

From the **Principal of Bialik**

The Bialik College Windows into Children's Thinking journal is a thoughtful piece of documentation. Not only does it celebrate children and childhood in a respectful way, but it also demonstrates and enunciates the learning and development journey of our community.

This year the Bialik College Early Learning Centre has been inspired by the United Nations Year of the Pulses. With Ban Ki-Moon, the Secretary General of the United Nations, stating that climate change poses the greatest threat to humanity in history, sustainability has never been more important than today. The Mazkirut, the senior school student leadership team, introduced a renewed vigour to the College's recycling and it has been a joy to behold our youngest and oldest students learning and developing together.

The Year of the Pulses provides a wider lens than the climate. It provides a lens for relationships, inter-connectivity, dependence and inspiration.

At Bialik College, our Early Learners – and indeed so many aspects of our school - are inspired by Reggio Emilia, a municipality in Italy that is the inspiration for early childhood education throughout our world. Loris Malaguzzi spoke of the Hundred Languages of Children and implored us to see that there are "a hundred, hundred more."

It is the hope of all of our community that in the pages of this journal - compiled with love and dedication by expert educators - that you see the Hundred Languages of Children. Look carefully for the many ways that the children express themselves. Their languages are sometimes ones that in our adult lives we have forgotten. Sometimes it takes a little bit of time to pause, reflect, observe and document so that we can rediscover the languages that we expressed in our own childhoods.

Through this wisdom we can all grow – as individuals, as families, as schools and as communities.

Thank you for taking the time to pause, reflect, and read our journal.

Jeremy Stowe-Lindner

From the Head of the **Early Learning Centre**

This year the United Nations 2016 International Year of Pulses became the catalyst for a whole ELC investigation. Our initial aim was to bring the experiences of teachers and children closer together and to inspire them to not only think about the role of pulses (grain legumes) in feeding the world, but to motivate them into playing a more active role in matters affecting their environment. We hoped to bring issues such as health and nutrition, food security, environmental sustainability and sustainability in other ways into our classrooms. Most importantly we wanted the learning to be authentic and worthy of learning. John Dewey in his 1916 work, Democracy and Education: "Only in education, never in the life of a farmer, sailor, merchant, physician or laboratory experimenter, does knowledge mean primarily a store of information aloof from doing."

As with most opportunities offered to the teachers in the ELC they embraced this idea, at first with many questions but as always with a willingness to support the ideas. This came with many challenges, however every teacher in the ELC formulated their research question based on the International Year of Pulses. In each classroom this looked different and that is the strength of "listening" to our children. All of this changes the role of the teacher, a role that has become more complex. It also makes the role of the teacher more inspiring and engaging with ongoing professional development.

The focus of an investigation provides a vehicle for achieving a much larger intent. It is usually chosen by teachers collaborating together with a hypothesis or prediction of how the learning could proceed. The investigation provokes children to develop theories and strategies to test those theories in collaboration with others.

Each investigation is documented through the recording of discussions and reflections by the children and their teachers, and through photographs and other languages. "How complex are children's ways of building knowledge, therefore how complex are the ways of capturing it." (Reggio Emilia)

The documentation reflects the many languages the children use as they describe their theories and make sense of their world such as the written, spoken and expressive languages.

Elliot Eisner reminds us that "Great ideas have legs. They take you somewhere... With them you can raise questions that can't be answered. These unanswerable questions should be a source of comfort. They ensure you will always have something to think about!"

"When you make learning visible, you make it exist, real, shareable, the starting point for democracy." (Carla Rinaldi)

Daphne Gaddie



Daphne faddie.

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The conventions in this book

A number of styles have been used throughout Bialik College Early Learning Centre Journal 2016 – 'Windows into Children's Thinking' to designate different voices.

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Year 1

Contributors

Indicates the voice of an adult



To access digital content of exhibitions



3 Year Old Kinder



In Jewish studies we have been learning prayers to give thanks for the fruit and vegetables that we eat.

At the same time we also read a book 'Tu B'Shevat'. This book refers to the Jewish festival that celebrates the birthday of trees. We asked the children what else the trees give us. Wood, shade, leaves. Do the trees keep these things for themselves? No they don't keep anything, they give it all to us. The trees are kind. We should look after them. How do we do that? We should water them and not hurt them. We should plant more trees. The children helped plant some pot plants for inside the classroom and observed the growth of these plants. A focus on learning about the natural environment has been a key part of early childhood education for many decades, stemming from Froebel's notion (Provenzo and Eugene, 2008) of the 'kindergarten'; literally translated as children's garden. Nature is often used as a resource, where children are encouraged to learn about natural objects that may be found and displayed or as a setting where children are encouraged to respect, appreciate, play in, and conserve the natural environment.

Sustainability and environment goes hand in hand. As staff we aim to model sustainable practices. This includes children's participation in caring for and learning about the various plants, trees and creatures found in the garden. Early childhood education is known for its child-centered pedagogy. Children today appear to spend less time in the outdoor environment compared with children from previous generations. Some ways that children obtain environmental knowledge and learning is by engaging in activities such as gardening, climbing, digging and balancing in the outdoor environments. This kind of outdoor play helps establish connections



with nature and we hoped for the children to develop strong relationships with this in their everyday lives.

Our children are encouraged to be water conscious by using the stored rain water in our water tanks for watering the garden and in their play. It is in the early childhood period that children develop their basic values, attitudes, skills, behaviour and habits which may be long lasting in supporting a sustainable future.

Educating children is seen as part of the solution to addressing environmental problems. Children may not only take on sustainable practices as habit, they may also have intergenerational influence on family and the wider community 1.

We believe that children are competent and capable enquirers and have always believed that learning initiated by children has more meaning than teacher-driven content and knowledge. Our question was, how do we engage the children so that they can make a connection with their outdoor environment and sustainable practices? The Food and Agricultural Organisation of the United Nations declared 2016 as the Year Of Pulses. Our ELC embraced this declaration in guiding our investigations for 2016 and our focus on sustainability. Pulses are known as nutritional seeds for a sustainable future. They keep the soil fertile and use less water to grow, compared to other protein sources. Pulses have many varieties and are different in colours and shapes. We began with some pulses as a provocation for the children:

What are they

They look like seeds

I have never seen them before

I can sort them out

I like the orange one

What do we do with them

We can grow them in the water

No! You need to put them in the dirt and then water them

Without water they cannot grow.

It will take 14 days to grow because that's what happened in my garden

The growing of lentils became a starting point for us. The children had many theories and observed the growing of lentils in wet cotton wool:

They look like they died

Because we did not look after them

The water has dried out

I didn't look after it that's why it dried

I think we left it too long without watery

Can we grow them again

This time we will water them

Can we grow them in a dirt (Figs. 1-3)







The children collected the dirt from the garden and started with fresh seeds again. They sorted the mixed pulses and each chose one particular type of pulse. We chose to grow the seeds in an egg carton for its biodegradable quality. The seeds under the soil are growing fast because we are watering them. Maybe the seeds like the dark under the soil. They look happy because they are growing. Why some seeds have grown and others did not? Why did the skin peel off the seeds when they want to grow? Why did they grow faster in the soil? The seeds that are in the water will not be thirsty because they have a lot of water to drink and then the seed will grow bigger because they will drink a lot of water. The little white spot in the seed will grow into a plant. I hope it grows. (Figs. 4-6)

The children compared the three experiments of the seeds growing in the cotton wool, dirt and water. The seeds in the water did not grow as much as the seeds in the soil and the seeds in the cotton wool died after sprouting because there was not enough water.

After the seeds had grown about 30cm tall in the egg carton we decided to put them out in our vegetable garden. The white beans

grow into a plant. I hope it grows. (Figs. 4-6)

The children compared the three experiments of the seeds growing in the cotton wool, dirt and water. The seeds in the water did not

and chick peas were the one that had survived in the egg carton. Will it grow out in the garden or will the birds, snails and possums eat our plants?

We had noticed that the very next day the bean plants were not there. *Maybe the possums were hungry and they ate our plants*. But the two chickpea plants have grown tall and are now flowering. *The possum didn't like the taste of the chickpea plant. Can we taste the chickpea leaves?*

"If we want children to flourish to become truly empowered, then let us allow them to love the earth before we ask them to save it." David Sobel²

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- (Ballantyne, Connell & Fien 2006)
 Australian Psychological Society: Saving the planet - June 2008 www.psychology.org.au > saving_jun08
- David Sobel
 Beyond Ecophobia: Reclaiming the Heart in Nature Education: arts.envirolink.org >











How do we value, encourage and deepen conversations about diversity and community?

How do we value and encourage sustained listening?

We thought about these questions in relation to our new kinder group and our ELC's focus on the 2016 UN International year of Pulses. **J

We likened pulses and seeds as a metaphor of our kindergarten children beginning the year- creating a network of connections and relationships with their environment that would enrich and support them.

The children learnt about different pulses and each other. First they observed the chick pea seeds with microscopes. Then they planted seeds which all looked the same at first sight, and observed and documented their growth. Just like the children these seeds changed and grew differently. Some grew taller, some grew bent and some spread to one side. (Fig. 1)

We asked the children;

What is same or different about you even though you are all children?

What makes you special?

The children commented on these similarities and differences:

We don't have the same hair or tops. They are different colours









Everyone has different names

We have fingers and toes but our fingers and toes are all different I am good at skiing

Through the use of ball games, songs, stories and circle games we focused on respectful listening. We also listened to the children's thoughts and understandings about what respectful listening meant to them:

I look, listen, mouth closed on the mat

Words like your back straight because that's how our back is. Back straight so you can hear and listen

You need to sit on your bottom. Not lie on the floor

We started from the roots. At our Kindergarten Information evening the parents of each child were asked to write two words which described their child. We explained that these words would be shared with the children at a later stage. (Fig. 2)

We brought these words back to the children in small groups. They made connections between the words:

I think shy means when you hide behind your mummy and you don't want to talk to people

Happy means like my mummy and daddy. They show they are happy when they laugh (Fig. 3)

Two moments occurred when some children discovered that they both had the same attributes/words that their parents had written:

You have determined, and I have determined! That's funny!

Your mummy and daddy choosed my word. That's my word.

But we can share

Another two children discovered that the word 'confident' was the same attribute that their parents had chosen:

She is the same one as me. Her mummy wrote the same confident as me.

These small group discussions were brought back to the class to encourage conversation and further an understanding amongst the whole class group. We noticed that as the children shared their theories about their attributes they developed a shared understanding that these words were important to the children who had received them:

There are different words (descriptions from parents) for different children Because inside they (the children) are different. Some children like to read; some children like to be funny.

I like playing and Liora likes reading. That's why her mummy called her a 'Bookworm'

Your mum loves you. That's why she made special words for you

The children continued to develop relationships with each other as they worked in pairs to photograph each other and to record each other's messages using an iPad and the app '30 Hands'. A film was made about this and sent to the parents. Collaborating in this way strengthened the children's bonds as a learning community. It also





strengthened the bonds between the parents as they were able to view the children's responses; both as individuals and as a group.

Parents, children and teachers can view themselves in the light of new stories if the world, and culture, and therefore schools, offer them this privilege. The privilege and right of a family to be perceived as the bearer of theories, of expectations, and the possibility of exchanging them and seeing them from different points of view. (Gunilla Dahlberg, 2012).

To further the children's understandings of community and diversity we used opportunities during our Jewish Studies and Hebrew language sessions.

The parents were asked to write a letter to their child and to share their child's Hebrew name and why it was chosen. Hebrew names are embedded in the Jewish culture and every name is a word in Hebrew that has meaning. We documented the way the children discovered their Hebrew names by reading the parents' letters explaining their choice.

Through listening to the children's names in biblical stories and in stories about important ancestors in a child's family, the kinder children got to know unexpected things about each other, spreading the branches of community and diversity even further. (Fig. 5 & 6)

Once again, there were opportunities for the children to discuss the sameness of names.

Two children had the Hebrew name 'Liora'. The meaning of the name is 'my *light*', and the children discovered that both girls were

the light of their parents' lives however, they had been given this name for different reasons.

The rich network of connections that were created in our classroom began with our investigation of pulses. The children physically experienced growth through their observations of the seeds; and at the same time emotionally and spiritually through their growth as a kindergarten community.

As we progress further into the year our connections as a community will continue to grow; both with the Jewish festivals we celebrate together as a community and through recognising ourselves for who we are and where we belong.

Community is much more than belonging to something; it's about doing something together that makes belonging matter (Brian Solis, digital analyst and principal at Altimer group, 2014.)

