

# **Teaching and learning in environmental education: A framework for developing action competence**

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# Overview

- **Background to project**
- **Research aims**
- **Developing a framework**
- **Action competence**
- **Researching the framework**
- **Presenting the framework**

# **A teacher-researcher partnership project**

- **Research mentors (experienced researchers)**
- **National EE school advisors**
- **Enviroschools Foundation**
- **Five NZ Schools (and their teachers)**
- **Research partnerships (researcher-teacher-mentor)**
- **Funded by the Teaching and Learning Research Initiative (TLRI)**

# Background

- **EE/EfS in New Zealand**
- **The New Zealand School Curriculum – new in 2010**
- **Key competencies in our curriculum**



# Research aims

- **To develop a framework for analysing and developing student action competence**
- **To research teacher and student views about learning as action competence**

Photo: Courtesy of Enviroschools Foundation



# Developing a framework

- **Literature review**
- **Design of a draft analytical framework for action competence**
- **Research instrument design to trial the framework in 6 schools**
- **Administering the instruments in the schools by researcher and teacher over two years**
- **Analysis of data and refinement of framework**

# Action competence

- **Is the ability to act – with reference to the environment (Jensen & Schnack)**
- **Is democratic through participation**
- **Is intertwined with experience**
- **Action:**
  - **Is not the same as behaviour change**
  - **Is not the same as activity**
  - **Can be direct or indirect in relation to environment**

# Researching the framework

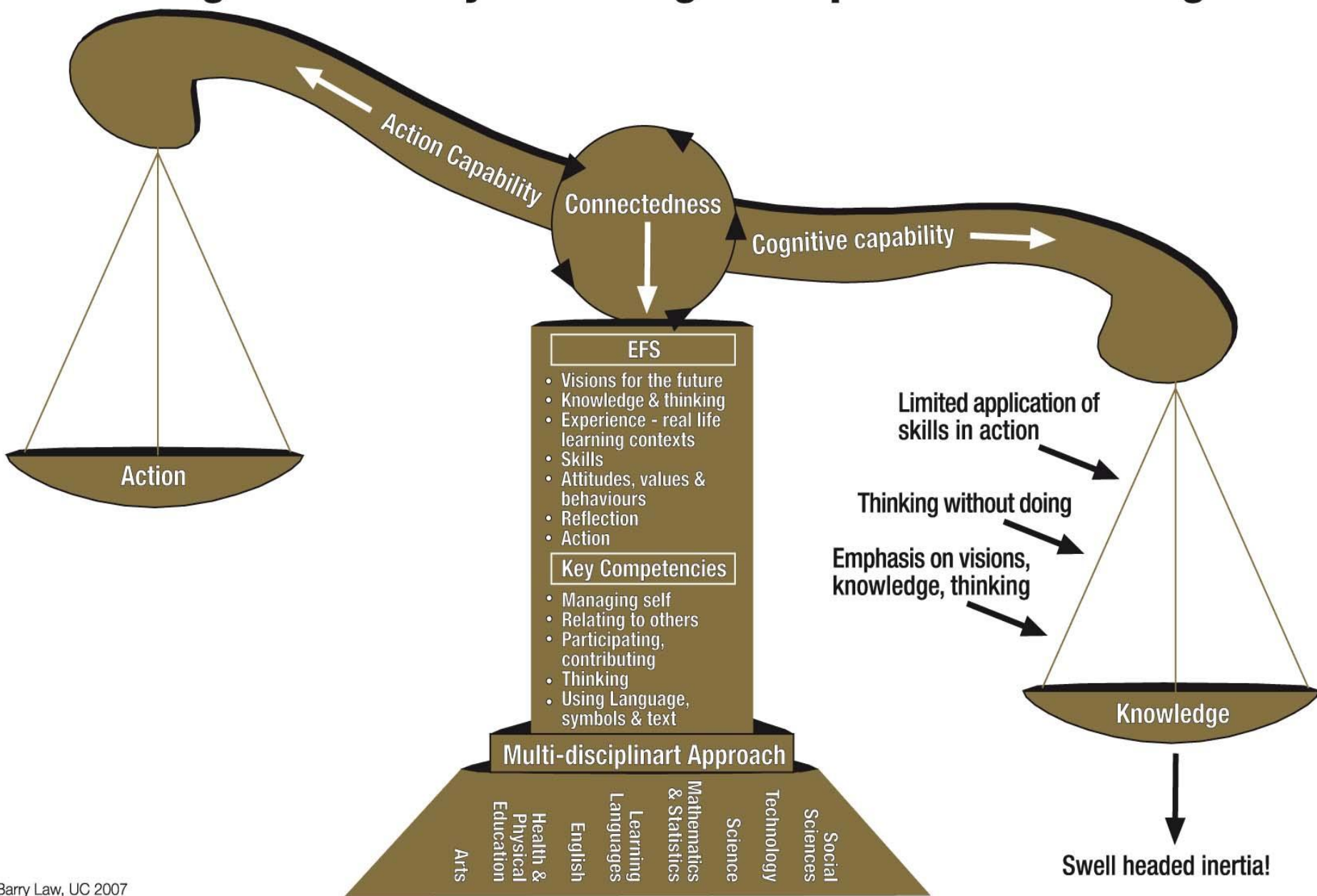
- **Interviews with teachers about their views on possible aspects of action competence**
- **Interviews with students around environmental projects**
- **Document analysis – student work, teacher plans etc**
- **Observations of students and around school**
- **Refine the framework**

