

Developing the Art of Teaching: Guidelines for Effective Facilitation

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Developing the Art of Teaching

Guidelines for Effective Facilitation

Introduction

Teaching is an art. It is a set of skills, strategies, and a way of looking at the world that is combined by the teacher into a creative and completely original expression. Teaching is a unique art in that it does not have objective standards that exist outside of the experience of participating students. Artful teaching means that both students and teachers learn; that is the measure of mastery for this art.

This Guidebook will help move you along the path toward becoming an artful teacher. This Guidebook is an expression of the assumption that we believe it is possible to convey a process for developing this art. There are guidelines for creating effective learning experiences, and a host of proven teaching methods. There are step-by-step procedures to help you design the most effective learning experiences for the situations you teach in. There are also numerous references to help you pursue further development as a teacher.

Ultimately the only way to develop as an artful teacher is to teach. You cannot do it by reading a book about it, you've got to get out and share your art. Hopefully these guidelines will be your companion.

Becoming an Artful Permaculture Teacher

This Guidebook was originally created to address a disparity in permaculture education. The teaching of permaculture should be approached as a design problem: permaculture principles and process should be the guiding forces. The guidelines and suggestions in this Guidebook grew out of applying the permaculture design process and permaculture principles to the question of effective learning. Any complex subject, be it permaculture, holistic management, or other natural systems methodology should strive to model its principles in teaching its principles. This is an evolving study and is responsive to end-user feedback. Let us know what you think.

Benefits of using these Guidelines

Our assumption is that you desire to become an artful and effective teacher. We define effective teaching as accomplishing the learner outcomes you've set for yourself. For example, if a learner outcome is that the student will be able to bake a cake, and by the end of the course they can, that's effective teaching. Artful teaching reaches for a higher standard. By the end of the course the student can bake a cake, without a recipe from scratch, knows how to improve their baking skills, and had fun learning how.

Artful and effective teaching has many benefits associated with it. Part of what you might begin to see when you apply these guidelines is a significant jump in student enthusiasm. You'll see a deeper level of participation by all members of the class or workshop, and a greater level of comprehension. You'll be less surprised by negative evaluations since you'll be monitoring class

understanding and enthusiasm throughout. You'll also begin to see an effect in the world of the impacts of what you're teaching, no more hoping that the class was effective.

Some other benefits:

- a deeper sense of satisfaction for all participants,
- the world begins to change for the better,
- you feel less stress and difficulty in teaching,
- a greater feeling of inclusion for all students and hence a better course,
- you'll see your students learning in a profound and significant way,

We believe that good teaching can help create a better world. Good permaculture teaching can increase the rate and effectiveness of permaculture practice around the world, and lead to the restoration of biodiversity and helps create sustainable cultures.

Team Facilitation

Team facilitation is more effective than a lonely teacher trying to go at it alone. Teams possess more skills and experience, can sustain a higher energy level, and can more effectively teach to the diversity of a class. These guidelines are designed to reduce the role of the facilitator, shifting responsibility to the class participants, but a good team is still a fundamental part of a good learning experience for the students. In what follows, many of the guidelines are directed at a single facilitator, but should be read to apply to a team of facilitators working cooperatively.

Elements for Whole Person Learning

These elements have been identified as critical components for successful "whole person" learning to take place. "Whole person" learning encompasses the idea of behavioral and life changes, changes in decision making, and authentic or perspective-altering education. To the greater degree that each element is present, the more effective the learning experience will be. This material comes from a variety of professional sources, is based on universal principles and is designed primarily for an adult permaculture audience.

Outcomes Oriented Education

Outcomes oriented education means that all learning experiences are designed. There is a clear understanding of the skills and competencies to be developed in the students.

Learner outcomes are created by asking the questions, what will students be able to do by the end of this learning experience? And, what will students understand by the end of this learning experience? The answers to these two questions form the learner outcomes. For example, some of the learner outcomes for a basic exercise on map reading might include:

- An understanding of all the symbols used on a topographical map,
- An ability to locate one's location, elevation, and orientation from a map,
- An ability to identify the map's relationship to other maps.

As you can see, the course will look quite different in this scenario than if the teacher prepares an outline covering all of the information they want to talk about.

When learner outcomes are clarified the reorganization and reorientation of the learning experience can be dramatic. This type of thinking clarifies and refines the learning experiences included in a course and ensures that students spend their time in the most effective way. A facilitator should ask the questions about learner outcomes for all scales of learning experiences. That is, they should ask the questions for the entirety of the course, for each segment within it, and for each learning experience.

Learner Generated Outcomes

Another way to create outcomes for a learning experience is by asking the students to generate the learner outcomes themselves. The students can be asked the questions, “at the end of this learning experience, what do you want to be able to do? What skills do you want to possess? What changes in understanding do you want to have?” The answers to those questions are the learner-generated outcomes. There may be a need to refine and combine some of the answers to make them more realistic. Sometimes students will reply to this question with answers like “I want to be able to build a straw-bale house,” while the next student says they want to be able to design a constructed wetlands wastewater treatment system. Both of these subjects are too large in scope to fit into a basic permaculture design course. It helps to focus the question on this learning experience, with its given time constraints and focus. Facilitators will need to guide this process carefully. Clear promotion of the aims and intended outcomes of a course prior to the course will reduce these kinds of misunderstandings.

