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## Toying for Joyful Learning – Exploring Systemic Process

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SYSTEMIC  
DESIGN  
ASSOCIATION

RSD 9 Relating Systems Thinking and Design – 9th Symposium, Oct 16<sup>th</sup>, 2020  
National Institute of Design Ahmedabad, India

Theme: Systemic Design for Well-Being

Methodology, philosophy and theory of systemic design

# Toying for Joyful Learning: Exploring Systemic Process



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**“The best thing a child can do with a toy is to break it,  
the next best thing is to make it;  
even better is to create it.”**

Source: Khanna S. (2018), Timeless Toys & Tales: A Design Process in Education. 8th International Toy Research Association World Conference, International Toy Research Association (ITRA), Paris, France. hal-02081014

Various Indian folk toys unknowingly provide such wisdom. The approach of design process and system thinking is ingrained in design courses. The approach of systemic process is used in a specific direction.

Since 2011, the author has been conducting workshops on toys and games as a resource for joyful learning. The focus is on learning from heritage-based toys and games.

Table 1. Workshop groups and number of participants from 2011 to 2018

No.	Group	Number of workshops	Average number of participants	Total participants	Countries
1.	Children	22	32	713	India, Colombia
2.	Teachers, Teacher-trainees	33	54	881	India, Colombia, Denmark
3.	Design students	6	26	153	India, Denmark, Thailand
	Total	61	29	1747	India, Colombia, Denmark, Thailand

Understanding toys and stories associated with them, seemed to have a good starting point with Indigenous toys or folk toys. It is interesting to note that many toys were short-lived and yet the play value is timeless.

**Dynamic folk toys are by nature short-lived, mostly due to the use of eco-friendly material. This in a way is positive as children engage with the toy as long as it interests them. (Khanna, Wolf, Ravishankar and Sundram, 2018).**

Toys and tales are symbiotic in nature. Toys enhance skills, tales enable communication; together they form an amalgamation of creativity and a special design process. This is explained further through an example of “String-Pulled Puppet”



1, 2 Bandar (Monkey). Tarakeshwar, West Bengal. Pith, string, broom stick. The monkey-figure goes up and down. 25 P.

3, 4 Dancer (Puppet). Delhi. Thick paper, reed stick, string. Arms and legs move up. Printed picture resembles a film star. 50 P.

5 Bandar (Monkey). Orissa. Pith, broom stick, string. Figure goes up. R. Goswami.

6 Daaku (Dacoit). Orissa. Card-board, wooden stick, string. Arms and legs move. R. Goswami.

Various explorations made by crafts persons,  
documented in Dynamic Folk Toys (1983)