# Researching the framework

- **Interviews-about-Actions with teachers and students in the second round of data collection**
- **Provided a more defined context for thinking about action competence**

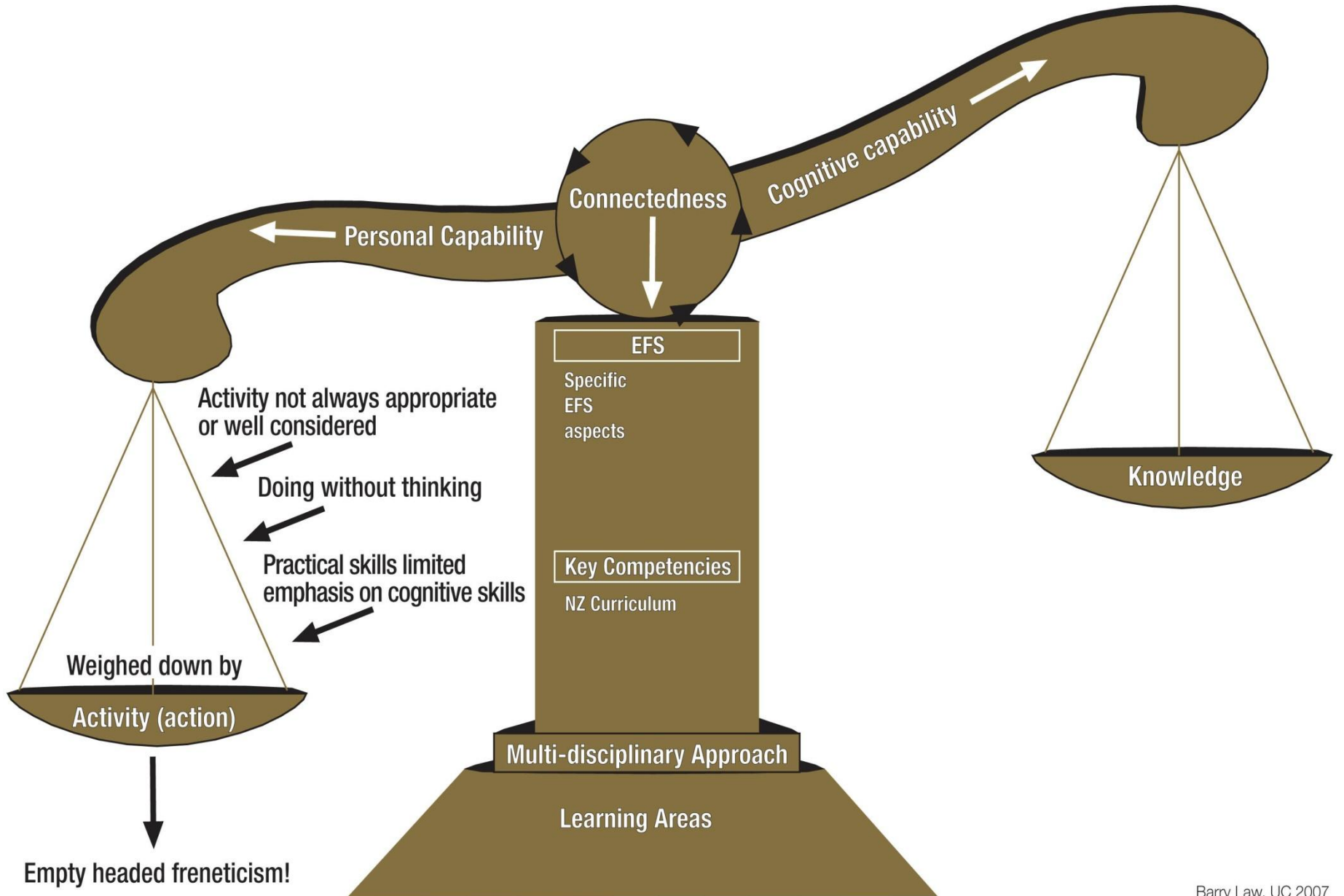


# Weighed down by knowledge - Emphasis on thinking

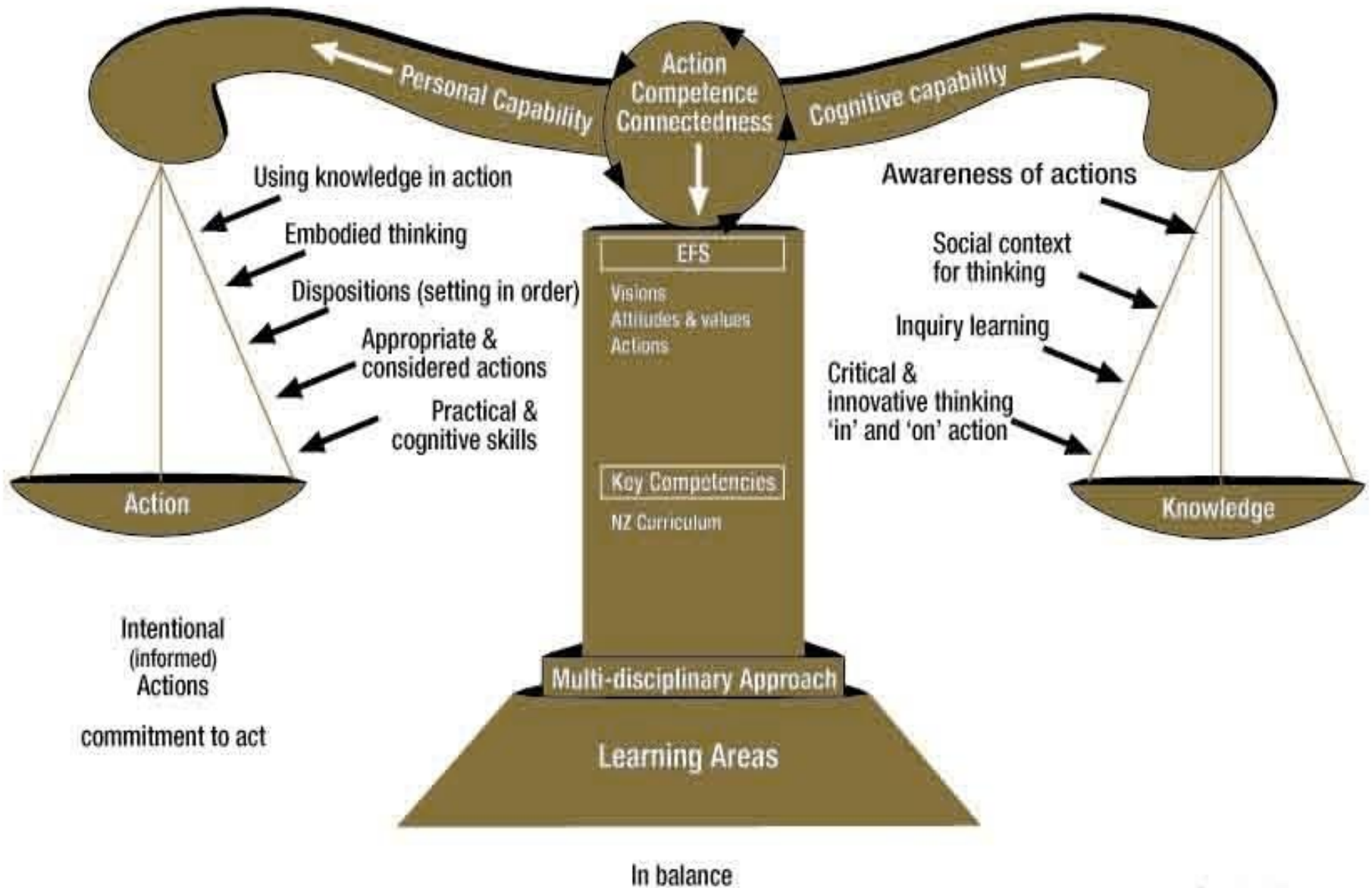


Barry Law, UC 2007  
Miles Barker, UW 2007

# Weighed down by activity (action) - Emphasis on doing



# Action Competence



# What are the aspects of action competence?

- **Experience - What you do, feel and how you react**
- **Reflection (critical)**
- **Knowledge (about the environment)**
- **Vision for the future - ability to envisage sustainable futures**
- **Actions (direct and indirect) – skills to plan and take action**
- **Connectedness - linking attitudes, values and behaviour to actions**

# **An analytical framework for action competence**

- **6 aspects of action competence**
  - Experience, reflection, knowledge, vision, action, connectedness
- **Definition, learner role, teacher role, evidence**
- **Links to our school curriculum, especially key competencies**

