design our world as opposed to thinking linearly about solving a problem. In this lesson, we'll practice systems-based thinking.

Introduction

To think in systems, we must consider how all actions one takes has a reverbing impact on many people and things. When we use linear thinking, one thing leads directly to another thing (a straight line). For example, if we feed a bird at the park, a linear way of thinking would be:

Feed the bird at the park. -> Bird is fed.

It is true that the bird has now eaten (and probably appreciates the food!), but this is only a *small* part of the overall system. When thinking in systems, we'd also consider:

Feed the bird at the park...

➔ The bird is fed.

- ➔ More birds may appear in the future.
- ➔ Birds may become overpopulated, leading to a population imbalance.
- ➔ Other animals may be deterred by additional birds, or may cohabitate with birds and come for food.
- ➔ A bird's typical prey may become overpopulated as birds are more likely to be fed.
- ➔ Other people may see birds being fed and be more inclined to feed birds themselves.

(And many, many more.) Most of these impacts are unintended, and many may not even occur. But in systems-based thinking, we are aware of potential impacts and design for change at scale. This is how we make decisions such as: Should we allow people to feed birds at the park? Is this dangerous? Or vice versa, should we encourage people to feed birds at the park? Is it beneficial?

Narrow it Down

Consider how systems-based thinking would impact a simple scenario, as shown above. Remember, our goal is to demonstrate the **linear** vs the **circular**. As in, it isn't *one simple result* but *many overlapping outcomes*.

Unlike linear thinking, which is where one thing leads directly to another thing, circular thinking is seeing how one thing leads to *many* other things. These could be intended consequences or unintended consequences.

The action one takes…
The linear result…
The many overlapping outcomes…

Diving Deeper

Let's consider the concept of systems-based thinking by using a simple card game. Card and board games are frequently used by planners, developers, and creatives to brainstorm solutions.

In front of you are two piles of cards:

1) One pile has *issues* cards. These are cards with problems in your community.
2) One pile has *node* cards. Nodes are people, places, or things that are somehow affected by these problems.

In this activity, you'll link how these different issues impact these nodes. The activity takes place in three steps:

1) Shuffle and draw an issue and 3 node cards.
2) Establish a link between each node card, the issue, and *between* the node cards.
3) Record your thoughts, then reshuffle and draw.

For example, you may draw *Rising Crime* as an issue, and *The Elderly, Local Wildlife, and Police Officers* as your node cards. There's an obvious link between two of these and the issue: the elderly are a vulnerable population and crime would concern them more-so than the average citizen, and police officers' jobs consist of combating crime. Local wildlife is more of a stretch, but we can link that littering is a crime.

Then, we'd find links *between* the node cards. For example, the Elderly interact with the Police directly to inform and report crimes. Police enforce littering and park services for local wildlife. Local Wildlife support the ecosystem that the Police and Elderly inhabit.

Repeat this process three times.

Issue Card Drawn:	How is this node impacted by the issue?	How is this node connected to Node Card #1?	How is this node connected to Node Card #2?	How is this node connected to Node Card #3?
Node Card #1				

Node Card #2				
Node Card #3				

Issue Card Drawn:	How is this node impacted by the issue?	How is this node connected to Node Card #1?	How is this node connected to Node Card #2?	How is this node connected to Node Card #3?
Node Card #1				
Node Card #2				
Node Card #3				

Issue Card Drawn:	How is this node impacted by the issue?	How is this node connected to Node Card #1?	How is this node connected to Node Card #2?	How is this node connected to Node Card #3?
Node Card #1				
Node Card #2				
Node Card #3				

Now, let's consider...

Why would it matter to think about systems as opposed to linear problems and solutions?

Can you think of a way that this could be applicable to something you've done recently, or a problem you want to solve?

How is this connected to understanding our past, present, and future? As in, how does history play into systems-based thinking? How could it improve future outcomes?

Reflect

How would you rate your understanding of this concept? *Place an "X" in the corresponding box below.*				
				

How has your understanding of this concept changed as a result of this lesson?

Which individual or community actions could this activity inspire?

No matter what change we make, we won't only change what we're expecting...but other things as well. What's an example of this?