A nice way to combine facilitator generated and learner generated outcomes is for the facilitator team to design the first several days of the course and then open the remainder of it up to learner generated outcomes. The facilitators are then responsible for creating learning experiences that help meet the learner-generated outcomes in the best way possible. Obviously this is a tremendous challenge for the facilitators. It helps if the facilitation team has a high level of experience and has an extensive repertoire of exercises to draw from. Another way to combine both approaches is for the facilitators to prepare and teach the first several days. Then they can offer the students a choice of 30 exercises out of maybe 50 or so. The class is responsible for choosing the exercises based on consensus so that everyone’s needs are met. Teaching methods should be drawn from the most effective as discussed in The Learning Pyramid section below. Facilitators are also still responsible for creating the appropriate learning environment as outlined in these Guidelines.

Facilitation

Facilitation is the art of making learning easy for students. It is the attitude of creating the conditions within which learning can take place. The facilitator should be more orchestrator than sermonizer, more empathic listener than dogmatic lecturer.

Facilitation is a philosophy of letting go of control in the classroom. A good facilitator recognizes that students are their own best teachers, and that the primary role of the teacher is to make easy, or facilitate, the learning of their students. Research and experience has shown that in order to

accomplish learning outcomes that include developing student understanding and the ability of students to **do** something, the teacher must make the shift to a facilitation mode. Without this shift, if the teacher stays in an autocratic or dictatorial mode, it is very difficult for lasting and authentic learning to take place.

Making the shift to a facilitation style of teaching is often one of the most difficult things a teacher has to learn how to do. Good role models are rare and facilitation requires more preparation, more effort, and more confidence. The rewards from good facilitation are high however, for both students and facilitator. Over time the preparation needs decrease, as does the effort required and confidence builds naturally with success. A facilitator's main goal is achieving learning outcomes in the most effective way possible for all learners.

Please see the sections “Designing Effective Learning Experiences” and “Learning Capacities and Learning Styles” below for more specific information.

Learning Experiences

A learning experience is work done by a group of students that accomplishes or moves students toward accomplishing one or more learning outcomes.

The phrase learning experience can refer to any scale of work done with students, from a one-hour exercise, to a weekend workshop, to a three-year apprenticeship. The principles and strategies for designing and facilitating learning experiences are the same for whatever scale or duration. The phrase “learning experiences” is important also to remind us that learning is the primary goal of the work being done together, not teaching. It reminds us of the shift to a facilitation style; and, if students learn, the process is successful.

The facilitator should create varied and engaging learning experiences that are proven to be effective and that teach to all the learners present, to the variety of their learning styles, capacities, and personalities.

Please see the sections “Designing Effective Learning Experiences” and “Learning Capacities and Learning Styles” below for more specific information.

Enriched Environment

An enriched environment is one which awakens the entire nervous system, one which is stimulating, curiosity feeding, capable of answering many questions and engendering more, a setting which is alive with resources, reflective of real life and bursting with a variety of materials.

Classrooms for young people are designed as enriched environments, but this concept gets lost for adult learners. Remember your grade school classrooms? They were full of fun and exciting displays, perhaps there were pet animals, the numbers and alphabet were colorfully posted, maps, a reading corner, various games and learning toys. You also got to go outside regularly. Adult classrooms have little of this vitality. Research suggests that the principle of an enriched environment is just as important for adult learners, though it needs to reflect more mature sensibilities.

What would an enriched environment look like? For permaculture courses the learning site should be a permaculture site and have real outdoor examples of what is being taught. Students should be able to immerse themselves in the feel, look, and experience of permaculture for their locale.

In addition there should be a diversity of learning options to choose from:

- a spacious central teaching area with flexible seating, comfortable chairs, cushions and mats for floor work, and a variety of presentation formats such as dry-erase boards, overheads and slides;
- loads of materials such as different papers, pens, paints, clays, and collage images for class presentations.
- a large library full of relevant books, tapes, video tapes, periodicals, and reference material;
- a computer station with multiple computers with web access, complex skill games such as SimEarth, SimCity, and SimFarm, reference materials, and relevant learning programs;
- numerous colorful posters and other visuals that support learning;
- a huge resource of games that encourage learning in a fun and vital way;
- musical instruments, room for dance and movement, etc., etc..

Other factors are important as well such as an abundance of natural light, fresh air, healthy plants, an atmosphere of collaborative learning, and a general sense of peace and quiet. Manage your symbols carefully. Everything said and done in the class, even the subtlest elements must reinforce the desired learner outcomes. Tone of voice, how meals are organized, the cleanliness of the presentation room, music playing or not, lighting, and temperature are all important.

Safe Environment

The facilitator must create a trustworthy and respectful learning environment.

There must be no threat and students must feel safe to risk, take challenges, and grow into the experiences presented. Research has shown that long-term learning decreases significantly if there is a threat present in the learning environment. A threat could include the risk of a poor grade, scorn from the facilitator or fellow learners, or loss of acceptance by the group. There are several strategies to help a facilitator create a safe environment:

- Respectful listening - the facilitators must model this behavior at all times. The sooner this attitude is presented and modeled to the group, the sooner people will begin to participate and enhance it. The exercises “Adaptive Learning” and “Wopout-Bepout-Bebe” on pages 23 and 28 are very useful for developing respectful listening.
- No personal attacks – if a tone of respectful listening is established early on, personal attacks are usually non-existent. At times it might be necessary however to remind folks of the need to speak in “I” statements. For example, some folks might need reminding that instead of saying “Chuck is being rude,” it is more appropriate to say “I’m uncomfortable with Chuck’s tone of voice and personal critiques.” “I” statements acknowledge responsibility for our own feelings. To say “I think Chuck is a jerk,” is obviously not being true to the spirit of the exercise.
- Protect minority opinion - The facilitator is charged with the responsibility of making sure everyone within a group is heard, that the soft-spoken, or those with differing views get equal airtime. At times it may be necessary for the facilitator to exert their authority in order to ensure this type of equality.