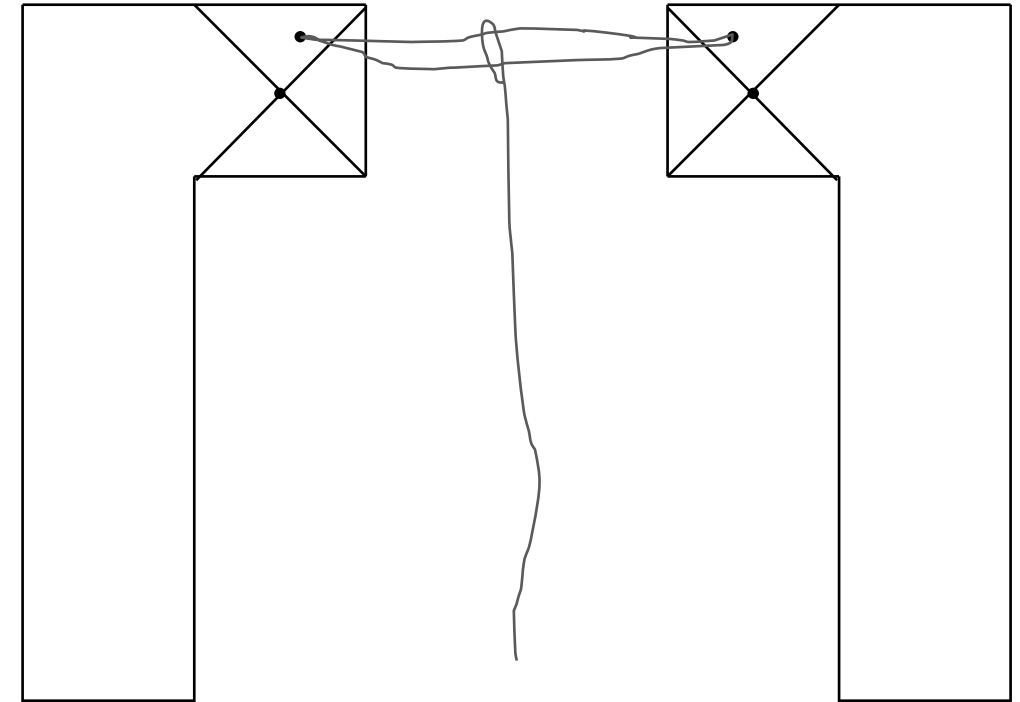


Design education has courses like design process, design concepts and concerns, systems thinking, design projects. These provide a strong base for design process through practice-based approach.

The idea of the workshop sessions with students, teachers, teacher-trainee, professionals like psychologists, educators, child development specialists, is to introduce learning from toys and games and this brings in design process.

Participants are encouraged to create new ideas based on existing knowledge. The experience of known to unknown to known is explored. So why did we use toys and games to experience design process?

Toys and games are accessible and related to everyone since childhood. This brings a natural bond to product and process. The power of making and playing is immense. The medium of toy design facilitates the ability to create and express. This has been leading to developing a systemic approach.



Construction of string pulled puppet simplified into geometrical shapes and pivot points, developed at Surabhi Khanna design studio, 2014



“My superman will fight with your iron-man”





**“Playing and telling tales together. Trying to relate each creation with other”**

1. Participants become makers and players.
2. The maker-player combination helps them have an understanding and coherence of part to whole.
3. This helps in holistic learning – mind, material and media, with components like concept development, material knowledge, science principles, and communication.
4. The sessions are intense and enriching to both the facilitator and the participants as there is a new and novel outcome in each session. The conceptual clarity of participants unfolds beautifully through the process of systemic design.
5. Values of empathy, patience, sensitivity, attention to details – are unplanned yet additional welcome outcome of the sessions.

## Analysis of the toy

Name of Toy	Material	Design Element	Principle of Science and technology	Learning Value (of playing with the toy and/or making it in the workshops) in terms of design process
String-pulled Puppet	Paper, needle, thread, ice-cream stick, glue	Symmetry, movement	Link-mechanism	Concept development, understanding structure, story making and telling, creative process

The design process enhances the abilities  
of the participants through the following skills:

