The Ecology Room

- **Enables exploration**
- **Connects different approaches**
- **Generates creativity for feedback**

Would you like to offer your students a range of activities concurrently that help build up different perspectives around a particular issue or theme, in order to expand and deepen their thinking?

What is the ecology room?

The ecology room (pictured) creates a learning environment which acts like an eco-system. It is a space which enables interaction between learners as they engage in different activities placed around the room with a unifying theme. Learners create their own journey of learning through the activities which can be done randomly, and which can be for different time durations.

There are enough activities, and "seats" in these activity areas so that spaces are always free for learners to be mobile.

Why use the ecology room?

The ecology room when well-designed has the capacity to provide a holistic way of exploring a theme:

- Providing a sense of greater wholes – enabling connection of many parts into emergent wholes. At one level the individual is making emergent meaning for themselves, at another level the whole group generates emergent understandings – collective wholes – and energises the space and the intent.

- Providing different perspectives and experiences which encourage more nuanced understandings, particularly making visible past assumptions

- Bringing different aspects of the self to the learning experience – hand, heart, mind, spirit, values – past experiences, playful self.

These activities might invite observation, design, reflection, experimentation, exploration, discussion, building, creativity, theorising, finding patterns and deconstruction. Different artefacts (pictured, bottom left) may be created and put on the walls which others can comment on (for example using post-it notes to give feedback) and thus be inspired. Learners can navigate the room individually or in pairs, and are encouraged to interact with each other as they explain their artefacts.

Once the teacher has set up the room, they are then free to talk to or help individuals where needed. The movement and interaction creates a sense of energy and freedom to explore with a playful heart and open mind.

When would I use such a room in my course?

As an introduction to a topic

The ecology room can be used at the beginning of courses to give learners a taste of specific learning activities that they might later learn in greater depth. This has the advantage of giving a whole picture up front, and enabling learners to get a sense of the interconnections.

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Example: Physics class

Twenty-eight students in a Year 12 Physics class at the beginning of a topic on wave motion took 30 minutes in pairs to do six small activities based on the equipment they would be using during the 15-hour module, alongside six activities that they might have been exposed to in primary school.

Students could link their previous experiences with new ones, challenge past assumptions and generate useful questions in which to move through the topic. Everyone was able to access limited equipment, and pass knowledge on to other students, so that learning could be built on. Students went back and forth between activities to re-test their emerging theories, creating an energy and enthusiasm for inquiry.

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As the main focus

For short workshops the ecology room might provide the main learning experiences, preceded by introductions and key questions. It would enable learners to explore a range of activities, which can be followed by a focused discussion to evaluate and consolidate the learning which has taken place.

For such workshops some considerable effort might be made in the planning and setting up of the room. However, there is likely to be a big pay-off in terms of making a deep

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Example: Workshop for adult trainers

A workshop was designed to help 12 adult trainers explore the "who" of teaching that they bring to their training. The ecology room had 15 activities and took about 80 minutes to navigate, encouraging trainers to deeply reflect on their values, assumptions, past experiences, tensions and issues.

It was followed by small group discussions where trainers shared their individual journeys to become trainers, highlighting the difficulty of the profession, systemic issues and subsequent battle-scars. It enabled a different sort of conversation – explorative, heartfelt, hermeneutic listening.

The workshop acted to build a strong appreciation for each other and a commitment to making working conditions better.

See Appendix for the activity list.

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impression, and opening up to new conversations. It is recommended to get help in setting up.

As a key turning point in a module

The room is very powerful as a circuit-breaker for learning where learners may be entrenched in certain expectations of how they should be learning – e.g. spoon-fed by the teacher in lock-step approach. As it encourages individual journeys according to the needs of the learner to build their experiences in a certain way, it models a more self-directed learning approach. The design of the activities can be carefully orchestrated to offer potentially transformative experiences.

*Example: Research project for adult trainers*

In the Tools for Learning Design project, the ecology room resulted in a key learning moment for the project. It was used to model a different approach to learning, with the content of the room helping to build new theory about learning, connect to participant's values, illuminate tensions and assumptions, and springboard off past experiences.

