

Planning a *Conceptual PlayWorld* in STEM (Fleer, 2022)
Monash PlayLab
Fale Samoa



Five Characteristics of a Conceptual PlayWorld to support imaginary play and Science, Technology, Engineering and Mathematics (STEM) thinking and learning (Fleer, 2022)

Pedagogical characteristics	Pedagogical practices that are planned	Conceptual PlayWorld in action
<p>Selecting a story for the <i>Conceptual PlayWorld</i></p>	<ul style="list-style-type: none"> ■ Selecting a story that is enjoyable to children and adults. Summary of the story. ■ Building empathy for the characters in the story ■ A plot that lends itself to introducing a problem situation. Overview of the problem. ■ Being clear about the concept(s) and its relation to the story and play plot to be developed 	<ul style="list-style-type: none"> ■ The story of <i>Fale Samoa</i> re-told by Helen Tau'au Filisi – Ancient Samoan stories in the Tala o le vavau series. ■ Children connect to the cultural relevance of the <i>Fale Samoa</i> in their own villages. Before the fale was created, how did their ancestors keep themselves safe from the environmental elements in their villages? Cyclones, tropical storms, earthquakes and tsunami. ■ How can we design a building to keep ourselves safe using resources in our found environment.

Pedagogical characteristics	Pedagogical practices that are planned	Conceptual PlayWorld in action
		<ul style="list-style-type: none"> ■ Social and emotional learning – connection to culture; vocabulary development.
Designing a <i>Conceptual PlayWorld</i> space	<ul style="list-style-type: none"> ■ Finding a space in the classroom/centre/outdoor area suitable for an imaginary <i>Conceptual PlayWorld</i> of the story ■ Designing opportunities for child-initiated play in ways that develop the play plot further or explore concepts and make them more personally meaningful ■ Planning different opportunities for children to represent their ideas and express their understandings. 	<ul style="list-style-type: none"> ■ Circle time – reading the book <i>Fale Samoa</i> and discussing how the people of Samoa asked Tagaloalagi (supreme God) for help. Looking to nature to find solutions to a problem (biomimicry) ■ Creating an 'engineering space' in the outdoor learning area with resources for research an investigation – books, images, materials. ■ Researching as Samoan engineers – providing various materials for exploration – cylinders, coconut shells, newspaper, masking tape, recycled plastic containers. ■ Recording of design by drawing your <i>Fale</i> created with materials ■ Mind map of materials used for a fale. Venn diagram between <i>Fale Samoa</i> and <i>Fale Palagi</i> (western house) ■ Playdough station – pictures of different <i>Fale Samoa</i>, coconut shells, palm leaves, sticks and string.
Entering and exiting the <i>Conceptual PlayWorld</i> space	<ul style="list-style-type: none"> ■ Plan a routine for the whole group to enter and exit the <i>Conceptual PlayWorld</i> of the story where all the children are in the same imaginary situation ■ Children choose characters as they enter into the imaginary situation ■ Adult is always a character in the story 	<ul style="list-style-type: none"> ■ Whole group enters the outdoor “engineering space” ■ Children become members of the village – Tagaloalagi, the carpenters, engineers. ■ Teacher could be Tagaloalagi or a carpenter

Pedagogical characteristics	Pedagogical practices that are planned	Conceptual PlayWorld in action
Planning the play inquiry or problem scenario	<ul style="list-style-type: none"> ■ Problem scenario is not scripted, but a general idea of the problem is planned ■ The problem scenario is dramatic and engaging ■ The problem invites children to investigate solutions to help the play in the <i>Conceptual PlayWorld</i> ■ Being clear about the concepts that will be learned from solving the problem situation. Concepts are in service of the children's play. 	<ul style="list-style-type: none"> ■ Having a <i>fono (meeting)</i> - Different designs of fale causing confusion and difficulties for carpenters to design. ■ Conflict between the carpenters to decide which is the best design for the <i>Fale Samoa</i>. ■ Becoming Samoan Engineers, exploring engineering concepts – design, use and properties of materials, working collaboratively.
Planning adult interactions to build conceptual learning in role	<ul style="list-style-type: none"> ■ Adults are not always the same character. Roles are not scripted ■ Planning of who will have more knowledge and who will be present with the children to model solving the problem. There are different roles adults can take: Adults plan their role for the <i>Conceptual PlayWorld</i> to be equally present with the children, or to model practices in role, or to be needing help from the children. Their role can also be together with the child leading (primordial we), where they literally cradle the child or hold their hand and together act out the role or solution 	<ul style="list-style-type: none"> ■ Teacher is part of the <i>fono</i> to help with discussions of designs for the <i>Fale Samoa</i>. Adding to the discussion by prompting deeper thought into the design of the <i>Fale Samoa</i> “I wonder what would happen if you used these materials”. Providing support for children who are finding it hard to work collaboratively by asking “how can I help? What do we need to do to solve this problem?”

Acknowledgment: Australian Research Council Laureate Fellowship Scheme (Grant Number 180100161) funding contributed to the development of open access curriculum materials and research: Fleer, M. (2022). *Conceptual PlayWorlds*: Monash University Working Papers: <https://www.monash.edu/education/research/projects/conceptual-playlab/publications>