Better Understanding Action Competence and the New Zealand Curriculum in Enviroschools

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Action competence

• Is an EDUCATIONAL goal
• Has an inherent goal of developing competent participants in society
• Facilitates intentional actions with respect to the environment and health
  – Problem-oriented, cross-curricular, holistic
  – Being informed via the interaction of science, social sciences and cultural concepts and knowledge
  – Acknowledging ‘problems’ as part of society and learning how to connect with conflicting interests
  – Teaching and learning uses participatory and democratic approaches

Research Programme for Environmental and Health Education at the Danish School of Education, Denmark
Action Competence is NOT

- Educating for a particular view or changing behaviour in a certain direction
- Not about solving the problems of the world
- About people, the environment and the consequential issues being separate

Search: action competence & conflict (the original research on AC in Denmark, published in 1999)
Six aspects of action competence

- Experience - what you do, feel and how you react
- Reflection - critical
- Knowledge - about sustainability issues
- Vision for the future - ability to envisage and participate in sustainable futures
- Actions - direct and indirect and the skills to plan and take action
- Connectedness - linking knowledge, attitudes, values and behaviour to actions

Experience

<table>
<thead>
<tr>
<th>Experience refers to a state, condition (feelings) or an event that has happened. The interpretation of this experience may be personal and/or collective.</th>
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<tbody>
<tr>
<td>A learner has experiences of the world which they interpret through the following:</td>
</tr>
<tr>
<td>A teacher supports students to experience and interpret the world in order to develop personal understanding in authentic settings through the following:</td>
</tr>
<tr>
<td>Possible evidence of this</td>
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### Explanation

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 in the environment and about 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’. This component develops the ‘heart/feel’ aspect.

### Learner

- Visiting and knowing about local places and habitats and show emotion related to a particular place and/or situation (e.g. T & MS)
- Knowing local places of significance and their relationship to them (such as whakapapa, connections to livelihood)
- Doing things in and about the environment such as observe nature, gather data, play games (e.g. R, PC & MS)
- Showing commitment and desire for a place and/or issue (e.g. MS)
- Being interested in and inquiring about the world beyond the local environment (e.g. PC)
- Adapting and developing their ideas as a result of experience (e.g. T)
- Initiating and planning experiences for themselves and/or others (e.g. PC)

### Teacher

- Planning and implementing experiences that are active and reflective in and beyond the classroom
- Using experiential learning processes
- Using cooperative learning processes
- Providing opportunities for students to interact with others in the community
- Supporting students to connect ideas between and across experiences
- Supporting students to examine their feelings related to an experience
- Collaborating with students to co-construct learning experiences
- Encouraging emotional responses and connections to environments and places

### Possible evidence of this

- Photographs of students engaged in learning beyond the classroom
- Photographs of students engaged in experiential learning
- Students talking about learning in the environment
- Students’ conversations and descriptions
- Student work that expresses their views of an experience and what they have learnt
- Plans that indicate learning experiences beyond the classroom
- Plans that indicate learning is based on experiences not just pre-provided information
# Framework example - Experience

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Experience</th>
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# Framework example - Experience

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| **Learner role** | A learner has experiences of the world which they interpret through the following:  
- Visiting and knowing about local places and habitats and show emotion related to a particular place and/or situation (T and MS) |
| **Teacher role** | A teacher supports students to experience and interpret the world in order to develop personal understanding in authentic settings through the following:  
- Planning and implementing experiences that are active and reflective in and beyond the classroom |
| **Evidence** | Evidence could take the following forms:  
- Student work that expresses their views of an experience and what they have learnt |
**Action Competence**

**Experience**
- A learner has experiences of the world

**Connectedness**
- A learner makes connections between their thinking, feeling and acting to develop coherence in their understanding of the world

**Reflection**
- A learner reflects by thinking deeply and critically about their experiences

**Knowledge**
- A learner creates, seeks and uses knowledge for sustainability

**Action Taking**
- A learner takes action for sustainability by developing the capability to make appropriate decisions and have the commitment to act on them

**Vision for a Sustainable Future**
- A learner generates a vision for a sustainable future through innovative and holistic thinking
Connectedness
- A teacher supports students to make connections between their knowledge, attitudes and values, and actions to provide coherence and engagement in learning

Experience
- A teacher supports students to experience and interpret the world in order to develop personal understanding in authentic settings

Reflection
- A teacher supports student reflection by using tools that encourage deep and critical thinking

Knowledge
- A teacher supports students to become creators, seekers and users of knowledge for sustainability by providing a range of contexts and opportunities for learners

Action Taking
- A teacher supports students to take action for sustainability by providing a student-centred learning environment to guide, mentor and support appropriate student action

Vision for a Sustainable Future
- A teacher supports the development of students’ visions for a sustainable future by providing tools and opportunities for holistic, creative thinking
Better understanding educational outcomes connected to the New Zealand Curriculum in Enviroschools

Final report
September 2010

Prepared for
The Director of the Enviroschools Foundation

By Faye Wilson-Hill
Summit Facilitation
Teaching and learning in action competence – general findings

Competent participants – Action focused

• Have the expectation of action
  – What are we doing? Why are we doing it? Where are we headed?