For many it was a key experience that enabled an opening up to new perspectives about learning and possibilities for their potential research projects. More significantly it invited the human being to be invited to the table. There were 11 activities for nine people and it took 45 minutes.
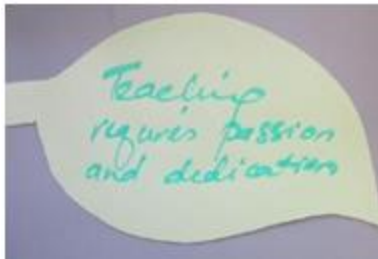
As a final celebration and reflection on where we have been

A number of activities can be developed that help students express to each other how they valued each other; reflect on their learning, their learning journeys. These can be as simple as setting up a picture or a question on the board for learners to respond to.
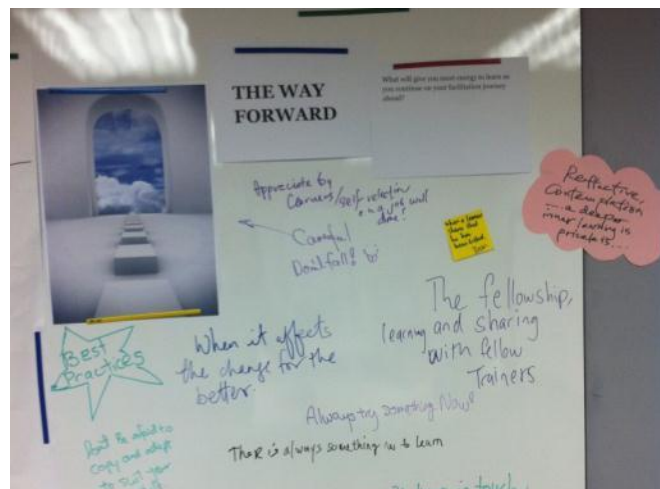
Example: End of unit for trainers

At the end of a Diploma in Adult and Continuing Education (DACE) module on facilitation, learners were invited to contribute to a number of posters, or whiteboards.

- *Celebrate our journey* – Use a marker and draw your journey over the last 10 weeks – the high point, the struggles, the learning moments.

- *Write a note of appreciation* to every one of your classmates starting with "I appreciate your facilitation because…"

- *Assumptions* – what assumptions can I question about facilitation and group-based learning to help me become a good facilitator?

- *The way forward* – what will give you the most energy to learn on your way forward?

These activities energised the room and enabled the learners time to interact with each other in more casual situations while still contributing to the whole.

What activities do I put in it?

Many trainers will already have a number of activities that they use in a lock-step fashion with their classes. How important is it that these are done in lock-step and can they be recruited? How might juxtaposing a number of existing activities with some new ones enable learners to have a deeper experience? How can you start small, and build confidence gradually? Do you need time for debriefing afterwards?

How much time do I allow?

The time depends on whether you want everyone to do every activity, and how long each activity is. It could be from 30 to 90 minutes. The principles of the ecology room could be applied to learning over a period of weeks – where in each session learners in groups might work randomly through different

activities/projects/skill building, each time gaining insights and skills that they can then share with the "newbies" to that activity.

The principles behind the design of the ecology room

In this paradigm of learning, coming from *complexity science and ecology*, classrooms are seen as self-organising coherent entities with feedback, iteration and opportunity for learning according to each student's unique journey. Students create meaning in the space between the activities, which are designed to encourage the students to grapple with often conflicting as well as resonant concepts and experiences. Each student has their own journey through the activities with unique outcomes for them, based on who they are, the questions they bring and their own contexts.

Although the outcomes (learnings and understandings) are emergent and to some extent unpredictable, the outcomes can be highly valued and assessable once birthed.

Key principles:

- **Diversity** – richness of resources and experiences. Consider how you can use activities drawing from different learning styles – visual, spatial, audio, multiple intelligences, analytical, intuitive, values, metaphors. Consider how you might encourage different perspectives, for example using *Integral Theory* perspectives. How might the activities encourage novel responses, enable students to make connections and meaning for themselves, and posing of their own questions?