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- Brian Solis, 2014, Community is much more than belonging to something, viewed August 2015, https://www.briansolis.com/.../community-much-belonging-something

Figures

- Fig 1. Observing the growth of the chick peas
- Fig 2. A child looking at her words
- Fig 3. The children discussing their theories about the meanings of the words
- Fig 4. Children photographing each other for the movie
- Figs 5, 6. The children sharing the meaning of their Hebrew names





When The United Nations deemed 2016 the International Year of Pulses did they consider the influence this would have on a Kindergarten class' learning journey? When Bialik College embraced the International Year of Pulses as an overarching idea for our pedagogy was it so Kinder 3M would build a nest?

Our journey began with a seed, literally. The children were challenged into developing the ideas behind what makes a seed, or pulse, grow. (Fig. 1)

They need water

They need food

We worked towards growth; the children began to research their own growth, compared to the pulse. The children connected their own growth to the growth of a pulse. (Fig. 2)

People that are alive they move and plants that are alive they move.









The children then began to discuss the idea we are all the same but very different, this included plants, animals and people.

The children watched, via YouTube, the book 'We are One' by Jennifer Black.1

The book discusses the concepts of all people breathing the same air and living under the same sun. The children connected with these ideas.

We, as educators, can provide opportunities for children to explore ideas that are rich and valuable. Ideas that allow children to make connections in ways that make sense to them².

Within the book 'We are One' there is an illustration of central Australia and the children recognised this image. Their discussion on Indigenous Australia began.

The children began to discuss who was here before us. What did Melbourne look like before the buildings?

Provocations were presented to the children. The children viewed the image "Aborigines on Merri Creek" by Charles Troedel, 1865.

What could they see?

A cloud

Trees

The Moon

People trying to catch fire.

It looks like Melbourne.

The children then discussed a photographic image of Melbourne today.

The sun and the sky are still the same but what had changed? What could they see?

A city

Buildings

A river, water.

It is the big city that Daddy works in.

I go to the city. That is the city we go to. We take a train to the city.

The paintings and photographs brought the children back to their original thoughts of same but different.

The journey meandered along and it became rich and interesting to the children, deepening their concepts of their world around them and their culture. Culture is 'the fundamental building block of identity' ands is essential for children's sense of belonging and being³ and is transmitted through families, language, communities, within generations and from one generation to the next4.

What else could they see within their world today that could link them to another culture, another time?

It was discovered within their own school grounds. (Fig. 3)

What was the meaning of the three flags flying just outside their outdoor area? They had an understanding of the flag for Israel, through their own research on Israel's Day of Independence.

What where the other flags and who did they represent? We researched, and with the assistance of the technology within our classroom, we found the meaning behind the flags.

Australia flag

Because we are in Australia

Me too

We all are.

The children of Kinder 3M believed a class flag was required to represent them. (Fig. 4)

Again we moved forward on our meandering journey. As stated by Carla Rinaldi It is not a free journey but neither is it a journey with rigid timetables and schedules; rather, it is akin to a journey guided by a compass⁵.

Where to next? What direction was our compass pointing?

The children were presented with the question.

Who are the people that the indigenous flag represents?

It is about the people who were here before us.

Where are they within our image of Melbourne?

For how many years did they look after the land before us? Again we returned to the original provocation of the images looking to deepen the children's thinking, peeling off another layer of thought.

If there were no buildings what would be here?

Kangaroos









Cockatoos

A nest

Trees

Definitely trees.

The children decided that we had changed the landscape of Melbourne and what our ancestors found when they arrived was a land that had been cared for by the Indigenous people. In particular the Wurundjeri clan of the Kulin nation⁶.

Becoming aware of the importance to embed in our thinking the unique place that Aboriginal and Torres Strait Islander cultures hold in Australia⁷.

Kinder 3M wrote their own version of an acknowledgement to country, which is embedded into our daily routine.

Thank you to the Wurundjeri people.

We will look after your land.

And be kind to the plants, rivers, animals and people. (2016)

If the Wurundjeri people were not an obvious presence in Melbourne anymore what else could be missing?

Again the children returned to our original images.

No trees.

If the trees are missing what else would be missing?

Birds

We began researching important animals and birds of Melbourne. The children discovered Bunjil⁸. They wondered where Bunjil is now. (Fig. 5)

He is going to the city.

He lives at the zoo.

They are far, far away somewhere else.

He needs a nest

Birds live in a nest.

They make eggs.

They make chickens.

We will make him a nest.

The children built Bunjil a nest, building him a home, as he no longer had one where he once lived. (Fig. 6)

From sticks.

Wood

Grass

Leaves

Feathers

So the eggs can crack (Fig. 7)

Have we changed the landscape of Melbourne for the benefit of everyone? The plants, animals and its first people? As a class of Kindergarten children we have an increased awareness on our own impact on our own country. Did we, through our meandering journey across our own country increase our awareness of the International Year of Pulses. No? We did discover the underlying indigenous "pulse" of the land we now live on and through deepening our knowledge we have created space in our hearts and minds to listen to and respect the country we are honoured to call our home.

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 (Accessed on June 2016)





4 Year Old Kinder



This year the intent was to deepen our understandings of Indigenous Australia through exploring contemporary story books by well-known Indigenous Australian authors.

Throughout this investigation the children viewed Australian maps, referencing where the author of each story came from as well as the animals referred to in the stories. In our reading session of these stories, the students learned much about the relationship between the land, community and family. Further, ideas about morals and values were considered and we made many connections to our own lives, in particularly focusing on our day to day meetings with others. As part of our exploration and discussion, the children shared stories of their own or their parents' travels to different areas in Australia.

For some communities, it is a way of life to use elements of the environment's natural resources. Through our engagement with these stories, we explored traditions and skills that Australia's First Peoples passed on to each generation.

To broaden our student's understanding of the place and relevance of story in the lives of communities in Australia and globally, we continued our communications with kindergartens in the remote desert region of the Arava in Israel. We set up a project with the purpose of looking for connections between the environment and the way we live our lives. Through this investigation of these connections we also wove in consideration of themes suggested by the 2016 United Nations declaration of the Year of Pulses.

This year-long investigation included the cross class Kinder 4 groups which worked to provide a diversity of thinking and helped enrich relationships and experiences in addition to those already formed in specific class cohorts.

One of the stories which we read and discussed was 'Sam's Bush Journey'. This story offered children an account of a strong







relationship between a child and his grandmother. The grandmother wanted to teach the child and so shared with him her knowledge of the environment and the future significance of it to his life.

As part of our teaching we focus on scaffolding skills within contexts and with the intent of preparing students to be able to understand links between these skills and thinking. During our preparation for this and other projects, our teachers contemplate when and how children develop skills to share their thinking, reflections and wonderings.

Our exploration of 'Sam's Bush Journey' and other stories appeared to engage the children and they were provoked to undertake further research. Questions they considered included: 'How tall was the tree that Sam sheltered in the hollow in the trunk?', 'Were the berries he was shown that he could eat, similar to blueberries or cherries they knew of?' and 'Was a waterhole the same as a lake?'

We have mosquitos too and we don't like them like Sam as they make our skin itchy!

The children shared their observations of each other's thinking whilst fashioning in clay; representations of one aspect they had chosen from this story. For any of us it is challenging to create a three dimensional image from a written idea or from a drawing and especially so if you have not seen a living example of the idea or object you are trying to bring to life in clay. As the children worked in clay, some drew advice from those who had travelled to the Australian bush, whilst others looked for guidance by observing some of the Gum trees in our school gardens. (Fig. 1) As part of this project we took walks through our school gardens and noticed the specific uniqueness of each area with the variations in vegetation. We looked carefully at the plants and the children made links to plants they had heard about in 'Sam's Bush Journey'. As we walked, we discussed stories our families had shared with us and what we have learnt and remembered from these stories and how it may guide or remind us in our lives. We also thought about the strategies Sam had used to be resourceful and compared his to ours. Several children spoke about the planting of gardens at their homes.

In another story 'Collecting Colours' by Kylie Dunstan², the students heard about two children who learnt about the way that a community weaves baskets, mats and other weavings for ceremonial purposes. In this story these children are shown (by one of the children's mother and aunty) the process of collecting Pandanus leaves that grow in the Northern part of Australia. They are taught how to dye the leaves by using natural materials and how to make string to weave.

This book enabled our students to gain some knowledge about dyeing and weaving processes and they also learnt about the region referred to in the book; the aridness, the plant life, and again about communities and families passing on stories and traditions. We returned to the schools gardens to collect flowers, plants and leaves which had fallen during autumn. Excitedly our students filmed and photographed the colours they discovered and on their return to the studio they sorted the plant matter according to kind and colour. (Fig. 2)

They experimented with how these collections might in fact be used as dyes. The children added the striking red leaves to a container of water and similarly did so with the yellow leaves, other coloured berries and flowers they had discovered. Over the following days they waited and watched as the water changed colour and we dispensed the coloured liquid into bottles for other groups to observe. (Fig. 3)

During the project, the kinder groups also visited a farm as part of their celebration of the Jewish festival Shavuot. They learnt more about how nature gives us resources as they observed the processes involved in creating produce such as milk, cheese and shearing of sheep for wool.

In the studio, small groups of children had the opportunity of a close up observation of both raw wool and dyed wools. They discussed the colour of the wool they saw on the sheep and how they thought the wool had been dyed. They related this to what they had learnt about the dyed Pandanas leaves and they wondered if the same process had been used.



At another point in the project, as the students discussed the line patterns created in the woven baskets, mats and other weavings created by the women in the story 'Collecting colours', the groups were asked to think about which colour wools they would use to create patterns in their own weavings. The process of weaving and stitching was something new for the children. They became fascinated by the idea of a weaving needle working its way in an out of a weaving frame. For one child he reminded us that this was like his nana's knitting. (Fig. 4)

In learning about the use of natural resources in our lives we also drew the children's attention to the care and sustainability of these resources for ourselves and for future generations.

The children listened to the story 'The Little Corrobboree Frog' which focuses on mindfulness as to how we use the environment and respect for those that live in it. We are continually amazed by nature. In our walks through the gardens in our school the children came across a 'frog bog'. The children couldn't see frogs nor water and expressed their wonderings as to why this was so. This led to theories about looking after the environment and the importance of water to survive. The need for food, shelter and water and recycling was a recurrent theme in the children's own storytelling.

The relationships between ourselves and nature was further explored with an incursion to visit Australian animals of the desert. Being 'up close' offered deeper insights for our kinder students. The story behind the story of each of these animals influenced and deepened our previous understandings. This was evident when comparing the children's earlier clay modelling of some of these animals with the stories we had been reading. The children revisited this by creating another clay model of these animals we had seen during the incursion. Our belief is that the stories behind the image, the object, the character are so powerful in the forming of our connections and beliefs; as are the stories that are passed down from generation to generation within families and cultures. (Fig. 5)

One child now reminded us that the crocodile's skin was 'lumpy and hard' and the claws were long and sharp.

Our partnering with kindergartens in a remote desert region in the Arava over a number of years has been strengthened by the sharing of each other's stories from day to day events and cultural and traditional celebrations throughout the year. We have come to understand our similarities and differences. The Arava children, who live in a desert environment where life exists in dryness and extreme heat for most of the year, yet their community produces rich agriculture within these climatic conditions. Here close relationships with the environment are indeed important to one's survival and sustainability is an ever present discussion. As an exchange teacher in this region, I participated in projects in these kinders and the regional school that related to and were based on the surrounding environment. One such project involved the need for seating under the shade of a tree at the entrance to one of the kinders. Benches were designed by the children, ironically in the shape of large sea creatures. The recycling of the community's empty drinking bottles was the basis for reimagining of this material and two shapes were created with these bottles with the resemblance to these sea creatures. The surfaces of these benches were then covered with papier mache and paint. This project was shared with one of our partnering Bialik kinder classes and we decided to further explore our sustainability focus with a similar initiative. Through this project we explored what our kinders knew about recycling. We looked at some of the natural and manufactured materials in our kinder and discussed the properties of these materials and how they might be 'reimagined' when their initial purpose had expired. Our parents provided many bottles from their homes for us to add to our collection. Not limited to but exploring areas of science, numeracy, literacy and the arts as part of this project brought to the fore much new information and experiences. Through experimentation with these bottles we hoped the understandings of repurposing these items and the children's generalising of the terms reusing, recycling and sustainability would be transferred in their everyday lives.

At the completion of this project which spanned several months, our kinder class participated in a Skype session with the children in the Arava. Our children shared information about their stools, the children in the kinder in the Arava shared information about their benches. Each admiring what the other achieved and with the acknowledgement of different decisions, constraints and opportunities within their respective environments.











