This is an instructional video introducing you to the Systems Thinking Game. This game was created as a research project to help define and measure complex problem-solving skills.

Before playing the game, I recommend that you watch the tutorial videos in full.

(Just narrate and click through)

The game starts with some introductory material, as well as demographic and career surveys. When you start the game, please complete that material as it’s important for the research. This tutorial starts just after the last survey has been completed.

(How the gameplay works)

This game is all about understanding systems and making them do what you want. The system you’ll be working with in this game consists of the six spinning shapes in the main area of the screen, as well as other things that we’ll see shortly.

The game contains several scenarios, within which are particular tasks for you to solve. Each task has a single goal. The goal might be to preserve shapes, make them larger, or make them multiply as much as possible.

So, how do you do that? First, you need to understand how the system actually works. To help you with that, the game starts on this screen – the Observe Screen. On this screen, you can watch how the system behaves over time. As you’re watching, you may have already notice a few things. Each shape is spinning either clockwise or counterclockwise, at a certain speed. Each shape also has a certain number of angles. There are triangles, squares, pentagons, and hexagons. These differences determine how each shape behaves in the game.

You can click the play button to make the system play through one turn.

(Play one turn)

As you can see, various things are happening here. Some kind of rain is falling from the top of the screen, some kind of spikes have appeared, some red circles have appeared, and the spinning shapes have moved, changed size, and multiplied or been destroyed. Using the slider at the bottom of the screen, the system can be observed at particular moments in time, a lot like watching a video recording. You can use this capability to zero in on particular events to try to understand exactly what’s happening. Ultimately, you may not fully understand how the system works. In fact, you probably won’t. That’s fine. Part of the art of using Systems Thinking is how you proceed when you don’t know everything.

(Main Screen)

This is the Main Screen. From here, you can navigate to other parts of the game, such as the Observe Screen. Later on, you’ll also have access to two other screens. AT the top of the screen, you can see the instructional text. The goal of the task is shown in bold. Right now, we’re in the practice scenario, so there is no goal. To move the game forward, you click the Change System button.

(Change System)

Like in the real world, it can be difficult to find ways to directly affect systems. For example, if we want to solve world hunger, we can’t make food appear on everyone’s tables. But, we might be able to make changes to improve food production, quality, or distribution. Similarly, this game allows only certain changes to be made. There are four options in the top section of the screen.

These options each affect some overall aspect of the system. There are three options on the left side of the screen. These options only affect one particular shape. First, the options on top. Hovering over the options shows some helper text (hover over). You won’t be able to see the text in this instructional video, but it does appear in the game. You should read over each of these helper texts to understand how these values work. (Brief pause, move mouse) On the left side of the screen are the shape options. The currently selected shape appears above the Spin Speed option. You can select a different shape by clicking on it.

As you change the spin speed, direction, and shape type, you can see how it will affect the selected shape. (Move mouse to show).

The changes take effect when you click the Submit button. When you click Submit, the changes will be applied and the system will advance by 1 turn.

In the next video, I’ll talk about the additional options that appear after the practice turn is done.

(5 mins)

(It might be best to do the practice round at this point)

After the practice scenario, you’ll have some additional options.

First, you’ll access to two additional screens: Ask, and Experiment. These screens help you to learn more about the system through use of Discovery Points. Discovery Points are like a type of currency that you can use to “buy” more information. Although you gain new Discovery Points after each turn, you have a limited number of points, so make sure to use them wisely. Your current discovery points are shown in the top left area of the screen. The way you use your Discovery Points is also part of the research.

(Ask)

This is the Ask Screen. On this screen, you have the ability to ask about specific numerical values of the system. In the top area, overall system values are shown. The left area shows only the values for the currently selected shape. You can click on a different shape to select it.

Clicking on a certain variable will reveal its actual value. Some of these values might be useful, while others might not be. It’s up to you to figure out what you think you really need to know.

(Experiment)

(Make sure not to overlap this with my helper text)

On this screen, you can create experiments that let you play with the system, kind of like what you did in the Practice Scenario. Clicking the Create button takes you to the Experiment Creation Screen. You’ll notice that this looks very similar to the Change System screen. In this screen, you can change various values to take the system in an experimental direction. Clicking Create will both create and run the experiment. You can store up to 5 experiments at one time. Each one can be re-run by using the buttons on the left. If an experiment is no longer useful, you can delete it by clicking the X. When creating an experiment, the system starts from the state shown on screen. This can either be the end of a previous experiment (RUN ONE), or the actual state of the system in the game. Click the Restore button to restore the system to its current state in the game. Experiments are a great way to play around with the system and try different things without using your actual turns.

After you’ve done some observing, asking, and experimenting, you might be ready to move the system to the next turn, and try to achieve your goal (HOVER AROUND GOAL).

The Change System screen is the same as the one you used in the practice round. However, there is one significant difference.

After submitting changes each turn, you’ll be asked to rate the importance of each of the variables. Just do your best with it. If you’re not sure, you don’t have to rate the variable at all.

This gameplay pattern continues until you’ve completed all of the scenarios. This is the end of the instructional video series. Now is a good time to go try out the game. Thanks for playing!

(Goals – do not say this but speak about it in the dissertation)

Part of the importance is how people approach something unknown. That’s part of what we’re trying to measure.