Back to the future

Sustainability in the hands of children

David Spraggs

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We could go some kilometers over a dead-straight, even,
obstacle-free, concrete pathway.
At the end of the distance we would be exhausted.

How differently it will be for us within the forest!
There are diverging paths. They flow over sticks and stone, roots,
moss, thick bushes, rivulets.

The light is dappled.
You must be "completely eye", "whole ear", "completely nose".

It smells of forest plants and forest soil.
Strange noises from everywhere. Bird voices.
At the end of the way we are invigorated.

Nearly newborn.

Hugo Kuenkelhaus
translated from German


What currently do you do in regard sustainability?
Have a quick discussion with others and be prepared in larger group

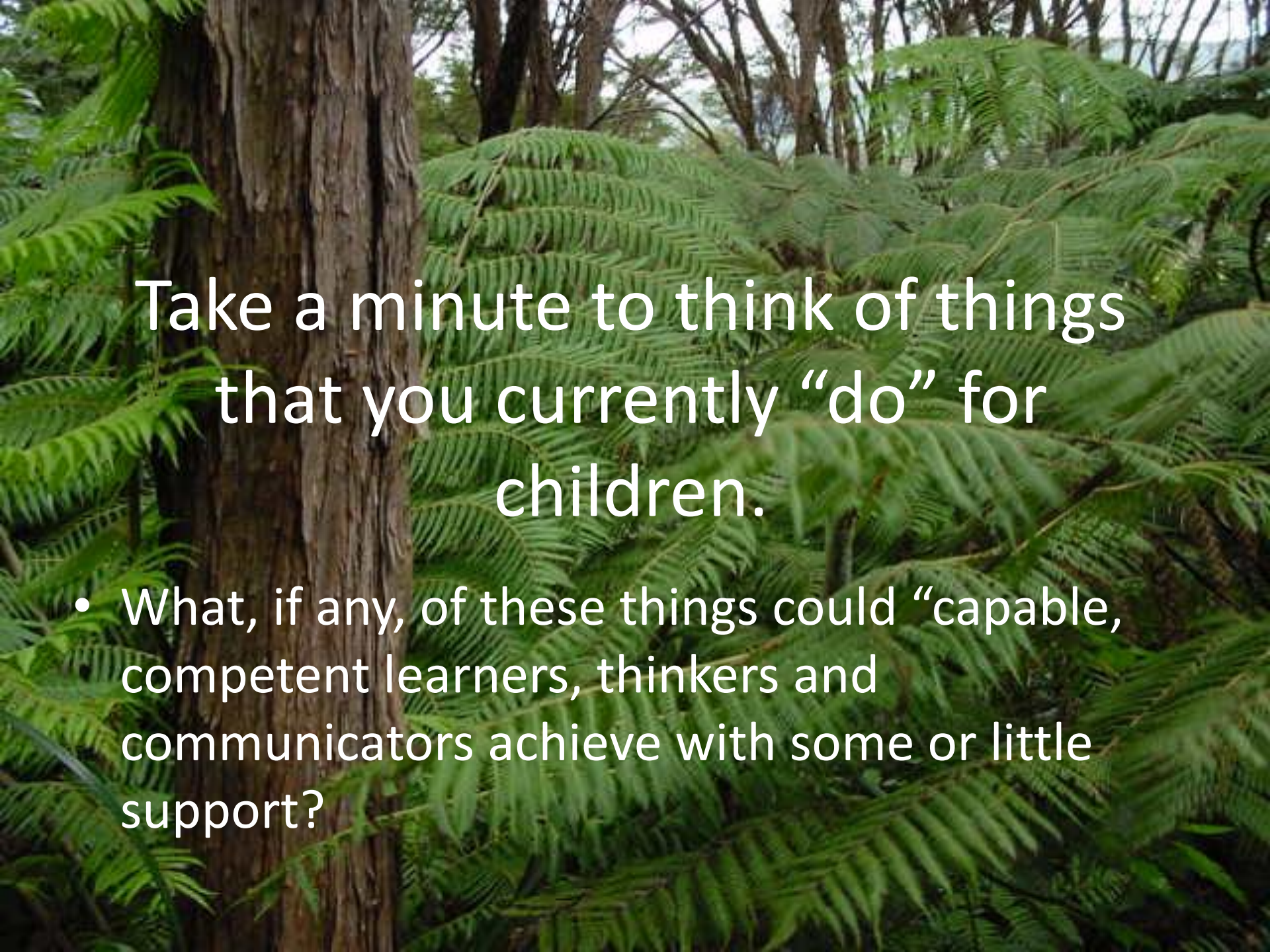
What is sustainability? And why consider it in the "hands of children"