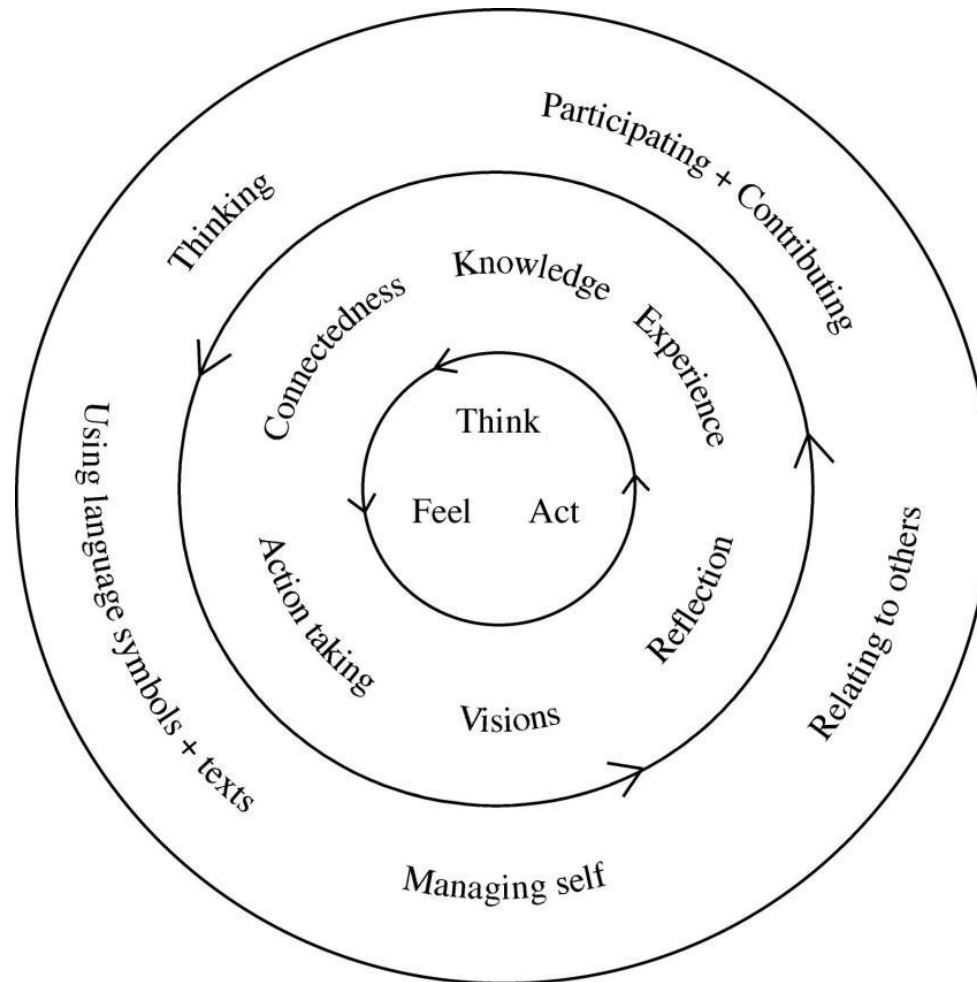
# Framework example - Experience

Aspect	Experience
<b>Definition</b>	Experience refers to a state, condition (feelings) or an event that has happened. The interpretation of this experience may be personal and/or collective.
<b>Explanation</b>	To be action competent, a learner should have a range of experiences to develop their understanding, commitment and engagement with sustainability issues. This includes learning <i>in</i> the environment and <i>about</i> the environment to connect the learner to the environment that the issue is situated in and engage their motivation and passion as in the motto 'head, hearts and hands' or 'think, feel, act'.

# Framework example - Experience

Aspect	Experience
<b>Learner role</b>	A <b>learner</b> has experiences of the world which they interpret through the following: <ul style="list-style-type: none"><li>- Visiting and knowing about local places and habitats and show emotion related to a particular place and/or situation (KC -Thinking and Managing Self)</li></ul>
<b>Teacher role</b>	A <b>teacher</b> supports students to experience and interpret the world in order to develop personal understanding in authentic settings through the following: <ul style="list-style-type: none"><li>- Planning and implementing experiences that are active and reflective in and beyond the classroom</li></ul>
<b>Evidence</b>	Evidence could take the following forms: <ul style="list-style-type: none"><li>- Student work that expresses their views of an experience and what they have learnt</li></ul>

# Links to New Zealand school curriculum



# Findings

- **Evidence that development of these aspects of action competence by students was possible in EE**
- **Validation of importance of action competence aspects by teachers, and connection to curriculum**
- **Aspects of action competence need to be interpreted in the school's context**
- **Teachers need professional development around student learning in EE**

# Purposes of the framework

- **A formative, not a summative, tool for teachers**
- **Aimed at student developmental outcomes**
- **Useful for planning in EE**
- **Does not prescribe pedagogy**
- **Mediated by experienced facilitator/teacher**
- **Includes a teacher's guide and a facilitator's guide**

# Summary

- **Evidence that action competence can be a useful way to examine student learning**
- **Evidence of development of action competence through EE, and curriculum outcomes**
- **An action competence framework to help schools:**
  - **Clarify what action competence is**
  - **Further develop action competence in their students with assistance**

# Questions