- Allow students to give feedback to the facilitator without fear of reprisal – anonymous evaluations are one way of achieving this. It is also good to develop the skill over time of being able to hear student criticism without taking it personally while still taking it seriously.
- Obvious, but important to say, the facilitator must communicate in a tone that is neutral with regards to gender, age, race, sexual orientation, and ethnicity.

A safe environment allows for the full diversity and skills of a group to come forward and helps create extremely rich and profound learning experiences for everyone involved, including the facilitator.

Meaningful Content

The curriculum must be relevant to the life experience and culture of the group.

Without meaningful connections to the lives and interests of the students, little learning can take place. It helps if the learning outcomes for the course are clearly expressed before the course begins. This allows a student to select learning experiences that are relevant and meaningful to them. It is also helpful to survey students before the class begins regarding their expectations and desired outcomes. This input can then be used to design a course that is tailored to the learners in the course. (Please refer to the sections “Designing Effective Learning Experiences” and “Learner Generated Outcomes” for more specific information.)

The learning experience should also be fun and enhance self-esteem and motivation for further learning.

Diversity & Choices

The learning experience must offer a diversity of ways of learning and allow students choices in what they are learning.

These allow the learner to select, organize, and experience input in preferred ways, resulting in more learning. They permit the learner to build independence as a learner by providing ample opportunity to create and/or select learning processes and situations, which are meaningful, and appropriate to their learning style and capacity.

Please see the sections “Designing Effective Learning Experiences” and “Learning Capacities and Learning Styles” below for more specific information.

Learning Stations

The learning stations concept is one way of building in a high level of diversity and choice into a course. An individual learning station is focused on a particular learning experience, be it learning to make seed pellets, how to lay down mulch in high-wind areas, or how to build a compost pile. A class is broken into groups, one group for each station. After a set amount of time the groups rotate to the next station. In the classroom the process can also be used to move students through a series of stations such as playing a computer game, reading a selection of short essays, or playing with games.

The learning stations concept is one way of moving large groups through a series of exercises in an easily managed fashion. It allows the facilitators to break a large number of people into smaller groups so that each group at a station is of reasonable size. Some suggestions to make the learning stations concept more effective:

- Have a clear idea of the intended learner outcomes for each station. Each station should cover a logical chunk of learning.
- Each learning experience at a station should be of the same length, otherwise moving groups through won't work.
- Limit the time at a station to around 30 to 40 minutes. Any longer and students lose the connection to the movement through the stations.
- Avoid teaching linear processes in stations. When the groups are broken up only one group will begin at the beginning of the process, the others start at the end or somewhere in the middle. Obviously this can be a little confusing.
- End by getting everyone together and doing an adaptive learning. This allows everyone to learn from the experiences of each other and the other groups.
- Learning stations are a high-input, high-return teaching strategy. They take a considerable amount of planning and organization to be effective; they convey a tremendous amount of learning in a short time.

The learning station concept can also be used in a more casual fashion. The classroom can be designed with an interesting mix of different learning stations such as the game area, the reading corner, the computer lab, the greenhouse, etc. During off times or during a scheduled afternoon, students can wander through the stations as they wish.

Collaboration:

Collaboration involves learners working together towards a common goal.

Collaboration is the fundamental mode of operating in an ideal learning environment. Facilitator and learners are always teaching each other and providing a sounding board for each other. Students work together to enhance learning and accomplish the learning outcomes. This reflects the reality that most work in the world is done by groups of people, not by individuals. Collaboration also expands the circle of learning possibilities. It helps create the possibility that everyone in the circle is simultaneously teacher and student. Most of the higher-level teaching methods incorporate group learning and collaboration.

Immediate Feedback

Feedback, accurate and immediate, is needed at all stages of learning so the learner can correct missteps, and enhance weak areas.

If learners have to wait long for feedback, missteps are overlooked, weaknesses are magnified, and misunderstanding becomes entrenched. The quicker learners can make corrections in their learning, the better. If exercises are designed with built-in evaluation this is possible and fairly easy for the facilitator to accomplish. In the higher-level teaching methods described below, evaluation is easily incorporated into the method. When students are interacting in a group and with the teacher in a dynamic exercise it is very easy for the facilitator to gauge comprehension. It is also important for the facilitator to create an atmosphere of trust and safe challenge so that students feel safe to take risks in their learning and ask questions if they don't understand.

Good Time Management

The facilitator must manage the time in the classroom to enhance and optimize the learning experience for all students.

Time management is one of the most important skills for creating an effective learning experience. Good time management builds trust and respect in the students by honoring their commitments. It makes it easier to achieve your learning outcomes if you can accomplish all of your planned exercises. At the high-end of good time management courses begin to flow effortlessly and learning outcomes are achieved despite unplanned perturbations. There are a couple precepts that I take as truisms when it comes to planning courses: things always take longer than you think, and the unexpected always happens. There are several important strategies for dealing with these truisms and managing time wisely in a course: begin and end on time, know your exercises, creative improvisation, floaters, and gentle discipline.