Throughout this investigation we explored several threads that link us to our land and our diverse communities and many cultures and heritages. This highlighted opportunities for respect and valuing of our relationships with others and with our environment.

A recent speaker, on behalf of a cross cultural contemporary dance company combining both traditional Noongar dance with other culture's dance styles, stated that it was about 'Connection with each other, know who that person is, finding a way forward and taking the time to respect each other... a dialogue of understanding.⁴

More recently our kinder groups have become acquainted with 'Story Stones'. A woven bag made from natural fibres was of great interest to the children as they related the fibres to some of the plants and weaving techniques we had explored during this project. Inside the bag were small smooth stones with painted symbols of animal footprints, animals, a waterhole and a boomerang made by an indigenous group in the northern region of Australia. A note in this bag offers children the opportunity to use these stones to create their own stories. Using a thinking routine, 'Step Inside'5 the children became the symbols represented on the stones. Interestingly the children focused on relationships between the characteristics of each animal and their habitat. One of the main threads in their stories was the need for water and food, with the animals finding solutions to this need. (Fig. 8)





The waterhole

The snake slithered in the bush and he was thirsty. I am thirsty I want to find water.

The Witchetty grub was thirsty too.

Boing, Boing, the rabbit was also thirsty and looking for water.

Whoosh, whoosh, what are you doing said the bird

We are looking for water.

I will fly and find water said the bird

When the bird found water she said to the animals jump on my back and I will take you there.

The waterhole said, I am the waterhole and you can drink my water but leave some for the other animals.

I am important if you do not have water you will not survive.

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At the beginning of 2016 a decision was made by Bialik College ELC to embrace the UN declaration of 2016 Year of Pulses. "

The Food and Agriculture Organisation of the United Nations (FAO) had been nominated to facilitate the implementation of the "Year" in collaboration with governments and other relevant organisations, such as schools. The aim was to heighten public awareness of the nutritional benefits of pulses as part of sustainability.

This was an opportunity to reflect on our teaching practices. How would we incorporate some of these ideas of pulses, sustainability, nutritional benefits into our programming so that there was an understanding of the significance of such a decision, and the actual benefits of the outcomes? What did it actually mean for us as a class community? Was it about the actual pulses? What are pulses? How do they grow? Could we use the pulses as a metaphor for a bigger idea?

We set ourselves a task to research our initiative. We also asked our parents to come on board with us in this research.

The discussion began by introducing the symbol showing a graphic representation of pulses. We then discussed why we chose this theme for the year and how it was part of the plan.

The question we posed was simply... Do you know what a pulse is?

The response was a resounding no! However some children theorised by saying,

A pulse is about love and my tummy loves pulses, because it tastes yummy. Like lollipopses.

The year of the pulse is a baby in someone's tummy.

It is when you can't wait for something to happen.

You just want your birthday to come.

I think it is a pulse.

We sent a note home and asked the parents if they knew anything about the 2016 International Year of Pulses.



It is my heartbeat.

Is it about healthy eating?

What is a pulse?

Do we need to?

At this point we had started to develop an idea about the children's birthday celebrations at kinder. Every year we celebrate each child's birthday in our class and a cake is provided for us by our school cook. Our dilemma was whether we could have a discussion with the children about the importance of pulses, and that instead of a cake for every birthday we could introduce a pulse in a variety of ways that would ensure that the children would not be disappointed by not having cake, but would eat some celebratory food with pulses incorporated into it.

We engaged in a conversation with the children about how we could celebrate each child's birthday with a particular ceremony and also incorporate the eating of pulses as the birthday treat. (Fig. 1 & 2)

At the same time we spoke about values such as integrity; as in being part of a larger community, and how privileged we are and that we should help others who are less fortunate than we are; perseverance in looking after plants and food sources; empathy and responsibility by ensuring the children cared for the plants and resilience and understanding by eating something other than cake for a birthday celebration.





Our parents were very supportive of this idea.

We decided to incorporate the eating of pulses woven into a story for each child, which was then told on the day he/she celebrated their birthday.

Often it was a spontaneous story and the theme of the story depended on the characteristics of that birthday child and on which pulse was being used, as the birthday child chose their pulse. The story was personal to each child.

The birthday girl Hadar went to the market and she went looking for pulses. Her mother told her pulses are very good for you. She knew that her body is very important and she knew that if she ate pulses her body would say thank you to her.

She saw a woman selling strawberries and asked her...do you have any pulses?

No.

She kept on walking. She saw a man with a long beard. He was selling lollies and the birthday girl said excuse me do you have any pulses.

Can't you see I sell candy, I don't even know what pulses are.

Well I don't like lollies they are not good for my body. I need something healthy. So she kept on walking. Everything was colourful and the smells were so lovely.

She walked all the way to the end, and there was a cave. She walked into the dark cave and there were bags and bags full of pulses. Green pulses, red beans and then she saw Aladdin. He said this cave is full of pulses... go and choose. Then she saw it. There was a basket full of her favourite pulses... chickpeas.

She put one in her mouth and nearly broke her tooth. Let's cook it. She went home and made a wonderful spreading dip, and she called it her chicky peas shmushy. (Fig. 3)

Each story involved the use of a pulse, incorporated into our menu of the day and offered to the family of the birthday child. Our birthday celebrations were an opportunity to deliver a very important message to our children and they embraced the notion of eating pulses as a celebratory food. (Fig. 4)

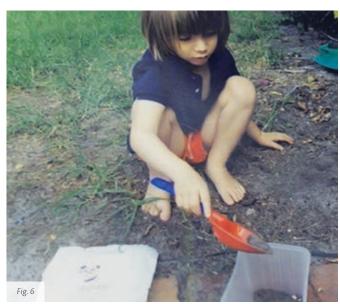


Whilst we shared this delightful way of celebrating a birthday we also discussed what pulses means to our diet and health. The children completely embraced the ideas and theories put forward as did so many of the parents.

We sent home a small bag with three types of different pulses and a note. (Fig. 5)

...one pulse grew. Daddy didn't put it deep enough. The pot fell over and the dirt fell on the floor. Dad picked up the dirt. I know what it tastes like. It tastes like nature. (Fig. 6)



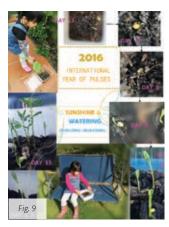




Our garden may be green, but our thumbs aren't. Here is a picture of Louis planting the pulse seeds in garden dirt. He then proceeded to flood them with water every few days. Not surprisingly, all we have is a plastic container full of mud. Thankfully the strawberries and tomatoes he planted at his Grandparents' house have been more fruitful.

Some of the children started their own projects at home and documented the growth of their pulses, graphically and in pictures taken over time. (Fig. 7, 8 & 9)





One child found the task of looking after plants quite "scary" and she did not want that responsibility. She worked through this dilemma with her father and they were able to work together by planting the pulses and documenting the process digitally, over time. Over 7300 photos were taken for the 2 min clip.

We also received such positive input from parents.

Ever since our chat I have had this idea going around in my head. That in recognition of 2016 Year of Pulses, the world needs "Pulses for Pulses" ...ie good food to combat mortality.

I am not sure if you want to go anywhere with this, but it seemed to open up discussions around nutrition and health, sustainable farming, poverty and hunger, how the body works...

The Year of Pulses has empowered the children to be adventurous in their choice of food, to be resilient and try different things, and to understand in a small way that we need to look ahead and ensure that we embrace the understanding for a sustainable future.

Pulse crops such as lentils, peas and chickpeas are a critical part of the general food basket. They are a vital source of plant based amino acids and proteins for people around the globe and should be eaten as part of a healthy diet, to address obesity, as well as to prevent and help manage chronic disease, such as diabetes and cancer. They are also an important source of plant based protein for animals. They also have nitrogen fixing properties which can contribute to increasing soil fertility and have a positive impact on the environment.

Have you had pulses today?

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With 2016 being the United Nations International Year of Pulses, our ELC embraced this focus in our learning."

We looked at our Kinder 4J class and wondered where this would take us. Would we take it in the literal or metaphorical sense?

Would we simply use the pulses as they were or would we look at its deeper implications?

The word pulse has many connotations.

The pulse of life; music; a beating of the heart and glorious pulses

And then the more tangible, edible pulses such as dried seeds of plants from the legume family including peas, edible beans, lentils and chickpeas.

We considered that the children would respond to something tangible, hence our initial investigation would look at pulses that were edible and that may be found in our daily diet.

A chance meeting with a friend, where I mentioned the 'Year of Pulses', led to a parcel in the post arriving for our class containing dried Heritage beans.

A photo of the Heritage beans was used as a provocation in an email sent to parents where we asked them to discuss three questions with their children -

What do you see? What do you think? What do you wonder? (Fig. 1)

I see leaves and pea things.

They make me think of eating.

I think of nature.

I wonder if it is real live beans.

I wonder what it really is and why the leaves have thorns

The same photo of the beans was used to provoke discussion with the class where we asked...









What did you think when you looked at it?

I thought it was only beans, I thought it was peas

It looks like a banana

It looks like a worm, cos worms are skinny like that

It looks like snow peas. It looks like a finger

It looks like peanuts

This became a sensorial experience as the children felt the bean pods and beans, smelt them...

It's noisy, it's hard, it makes a rattle sound.

It feels like paper, it feels wobbily, it feels like beans, it's crunchy, it feels like nuts.

It smells like nuts. It smells like gum nuts. It smells like beans. (Fig 2)

What do you think is inside?

I think there's beans in it cos its bumpy

It feels like its rusting

Nuts, beans, prickles

Jelly beans – when we put them in the ground they might grow into jelly beans

They might be BEANS!!

As the children opened the pods...

Nuts, beans – they look like jelly beans. Beans, cos they grow things. It will turn into nuts.

What do you think we could do with these? (Fig. 3)

Put them into the dirt and let them grow

Put them in a salad and eat them

They might be a beanstalk!

We experimented with the beans – in water, dirt, cotton wool....

The children offered their own theories as to what happened to the beans...

They cracked because of the water. I think the sand made them crack.

The mixure did it – the water and cotton wool and dirt made it crack.

I think it's a snake coming out the bean. They changed, they're wet. It's going to grow into a bean stalk

And it did! (Fig. 4)

"When we make children's thinking visible we are providing a window not only what students understand, but also how they are understanding it. Uncovering childrens' thinking provides evidence of their insights as well as their misconceptions."

(Ron Ritchhart 2015)

We wondered would this exploration simply be an investigation into germination and growth or could we use the pulses as a vehicle for deeper enquiry?

Could we link our pulse journey to the Jewish Festivals (Chagim) we celebrate?

Yom ha-atzmaut, Israel's birthday was approaching and as a way of linking our pulses to the foods eaten in Israel we created the 'Mahane Yehuda Market in Jerusalem' in our kinder. Literacy and numeracy were evident as the children prepared their own 'shopping list' for the market, and then had to count how many coins they needed to purchase their pulses. (Fig. 5)

Pulses bought at the 'market' were taken home to be planted and their growth recorded through drawings, photos and text in a book we sent home for this purpose.

This 'growth and change' investigation developed many 'green shoots'. It garnered family interest and participation, a renewed interest in planting, with one parent commenting..

"The pulses project did more than just get us to plant lentil seeds. It took us on a trip to a nursery where our child selected









other plants to bring into our home to nurture and watch them grow. You brought greenery/plant life back into our home. And in an apartment, we hadn't been growing anything at all."

Many more discussions followed as the children observed the changes in the beans as they grew or even those that did not.

We asked what else might be growing?

Flowers, mint, bananas, oranges.

US! We grow from tummies, babies grow.

We become a big boy and a big girl. We become an adult. Then you are so grown up you do everything yourself. You have your own rules.

People grow up when they change numbers. He means ages. And then you'll be a grandmother, a bubba, a safta, and ima and abba and mama.

If we eat, drink, sleep and breathe we will grow until we'll get up to the roof, and then we die.

Looking at this discussion we thought that what should follow naturally would be a refection of each child's own journey of growth from birth to the present; similar to the journey of their pulses. We asked for this to be documented in the second half of their 'Pulses Book'.

What followed was not just an exercise in documentation but rather a deeper and more meaningful exploration of life, of change and the experience of sharing this journey together, as a family often reflecting personal experiences and significant moments in their lives.

That's when I was holding Abby. I was so happy to have a new sister. I'm such a big girl now.

Soon I was two years old and I could do so many things. I could dress myself and decide what clothes and shoes to wear.

Parents too shared their personal reflections...