- **Redundancy** – activities or concepts which might already be familiar or which *resonate* with each other. Consider a repetition of theme but with different approaches – so students can infer generalisations or see patterns from different perspectives.

- **Liberating constraints** – providing rules that provide some structure, but allowing freedom within that. Consider creative rules that enable students to break out from habitual behaviours.
- **Decentralised control** – understandings cannot be pre-stated – allow for emergence. The teacher uses mindfulness to be alert to opportunities that arise.
- **Energy flow** – enabling change of spaces, movement of students and interactions. Consider the "feng shui" of the classroom. Who owns the spaces, who can feel free to move and how?
- **Dissonance** – provide conflict that destabilises previous views. Consider opportunities to help students see alternative "frames" from their own frame. Consider pairs of activities which can act to create a potential conflict and alert students to a deeper issue.
- **Iteration** – enabling students to move backwards and forwards and change their minds, time to see something from a higher view.
- **Metaphors** – engage in alternative ways of knowing to illuminate hidden ways of perceiving and framing. Metaphors enable us to connect to our deeper wisdom. It is important to help the students to draw meaning from the metaphors that are created, and to get other views on that meaning to consider.
- **Feedback** – considers how the environment, students, teachers, workplace, extended community connections beyond the class provide feedback.

Example of Rules:

- **Attitude** – one of willingness to be surprised, to go deep, to be playful, to try on new ways of thinking about the familiar

- **Create** – engage with workstations and create something according to the instructions – put up on wall – you can go beyond the instructions (e.g. sit down and write reflectively about something that speaks to you).

- **Respond** – respond to yours or anyone else's creations by using sticky notes – what does it invoke in you, how can you value-add, do you agree, disagree, how could you use this?

- **Walk around** – you do not have to finish each thing, you can go back many times, you can just look for a while, you can talk to other people, you can be stimulated by one or more activities and create your own, if people are excited with something you can go over and check it out.

- **Debriefing and reflecting** – helps the student understand the journey they have been on and share their different paths and insights with others. The questions posed in the debriefing are likely to shape what is seen and valued in the experience.

Reflection

In what ways are the principles behind the design of such a learning activity different and similar to what you draw upon?

How could you apply some of these principles to the way of thinking about design of learning activities?

How could you use a room like this for your own purposes?

Debriefing

Providing time for participants to debrief through sharing what they experienced in the room can help them in building connections and meaning between the activities. Consider three levels of debriefing:

1. **Phenomenal** – what was the experience like for me?

   When people are still immersed in an experience it is important not to ask them to interpret or critique too soon. By asking them to share what that experience was like for them, being mindful of their thinking/feeling/sensing, helps deepen their experience, see nuances and gives time for it to sit in the body. It is important to not be judgemental about the experience.

2. **Learning** – what did I learn from the experience?

   In this layer the person interprets and reflects upon their experience. They draw out insights about themselves, about processes and about concepts. They may be critical and challenge their assumptions. They may try to understand the deeper reasons behind things. They might try and project themselves into ways of enacting these insights and considering how they might apply them in the future.

3. **Deconstruction of the learning** – how might this choice or association of activities have shaped my experience and learning?

   This gives participants the opportunity to stand back and not take on board things that might corral them into certain conclusions.

Appendix

This is a list of activities for an ecology room for trainers.

Note: Not all activities were used in the workshops discussed in this resource.

Activities *What has shaped me, what has made me? Has this road been the right road to take?*	Intent: 1. To explore the "who" behind teaching and 2. For participants to reflect on their orientation to teaching and learning	Resources
1. A surprising moment unprepared by training – writing exercise Think of a significant incident that surprised you and concerned you. One where you felt initially unprepared to handle in terms of your teaching training or past experiences. • What happened? • In what ways did you learn or grow from this? • What insights did you have? • What characteristics in yourself, or knowledge or experience, do you think it would have been nice to have in preparation of this moment?	**Purpose:** 1. To get a sense of what might be missing from training. To get a sense of areas that is memorable to trainers. 2. Drawing out key significant moments that are likely to unsettle established fixed views. *Individual artefacts*	• need new instructions • a couch • A4 sized paper • pens • a recording device
2. High point, low point – mountain trail *Along a wall have space for low points and a trail moving up to a high point. Can stick up summaries:* 1. What was highest point of your training to become a teacher/trainer? What gave you the most joy? (Picture of monks on roller coaster.) 2. What was the lowest point? What thwarted your ambitions? What made you close to throwing it in? (Picture of The Scream.) 3. What has supported those high moments? What did you draw on	**Purpose:** What they have in them to hit the high points. What frustrates them, or suppresses them. *Collective artefacts*	• need instructions • wall • cut out indicating a trail • string scissors • A4 sized colour paper • felt-tip pens • sticky tape