- Begin and end on time. If classes begin late and end late, a degenerative spiral sets in where classes start later and later, and the ending time becomes very fuzzy. Beginning and ending on time honors the time commitments of the participants and creates a situation that demands respect for everyone's time including your own. Clear time boundaries also help create a safe environment for students. If they know how long the class will be, and know that the ending time is respected, it is easier to stretch and extend into the time available.
- Know your exercises. This skill comes with time. At the beginning it is important to be very generous with the time allotments in the planning of courses and allow for several floaters. (See below.) Over time as your skills and experience increase your ability to accurately plan the length of exercises increases as well. Of course, as your skill increases you will also have a more fluid class and the time boundaries (within the class time) will become more flexible, which leads us to the next strategy.
- Adequate time. Learners need adequate time to understand the work they have done, to make connections with prior learning, and to prepare for learning to come. Time for reflection, such as adaptive learning and journaling, are excellent techniques for allowing this processing to happen, individually and as a group. Adequate time is often undervalued in education. I once had a tutor in school who used to say that you learned to ski in the summer and swim in the

winter. The point being that adequate time for reflection and digestion are essential components for good learning to take place.

- Creative improvisation. As your skills and confidence increase, your ability to allow for unplanned events increases as well. For example, sometimes someone will ask a very thought provoking question and it behooves you to allow time for the class to explore it. Developing the skill of creative improvisation allows you to rework the course schedule to continue to achieve the learning outcomes while allowing for unplanned events. Beautifully responsive and meaningful courses can result when this skill is honed.
- Floaters. Floaters are learning exercises that float until a suitable time to incorporate them presents itself. It is useful to have a range of floaters available that can fill varying time slots. A quick game or a longer reading and discussion can both be held in ready if planned exercises go more quickly than expected. Floaters should reinforce planned content and learning outcomes in case there is no time to use them. Floaters help facilitate creative improvisation and when used skillfully are a sign of good time management.
- Gentle discipline. At times it is necessary to exert authority in a class. If a discussion is wandering far from the original question, or if tangential references from an eager student are eating up time, gentle prodding may be necessary. If trust has been built in the group fellow students will frequently exert a moderating influence on wandering or wanderers. The facilitator must retain some control however to ensure that the learning outcomes are achieved. If the facilitator allows the course to veer off, students lose trust in the process and can lose respect in the facilitator. Generally all that is needed is a little reminder, “let’s refocus on the original question, which was...” Sometimes it may be necessary to take a belligerent student aside during a break. A compassionate confrontation usually defuses the tension, and allows the course to proceed. A question such as “do you have a concern that I’m not addressing?” will usually serve this function.

Path to Mastery

The facilitator should provide a clear path or paths to developing mastery of the subject matter.

Mastery does not imply a static state or place of arrival, but a level of competency and skill in a process. The process of developing mastery is a slow and complex one, with numerous overlaps and reiterations. There should, therefore, be a clear path or paths presented for developing mastery of the subject matter. There should be clear criteria for determining when the student has arrived at certain stages of development, and an appreciation for the time necessary for this development. When a path to mastery is presented it allows the students to put their learning in perspective, to see how current learning is important, and how to proceed with deepening their understanding.

The Learning Circle

One of the assumptions of this teaching manual is that the best group learning takes place in a circle. The circle is an important metaphor for the style of learning and instruction that we are advocating. It is a fundamental result of some of the key guidelines: facilitation, learning experiences, and collaboration. It is a term we use to describe the kind of environment that is being created and the relationship between course participants. It is useful at the beginning of a course to hold up the learning circle as the ideal mode of relationship to be developed in the course. The circle suggests and enhances equality between the facilitator and the participants, and between all participants. It visually reinforces the notion of a web of relationships between everyone and helps strengthen the community. It also honors the need for diverse sources of information and inspiration, and builds a cohesive and comprehensive whole. Adaptive learning and the Wopout-Bepout-BeBe exercises reinforce this notion of a learning circle. The circle has as its focus a group intention for learning.

Learning Capacities and Learning Styles

There are a variety of perspectives on how people learn best and what constitutes an ideal learning environment for each student. This information should be used as guidelines to help design learning experiences that are rich, dynamic and useful for as broad a selection of students as possible. The teaching methods described after this section are weighted in preference for those methods that are most effective for reaching all of the learning capacities and styles and accessing the whole brain. These capacities should not be used as rigid categories in which to pigeonhole students, but as flexible and fuzzy areas of concentration that should serve to better the learning experience.

Learning Capacities

It is of the utmost importance that we recognize and nurture all of the varied human intelligences, and all of the combinations of intelligences. We are all so different largely because we have different combinations of intelligences. If we recognize this, I think we will have at least a better chance of dealing appropriately with the many problems that we face in the world. Howard Gardner (1987)

Howard Gardener is an educator who has offered the theory of multiple intelligences. These intelligences are what he calls “learning capacities,” areas of ability that all people have to varying degrees. In his words, “an intelligence entails the ability to solve problems or fashion products that are of consequence in a particular cultural setting.” He makes the point that the correct question is not “how intelligent are you?” but “how are you intelligent?” He posits eight intelligences: visual-spatial, verbal-linguistic, kinesthetic, musical, logical-mathematical, intrapersonal, interpersonal, and naturalist. Let’s look at each intelligence to see what it is and how it can be activated.