- Sustainability – is the process of reducing, reusing, replenishing, etc

- When we think of Early childhood education we think of "processes" which hold the learning and the "product" which is the driver of the process. By considering sustainability, we are considering placing the processes of creation back into the hands of children

Ten principles of natural learning

1. Schooling and education are not the same thing
2. Education is an octopus and not a snake – education is a complex problem and not a simple problem at all, however inconvenient this may
3. Uniform approaches to all are intellectual death to some
4. Deep learning is needed more than shallow learning
5. An information rich society allows a variety of learning locations
6. Rigid systems produce rigid people and flexible systems produce flexible people
7. With information doubling in quantity about every ten years we need a different kind of learning
8. Effective teaching requires more than being an instructor
9. What we want to see is the learner in pursuit of knowledge and not knowledge in pursuit of the learner
10. Open learning resource centres need to replace traditional schools

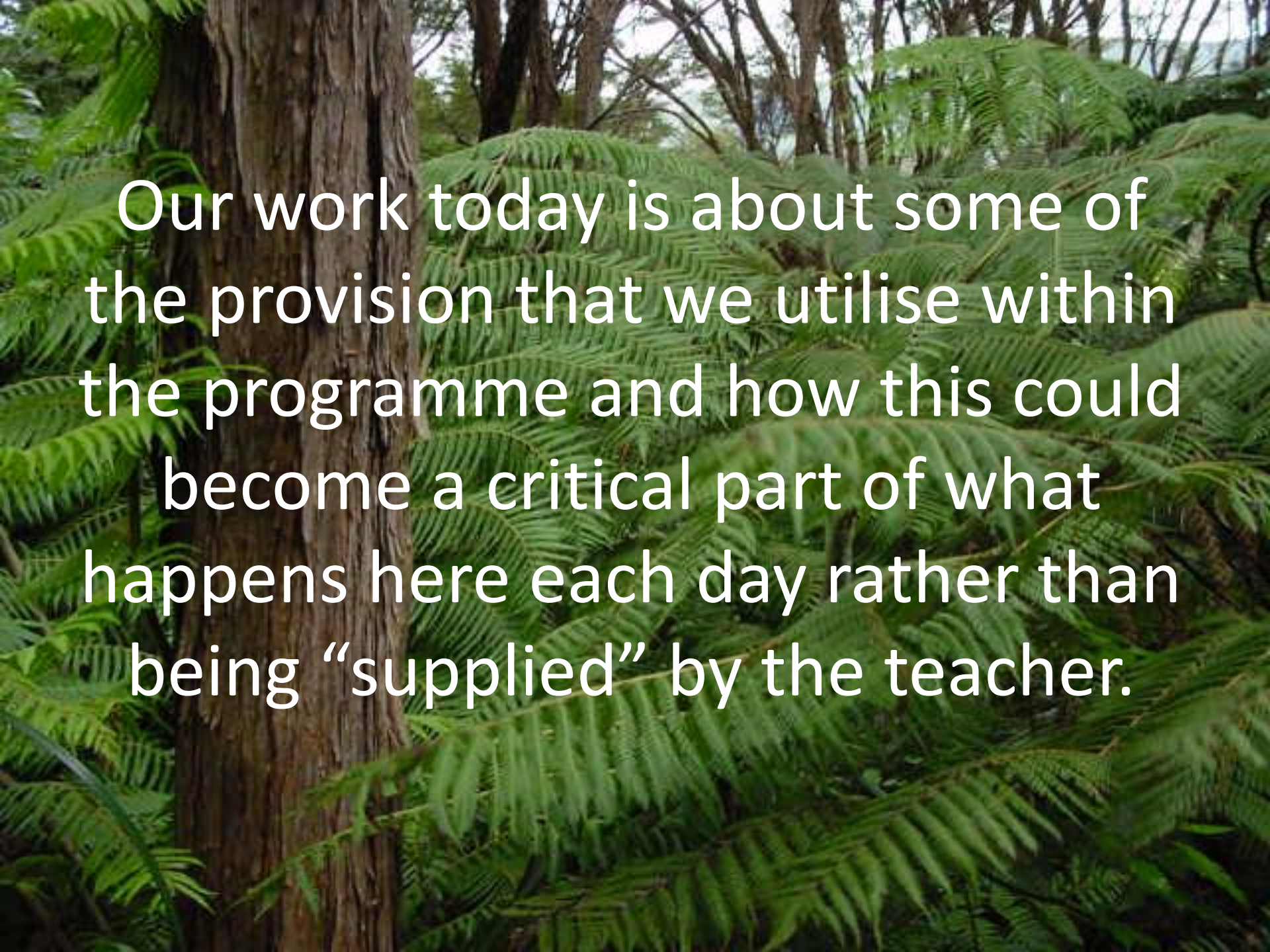


Take a minute to think of things that you currently “do” for children.