"Writing the journal of our child's growth was both an emotional and cathartic experience for me as a parent. When you have a child that is challenged in some way - whether it be socially, emotionally or physically, everyday becomes about positives and negatives and achieving "goals". It is such a stressful experience and as a parent you become totally focussed on "what is wrong" as opposed to "what is right" with your child. It was so cathartic to look back at photos of our little boy as he grew. These photos are memories of a time when everything he did wasn't deconstructed and assessed.

It made me realise that he is still our child - and we love him regardless. The project put things back into perspective for me and has reminded me that being a parent of any child has challenges - both positive ones and negative ones."

The word pulses became part of our classroom 'lingo'. When a child went shopping with his parents at the local market, he was very excited when he recognised bags of pulses. (Fig. 6)

The pulses became a culinary adventure. Pulse soup was made with the children selecting the pulses they wanted. Chickpeas were crushed and used to make humus. (Fig. 7)

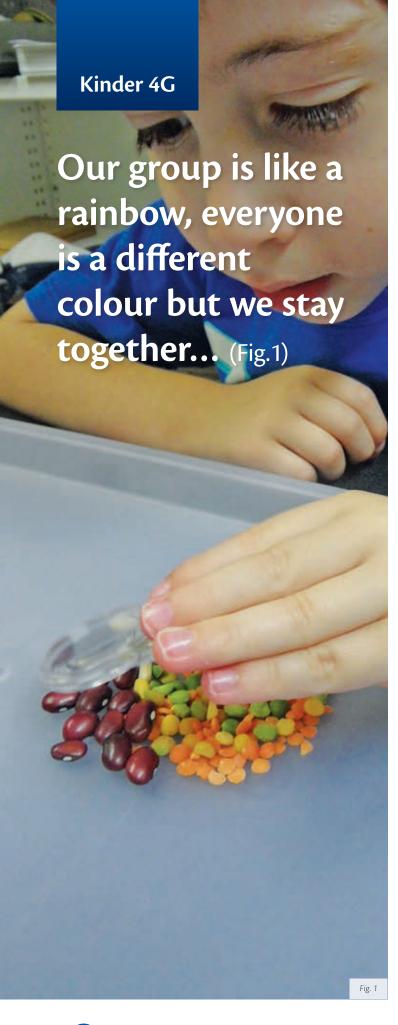
As we approach the end of the year and reflect on our various learning journeys we see how there are many rich and valuable connections that can be made. "This web of connections and relations becomes the vehicle for our putting our ideas to work and seeing the applicability of our skills in novel circumstances and in the creation of new ideas." (Ron Ritchhart 2015)

As we value the children's thinking and theories, it enables and motivates us as educators to see just how far we can go on this journey together.

References

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We began our second year of kindergarten with the phenomena that our group of children have already formed a strong basis for learning with and from each other.

However some children seemed to be distant from the group. We acknowledged the importance of the many different voices that exist in our group and we looked at ways to make working together a meaningful aspect of our learning experience. In her book *Unearthing Why* Jill McLachlan says: 'to feel a sense of belonging and to be part of a large group are the rights of everyone involved in the educational process, teachers, children and parents' (McLachlan 2015)¹.

We wondered what moved those children who were distant away from the group? Is it the individual or the group that was the cause? Does the group know how to deal with this? What will bring these children back to the group?

We started our investigation with the belief that if we raise the children's awareness of the differences between people then opportunities may open up for all children to become part of the group. This led us to the question how can we plant a seed for acceptance and respect in young children?

Provoked by the storylines shared at the International Study Tour at Reggio Emilia in Italy early this year, I have come to an understanding that we recognise ourselves by acknowledging the differences between us and others. Children need others to develop their own identity. Teachers are partners and co-collaborators in the children's pursuit of understanding.

How do children learn? We draw children's attention to how we can grow as learners by providing them with opportunities to explore, take risks and practice. (Fig. 2)



Inspired by the 2016 United Nations International Year of Pulses and our investigation of acceptance and respect, we decided to follow a pathway of inquiry that would be familiar and of interest to the children, namely their families. We started with modelling this by organising a dinner for all educators in our team to share dishes made of pulses. We believe that if children 'see our passion, our interest, our caring and our authenticity as learners... and leaders... we will make the world real that they may choose to enter...' (Richhart 2015)2. (Fig. 3)



Following this experience, we paired up our kindergarten families to share a meal made of pulses. The purpose was to create an opportunity for the families to get to know each other by making logistical choices for the gathering, sharing recipes, food and stories. The parents were given guidelines and asked to provide feedback. An array of emotions were expressed in this experience such as uncertainty, anxiousness, excitement and hesitation. Many parents were concerned about whether the children would like the food, what would it feel like to get together with a family who they didn't really know, would their dish be liked?

In kinder the children shared their own views of the experience with enthusiasm:

I want to do it again...

I love playing with other people...

I want to go to Esther's house...

The best part was playing together...

This led us to wonder more about the children's beliefs and ideas about differences and strengths based on the premise that 'the individual characteristics present in a group are an important basis for making the group a learning group' (Vecchi 2008 p. 177)³

We then divided the children into small groups asking them what they thought their peers' strengths were: (Figs. 4 & 5)





Sienna is good at eating...

Chloe plays with everyone who she likes...

Matiya likes other people...

Annie-May brings love to kinder...

Eyal is good at speaking Hebrew...

Ruby brings a big smile every morning...

Ashton is good at doing things that he cannot do...

Idan is funny, he makes people happy...

Dalia is good at drawing real things... (Figs. 6 & 7)





We found it very interesting that the children made no comments about physical appearance such as the colour of their eyes etc. They referred to each other in different forms of social relationships. Following that experience we gathered together again to look at why the children think a group is important and what makes our group strong:

A group is any number but not one...

Sometimes a group is little like three or four people...

We are a group because we stay together...

We help each other...

We are clever...

People say sorry if they hurt someone...

We listen to each other, we listen to the teachers and the teachers listen to us...

Our group is like a rainbow, everyone is a different colour but we stay together...

At this point we offered the children the option of using a friend as a tool to help them represent their views. Understanding and forming an identity is a journey children have to take in order to distinguish themselves from others; to recognise themselves and to be recognised by others. It is a tough challenge but it is also a source of pleasure that comes from the new awareness of similarities and differences. Comparing ourselves to others in the group and conveying individual skills and strengths, helps back up the image we give ourselves and how individuals in the group can complement one another.

To investigate this idea further the children were invited to the small studio in pairs to draw a portrait of each other.

What did that mean for them?

When you draw other people they all look beautiful because I don't want to make them sad so I make it beautiful...

Drawing another person is funny... if you are a boy you don't know how to draw long hair for a girl...

It's nice to draw a picture and give it to them then they do the same to you and then you go and play together...

When someone draws me they do it in different way so it looks different from my drawing of myself...

When we draw each other it means you are sharing because you are being nice to other people and then they are nice back to you... (Figs. 8 & 9)





We decided to set aside a group session to chat about what it meant for the children to be part of a group of individuals. **How do we use each other to build a strong learning group?**

It was time for us to pause our questions and to listen, 'to wait... although it may seem to be passive, it is a very strong activity of the teacher' (Tiziiana Palmisamo international conference Reggio 2016)⁴. Over a course of a week we listened to the children interacting, talking with one another and making discoveries:

The boys don't really do drawings... (a comment made by a few girls) We need to get them to draw...

We can say to them p l e a s e...

Maybe if the boys will see our drawings they will also want to draw...

We listened to the children playing and solving social conflicts:

In kinder you cannot play alone...

Yes you can, I really feel like playing by myself...

At home you get more time by yourself so it's okay...

If you play alone in kinder you get lonely and sad...

It's not nice to other people...

If you really want to you can say I want to play alone now...

Okay but maybe we can play alone together...

The concept of listening has been further developed in Reggio through the use of documentation, 'to make listening visible and available to interpretation by a wider audience' (Rinaldi 2016)⁵

'Listening to children carries us into many different feelings and thoughts, into a kind of teaching full of uncertainly and doubt, and it takes wisdom and a great deal of knowledge on the part of the teacher to be able to work within the situation of uncertainty' (Malaguzzi's words 2016)⁶.

The children started to take ownership of the group; they worked, learned, played and solved problems together. They progressively demonstrated great care and acceptance of one another, despite the differences between them:

People are different, some got big eyes some small eyes, I have small eyes but I see big...

Friends can be different size, she has different look than me...

People have birthdays in different times...

Some people look the same but one can be a little bit better...

Big group is better, you can have all your friends together and connect...

I like to play with other people even if they are different...

The ability to enjoy relationships and work together is very important. Children need to enjoy being at school and the interactions that take place there. Feeling accepted and respected are the rights of all children and it is the adults' responsibility to give them the recognition of those rights.

Encountering children, hearing them, honouring them and learning from them is our objective as educators. Being inspired by the Italian educators has offered us a lens through which we have been able to see ourselves and reconsider what it means to teach, to learn and to educate. 'Reggio is a story that began with a group of people who wanted more for their children and their city' (C Britt&J McLachlan 2015)⁷. We share with them that dream and join them in wanting more for our children, do you?

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Prep

Prep R



"

We started our journey this year focusing on creating a classroom environment where kindness was valued and relationships were nourished. Would we need to create opportunities to teach the children kindness or would it just happen organically? This led us to the question, is kindness innate or do you need to teach it?

Current research suggests that opportunities need to be given to activate our kindnesses. It's easy to think of kindness as an innate talent, something you either possess... or don't. But that's not the case. Kindness is a skill – and like any skill, it can be developed with practice and repetition.¹

Our investigation initially began with the provocation of the '2016 UN International Year of Pulses'. We began to look at how pulses could grow to their full potential. (Fig.1) The children suggested:

Be gentle with them.

Give them food and water.

Do not hurt them.

Make sure they are in the sun.

The children experimented with different ideas. They nourished and cared for some of the pulses and with the others they did not. They soon discovered that the pulses could not grow without constant care and attention:

They look the same.

Those ones look all grown up.



Together we discussed what else needed nourishment and care like the pulses to grow. The children discussed and drew their ideas: (Fig. 2-4)

Animals in the zoo need love and care by their zoo keepers to be alive.

We need to love ourselves. If you don't love yourself others won't love you.

Our hearts, we need to exercise and eat lots of fruit and vegetables for them to stay healthy.

We need to grow our friendships. You need to care for them for the friendship to grow.

Their discussions lead us to further investigate the idea of growing friendships – how we could nourish the relationships in our classroom.

Teaching kindness is an essential part of our curriculum. It not only increases children's emotional intelligence but also builds a more positive community where children can form strong links.

Kindness bridges gaps and helps build a sense of connection among the students, the teachers, and even the parents. Learning to strengthen attention and regulate emotions are foundational skills that could benefit children in school and throughout their whole lives. When children learn to be caring and kind, they also benefit developmentally. Being kind makes you feel good about yourself and improves your outlook on life.2

The children initially drew what kindness looked like to them and thought about how they could be kind:

I ask people to join in with me in the playground.

I let my friends go first on the monkey bars we share.

We help each other at the dress up box.

I picked up someone's lunch box.

I am helping my friend get down from the tree.

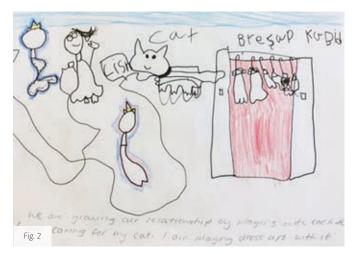
We began to create more opportunities in the classroom where we noticed and named when children were showing kindness to each other.

Noticing and naming what's going well can have a powerful, positive effect on how you and the students you teach feel about being in school, about learning, and even about each other.3

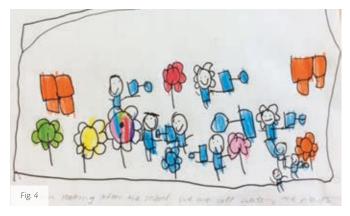
We wondered if by doing this the children would become more aware of their behaviour and its effects on others.

We started a daily ritual where at the end of the day each child would thank another member of the class (child or teacher) for an act of kindness they had done for them. The children looked forward to this moment every day.

Outside our classroom we set up a 'kindness wall' and the children began to document their friends' acts of kindness and visibly see this growing. Children from all the classrooms could comment on this wall. We wanted to show the children that kindness was valued in the whole Prep community. We hoped they would comment on a cross-class level. (Fig. 5)











We could see that the children began to notice and name acts of kindness themselves without prompts from their teachers. They were not only noticing their own but others as well:

When I banged my head on the flying fox two girls took me to the nurse.

When Saskia knocked me by mistake, she got me a wet paper towel.

