



Little Scientists

STEM Professional Development



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EARLY CHILDHOOD AUSTRALIA NATIONAL CONFERENCE 2019
FROM VISION TO ACTION

Agenda

WHAT? Professional identity

WHAT? STEM inquiry practices

HOW? Strategies for strengthening professional identity



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Professional identity

Professionalism

Professional competences
and behaviours



Professional identity

Image of who you are
as a professional



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Professional identity

We can create environments that encourage the formation of professional identities through

- Self-reflection
- Feedback
- Exchange with others
- Supportive team culture
- Exposure to different practices



What is Inquiry based STEM?



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Inquiry Based STEM Learning

- Recognise prior knowledge through observation and conversations
- Recognise current understanding of STEM concepts
- Provide opportunities for children to gradually extend concepts
- STEM is everywhere! We can learn to recognise STEM learning opportunities
- Kindle your own excitement about STEM discovery and research
- Children take age-appropriate responsibility and are involved in decision-making



STEM inquiry based projects

- Projects develop organically
- Children are actively involved in decision-making
- Educators take different roles and facilitate learning



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STEM inquiry & you

Reflect on your role in the adult-child relationship

- STEM inquiry emphasises a child's potential
- The children take an active part in their learning
- The adult-child relationship develops organically and mutually



STEM inquiry

Explore your environment:

- STEM is everywhere – train your STEM muscles!
- The children ask STEM-related questions everyday day!



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inquiry based learning & you

Develop self-confidence and enthusiasm for inquiry

- Your enthusiasm is much more important than your knowledge.
- Your role is diverse!
- The children take age-appropriate responsibility
- Peer-group learning plays an important role



STEM inquiry & you

Rewrite the narrative!



Question the story you're telling yourself.



Practice STEM inquiry until your story has changed.



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STEM inquiry & you

Enhance your educational philosophy

- STEM inquiry can be integrated into your existing approach
- Strong alignment with the EYLF principles, practices and outcomes
- Environment encourages reflection, feedback and exchange with others



Thank you!!!



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STEM confidence

The majority of participants did not feel confident about their STEM knowledge.

75%: perceived lack of Engineering knowledge.

53%: perceived lack of Science knowledge.



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STEM inquiry projects

Mini landfill

~ Sweetpeas Kindergarten, Cranebrook, NSW



“What’s landfill?” asked one of the children and planted the seed for a great inquiry project.’

‘Every day the children checked which materials were decomposing in our mini landfill.’

‘Some children were disturbed seeing the plastic rubbish essentially unchanged.’



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STEM inquiry

Explore your environment:

- Can you spot STEM in the room?
- Anything you might wonder about?



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