- What, if any, of these things could “capable, competent learners, thinkers and communicators achieve with some or little support?

Now think of things that you "provide" for children.

- What, if any, of these things could "capable, competent learners, thinkers and communicators create with some or little support?


Our work today is about some of the provision that we utilise within the programme and how this could become a critical part of what happens here each day rather than being “supplied” by the teacher.

Celebrations

- Spring
  - Victory and rebirth – Light overcoming darkness
  - Chinese lantern festival
  - Hindu festival of colours
  - Purim – Jewish celebration
  - Festival of Lots
  - Buddhists in Thailand with lotus flowers

- Summer
  - Celebrates fullness of life and the power of the sun
  - Bonfires lit in Peru
  - Morris dancers in Britain dance - union of sky and earth
  - Japan the Union of the two lovers
  - Raksha Bandhan – love between brothers and sisters

- Autumn
  - Giving thanks for all you have and celebrating light
  - USA Thanks giving
  - Jewish festival of Succot – Fruit and vegetables used
  - Viking model ship burnt in Up-Helly-Aa
  - Fire festival in the Shetlands
  - Divali in India celebrated by lighting Diva lamps

- Winter
  - Celebrations are based around an ancient belief of the returning power of the sun and typically lighting of candles is prevalent
  - Candles were lit in ancient Rome based on the god Saturn to keep evil at bay
  - Hanukkah
  - Advent candles in December
  - New years is about wishing people good fortune
  - In china pictures of fat babies and carp signify wealth and abundance
  - Scotland – Lumps of coal symbolise comfort and plenty

So first things, first.

- Are people wishing to have a morning tea break?
- If so what is going to be eaten and what types of drinks will be made.
- How will these be made?

Cooking

- Camp oven bread
- Paraoa Parai
- Potato Latkes

Camp oven bread

- 4 cups flour
- 1 tsp salt
- 4 tsp baking powder
- Milk
- Sieve ingredients and mix to a soft dough with milk, forming a ball of dough. Press out into a 25 – 30 cm disc. Cut through centre both ways into four pieces. Place in camp oven in hot fire (almost embers) for 15 – 20 minutes

Rewena (leavening for Maori bread)

- 3 slices of potato
- 2 cups of flour
- 1 tsp sugar
- Boil potato slices in 1 cup of water to mashing consistency. Cool. When luke warm, add remaining ingredients and mix to a fairly firm texture. Add more warm water if required. Cover and leave in warm place to prove.