Later in the year we had some students visit from the Arava in Israel. They talked with our children about their community. The students told about how they nourish and sustain their relationships in their community and how they invest in doing things together to grow their relationships, such as taking short holidays together or working on a project together.

One of our children said: we are doing the same in our classroom. We are growing our relationships too. Rachel asks us to spend time with new friends and listen to each other.

It became apparent as the year progressed that the children became more aware of their actions towards each other and they noticed each other's acts of kindness. Later in the year we asked the children again what kindness was and looked like. It was apparent that their answers were deeper and broader reaching than before:

I saw a man giving charity to a girl that couldn't go to school. That is kind.

My Granny gave me her jewels. She is very kind and generous.

My Mum is so kind. She taught me how to skip. (Fig.6)

Teacher Zia is so kind to me. She always waves and smiles at me when she sees me. (Fig. 7)

The children now saw that kindness was not just about them but it impacted on our whole community- other classes, their families and the wider community.

In turn our class community has become more cohesive and our relationships have strengthened.

We also noticed that from us paying closer attention to the children's positive actions this also created a shift in the classroom culture. This constant positive reinforcement of the children's strengths rather than weaknesses allowed their confidence to grow and deflected attention from negative behaviour.

We believe our investigation has just begun. We now want our children to think that being kind isn't just about doing something nice for someone – it's about being good to yourself, and understanding how empathy, compassion, respect, gratitude and integrity can improve every interaction you have in your life.

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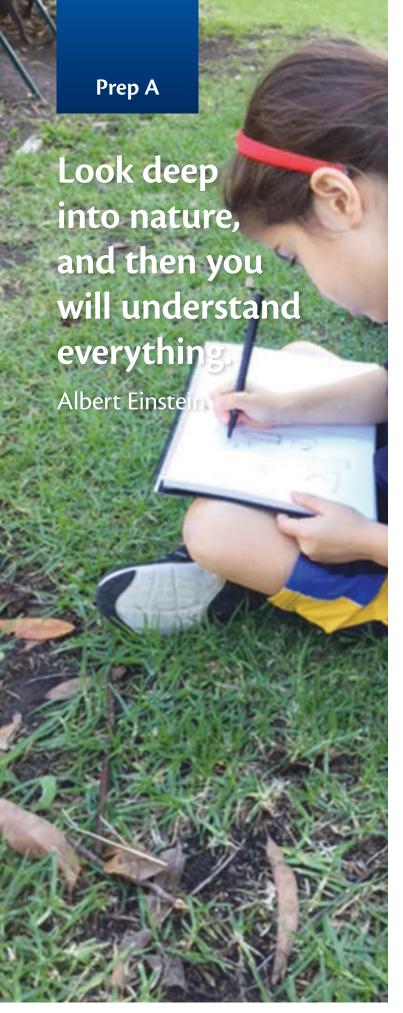












For a long time I have been interested in how health and wellbeing is interconnected with time spent in natural environments with plants and animals. When I reflect on my own childhood where I spent endless hours in nature with the family dog, only pleasant feelings come to my mind. Studies have proven the emotional benefits of spending more time outdoors.¹

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The intent we had for our prep children this year was that they become active in respecting one another and their environment.

How do we provide a challenging learning environment which supports the children?

How do we empower our children to become responsible for their decisions?

The Prep year began with an excursion to visit seven delightful Labrador puppies as part of our 'Dogs for Life' program which helps foster respect and empathy through interaction with man's best friend. The students' instant connection with the puppies and their deep curiosity was made visible through their probing statements: (Fig. 1)

The puppies learn from each other and so when one puppy is sad the other puppies are there to help it get happy.

Well, that is like our class rule be kind to each other and we help each other.



This last comment showed an understanding about the relationship between dogs and humans and what a powerful tool the 'Dogs for Life' program is to support the children develop their understanding and communication through their interaction with these furry friends.

The puppies are like your friends because they follow you around and you have to be nice and kind to them. So if they fall in the playground you help them and you tell the teacher to help them too. So you help them to be happy again.

The rest of the class shared their understandings through drawing and writing their thoughts.

You must be safe when you play. I keep my dog safe at my home.

You pat your dog softly and then he can lick you if he likes it.

Always feed your dog healthy food to grow strong. I eat healthy food to grow strong. (Fig. 2)

The last quote was a springboard to unpack the question - what is healthy food? A group discussion led to students bringing their lunch boxes into the classroom and categorising their food into fruit, vegetables and other items. The discussion moved to what they considered healthy meals at home. When one child pointed to a jar of mixed pulses we had sitting on a shelf as a provocation of our ELC focus on the 'International Year of Pulses', it was interesting to listen to the discussion about pulses as one of the staples in the children's family meals.

They are good for you and make you strong.

When I cook with my dad we mix chickpeas and vegetables and cook it in the oven.

My nana makes soup with the lentils.

I had those yellow ones (chickpeas) in my lunch order yesterday.

Can we grow some in class?

All of the students agreed that we could grow our own chickpeas. During the following weeks we spent time sprouting various pulses such as white beans, chickpeas, brown lentils and red beans. There were predictions of which might sprout first:

I think the brown lentils because they are smaller than the other pulses

Every morning the children rushed into our studio to see if any change had occurred over night. Students made observational drawings and took photos to record the progress. One day one of the children announced:

There is no light at night or fresh air in the studio for the pulses to grow so it will take a long time.

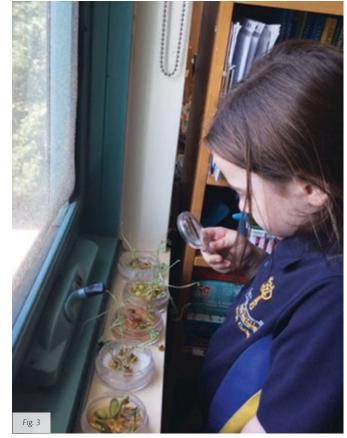
Other students responded:

Why don't we move them near Antonia's computer because there is a window there.

I think we should keep the windows open for fresh air and have the big light on at night time.

I still think the plants will not grow because everyone in nature needs sun and water even us and our pets. (Figs. 3–5)









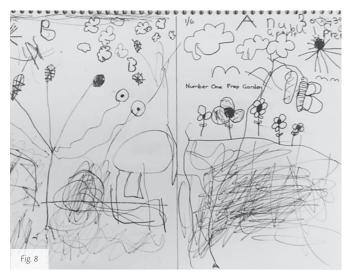












The class continued with the experiment. Very soon the children realised the heating was affecting some of the sprouting. One child offered a suggestion which was followed by other ideas:

Can we grow the pulses outside like the garden the Year 4's have?

That's a great idea because I know how to look after plants because I have my own vegetable patch at home.

We can start our own special garden in nature

We can invite all the children to the garden and teach them about the plants

We can grow healthy food for all the ELC

Yes, and we can call it Prep Friendship garden (Figs. 6–7)

As a community we researched and spoke to gardening experts on our staff to find out what we needed to start our 'Prep Friendship Garden'. We took a walk to the Primary school's Kitchen Garden and gathered ideas to start designing our own. Using the information gathered the children drew designs for the outlay of the garden. Children were grouped into areas of their interest such as the possum and bird deterrents, mosaic front door sign and a 'scary' scarecrow.

I can't wait to have all the nice fresh vegetables growing in the garden. (Fig. 8)

The team work and respect for each other's ideas became visible in the students actions and the way they communicated.

The children's curiosity was so piqued that this led to further independent investigation after school asking family members for ideas for our 'Friendship Garden'. Their curiosity had become infectious, so much so that the students were constantly asking questions.

If we planted these apple seeds would they grow? How do we get the other children to respect our garden? What will happen to the garden during the holidays?

During our next 'Dogs for Life' session the students were exposed to various breeds of dogs. The students were able to see the connection between the dogs, our garden and themselves. They beautifully summed up their understandings:

We might all look different, come from different countries but we are all the same and need the same things like water, food, friends and nature to play in.

Just because dogs are small and can't talk like us they still need to be respected.

When I was walking with Tassie she was happy because I was teaching her not to walk on plants and she was happy outside enjoying the sun.

It became apparent to all of us that in order for a community to exist, be it a dog community or a group of students, we need to work together to thrive and benefit.

It does not matter who you are it only matters what you are. (Figs. 9–10)

This has led to the next phase of our investigation where children are currently pursuing their passionate quest for organising their Friendship Garden. So our journey continues...

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Figures

Fig. 1 Meeting 7 new puppies

Fig. 2 You pat your dog softly

Fig. 3 Investigating pulses growing indoors

Fig. 4 Comparing the growth of various pulses

Fig. 5 Transferring pulses into small pots

Fig. 6 Working with clay to create owls for the friendship garden

Fig. 7 Designing the Friendship garden

Fig. 8 Before and after sketch of the Friendship garden

Fig. 9 Grooming dogs

Fig. 10 Appropriate areas to pat a dog





Beginning our year together raised the question, how do we bond and what is it we are aiming for as a group? Given the whole of the ELC this year is exploring the 2016 United Nations International Year of Pulses we made the decision to look through the lens of ingredients and what combining them might produce."

The Webster dictionary defines ingredients as 'a quality or characteristic that makes something possible'1. The Cambridge dictionary defines them as 'one of the parts of something successful'2 while the Oxford dictionary says they are 'any of the substances that are combined to make a particular dish'3. We knew the children would bring their own 'ingredients' to the group. We would need to unpack and bring out the best flavours these ingredients had to offer to determine what our particular dish might end up being.

As our initial introduction to pulses we posed the question, What do you think you might know about these? which elicited these responses:

They are all pulses even though they are different sizes and shapes

They are for eating and they are really good for you. (Fig. 1)

We then put a variety of pulses together with photos of the children on the mat and asked "Why do you think we put these photos out with the pulses?

We are all different. Our faces and our bodies are different and we are all people.

The pulses are like people. They are little and they can grow.











We decided to follow the children's' comments that pulses are for eating and are really good for you by cooking some pulses /lentils in a soup for the children to experience the flavour.

I loved the lentil soup.

I want to cook it again. (Fig. 2)

What did the children themselves perceive to be the ingredients they are bringing to our class mix?

Gathering our 'ingredients' meant we needed to know something of each other and our strengths⁴. We discussed these strengths and concluded which best described each of us. Slowly we were building a sense of what each of us was bringing to our recipe, just as there were essential ingredients to making our lentil soup, the one that we wanted more of. (Fig. 3)

Beginning our journey together at the start of the year, the children each wrote a short autographical book outlining a glimpse of themselves to support our getting to know each other. Vygotsky believed 'to understand the development of the individual it is necessary to understand the social relations of which the individual is a part⁴. We wanted the children to form meaningful relationships and develop more complex social skills so that our recipe continues to develop.

We decided they needed a mechanism to dig deeper into their growing knowledge of each other. Their next task on their journey to understand more of each other was to develop a brief biographical sketch of another peer. (Fig. 4)

Both Vygotsky and the Reggio Emilia approach to education believe small group collaboration supports their theories that thought processes originate in social interaction⁵. As Berk states, 'they similarly felt the teacher as a creator of activity settings designed to stimulate dialogue and co-construction of knowledge is reminiscent of the concept of scaffolding.'6 Looking at several biographies, together with the children we designed some interview questions to ask their friends. The children then took turns to interview and draw a portrait of their 'biography partner'. This lead to learning more about each other than they had previously known. They gathered information from their partner's parents, sending home some questions which would elicit responses about their partners from someone who knew them in a different way. Another gathering of information came from each of the partners observing and taking notes on each other outside in the playground where they were looking for behaviours such as friendliness, active participation, types of activities and so on. The final interview element came when the children were asked to design a 'burning' question they may have which they would like to ask their friend after all they had learnt about them. (Fig. 5)

What is your favourite flower?

What are you thinking of all the time?

After all their research, the children were then asked to conclude what was the main value they gleaned from their 'biography





partner' that might add to our class. The end product was to be a short biography, compiled on each of the children by their partner with the answer to the question:

After all my research on my friend, X, I have come to the conclusion he/she is ... and he/she adds... to our class.

Finally, a focus group of seven children was asked to discuss the most important 'ingredient' of our class as a whole. After many deliberations, they felt that it is kindness and empathy that makes our 'mix' special. The children then communicated their understanding of these strengths through role play, illustrations and clay sculpting.

What do you feel makes our class special?

What do you think are the strengths of our class? What makes you say that?

Because we share and we help and we are nice to other people so our class will be nice. I've seen people do it.

This drawing is empathy. I was going to help someone who was crying by the tree. (Fig. 6)

Reflecting back on our ELC focus for 2016 on the 'Year of Pulses', we acknowledge that pulses can provide us with a steady source of nutrition and sustainability. They play a major role in our food security. The growth and use of this food source metaphorically mirrors the nourishment children receive from each other; from the ingredients they bring together to sustain our bond for the following two years and beyond.