Verbal-linguistic

Learning through reading and writing

This intelligence is responsible for the production of language and all of the complex possibilities that follow, including poetry, humor, storytelling, metaphors, symbolic thinking, conceptual

patterning and the written word. This intelligence is activated by reading what someone has written or is saying, and by writing down ones thoughts and ideas.

Visual-spatial

Learning through art, media, puzzles, and charts

The key sensory base of this intelligence is the sense of sight, but includes the ability to form images in the mind. This intelligence is used in the visual arts such as painting and sculpture, in architecture, navigation, and map-making, and in games such as chess and *go*. To activate this intelligence work with artistic media such as paints or clay, draw, or create images to convey an idea.

Bodily-kinesthetic

Learning through movement, by building models, dance

This intelligence allows us to express an emotion through movement, play games or sports, or create new inventions. To activate this intelligence, role-play certain ideas or concepts, play physical games or sports, or engage in hand's-on activities.

Musical-rhythmic

Learning through musical composition and rhythm

This intelligence includes the ability to recognize, use, and create rhythmic and tonal patterns, and sensitivity to sounds from the environment, the human voice and musical instruments. To activate this intelligence learn to play a musical instrument, use music to express an idea or feeling, or by immersing yourself in the sounds of nature.

Logical-mathematical

Learning through deductive reasoning and mathematical problem solving

This intelligence is often associated with scientific reasoning, but inductive thinking is also included. This intelligence involves the ability to recognize patterns, to work with abstract symbols such as numbers and geometric shapes, and to discern relationships and connections between distinct pieces of information. To activate this intelligence develop a budget, create an outline for the development of a piece of property, or draw conclusions from observations of a landscape.

Interpersonal

Learning through cooperative problem solving and collaborative discussion

This intelligence includes the abilities to notice differences in mood and temperament, empathy, and the ability to communicate effectively. To activate this intelligence work in groups to solve problems, and practice respectful listening.

Intrapersonal

Learning through reflection and self-awareness

This intelligence is the skill of consciousness, the ability to be self-aware. It allows us to step away from ourselves, to observe our feelings, our emotional responses, our patterns of thought and reaction, and to feel connected to larger wholes beyond our self-identity. To activate this intelligence use periods of journaling to reflect on feelings and learnings, practice mindfulness, and to be aware of patterns of reaction or thought.

Naturalist

Learning by immersion in the natural world

This intelligence is highlighted by the ability to recognize flora and fauna, to make consequential distinctions in the natural world and to use this ability productively such as in hunting or farming. To activate this intelligence go fishing or hunting, plant a garden, or spend time in nature observing patterns and relationships.

Gardener stresses the point that each of these intelligences reflects a capacity for learning, expression, and problem solving. As such, they can be cultivated, enhanced and taught to. Each person will have a unique mix of these capacities, and will learn better from exercises focused on their particularly strong intelligences. Complex tasks, such as designing and implementing a permaculture, will require a mix of different capacities for full realization. Permaculture learning experiences will be much stronger and more effective if we take pains to teach to all of the eight intelligences that Gardener proposes. As much as possible we want our students to be engaged in complex tasks that involve the use of a high number of the intelligences. For example, a day in the life of a permaculture student might involve time spent working together in a group to create a permaculture design, and convey it to the class with interesting maps and diagrams, journaling, reading and discussing a subject, time spent observing nature, and an opportunity to dance and make music.

Resources for more information:

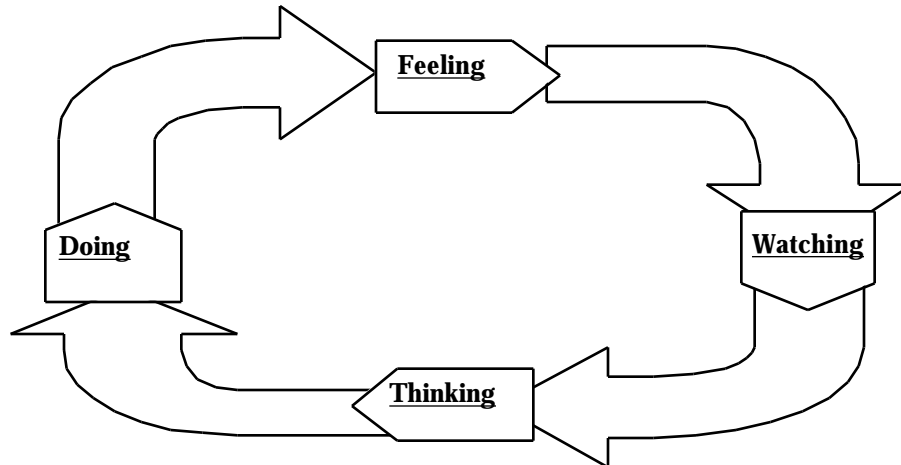
Multiple Intelligences: The Theory in Practice, Howard Gardener, Basic Books, 1993.

Teaching and Learning through Multiple Intelligences, Linda Campbell, Bruce Campbell, Dee Dickinson, Simon and Schuster, 1996.