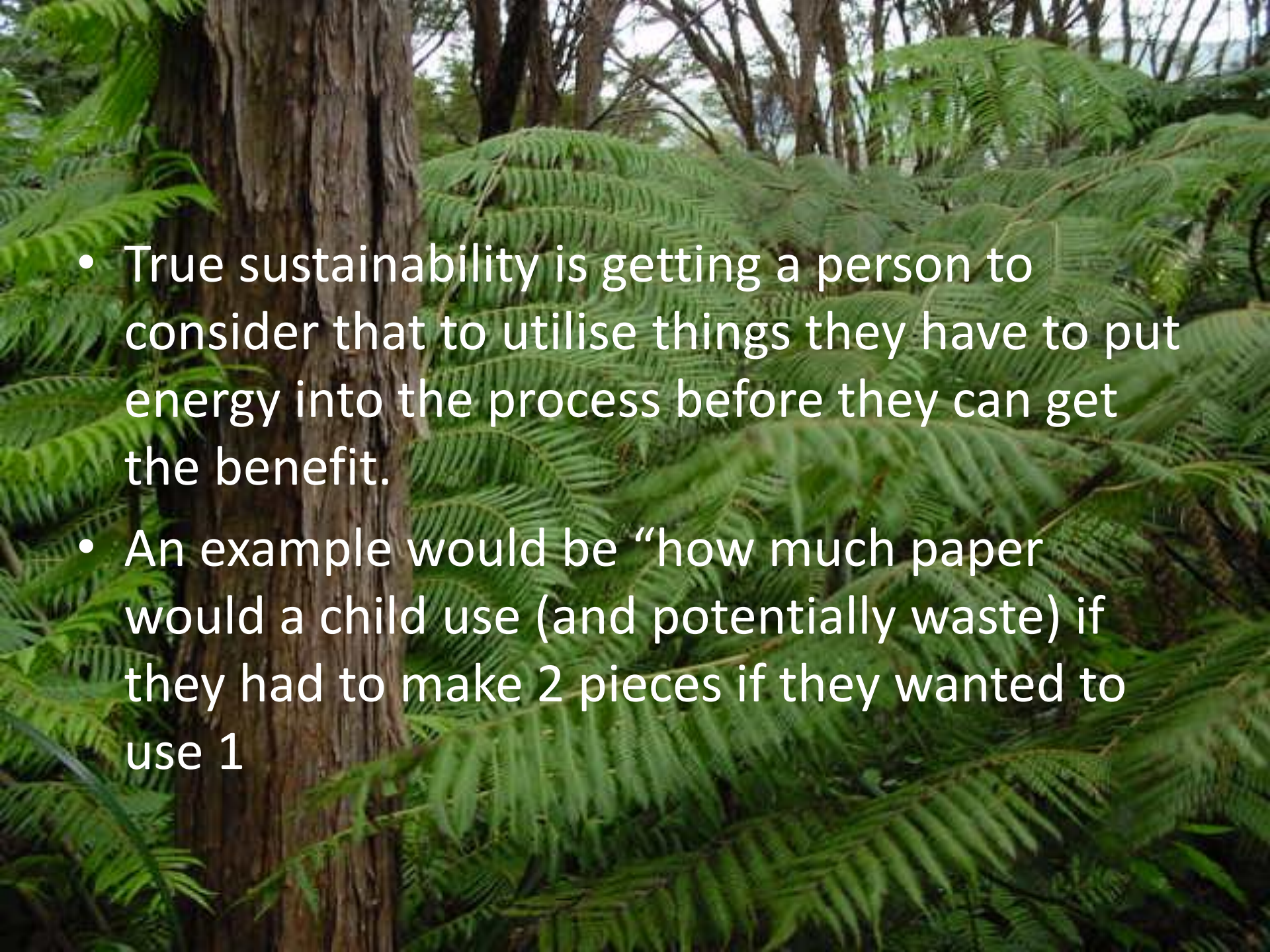
- Starter plant
- Take 1 Tbspn of dough from the rewena original starter and put into a jar. Feed one day with ½ cup warm, unsalted potato water, and the next day with 1 tsp sugar. Continue alternate daily feeds.
- Use this as leaven for the rewena bread recipes

Paraoa Parai (fried bread)

- 2 cups flour
- ½ cup rewena
- Pinch salt
- 1 tsp sugar
- Lard for frying
- Combine all ingredients well and mix with warm water to a scone mixture. Flatten into round shapes. Fry in lard and serve with honey or golden syrup, jam or cheese

Potato Latkes

- Grate 3 large potatoes and a small onion into a bowl. Add 2 eggs, 2 tablespoons of flour and 1 teaspoon of salt and mix
- Fry spoonfuls of the mixture on both sides in a little hot oil in a frying pan
- Serve hot (optional with apple sauce)



- True sustainability is getting a person to consider that to utilise things they have to put energy into the process before they can get the benefit.
- An example would be “how much paper would a child use (and potentially waste) if they had to make 2 pieces if they wanted to use 1

Ideas and thinking's that will be explored today

- Cooking
- Dye making
- Chalk making
- Paint making
- Charcoal making
- Wooden dowel making
- Soap making
- Paper making
- Felt making
- Carpentry skills and tools
- Brush creation
- Furniture creation and design

Dye making

- Found materials in the grounds utilised as a dye base by using a small amount of water and a mortar and pestle. The less water you utilise the stronger the colour. These dyes do not use mordant's (fixing agents) so will fade over time.

Other dyes can be made by…

- Chamomile flowers bright yellow Mortar
- Onion skins orange brown Boiled
- Nettle grey green Boiled
- Woad blue Boiled
- Grass green Mortar
- Lichen (grey on tree) light blue Boiled
- etc

Chalk making

- Utilising some of the “created” dyes from the local environment, mix these with enough water to make plaster of Paris pourable.