(skills, characteristics) to get there? (Place somewhere on the trail up.)		
3. Quotation – ranking and responding The quotations are each large enough with room around for people to respond to them. Also could provide a "quiz" sheet where people could rank them.	**Purpose**: 1. To get a sense of beliefs about teaching *Individual artefacts*	• need instructions • quiz • wall
4. Assumptions about the "who" of teaching – creating mannequin clothing Mannequin representing a teacher. People stick on leaves or cut out paper of different shapes with words or pictures representing the different perceptions that people have of who a teacher is, what roles they are expected to take, where cultural and social expectations might shape what they can do.	**Purpose:** 1. To draw out the hidden social/cultural values that shape who a teacher is. Links to "curriculum as currere" map *Collective artefacts*	• need instructions • free standing space in the middle of the room • sticky paper • scissors
5. Metaphors for the "who" of teaching – magazine collage • Who am I as a teacher? • What do I value about teaching and learning? Hold this question firmly in your mind as you quickly scan through magazines and pull out pictures that appeal to you. Create a collage. • What are the metaphors that are here, what do they mean to you?	**Purpose:** 1. To draw out deep values by bypassing the rational brain. 2. To provide powerful visual imagery for others to react to. 3. Dissonance with personal values and expected values *Individual artefacts*	• need to revise instructions • cushions • magazines in the middle of room • A3 or larger sized paper • scissors • glue sticks • wall space
6. Heroic inspirations – drawing Imagine a teacher who has been a role model to you, who has inspired you. Using drawing, words or metaphor represent some of those aspects that you value. • What are the aspirations that they excite in you? • What do you aspire to do and be? • What might these look like for you in your own teaching?	**Purpose:** To tap into values/aspirations *Individual artefacts*	• instructions • table • wall space • bright crayons • felt-tip pens • A3 sized paper
7. Teaching roles – where do our roles come from? – sorting cards and analysing against teaching metaphors • Which of these roles do you like and	**Purpose:** To orient people within a bigger picture of teaching and learning, and provide a meta-language for some of the values that have	• instructions • table • wall • card pack • A3 sized

- dislike, or find interesting? - Which of these do you do? Mark on the teaching metaphor table and look at the sources of these roles. - What insights do you have from doing this about your orientation to teaching?	emerged *Individual artefacts*	paper for participants to record their likes, dislikes and what they found interesting highlighter pens
8. Role Door – door As we go through the door to our classroom we take on different roles. - What metaphors would you use to describe the roles you use or need to use as a teacher /facilitator/ designer? - Write on a piece of paper and stick to the door. Walk through the door taking on a role. - What does it feel like? Mark on the roles which ones you think you were prepared for by your training and which you weren't.	**Purpose:** Link to role sorting but enables generation of own roles *Collective artefact*	- instructions - door - A4 sized paper - felt-tip pens - small table
9. What do I value in my relationships with students? – poster of teacher and student Use words, metaphor, pictures	**Purpose:** Emphasis on the relational aspect in contrast to the technical. *Collective artefact*	- need new poster with picture of student and teacher - wall - felt-tip pens
10. Teachers are born not made – poster Poster has an outline of a teacher with a circle around them. Which characteristics of a teacher do you think are born, not made. Put this within the teacher outline. What aspects do you think training and experience can "make"? Put this on the outside. If you disagree with someone's placement draw an arrow to show where you think it goes.	**Purpose:** To surface assumptions about what characteristics should be innate and what can be taught to help develop teachers. Create dissonance *Collective artefact*	- poster instructions - felt-tip pens - wall
11. Tensions and dilemmas – rope Consider an issue or dilemma that you are experiencing in your teaching and learning. Write it as an opposite of two extremes – a tension. Now walk the path of this tension	*Individual artefacts* Naming contradictions	- instructions, sited in the middle of room 6 pairs of A4