Learning Styles

There are several schools of thought in regards to learning styles. David Kolb's Four Quadrant Learning Cycle is a very useful method of identifying learners and styles of learning. Kolb's learning cycle moves through four phases: reflection & observation (watching) => abstract conceptualization (thinking) => active experimentation (doing) => concrete experience (feeling), and back through reflection & observation.

The intersection of these phases creates four main learning styles: the accomodator, the diverger, the converger, and the assimilator.



The Complete Learning Cycle

Four Quadrant Learning Cycle Matrix

	Active experimentation	Reflection & observation
Concrete experience	Accomadator	Diverger
Abstract conceptualization	Converger	Assimilator

The Accomadator learns from doing. This person gets things done and provides leadership. They excel at implementing plans and getting things done. The Diverger learns by integrating and synthesizing information from many sources. They like group discussion but need quiet reflection. They excel at recognizing problems and understanding people. The Converger learns by testing theories. They value strategic thinking and are able to bring closure to issues. They excel at problem solving and decision making. The Assimilator is logical and learns from reflection and by forming theories. They excel at planning and creating models. Each person will fall somewhere on the four quadrants of learning tendency with a preference for certain teaching methods and styles of learning. It is important to remember however that it is a universal pattern of learning that all of us must learn to cycle through to develop full understanding. Teams made up of a variety of learning styles will help create effective teams that can successfully bring projects to completion. Vary the teaching methods and emphasize group projects to help meet everyone's learning style.

Resources for more information:

Organizational Psychology, Prentice Hall, 1971. Kolb, Rubin, and McIntyre.

Whole Brain Learning

Whole person learning also recognizes the need to balance the two sides of the brain into a comprehensive learning experience. Whole brain learning posits that both hemispheres of the brain are engaged in learning activities and that all learning experiences should teach to both hemispheres without prejudice or judgment.

Left brain dominance activities

sequences
 learns from parts to wholes
 likes words, symbols, letters
 rather read about it first
 unrelated factual information
 wants structure and predictability
 reason
 what did you learn?

Right brain dominance activities

comfortable with randomness
 learns from wholes to parts
 wants pictures, graphs, and charts
 rather see or experience it
 relationships in learning, open-endedness
 surprises
 feelings
 how do you feel about it?

Learning experiences that we are designing should try to teach to both types of dominance, should try to balance the two into whole brain learning.

Resources for more information:

Drawing on the Right Side of the Brain, Betty Edwards, Jeremy Tarcher Press, 1979.

Humor & Fun

Without dipping too far into the world of edutainment (an insistence that all education be a form of entertainment) courses should be fun and humor should flow easily and freely for all. Research has shown that when people are having fun and are relaxed while learning their comprehension and retention are considerably higher than when they're under stress or a threat is present. It's easy to be dramatic but hard to be funny. Sorrow seems to have more universal triggers while humor is very culturally specific. Hence the importance that when being funny, no offense is made. Tread carefully in this realm, but please try to make learning fun for folks.

Teaching Methods

General Guidelines

These general principles are important to use when designing learning experiences and for integrating teaching methods. In some ways they are a kind of teaching method so have been included in this section. Use these principles to guide the design of individual learning experiences, for designing entire courses, and as a general attitude towards teaching.

Work with Nature

The first principle of permaculture is work with nature. In this context, it means we need to understand deeply what the nature of the classroom environment is, how learners and teachers function optimally, and what conditions need to be created to best facilitate the shift in perspective that permaculture requires. This Guidebook is an exploration and exposition of the nature of the classroom and effective learning.

The principle also suggests the need for deep empathy. A pianist tells the story of when she was a young musician at conservatory. She wanted to study with a teacher noted for helping create the best musicians. Finally she was accepted to study with him. On the first day she came in and sat down at the second piano. He played a single note and told her to play it. She did. He said, "no. Try again." She did. "No." He played the note again and asked her to play it. She did. He said "no." This

process went on for a month. Finally one day she played the note and he said “yes.” The lesson she took from this month of trying to play a single note is that playing the piano is more about listening than producing. He wanted her to really hear what he was playing so that she could reproduce it. Teaching is the same: listening is more important than talking. Facilitators must attune their ability to read the nature of the students before real artful teaching can take place.

Spiral Learning

Spiral learning is sometimes also known as “layered learning,” and refers to the process of mentioning or returning to a subject several times. On the first pass or at the first layer, the subject is merely mentioned or introduced. It is then outlined briefly on the next mention. It can be gone into in more detail on subsequent mentions. This process builds on the brain’s natural ability to make connections and on its need for repetition.

Redundancy

Redundancy is slightly different from spiral learning in that it suggests that important concepts be covered in multiple ways. For example, if students are learning about building community, there should be a variety of exercises that reinforce each other. The process could begin with a dynamic and colorful audio-visual presentation on the principles and practices of building community. The students could then have an opportunity to work together on a project that is relevant to themselves and the community that they live in, and then have a chance to interview a team of community activists. If the students can present some of what they have learned, their understanding is developed even further. Adaptive learning and journal writing allow reflection that deepens and reinforces learning.

This kind of redundancy helps students build their own connections between the material and learn in a variety of ways, some which might be more effective for each student. Redundancy helps ensure that learner outcomes are achieved in a profound way for each student.

