



# **INQUIRY-BASED LEARNING IN EARLY STEM** **SCIENCE , TECHNOLOGY, ENGINEERING, MATHEMATICS**

**HEIKE HENDERSHOT, NATIONAL TRAINING MANAGER**



**Early Childhood Australia**  
A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES

# AGENDA

**WHAT?** Inquiry-based STEM learning

**WHY?** Skills & Abilities for the future

**HOW?** Real-life STEM



**Early Childhood Australia**

A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES

# STEM?



**Early Childhood Australia**  
A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES

# INQUIRY-BASED LEARNING

Children are confident and involved learners.

Each child is to be respected for their prior knowledge, competencies and experiences.

Children's interests drive successful inquiry-based learning.

Children participate in decision-making processes.

Concepts are temporal and are constantly refined based on new learning.



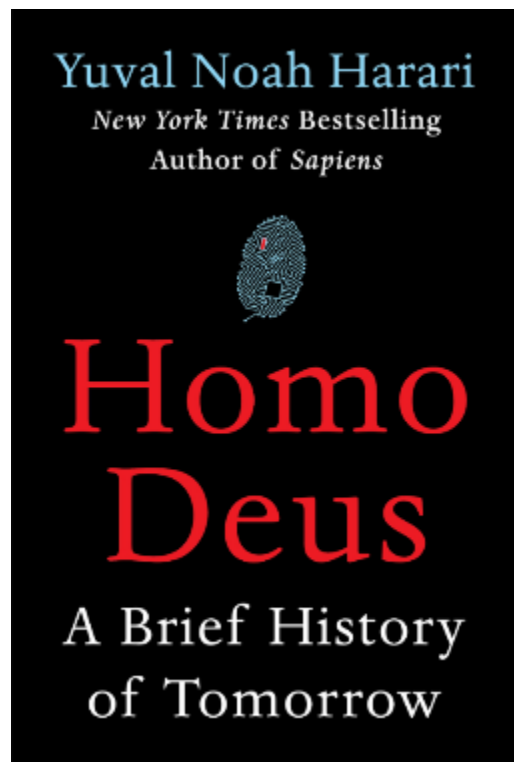
**Early Childhood Australia**  
A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES

# FUTURE SKILLS



**Early Childhood Australia**

A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES

# FUTURE SKILLS

58% of current students under 25 are studying for jobs that will be radically changed by automation



**Early Childhood Australia**  
A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES

# FUTURE SKILLS

Responsibility & Independence

Self confidence

Problem solving

Meta-cognitive skills



Critical thinking

Resilience

Research skills

Social & Communication skills



**Early Childhood Australia**  
A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES



# MONASH VALE EARLY LEARNING CENTRE



**Early Childhood Australia** | Celebrating **80** years  
A voice for young children

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES



# MONASH VALE EARLY LEARNING CENTRE



**Early Childhood Australia** | Celebrating **80** years  
A voice for young children

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES

# MONASH VALE EARLY LEARNING CENTRE



**Early Childhood Australia** | Celebrating **80** years  
A voice for young children

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES

# MONASH VALE EARLY LEARNING CENTRE



**Early Childhood Australia**  
A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES



# MONASH VALE EARLY LEARNING CENTRE



**Early Childhood Australia**  
A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES

# MONASH VALE EARLY LEARNING CENTRE



**Early Childhood Australia**  
A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES

# FUTURE SKILLS

Responsibility & Independence

Self confidence

Problem solving

Meta-cognitive skills



Critical thinking

Resilience

Research skills

Social & Communication skills



**Early Childhood Australia**  
A voice for young children

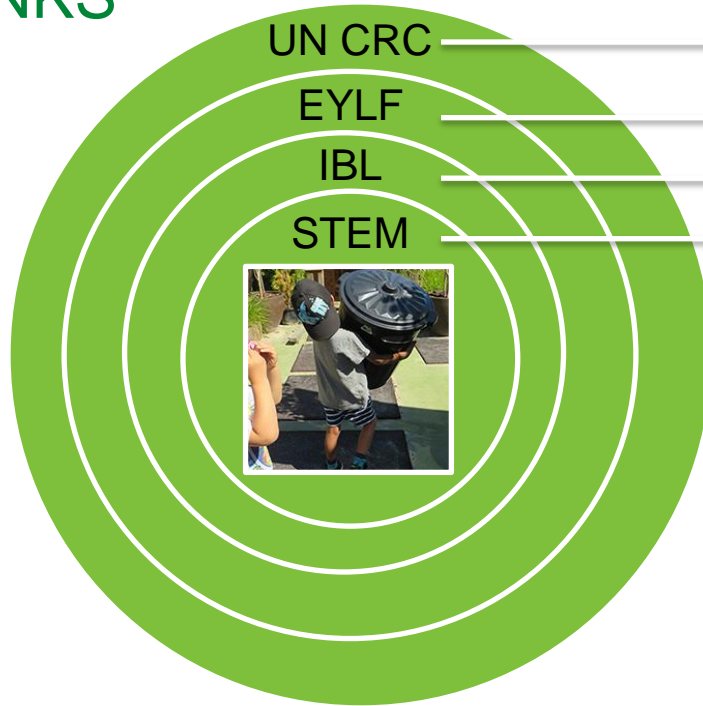
Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES



# LINKS



Expression, inquiry & individuality

Outcomes, principles and practices

Children's ideas & decision-making

STEM is everywhere!



**Early Childhood Australia**  
A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES

# WORKSHOPS



Computational  
thinking



Inquiry-based  
learning and  
co-construction



Metacognition



Project work



Technical  
education



Mathematical  
reasoning



Scientific  
models



Language  
development



**Early Childhood Australia**  
A voice for young children

Celebrating **80** years

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES



**THANK YOU!**

[info@littlescientists.org.au](mailto:info@littlescientists.org.au)  
[www.littlescientists.org.au](http://www.littlescientists.org.au)



**Early Childhood Australia** | Celebrating **80** years  
A voice for young children

EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2018

**BE THE DIFFERENCE**  
FOR CHILDREN AND FAMILIES