Our core Bialik values which we strive to impart to our students are those of Respect, Integrity, Perseverance, Empathy and Responsibility. Through getting to know each other more fully, we are practising our values with each other for children seem to learn best when they are part of a community; where everyone feels accepted, where they have a sense of belonging and where individuality is encouraged.

Gradually, the collaboration and bonds are strengthening as we gather our ingredients. Slowly but surely we are designing our recipe. It is taking shape as we continue to realise and form the values that we feel will give us our unique pulse.

As A. A Milne said, "The things that make me different are the things that make me.", "A little consideration, a little thought for others makes all the difference."

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Year 1



We walked by a garden in our school over the years not really paying much attention to a small sign hidden in the bush. Until recently, it was not of major significance to us...* (Fig.1)

In Sally Morgan and Ezekiel Kwaymullina's story 'Sam's Bush Journey', Sam's grandmother goes for walks into the bush around her home with her grandson who doesn't like the bush however through her stories he begins to appreciate the bush's resources which can offer sustenance and shelter and so much more.

Many of us observe and admire the changes in nature and draw our student's attention to this as a feature in our programs. However beyond the visibility of these changes, what more do we know about the history of the flora, the trees in our environment?

The United Nations General Assembly declared 2016 as the Year of Pulses. Our Early Learning Centre staff had several meetings in the lead up to the year to discuss what our understandings of this declaration were and how might this focus be a thread for our investigations in our classes. Both the literal and symbolic featured in our teachers' planning. David Perkins discusses "living questions" and refers to philosopher William James's reference to "live hypotheses"... are possibilities a person finds genuinely at issue with him or herself and worth engaging.' Within our cross class groups of Year 1 students, one focus was to explore the unpacking of nature and its resources from a cultural viewpoint.

Some of the trees and bushes planted in our school grounds were in addition to trees in the area that dated back much older than the schools existence.

Several years ago we invited to our school an Indigenous Australian educator from the Royal Botanic Gardens, Melbourne to share with us his knowledge of this region and the natural resources that were in our own backyard. Some of the plants and trees our school had planted were also a symbolic reference to plants and fruits mentioned in the bible and referred to during our Chaggim (festivals); others were Indigenous to the area. This educator discussed the use of plants and trees within Indigenous culture and within our Jewish traditions. Where do cultures coincide, meet together, and share similarities and not always differences?

In Peter Wohlleben's book, 'The Hidden Life of Trees'³, he asks us to "take a closer look at what you might have taken for granted. Slow down, breathe deeper, and look around. What can you hear? What do you see? How do you feel?..." He asks us to think about "how our appreciation for trees affects the way we interact with the world around us." (p.xi)

From Wohlleben's extensive research into the relationships between trees and ourselves, he refers to the trees as social beings, sharing food with their own species and on some occasions "nourish their competitors". 4 He likens this to our own communities, "There are advantages to working together" (p.3). Throughout his book there are continual references to the interdependence of trees on many levels akin to the survival of our own communities.

When taking another walk to the garden in our school with the old sign, several students commented that the sign must be very old as the paint was peeling. Perhaps it is Aboriginal. What makes you say that? The marks the dots... For many this comment, with reference to the painted pattern on the sign, is a style of painting that many still refer to as representing Indigenous Australian art and culture. However in my early years as a teacher I heard from an Elder in Victoria that this style of painting was only in a certain region of Australia and should not be a source of generalisation. As another layer in this investigation, we began to view other historical paintings and artefacts as well as contemporary paintings by Indigenous Australian artists who represented their ancestors stories passed on through generations. Our students were very engaged in the subject matter; particularly when identifying colours and techniques used that provided an indicator of a region, community and timeframe. (Fig. 2)

During our school's Harmony Day this year, our school participated in a 'Tanderrum', a smoking ceremony to 'Welcome to Country'. As the students stepped through the smoke and inhaled the perfume of the leaves, they listened to a guest speaker describe the relationships between the leaves, as a symbolic reference to different members of the community, and the respect and reliance on these plants and trees. This further provoked our intent and discussion on reciprocity and interdependence. (Fig. 3)

Given these discussion we thought about how we could develop a deeper knowledge of our First People's culture and relationships with the land in an authentic way. In order to acknowledge the many Indigenous Australian communities, we continued to explore a map of the Indigenous Australian language groups in the different regions. We also sought to read many rich Indigenous children's literature, particularly noting the biography of each author and the intent of their story. These stories highlighted for the students a particular message or moral, often within an environment, location and as a cultural story

On revisiting our school garden with the 'old sign' the students were asked to photograph and film what they saw in the garden and record questions that they might investigate on return to the class. We encouraged the students to relook and 'zoom in' on patterns they might find on bark and small flowers, as well as to take note of the more unusual plants. One student commented that a plant looked *like hotdogs*. To further the students research in this area a staff member who oversees 'this old garden' with the 'old sign' at our school offered research that was done by her Year 4 students when this garden was first established several years

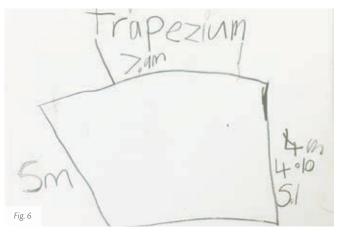
















ago. The students were particularly interested in the names of some of the plants, such as the Chocolate and Vanilla Lily's. (Fig. 4) They discovered that the name of these flowers was derived from the smell of the flowers when crushed. The roots of these plants could be roasted and eaten. Our students were able to add to this research using photos to match the names of the plants as well as their illustrations through observational drawings. They also did watercolour studies from some of the cuttings that we collected from the garden. (Fig. 5)

Following several visits to this garden the students commented that they would like their own garden in the ELC where they could observe the plants every day. The students were offered the opportunity to design a proposal to develop an area within the ELC playground to plant Indigenous plants of this region. As this is an area that the entire school has access to, the group made a film about their intent and presented their proposal to the school principal and management staff. Their initiative was approved. A group of students met with our math's coordinator to discuss the possible dimensions of this garden and the different ways to measure and plan for the space. (Fig. 6) We also contacted our local council to discuss this plan and we were given vouchers to select some seedlings and plants from a nursery, specifically for propagating plants Indigenous to this area.

A small group of students went to collect these plants and seedlings on behalf of the entire Year 1 cohort and relayed to their peers information and learning from their visit to the nursery. The students were amazed when the volunteers at the nursery explained that, if stored correctly before planting, it promoted the longevity of the seeds. They also explained the reasons behind the collection of the seeds from specific plants that only grow in this region. (Fig. 7)

This continued our intent for the students to not just learn facts but to think about what the learning meant to them and to whom and how they would share it. On their return from the nursery planting began with alternating groups planting whilst other groups recorded the process through photos and film. (Fig. 8) How would the garden look in the years to come? The students discussed the making of signs for the plants. They made signs with clay and included the name and date of planting and by which Year level. (Fig. 9)

Part of our pedagogy is to think about the purpose and audience. Who will know why and how? Are the students more informed about Australia's First Peoples and the history of this area? Not only about the past but how the past is respected and continues to inform our present for future generations. The meaningful communications between groups at this particular Year level as well as the conveying of this project to the wider school community for us is the 'regeneration of the past into the present'. We believe that the students' memories of what they have learnt will be sustaining as they continue through the school and pass by this garden regularly.

Through this focus of a living possibility, we believe the students have become more highly attuned to not just passing by what they see but to ask questions; to wonder and explore further as well as the passing of stories onto others. One student commented on one of our walks, I want to be an explorer of rocks when I am older because rocks can tell you a lot about the land. Another, whilst digging in the garden discovered a small round gold ball. I wonder how long this has been here? Is it a treasure? Is it very old?

With the care and attention by the students in the preparation of the new garden, and the planting of these seedlings to regenerate the area with plants originally growing in this region, we as educators sensed the students' feelings towards this important endeavor. As in previous years, our students, on leaving the Early Learning Centre to move to the Primary school, prepare a memory to share with future ELC students when they arrive. Not only will this garden serve this purpose, it is the deeper relationships with the land and what they have learned about our First Peoples that will also stay with them. We will bring our new ELC classes to this garden and speak to them about it. It will be a living archive, keeping the past alive.

Throughout this inquiry the intent was also to relate back to ourselves. What are our values and our responsibilities as part of our community? What is important to us and why? Throughout this investigation the students reflected on what they had observed, listened to and read. This included the many areas we explored in learning more about Indigenous Australian history, culture and relationships to the land and their own families and heritage. The students represented their thoughts through their writing, discussions between each other and using a variety of media. (Fig. 10 & 11)

What is important to me is my family, my school, my friends, my teachers. They take care of me. They keep me happy so I can learn. They help me learn. It is important to help other people.

People make the world fantastic and special. Have a go and help yourself. Try your best.

And for one student

It's about survival of the land.

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When we empower children with responsibility they feel that they are trusted, competent, confident contributors of society. By providing children with real and meaningful selfdirected experiences, they are able to take charge of their own learning. In turn they can 'pay it forward' as learners who are growing an industrious, moral code of values that not only shape who they are but what they can do for others. Our responsibility as educators is to sustain that excitement, enthusiasm and passion for authentic learning by giving children a voice to make a difference that empowers them to effect change."

Margaret Mead says "Never doubt that a small group of committed citizens can change the world. Indeed, it is the only thing that ever has." 1.

How do we give children a voice?

Our umbrella investigation of The United Nations' 2016 International Year of Pulses led us to looking through the lens of sustainability. Last year in Prep the children thought deeply about what they valued; what they have learned from their parents and others that they would like to pass on to their children.

This year to further the children's thinking about their world we asked the question:

What makes a beautiful world?

What do they value within the world we live in?

More nature and less pollution and more trees.

If there was no food people would be so hungry and they would have to get food or find food or get it from plants.

We need more plants. The seeds grow and then there comes more.

It would be a better world if you could give a sleeping bag to a poor person who hasn't got a bed.

Don't chop trees down because it's the animals' home. When you chop trees the animals die.

It wouldn't be a good world without any water.



The children's responses considered the environment and its resources and the needs of humanity, connecting with their experiences and what they know.

We introduced an author study about the author Lauren Child. We read the books "Look After Your Planet" and "What Planet Are You From Clarice Bean?"

We posed the question;

Why do you think Lauren Child chooses the things she writes about?

She writes about the nature and the world and taking care of nature and the world.

She wants to try to teach you to try and save nature so we can have clean air to breathe.

She wants to teach the kids that you should always save something.

She was saving the trees in the book.

She said don't cut down the tree.

Free The Tree!

She said in the story they were Eco Warriors.

They were protecting and protesting.

To deepen the children's thinking further we asked:

How can we connect what we think about a beautiful world and what we have read about Lauren Child and the stories she writes and what her message is to us?

Nature started our life and if we started with no nature it would not work out and there would be no food and no air. We shouldn't cut down trees.

We noticed the children were developing a respect for nature and the recognition of the purpose that nature provides. We saw that they linked this with the responsibility to protect what we have been given.

If there was no nature there would be no fun. There would be no grass to play on and have fun.

If there wasn't trees we couldn't climb or take fruits from them.

The joy in and of nature is recognised and linked to the joy of vital experiences that play an important role in the development of the child.

If we had no nature we couldn't breathe and we would die.

If there were no trees the earth would die.

If there wasn't nature there would be none of us and no bugs and no vegetables and no animals and no water.

We gained an understanding that the children's thinking on sustainability included not only their immediate environment and personal impact, but a global recognition of the effect on the world.

Then nothing will be beautiful and there would be no sky, books and pictures.

The children now wanted to take action and they began thinking of ways to contribute to creating a sustainable world.

You can have healthy soil, healthy water. I have healthy earth because my worms make it healthy.

Prior experiences of the child and the passing on of values that began in the home came into play when children were asked to impart, share and contribute their thinking.

If we have healthy food available we have a healthy community.

We make the world a better place by doing it together. Greenpeace saves animals. They help the environment and animals and make sure they are okay. They teach people what to do.

To make the world a better place you need to water the plants and stop people from polluting because it makes the air dirty and that can kill people and animals and nature. (Figs. 1 & 2)





We believe the desire to take action comes from the child's belief of power in themselves to effect change, and our role as educators is to facilitate this positive energy and advocate for the child to realise their potential.

If you have food and someone doesn't, invite them over and then you can enjoy the food together. When they are with you teach them how to plant and harvest their own food.