Stacking Functions

“Stacking functions” is a principle that suggests that, if possible, each exercise do several things at once. For example, instead of doing a fun, stress-release exercise that is empty of content, try to design fun activities that reinforce content. Using the content in a nonsensical manner is still useful. A talent show at the end of a longer workshop is an excellent “stacked” learning exercise. The main function is to relax and have fun together as a group. The talent show is also a fun way for students to rethink or reapply some of the material that they have learned. Skits are a great way for students to poke fun at teachers and classmates, while making new connections between the information. If the talent show is at the end of the workshop, it is also a good way for the new community to reaffirm its bonds and emotionally prepare for separating. Lots is going on in a talent show!

The entire workshop or learning experience should be designed with this same level of connection and leverage. Sometimes it is fun to ask students to examine what all the possible things could be that are going on in a learning experience.

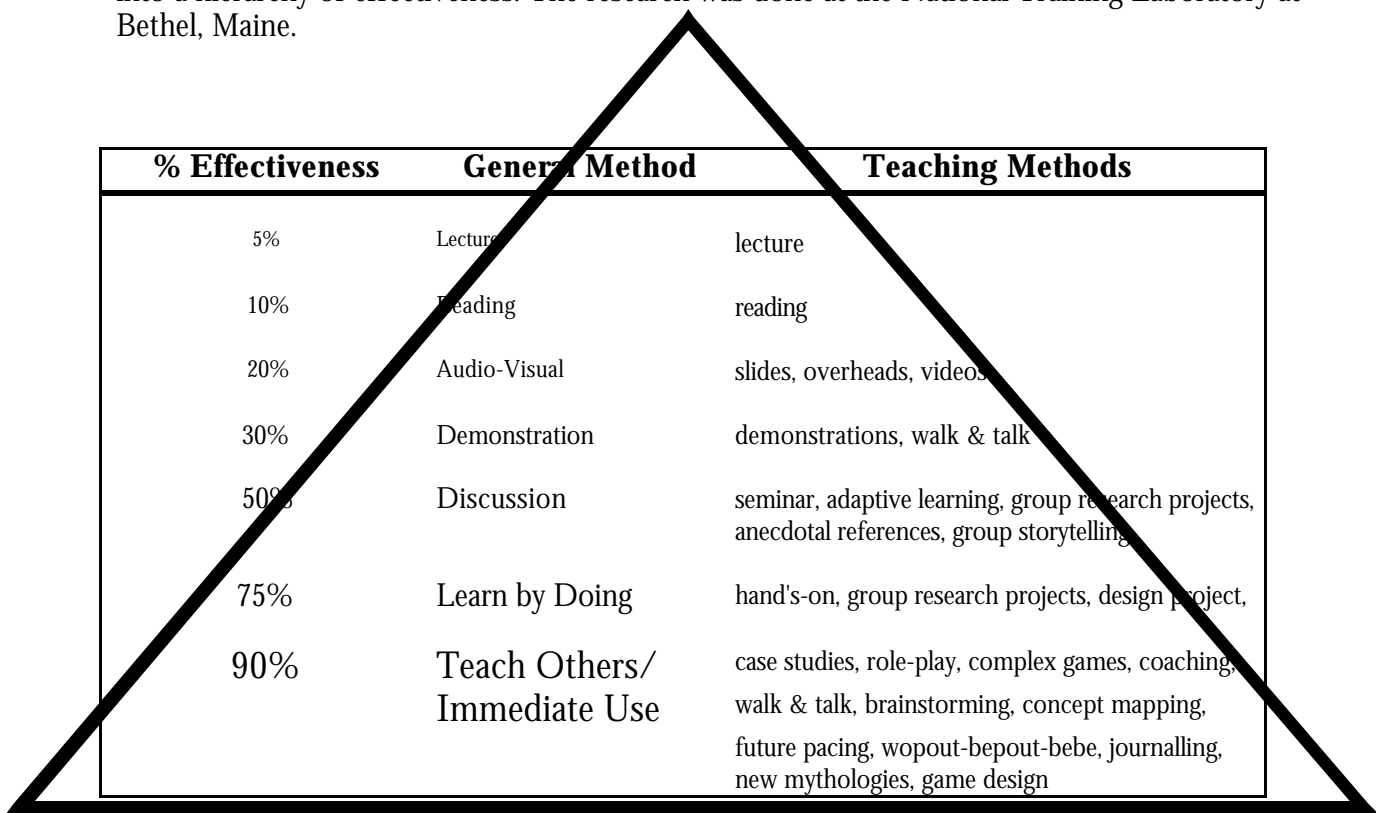
Creating Leverage

Creating leverage is also sometimes known as the “biggest payoff” principle. It reminds us to use the least amount of energy to create the greatest change. In systems language, where can we intervene in the flow of the system to foster lasting and authentic change? This principle reminds us that our

time with students is often limited and needs to be used as effectively and efficiently as possible. I take it as a general rule that no matter how much time there is for a class, it is never enough to cover all the material the facilitator would like. Much of the material in these guidelines are intended to help create learning experiences that are as effective as possible, optimizing the learning for the students. It is good to remember this principle however, especially during times of duress or difficulty. Don't be afraid to allow the course to diverge from the notions you have for it. If done with the consent of all the course participants, a complete reworking of the class and its content is acceptable and good if it enhances student learning.

The Learning Pyramid

One of the key pieces of developing learning experiences was given to me by Santa Fe educator Priscilla Logan, and is known as the learning pyramid. It is a way of organizing research information into a hierarchy of effectiveness. The research was done at the National Training Laboratory at Bethel, Maine.