and see what it is like to experience the issue from different standpoints. Can you find another way, off the piece of string?		• sized paper connected together with string • felt-tip pens
12. System construct – build a cage or construct What are the system dynamics or attributes that constrain?	**Purpose:** To surface bigger constraints and see what form they are taking. ***Collective artefact***	• instructions • cage • boxes • recyclables sited in the middle of room • felt-tip pens • paper • scissors
13. Coffee corner Take a time out to chat about what you are experiencing	**Purpose:** To provide unstructured chat to help people make meaning of their experiences	• instructions • set up urn in corridor • morning tea
14. Question cascade – brainstorming What are the unanswered questions you have about teaching and learning? Brainstorm, mind map…	**Purpose:** To see what people are wanting to know – where the gaps are ***Individual artefacts***	• instructions • table • pens • A3 sized paper
15. Vision window ("curriculum as currere") *Create a window triangle with coloured cellophane – stick on paper with each of these three questions being answered on the three edges* 1. What was my ideal about teaching when I began? 2. How have these ideals changed – what is left of that now? 3. From who I am now, if I was to be idealistic, what would be my preferred vision for my own future – what are my new ideals?	**Purpose:** 1. Ideal to reality 2. Beginning to project into the future Link to values and heroic aspirations ***Individual artefacts – creating a collective***	• instructions • window • nearby table • paper • cellophane • felt-tip pens • scissors
16. Meta-thinking about process – empty thought balloons Explanation of the teaching metaphor the room comes from and the principles – emergent learning, meaning is made in the	**Purpose:** Helps people stand back, review their process and to re-engage in new ways. Gives meta-language, and	• cut out thinking balloons • wall

space in between. • What has been the process like for you in this room? • What are you noticing about how things are surfacing, connecting for you? • How can you more meaningfully engage with this room?	underlying principles to help them consider how they might bring into their own practice. ***Individual artefacts***	• instructions • explanations of teaching metaphors

Origin of the concept

The "Ecology Room" concept is the brainchild of Dr Sue Stack who developed it when teaching Year 12 Physics and then extended it to professional learning of teachers and trainers. She drew on ecological theories of learning from Fritjof Capra and Gregory Bateson, along with other holistic educators.

Further reading

If you are interested in exploring further what teaching and learning might look like when operating within learning paradigms coming from ecological and complexity science principles see Brent Davis's website for articles and books: http://brentdaviscalgary.appspot.com/about.htm

Davis, B., Sumara, D. & Luce-Kaplar, R. (2000). *Engaging minds: Learning and teaching in a complex world,* Lawrence Erlbaum Associates: Mahwah, NJ

Acknowledgements & Background

This resource has been prepared by Dr Sue Stack (pictured, top), based on workshops she co-facilitated with Dr Helen Bound (bottom) and Renee Tan in the Tools for Learning Design project and The "Who" of Teaching workshop. Pictures are from The "Who" of Teaching workshop. Many thanks to participants of both the project and the workshop, whose experiences provide examples for this resource.

This and other content related to the Tools for Learning Design project can be found on the Tools for Re-imagining Learning website, a resource for trainers, curriculum and learning designers, and training leaders in the Singapore Continuing Education and Training sector interested in deepening understanding of their practice to create innovative and enlivening possibilities for their adult learners.

The Tools for Re-imagining Learning website and the Tools for Learning Design project overview can be found at www.ial.edu.sg.

For more information on the Tools for Learning Design project or the Tools for Re-imagining Learning website (content), please email Dr Stack at susan.stack@utas.edu.au or Dr Bound at helen_bound@ial.edu.sg.

We welcome questions or feedback on this publication, the Tools for Learning Design research report or the Tools for Re-imagining Learning website (layout or technical issues). Please email research@ial.edu.sg.

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