- Pour into split Bamboo molds for chalk making

Paint making

Making Egg Tempera Paint

In the first instance, the egg medium should be obtained. The standard medium is pure yolk which is free from the white.
If white is included in the medium it will cause the paint to dry more rapidly and to drag on application.

Obtaining the egg medium

- Having cracked open an egg allow as much of the white to drain off then continue the separation either by means of an egg separator or by transferring the yolk from the palm of one hand to the other.
  Transfer the yolk to a paper towel and gently roll the yolk towards the edge of the towel.
- Pierce the yolk sac and allow to drain into a clean container.
- Then add about a teaspoon of water and give it a good stir. You now have the medium which will bind the pigment particles.
- Once the sac has been pierced the contents will start to set up. It is therefore advisable to use a fresh egg each day.
  The yellow of the yolk may initially effect the colours, however, the yellow will bleach out within a day.
- Most tempera painters prepare their pigments into a paste form.
  Water is added to the dry pigments to form a stiffish paste.
  Some pigments are gritty and it is advisable to grind these pigments further.
- Initial mixing of dry pigment and water with a palette knife.

Tempera continued.

Making the Paint

- Place a small amount of the pigment paste onto the palette.
- Add about equal volume of the egg medium and mix well making sure there are no lumps of pigment. Some pigments require slightly more egg medium, some require less.
- Add water, trial and error will dictate just how much water is required. Any amount of water can be added, the important ratio is the pigment paste to egg medium.
- Once the paint has been made it cannot be stored so only make sufficient paint for the particular painting session.
  Tempera paint is insoluble to the extent of not being picked up by over painting and when completely dry is relatively water resistant. However, the paint is not absolutely water proof and can be disturbed by the application of water.

Making pigment

- Pigment can be made from ground up clays etc in a mortar and pestle

Charcoal making

- You will need a “golden syrup tin”

- Punch an air hole in the lid of tin
- Gather “dry twigs and sticks and place these standing up in the tin. Fill tin tightly.
- Place tin in a fire standing up. Smoke will billow from air hole and then catch fire and take out after fire from the tin finishes

Wooden dowel making

- Dowelling can be made by children as wooden nails

Soap making

- Soap is a difficult thing to make safely with children because it requires a dangerous substance called Lye.
- So to get around this start with a very pure form of soap “knights castile”
- Grate soap into tiny flakes, Grind with a little water in mortar
- Add pumice and continue to grind
- Reconstitute soap flakes into a cake of soap again. This new soap has the added advantage of having the pumice utilised as a scourer

Paper making

You will need:
A screen, a bucket and kitty litter tray or similar
A paint mixer and hand drill
Warm water
Sponge
Pieces of material
Waste paper

Tear up paper into small pieces of approx 3x3 cm (max)
Place in warm water in a bucket. Mix with hand drill and paint mixer. Until blended up similar to blender would do

Pour into tray. Slip the screen under the pulp and gently lift up shaking to spread pulp on screen

Allow excess water to drip from screen and then turn over onto the materials. Use sponge on back of screen to soak up excess water
Do this a lot
Then slowly peel paper from screen and allow to dry within the materials for the day before being moved to a drying rack

Felt making

You will need two pieces of bubble wrap plastic the same size. Put one to the side and lay one piece with bubble-side upwards on a flat surface. Using merino wool or other fine wool tops, pull the end fibres out gently and lay them down on the plastic in a square with all the fibres in the same direction.

Leave a gap of approximately 2cm clear between the edge of the fibre square and the edge of the plastic.

When you have created a fine but dense layer of fibres repeat the process but with the fibres laying in the opposite direction, making sure that you cannot see the previous layer through the second layer.

Repeat this process with the fibres running in the direction of the first layer.

Create a design on this fibre base using whatever colours you may like and maybe with the addition of other fibres such as wool yarn to add effect. Sprinkle a very small amount of pure soap flakes over the piece and then add a small amount of hot water.

Place the second piece of bubble wrap over the whole piece with the bubble-side downwards and with wet soapy hands rub over the plastic to disperse the water. If necessary, add some more water to ensure that the wool is "wetted" out but not too much so as to saturate the piece.

Carry on rubbing until the fibres are shrinking together. Then you can roll it in the bamboo matting which increases the shrinkage. Finally roll the piece in a ball in your hand and throw it down onto the mat repeatedly, this shocks the fibres into shrinking more.

Rinse out the piece and leave to dry.