We see here that the open heart and compassion of children, supported by knowledge of how they can make a difference by helping others, can bring about a positive consciousness that fosters values of responsibility, empathy, integrity, respect and perseverance. These are reflected in our school values and are needed to create a sustainable world.

The children wanted to share their message of sustainability and the questions arose;

We wondered how and with whom they would like to share their message.

You can pass it on to everyone you know.

You can share with your family and they could pass it on to everyone they know.

You can tell your cousins and they could tell their cousins, and they could tell their cousins.

We could do a podcast, put posters on poles, cd's, DVD's, video clips, a movie.

We could video all the pictures and add what we are talking about.

Maybe we should go to the country we were born in and tell the people what we know.

















From these ideas we saw the children wanting to pass on their values of sustainability through family members and people they knew; and then reaching out to the broader community.

The children began writing fictional stories that included important messages about sustainability that they wanted to share. (Figs. 3 & 4)

As these stories evolved and discussions continued, we discovered that the children included their shared experiences with their parents at home; of how as a family they contribute to a sustainable world. It became apparent that by including the expertise of the parents we could gain further knowledge and work together. This created a wonderful reciprocity of working together and learning from each other to give purposefully for the good of others.

We began to source the expertise of parents on how to go about planting broad beans and other pulses as well as herbs. To our delight the parents were eager to give of their time and many ideas began to grow. As it was autumn it was the perfect time for planting pulses. How beautiful it was to see the parallel of time needed for ideas and seeds to germinate. (Figs. 5 & 6)

As we nurtured the growth of both we began to find different ways of working together to make a difference by helping others. It would take time for the broad beans to grow, so that we could use them to make soup that we could distribute to 'those in need'. We had sown the broad bean seeds and the herbs with the help of the parents, and while we waited to harvest them the children began sewing blankets and toys with the help of the parents. The blankets would be given to new born babies that needed our help and the toys would be given to other children. (Figs. 7 & 8)

The children documented their stories and messages of sustainability through a podcast and e-books. They shared their planting, making of soup, toys and blankets though writing and pictures. Together as a community we had begun making a difference towards growing a sustainable world.

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As the need for greater sustainability becomes more apparent globally, so does the importance of embedding sustainability in children's thinking. Through hands-on experiences and relevant educational pedagogies, children can explore and learn about sustainability both locally and internationally and think about and analyse environmental issues. They can develop the creativity and critical thinking skills necessary to make informed decisions for change, improving the quality of their lives, and those of future generations."

Practicing sustainability empowers children to construct knowledge, explore values and develop an appreciation of the environment and its relationship to their world. This lays the foundations for an environmentally responsible adulthood.

What strategies do we use to foster children's capacity to value and respect the broader environment and appreciate the interdependence between people, plants, animals and the land?

Using our ELC umbrella focus of the "United Nations 2016 International Year of Pulses" we began by asking the children what they needed in order to survive and grow and what plants needed to survive and grow. From there we looked closely at the similarities and differences between these needs.

We need water because otherwise we would dehydrate and die. Dehydrate means run out of water in your body and you need water because some of your body is made up of water.

We need oxygen because it helps us breathe and stay alive.

We need a brain because it's part of your body and without your brain you wouldn't be able to think, see, hear, eat and drink because the brains one of the most important parts of your body.

We need food to keep healthy and if we didn't have food our body wouldn't be healthy and we would get sick and die.

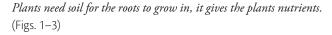
Plants need light from the sun to help it grow. If the plant doesn't have light it dies.

I think the most important thing plants need is water because without water it dies.









A discussion followed looking at what would happen if we didn't have enough land, water or the right climatic conditions to grow food to feed all the people in the world. The children had many ideas as to what might happen but it was their questions and interests that led us to the next part of our investigation.

If we don't look after our planet and the animals, plants and land then we won't be able to grow enough food to feed everyone.

We need to save our water by using less of it and recycling it.

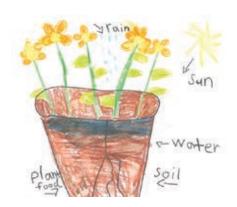
How can we help other countries where they don't have enough food to feed all the people there?

I think we can make the world a better place by helping each other. So if people in another part of the world don't know how to grow foods or recycle you can help them by teaching them and showing them.

In light of the questions posed by the children and their continuing interest from our previous year's investigation into the landscape and climatic conditions of the Arava in Israel, and the limitations this had for sustainable agriculture, we decided to further explore this area. We chose to continue exploring the Arava as the children had met some scientists from the Agricultural centre in the Arava and had been shown a little of what Israel was doing to find different ways of growing foods and increasing the amount of foods grown in the desert.

We began by looking at AICAT (Arava International Centre for Agricultural Training). We introduced the children to the organisation through a film that explained what research and work was being done by them. The film showed how AICAT was helping and teaching people from developing countries around the world how to plant and grow foods for a sustainable future. The children learnt that the study program runs for a year and includes 600 hours of agricultural study as well as educational tours in Israel, visiting companies and agricultural enterprises. They also learnt that the students from countries including Nepal, Thailand, Myanmar, Vietnam, Philippines, Tibet and Ethiopia live and work in the various settlements of the Arava.

The children raised many questions during the discussions that followed and were fortunate to have a group of year 10 students from the Arava visit our school and share their knowledge, answer



many of the children's questions and in turn provide our class with a personal link to the Arava.

How do you grow food when there is so much sun?

Fig. 3

We have special greenhouses that protect the plants from the sun. We use special nets that are dark in colour so that not all the sun gets through.

How do you grow plants if you only have a tiny bit of water?

Water comes from pipes that we have dug into the sand from the north of Israel. We also have pipes that get water from the reservoirs in the different communities of the Arava.

How are you able to test how the plants grow in the desert?

A few years ago some people built a research and development centre in the Arava to research how to grow plants in the desert in a better way.

Where does the food you grow go once it is harvested?

It goes towards feeding all the people in the Arava and also to other parts of Israel.

What do the students from other countries do when they go back to their country?

They talk to their communities about what they learnt at AICAT and try to use what they learnt when they plant crops.

The question that came to mind for us after their visit was what connections can we make with other communities such as AICAT in the Arava that support a deeper connection to the land?

To link this back to the land, environment and climate of the Australian desert and the growing of sustainable crops we asked the children if they knew any places in Australia that might be similar to the Arava.

I think the Northern Territory because it's a bit like the desert because it's hot, dry and has a lot of rocks.

I think all of the deserts in Australia because the Arava and the deserts in Australia are both deserts.

What foods do you think they might grow in these parts of Australia?

Plants that don't need a lot of water like cactus.

Plants that can survive when it's very, very hot.



Plants that have leaves that hold the water.

Plants that have long roots because the water is far under the ground.

Do you think the climate and weather conditions in the deserts in Australia would be similar to the Arava?

Yes I do because deserts are nearly the same as each other.

All deserts are very hot and don't get a lot of rain.

All deserts are dry and the Arava is dry.

To further link this to our ELC umbrella theme of the "2016 International Year of Pulses'" we invited some of our parents who had a strong interest in sustainable agriculture and pulses to explain why pulses are an excellent food source for people around the world and how to plant them. As a year level we chose to plant broad beans in our planter boxes with the assistance of the parents. The children are responsible for looking after the plants and monitoring their growth and have decided as a group to make soup from broad beans to help provide a meal to people who are homeless in Melbourne. (Figs. 4 & 5)

At the same time we discussed as a class what might happen if plants didn't have all the things they needed to survive. As a group the children chose to test their theories scientifically by conducting some experiments where a seedling was deprived of one of the necessities for survival.

We need to plant a seed in sand not soil.

How can we stop a plant from getting air/oxygen?

One of the seedlings mustn't get any water.

We need to put a seedling in the dark so it doesn't get any sunlight.

The children in small groups then chose one seedling to monitor and record their discoveries. Before the children began observing their seedlings they made hypotheses as to what might happen to their seedling.

I think that the plant with no light will survive because we can live in

I think the plant with no air will die because we can't hold our breath for 100 hours.

I think the plant we planted in the sand will survive because the crops in the Arava grow in the sand.

I think that first the leaves of the plant with no water will turn brown and then the whole plant will turn brown and then it will die because it will be so dry because I've seen this happen to a plant at my home.

I think the plant with no soil will eventually die because the soil has nutrients in it and the nutrients are the food for the plant and plants need food to live.

They drew and wrote their theories as to what may happen justifying their thoughts in relation to this.

The children, in their small groups, then had to work out how to deprive their seedling of the one basic need they had chosen. The group that chose no air placed their plant in a glass jar with an airtight lid. The group that chose no light made a cylinder out







of black cardboard and then measured a lid to go on top of the cylinder so that no light could get in. The group that decided to plant their plant without soil planted their plant in a cup on some cottonwool. (Fig. 6)

Each day the children have been checking their seedling and recording their findings. They have been doing this through drawing, writing and using the iPad app '30Hands Pro'. At different stages of the experiment they have also been writing what has surprised them.

I am surprised that the plant without soil is still growing because I thought without soil, which gives it food, it would have died.

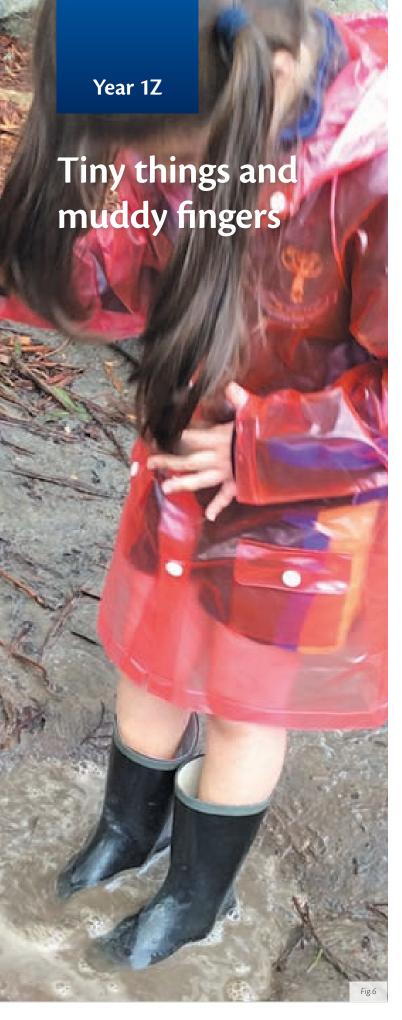
I am very surprised that the plant planted in sand has grown faster than the plant that has everything.

The children's experiments and conversations both among ourselves and with the people at AICAT are continuing. The reciprocal nature of these ongoing discussions is giving the children many opportunities to gain new information and skills in relation to sustainability, relationships and the world around them. Being armed with this knowledge will allow them to make informed decisions for change, improving the quality of their lives and those of future generations.

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Young children have a natural connectedness to nature: their joy of standing in a puddle or watching a worm move is central to their understanding of who they are in the world. "Claire Warden

Educational consultant Claire Warden writes, "Children naturally move in an environment that is constantly changing from minute to minute and from season to season... the rain makes the world a shiny place with light bouncing off surfaces that previously looked dull." She argues that children who feel more comfortable and knowledgeable about changing environments are more likely to grow as naturally curious citizens.

This idea was especially poignant this year as the Bialik Early Learning Centre collectively embraced a global project established by the United Nations, the "2016 International Year of Pulses". This umbrella investigation into sustainability and agriculture was at the centre of our class conversations at the beginning of the year. The children were shown an old world map, which marked the movement of pulses across the globe. The children tried to make sense of what they saw and unpacked their thoughts and wonderings. (Fig. 1)

I think that the world is missing something, but we need it. Maybe it is dinosaurs or the kindest people in the world.

I wonder if these countries are happy and if they have food?

I wonder if in hundreds and hundreds of years all of these countries will develop?

The map sparked a debate around the differences between what we need and what we want.

Why do we want more than we need?

What is the thing between need and want? Because we may need things and we may want things.

The children developed their own theories. They explored the concept of 'fairness' and created a sculpture representing what a fair world looks like.

It is like a giant oval, with golden dots inside, a line through the middle and spikes all around it. This makes all the fair things happen.

They continued making a 'fair world' by planting vegetables and herbs in our Year One planter boxes. (Fig. 2 & 3) The preparing, planting, observing, caring and documenting was an excellent outside learning journey but as autumn drew nearer and more days deemed 'inappropriate' for outside learning, our investigation became dormant.

It was clear that in order for the learning to continue we needed to 'get muddy'. The children were asked to bring raincoats and gumboots to school. The colourful plastics hanging outside our classroom were a constant reminder of the example we were setting, 'no such thing as inappropriate weather, just inappropriate clothing'.