**Creating (toy and stories)**

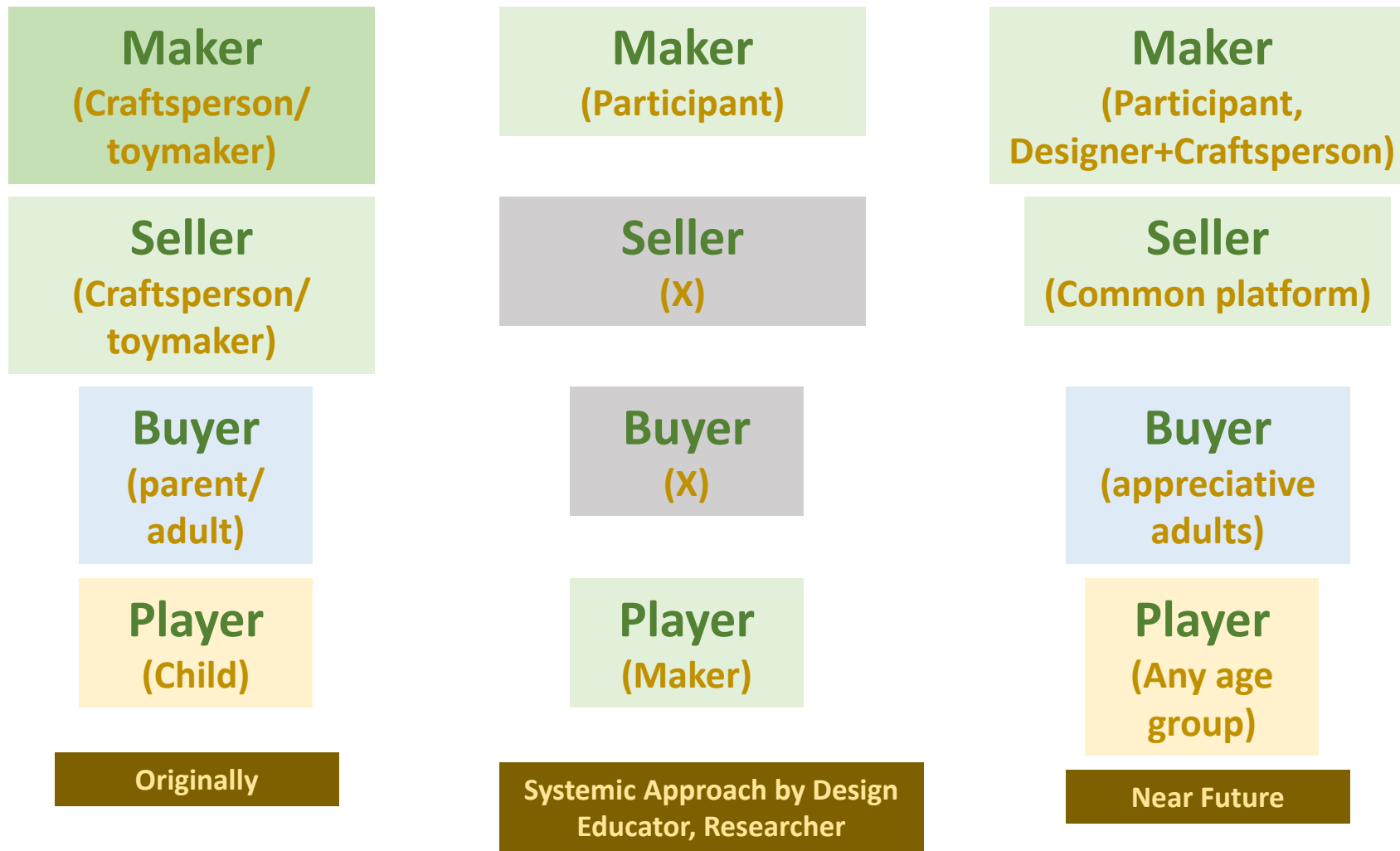
**Communicating (playing and telling story)**

**Co-relating (toy and learning)**

## Analysis of the toy through the systemic process

Name of Toy	Participants	Experiencing design process		
		Creating (toys and tales)	Communicating (playing and telling stories)	Co-relating (toy and learning)
String-pulled Puppet	Teachers, teacher-trainees	Stories ending with learning or moral or characters. How a crow puts pebbles in a pot of water to raise the water level to drink.	Spontaneously presented their stories and sometimes poems together by connecting all their characters to one story.	Could be used as a teaching-learning material. Various themes from the subjects taught, could be made.
	Students	Stories related to popular characters. "My superman will fight with your iron-man".	The children made a variety of stories. They individually expressed their forms and stories, sometimes connecting with each other.	The movement of the puppet, fascinated the students. Understanding the pivot points. Learning the skill of tying knots.
	Design students	"Hulkfie", as the installation was called since it was inspired by Hulk's form, became a very popular installation at the student festival.	Designed for a different context. Changed the scale.	Students were thrilled to be able to make a toy into an installation. They learnt about material knowledge, weight and force and how to make an interactive installation.





## Reflections and Indications

from the workshops has given the following insights:

- The workshops provide a heuristic approach to learning.
  - There is potential of play and learning in indigenous toys which is experienced through the workshop sessions.
- The idea of One to Many is effective as there is an opportunity to create many ideas, starting from one idea.
  - Interaction between participants prevails.
  - Children get deeply involved in the process of creating and playing.
- One of the best ways to document play ideas and make it with today's context through stories and themes. This may be way to revive or innovate heritage.
  - The design explorations also are cultural resource for learning.
- Framework using such a systemic approach for designing and developing new ideas. This is aimed to be useful for children and teachers for learning, as well as design community.

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