Carpentry skills and tools

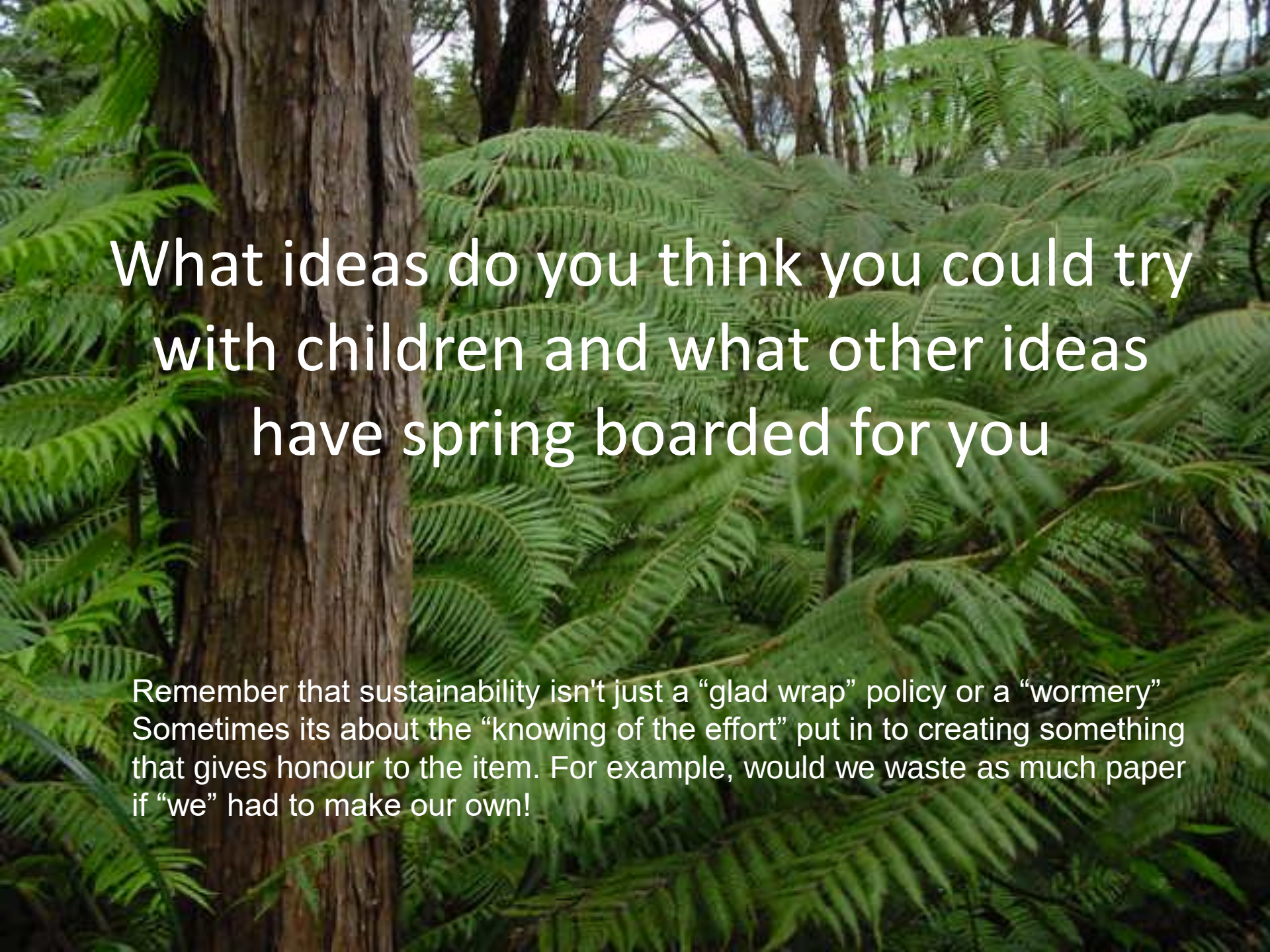
- Brace and bits
- Augers
- Rope
- String
- Saws

- Building a wooden mallet
- Pegging two pieces of timber together
- Binding sticks with string and hand augers

Brush creation

- You will need small pieces of bamboo. Dried
- Hair or toetoe flowers from end of flowering season
- Cut bamboo at end near a end of a chamber (approx 1cm)
- Melt wax into the end of the chamber and push in the “brushes” cool.

Furniture creation and design



What ideas do you think you could try with children and what other ideas have spring boarded for you

Remember that sustainability isn't just a “glad wrap” policy or a “wormery” Sometimes its about the “knowing of the effort” put in to creating something that gives honour to the item. For example, would we waste as much paper if “we” had to make our own!