The wet weather gear, in itself, was part of a very important learning marker. In order for wet weather to be a positive learning environment, the children had to learn how to measure risk and prepare appropriately.

Early Childhood Australia poses these integral questions to teachers, "What are the real safety issues and risks in your outdoor environment and what are the perceived ones? Who sees these risks? What is risky for one child, in a particular setting on a particular day, may not be for another child. Risk is relative. Do you focus on both risk assessment and benefit assessment? For example, it may be risky to climb a tree, but the sense of achievement and physical skills that children gain from climbing are very beneficial."

In his book, Free to Play, American developmental psychologist Peter Gray argues that "one thing we know for sure about anxiety and depression is that they correlate strongly with people's sense of control or lack of control over their own lives." Gray refers to several studies concluding, children will be happier and more resilient if they are given opportunities to take control. "In free play children learn to make their own decision, solve their own problems, create and abide by rules... In vigorous outdoor play, children deliberately dose themselves with moderate amounts of fear – as they swing, slide, or twirl on the playground equipment, climb on monkey bars or trees, or skateboard down bannisters and they thereby learn how to control, not only their bodies but also their fear."

This notion is further supported by Warden who writes, "The freedom that many of us felt in our youth is being curtailed by highly structured experiences in enclosed environments that are usually indoors. Children need a sense of autonomy to believe in themselves."

Using the iPad app Popplet, the children brainstormed the potential risks outside in the rain. These documents became the children's 'check-lists' for risk assessment outside. Months later, as the students ventured outside in the rain regularly, I could see the independent problem solving, resilience, risk-taking and safe play at hand. Indeed, the tremendous benefits were far outweighing the potential negative outcomes.

The increased opportunities for the children to learn in and about the outside in the rain fostered a richer, deeper and more complex understanding; in learning about themselves and the world around them. Inspired by the children's book, Ten Tiny Things by Meg McKinlay, the children were asked to find 'ten tiny things' over the mid-year holidays. (Fig. 4) The children returned to school with treasure troves containing a collection of ten intricate and delicate items. As we entered winter, and the rain continued, the children went outside to find 'wet tiny things'. (Fig. 5)











What do these wet tiny things tell us about the world?

I found this object outside when it was wet. It tells me that when it's pouring the leaves fall down.

I found this object when it was wet outside. I think it is a home for a creature.

I found this piece of bark when it was wet outside. It tells me that water soaks in trees' bark.

I found this rock when it was wet outside. It tells me that when this rock is wet it can draw white on big rocks and it shows a black crystal under the rocks very thin rocky surface.

I found this piece of bark when it was wet outside, this piece of bark tells me that water changes colour of objects.

The 'tiny things' invited more and more scientific questions about the world.

How does so heavy water rise in to so weak air?

I want to know, why fish survive in water and not us?

Why isn't water pink?

Learning in wet weather became an integral part of our class culture and routine. (Fig. 6 & 7) The children gathered information by spending time in the rain and reading informative texts on the topic. They 'stepped inside' a gumtree whilst standing in the rain and wrote descriptively.

I am the gumnut tree standing in the rain. I can see the cold wet red soil. I can smell the fresh eucalyptus leaves in the air. I can hear the rain pattering on the dark, soft, wet ground. I can taste the clean new water. I can touch the birds' sharp claws. I can touch life.

The children composed their own information books about wet weather. They wrote creative narratives based on the question, 'What if it was always raining? How would people, animals and life have to adapt to survive?' Indeed, the opportunities to intertwine the 'wet world' and the curriculum were abundant, meaningful and authentic.

One of the pivotal outcomes of this investigation was the positive emotional response of the children to being outdoors in different and unusual conditions. The children radiated with excitement as they jumped in puddles, squished mud between their fingers and slid on wet grass freely and boldly. In this we see

the tremendous value of rich sensory experiences in childhood learning and wellbeing. (Fig. 8) We are also presented with further evidence that children feel confident and happy in a broad range of environments if, as adults, we let our own worries subside.

As the seasons change again and we enter spring the children continue to see the outside as a space for play and learning. (Fig. 9) They continue to harness new skills and learn through authentic inquiry. Their shared knowledge and experiences will equip them for the future – as scientists and environmentalists, writers and problem solvers, mobile movers and self-believers who will continue to take risks, grow through curiosity and take joy in jumping in puddles.

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Contributors

3 Year Old Kinder

Kinder 3R

Sustainability and the outdoor environment in early childhood

Gia Altman, Avigail Batzli, Noah Burman, Zac Burns, Noah Eydlish, Stella Fink, Adele Fisher, Sonny Gelbak, Kai Glazer, William Holzer, Eve Israelsohn, Adelaide Klepfisz, Ash Landau, Noah Meltzer-Burns, Maybelle Razbash, Alice Rom, Ben Sheezel, Nathan Tian, Zadie Wodak, Nate Zukerman

with

Ranjna Najat, Tamar Herman, Margaret Todd, Nikki Kausman, Robyn Winograd

Kinder 3E

It matches together. I'm confident like Gaia and she is confident like me!

Daniel Apter, Liad Bartenstein, Gaia Bennett, Matthew Braun, Luca Dahan, Emily Firestein, Wilbur Gauvin, Yoav Hanuka, Amalya Kalbstein, Xavier Kopp, Zeke Logan, Liora Reider, Clover Rogers, Elijah Roizman, Ariel Rosenbluh, Alexandra Samuel, Alexia Scher, Charlotte Sham, Sebastian Uliana, Jay Weiskop, Lexi Whine, Gaia Zohar

with

Elise Rotstayn, Miri Sheffer-Waterson, Julia Levine, Chris Georgalas

Kinder 3M

Because we are in Australia...

Jude Beggs, Leo Blashki, Coco Dvir, Ari Frishman, Lielle Galon, Alexis Helfenbaum, Jack Lew, Sophie Li, Noam Lifszyc, Gabe Mac, Ava Marks, Ted Marks, Sara Mazer, Charlie Nussbaum, Coby Pura, Leo Reid, Alon Rushiniak, Aiden Serry, Alexa Sormann, Sasha Southwick, Olivia Susman

with

Megan Miller, Danielle Cohen, Rosemary Barry, Zana Kovaceska, Bella Besser

4 Year Old Kinder

Kinder 4 Cross Class

I will fly and find water, jump on my back...

Kinder 4J, Kinder 4G, Kinder 4L

With Helene Oberman and Kinder teachers

Kinder 4L

In chickpea land when everyone says yum, it means they are very good chickpeas...

Lyla Alperstein, Idan Ben Artzi, Danielle Brod, Jasper Fink, Rocklan Fischl, Ky-Zen Foo, Nadav Fuchs, Hadar Golan, Ethan Hutcheson, Ezra Janover, Miller Janover, Amy Jin, Shiraz Kapper, Rose Leighton, Chloe Levy, Jake Lichtenstein, Olivia Lurie, Alicia Mackin, Arki Rettig, Levi Roitman, Carmel Rom, Louis Rom, Camilla Ryan, Nadav Sztrajt

Lindsay Miller, Adi Barzilay, Yael Shaul, Mandie Teperman, Sandy Sher, Aliza Deutsch

Kinder 41

Do pulses have a value?

Miles Auster, Mia Birnbaum, Jake Block, Tia Blumenthal, Michael Davidoff, Hannah Dzienciol, Laila Engel, Sidney Gauvin, Mason Goldstat-Joffe, Natalie Grossman, Sam Held, Finn Joachim, Mia Kallenbach, Ozzie Lobel, Poppy Lust, Charlie Mooseek, Amira Pinczewski, Zoe Robin, Eli Segal, Joel Skalicky, Billy Slade-Jacobson, Hudson Solomon, Ella Symons, Ariel Tal

with

Judy Blumberg, Ayana Shavit, Diane Thornton, Robyn Winograd, Aliza Deutsch, Anne Budlender, Bella Besser

Kinder 4G

Our group is like a rainbow everyone is a different colour but we stay together...

Jacob Aldworth, Remy Asseraf, Eyal Bart, Idan Ben-Eliezer, Chloe Berkovitch, Dalia Blecher, Ashton Burns, Pia Dabscheck, Annie-May Finkel, Hila Golan, Judah Goldman, Matiya Israel, Sienna Kamil, Madison Keddie, Jacob Kirszbaum, Milan Perry, Ruby Rosenbaum, Esther Schluter, Milla Serry, Aurora Shapiro, Jordan Shapiro, Angus Somerville, Charlie Taylor, Milla Whytcross, Tiffany Yerusalimsky

with

Gali Sommer, Pazit Landau, Megan Jay, Deb Nirens, Zia Freeman, Anne Budlender, Bella Besser



Prep

Prep R

In our class, we also grow our friendships

Milla Altman, Harlow Birner, Amelia Bram, Abbie Dodge, Rosie Fink, Gemma Gunn, Orli Hansen, Tommy Holzer, Zoe Israelsohn, Hardy James-Wurzel, Jack Jolson, Zabi Kalbstein, Frida Kallenbach, Dylan Kinda, Maddy Nussbaum, Sam Reider, Geffen Shoshany, Jesse Snyder, Ben Wilson, Nicholas Wrobel

with

Rachel Machlin, Naama Dadon, Mandie Teperman, Bella Besser

Prep A

Look deep into nature, and then you will understand everything

Rafi Adeney, Itamar Goldberg, Ava Harris, Ido Hartman, Noah Herszfeld, Nimrod Horn, Gisele Hunter, Frankie Lasky, Luca Meltzer-Burns, Zaiden Moszkowicz, Lilly Pratt, Max Robin, Jasper Rogers, Alexandra Ryan, Liam Shabat, Freddie Strauch, Allegra Vainberg, Hazel Wodak

with

Antonia Provatas, Desre Kaye, Robyn Winograd, Aliza Deutsch

Prep K

What could be the recipe for our class?

Eve Akoka, Ava Beggs, Toby Burman, Ilil Dagan, Ashley Degen, Maayan Falkov, Yarden Fridman, Bella Furman, Olivia Gaspar, Archer Gelfand, Nathan Goldberg, Mason James-Wurzel, Amelie Kohn, Luke Lambert, Reuben Landau, Zac Landau, Lielle Liderman, Ebony Mahemoff, Olivia Malet, Omri Schildkraut, Ori Tal

with

Kathleen Georgiou, Irit Fichman, Sandy Sher, Anne Budlender

Year 1

Year 1 Cross Class

An awareness of oneself and others

Year 1L, Year 1R, Year 1Z

with

With Helene Oberman and Year 1 teachers

Year 1L

The seeds grow and then there come more...

Samuel Aldworth, Lior Bart, Jerome Braun, Amber Goldberg, Noam Goldberger, Jesse Holsman, Sunny Kister, Remy Krasnostein, Harlow Lewin, Hao Li, Lior Mazer, Annabel Naphtali, Romy Rodenski, Archie Rosenberg, Harvey Ryan, Joah Scher, Jade Swart, Noa Whytcross

with

Linda Baise, Naama Dadon, Nikki Kausman, Zia Freeman

Year 1R

Planting the seed for a sustainable future

Abigail Apter, Lior Bartenstein, Ohad Barzilay, Jacob Burrows, Yhonatan Carmeli, Orli Erenboim, Zohar Galon, Saskia Gelbak, Gabriel Jacob, Joel Krause, Evie Lichtenstein, Harry Lurie, Joshua Morley, Leon Pratt, Abi Pudel, Zac Steedman, Ashton Whine, Olivia Wolman

with

Roz Marks, Desre Kaye, Robyn Winograd, Aliza Deutsch

Year 1Z

Tiny things and muddy fingers

Toby Adeney, Darcy Arrow, Lincoln Burns, Ella Carmeli, Jason Dodge, Emi Engelman, Luka Federman, Lior Feldman, Eliana Firestein, Chloe Freund, Mia Grossman, Eligh Harris, Zoe Janover, Lia Rushiniak, Jesse Stowe-Lindner, Hugo Wise, Eli Wolkenberg

with

Zoe Winograd, Irit Fichman, Nikki Kausman, Debbie Nirens, Zia Freeman



www.facebook.com/BialikCollege

Sam & Minnie Smorgon Campus

429 Auburn Road
East Hawthorn, Victoria 3123
Telephone (03) 9822 7981
Facsimile (03) 9822 0553
P.O. Box 433, Hawthorn, Victoria 3122

Early Learning Centre

Enter from 407 Tooronga Road East Hawthorn, Victoria 3123 Telephone (03) 9822 3123 Facsimile (03) 9822 7499

> www.bialik.vic.edu.au info@bialik.vic.edu.au



