

BPD Conference
March 19, 2009
Phoenix AZ

Participant's Journal

Fun and Games with Systems Theory

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Parachute as Systems

Consider the parachute activity as a system. Identify the:

- Micro system
- Meso system
- Macro system

How permeable were the boundaries of:

- you
- team members
- parachute
- balls

Describe the energy exchange:

	Energy Exchange Interface, form, direction	Sustainability Entropic or Synergistic?
You		
Team		
Parachute		
Balls		

Changing the pattern of shaking the parachute required the team to conduct “feedback regulation” Describe how the team responded to:

- Shaking
- Stopping
- Dramatic shaking

If you had to sustain the parachute activity, what type of equilibrium would work best? Why?

Observations of Parachute

Working with others form a team to use the parachute.- Move it a different way, and now another way. Describe the ways you can move the parachute

Drop the plastic balls onto the parachute. See how many ways you can move the parachute to keep the balls in motion.

Observe what team members do to keep the balls moving and on the parachute when:

.....a team member stops shaking their handle

..... a team member shakes the parachute dramatically

Try to influence other team members' shaking pattern without talking.

Welcome to Fun and Games with Systems Theory!

Fun and Games has allowed us to construct an “experiential learning” context in which systems theory principles are encountered in interaction with familiar toys and play is used as a pedagogical tool.

Today, we would like to begin the presentation with an opportunity for you to experience Fun and Games with Systems Theory as students would participate.

The four activities of Fun and Games with Systems Theory were specifically chosen for the qualities of representing specific systems theory concepts, and maximizing student enthusiasm.

We are providing this “observation journal” to accompany your experience . We would provide a similar journal to students, as it is designed to coach adults in the transition from play, to observation – inquiry to application. Each of the journal pages corresponds to one of the four games . The left side of the journal entry provides instruction for the activity and guides a phase of direct observation as scientific inquiry. As participants progress to the right side of the journal page, transitions in thinking are coached by questions that apply theory concepts to the game observation and encourage students to hypothesize how the fun and game might apply to practice.

We invite you to adopt the role of student, participating in the fun and games and then journaling the experience. We'll follow this experience with a more traditional format of presentation.

Observation of Slinky

Try to make the slinky go down the stairs. Observe someone else try. Describe what happened.

Place a ball on each platform. Now try to make the slinky go down each step and pick up a ball from each step. Try again. Observe someone else try.

Describe what you observe happening:

inside the slinky
to the slinky itself
to the path of the slinky

Working with someone else, develop a strategy for making it work. Try out the strategy.

Describe what strategies worked/didn't work.

In your own words, explain why the slinky did/didn't pick up all the balls on its path down the stairs.

Yo Yos and Puzzles as Systems

Consider the puzzle as a system: Identify the:

- Micro system
- Meso system
- Macro system

Define the boundaries of each system you noticed when working with the yo yo and puzzle:

Describe how you manage boundaries when you:

Make the yo yo start and stop

Create meaning from the puzzle pieces

Compare the energy exchange of each system:

	Yo Yo	Puzzle
Interface Form Direction		
Human energy used		
Achieving Synergy/ Entropy?		
How would you make the system sustainable?		

Observations of Yo Yo and Puzzles

Yo Yos

Try your hand at making the yo yo work. What yo yo tricks can you do? What happens when it reaches the bottom and you don't yank on the string?

Describe below what strategies you used to keep the yo yo moving.

Describe below the changes you make to stop or do tricks.

Puzzles

Look at the small puzzle. Describe the differences between the two sets of puzzle pieces.

With someone else, try to put the loose pieces together. In the space below, write down what each of you did to put the pieces together.

Now, compare the two sets of puzzle pieces. Which is more comfortable to look at?

(Return the puzzle pieces to their original state for the next group)

Slinky Activity as Systems

Consider the Slinky Activity as a system. Identify the pieces of the game that match the following systems' terms.

Micro system
Meso system
Macro system

How permeable were the boundaries of:

Ball
Slinky
The system of the stairs, slinky and ball

Describe the energy exchange (e.g., Interface, Form, direction)

Was the slinky- ball system synergistic or entropic? How do you know?

Was your primary strategy to pick up more balls or to stay on the stairs? When you tried to do both, did you use a homeostatic or steady state balance? Explain why.

What did the steps represent to the slinky-ball system?

Observations of Obstacle Course

Please walk the path, trying to stay on the path. Watch someone else complete the path. Describe below the pattern of your walk/movement on the path.

Describe below what happened when you encountered the first obstacle.

Describe how you developed a strategy to complete your path.

Describe below what happened at the second obstacle.

Describe the adjustments to your walk that were necessary to complete the path.

Obstacle Course as Systems

How did you and the path exchange energy?
(mention elements of interface, form, direction)

Describe how you learned of the need to change your strategy for completing each path: Break/Reinforce/Balance

Path 1 (straight):

Path 2 (pothole):

Path 3 (obstacle):

Label the type of equilibrium you had to maintain to complete each path. Explain why you chose this answer.

Path	Equilibrium	Explanation
#1	Homeostatic/ Steady state	
#2	Homeostatic/ Steady state	
#3	Homeostatic/ Steady state	