• Share the purpose/s (units of work AND lessons)
  – Dual outcomes

• Be flexible and responsive
  – Take time to make connections
Action competence and literacy findings

• Literacy essential for AC (holistic knowledge)

• Enhancing students vocabulary development through hands-on learning experiences that helped students make connections to abstract ideas and concepts;
<table>
<thead>
<tr>
<th>Experience</th>
<th>Vocabulary from the experience</th>
<th>Vocabulary being extended</th>
<th>Connections to concepts through vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>A visit to the botanic gardens to observe, explore and experience the changes of autumn (Year NE -3)</td>
<td>Sort leaves by: Size - <em>big</em>, <em>huge</em>, <em>small</em>, <em>tiny</em>, <em>long</em>; Shape - <em>pointy</em>, <em>round</em>, <em>oblong</em>; Texture - <em>spiky</em>, <em>crinkly</em>, <em>dry</em>; Colour - <em>brown</em>, <em>yellow</em>, <em>red</em></td>
<td>Changes</td>
</tr>
<tr>
<td></td>
<td>Planting seeds and waiting for them to grow (NE to Y1)</td>
<td><em>Seeds, soil, grow, water, sun, roots, shoots</em></td>
<td>Biodiversity, equity (respect for all life)</td>
</tr>
</tbody>
</table>
|            | Native bush area in the school grounds (Year 5) | Plants, animals, wildlife, insects, tui, fantail | *Ecosystems, habitat, Native*  
Classify, food webs, structure and function of plants  
*Inter-relatedness, interdependence kaitiakitanga, biodiversity* |
Action competence and literacy findings

- Making meaning and applying the key competency of using language, symbols and texts as a means of students expressing their growing understanding and knowledge of sustainability issues;
Soil

Seeds

Scavengers
Decaying

Centipedes

Dead Worm

Bees

Decomposing

Plants

Roots

Fungi

Tree

Rain

Food

Help me grow

and get food

Birds

Use me to

Spread their

Seeds

Nest

Help keep

the earth

healthy

Birds help with

nest building

Seeds travel with

wind and

rain

Birds use me to

spread their

Seeds

Air
Plant need water, air, and sunlight. Living things like tui eat causal, so bees pollinate trees. Sub canopy because it's in a forest. Mushrooms grow in damp areas and help trees grow hyphae. Tui nest is spreading seeds by poo. Insect larvae eat aphids, ladybugs eat aphids. Monarch caterpillar bird doesn't eat wasps do. Caterpillar lays eggs on a compost. Monarch eats pollinate. Tiger slug we have these. Litter starts rotted log in side. Worms are scavengers so they break things down. Some insects lay eggs on grass.
Key messages

• AC is an educational goal
• AC is embedded in the curriculum
• AC is about supporting young people to be competent members of society
  – Informed (holistic knowledge)
  – Committed (participative)
  – Skills and ability to act with respect to the environment (action orientation and doing it)
A key over-all finding is that literacy is essential for the development of action competence.

An equally important finding that students need to recognize that their learning has a purpose that is fulfilled as part of the process – that is that their growing knowledge, skills and competencies are connected to participating in and taking action for a more sustainable future.

In action competence and as outlined in the intent of the New Zealand Curriculum (NZC) it is not enough just for students to know things, they need to understand how they might use their knowledge and why that is important.

Predominantly, students in this research didn’t appear to understand that they were part of an iterative process for learning. Instead, they considered that what they were learning might be used by them after they had left school.
Planning for taking action

When planning for *taking action* in education for sustainability, you will need to consider:

- What will my students learn as a result of this action?
- What prior knowledge and understanding do my students have of the sustainability issue they are seeking to address?
- How can I ensure my students are involved in deciding what to do?
<table>
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<tr>
<th>Action</th>
<th>Criteria met?</th>
<th>Suggestions for next steps/change</th>
</tr>
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<tbody>
<tr>
<td>Students decide to install more rubbish bins to resolve the litter problem in their school.</td>
<td>No This meets the criteria that students be involved in deciding what to do but does not challenge student learning as to the underlying reasons why litter is in the school in the first place.</td>
<td>Students need to be challenged to examine why we have litter, where it comes from and how it is created. What are the alternatives to multiple wrappers and packaging? Can we create more sustainable systems for packaging that reduce our use of resources?</td>
</tr>
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<tr>
<td>Teacher accepts an invitation for students to participate in a World Environment Day planting at a local reserve.</td>
<td>No - students are not involved in deciding what action to take. While teachers may have some good purposes for student learning that they have decided on, these would need to be shared carefully and planned with the students to ensure maximum benefit for student learning.</td>
<td>Students investigate the reasons behind the planting programme and decide whether they are able to contribute to this project in a way that will lead to a more sustainable future.</td>
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<tr>
<td>Students, with teacher support, decide to make compost out of the</td>
<td>Yes - the students work with their teacher to understand the interdependence in</td>
<td>Students may need to consider how the compost system will be maintained and utilised in the future.</td>
</tr>
<tr>
<td>fallen leaves in the school grounds to use in the gardens and</td>
<td>natural cycles of growth and decomposition. Their learning is focused on finding</td>
<td></td>
</tr>
<tr>
<td>nourish the soil rather than burn the leaves on a bonfire.</td>
<td>out and implementing the most appropriate system for composting the leaves.</td>
<td></td>
</tr>
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</table>
Action competence as an educational goal

• Ability to be an active participant in society
• Intentional actions – with respect to environment and health

....[the] notion of action also means that the action must be addressed to solving the problem or changing the conditions or circumstances that created the problem in the first place

(Mogensen & Schnack, 2010)
Mogensen and Schnack 2010

Environmental Education Research

Research Programme for Environmental and Health Education at the Danish School of Education

Refers to an educational approach that:

• is critical of moralistic tendencies in EE and health education;

• emphasises the educational aims

• NOT about reducing education to a technical means to solve certain political problems
• works with democratic and participatory ideas in relation to teaching–learning;
• is problem-oriented, cross-curricular, even holistic, without losing interest in academic knowledge and fundamental concepts;
• regards environmental problems as societal issues that involve conflicting interests;
• works with a positive and broad conception of health, including not only lifestyle, but also living conditions;
• looks for relationships between environmental education and health education.