There are several lessons we can draw from the learning pyramid. The learning pyramid suggests that our learning experiences should be weighted very heavily toward the base of this pyramid, where retention and effectiveness is greatest. As much as possible we should have students teach each other, and use the material immediately. If students can learn by doing, they will be much more able to actually DO something. Discussion groups are powerful ways for students to learn from the experience of their fellow students, and to voice concerns. Demonstrations are a good

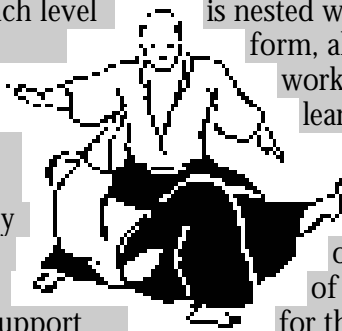
way for students to see how something is done, most usefully as a prelude to actually doing it themselves.

The teaching methods at the base of the pyramid are also more accessible to the full variety of learning styles and capacities. Lecture and reading rely almost exclusively on the verbal-linguistic intelligence. As the methods slide down the pyramid they incorporate and teach to the other intelligences and learning styles much easier and more fully.

The learning pyramid also suggests that a combination of teaching methods is the most effective form of designing learning experiences. The section “Developing Effective Learning Experiences” offers more details on how to apply this suggestion.

Tai Chi Training as Metaphor

Traditional training in tai chi, and other martial arts, follows the suggestions laid out in the learning pyramid and provides a useful example for thinking about facilitation. Tai chi is taught through a form, a collection of postures and movements set into a meaningful sequence. At the beginning, students ape the movements of the teacher, working on the grossest level to get their feet and hands in the right place. Once they master that they then work to more closely replicate the movements on a physical level. Over time the practice moves more internally, relaxing muscles and opening joints in a precise order. Eventually the practice focuses around the movement and cultivation of *chi*, vital internal energy. There are many more levels within and beyond this, but the point is that the focus of each level is nested within the previous ones. When a beginning student is merely aping the form, all of the other levels are potentially present. For the advanced student working on *chi* movement, it is still done in the context of the basic form learned as a beginner.

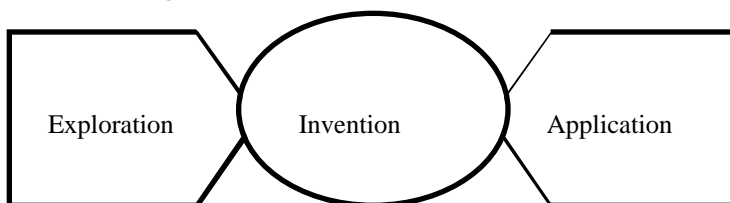


This is an example of immediately using what they are encouraged to teach practice. As a complex set tai chi provides proof and support for the lessons of the learning pyramid. Learning permaculture is no less complex; we would do well to learn from the example of the ancient masters.

students learning by doing and are being taught. As students advance they others as a way to extend and improve their of skills with a several thousand-year history,

Constructivist Theory

Another theory of learning that is highly relevant to permaculture educators is known as the Constructivist Theory, developed by Jean Piaget. This theory posits that students should construct their learning based on how they experience it. Students are guided through a three-phase process: exploration, invention, and application. These three phases actually cycle back into each other as the learning experiences evolve.



In the exploration phase students are given few guidelines to explore a situation. They are encouraged to learn from what they sense and experience. In the permaculture curriculum this phase

may correspond to an observation walk during which students are asked to see and sense what they can with no guidelines about how to observe. In the invention phase the facilitator gives names to some of what the students have experienced. In the permaculture context this may be describing some of what the students have observed: “that is what we call “flagging,” and helps us determine prevalent wind directions.” In the application phase students take what they have learned and apply it to an exercise or in another situation. Students could be asked to look for more evidence of wind flow on a site, or asked to develop strategies that help mitigate strong winds. Students then cycle back through the invention and exploration phases.

The following teaching methods have been grouped according to the more general teaching methods from the learning pyramid. This reference is not comprehensive, but gives an idea of most of the teaching methods that are known to be effective.

Teaching Others

Teaching others is one of the most effective ways to learn. For anyone who has had a taste of teaching, you know that teaching is the best way to learn your subject. The following are some of the methods that apply the principles of teaching others.

General principles

There are several general principles that make student teaching - learning experiences more effective and easier on the students. Don't underestimate the fear that public speaking can generate. A few years ago some folks asked people what their greatest fears were. Death came in second. Public speaking was first. It is important for facilitators to remember that some people would rather die than speak in front of a group.

- This exercise might be better known as facilitate others. Students should be encouraged to use these guidelines to help develop the learning experiences they will use.
- Make it a group project, particularly at the beginning. This allows folks to negotiate their fears and develop skills working in a group.
- Everyone should have the opportunity to teach. Balance the above recommendation with this one. In some group situations the fearless extroverts will tend to dominate. Mix up the groups, change the exercises, and keep the presentations fairly short to help give everyone a chance to teach their classmates.
- Define the time for preparation clearly. There is rarely enough time to prepare as well as one would like, this is simply a reality. At times it may be necessary to be draconian about this requirement.
- Define the time limit for the facilitation. This helps the students manage whatever fears they may have: “We've only got to do this for 4 minutes.” It also helps maintain time management.
- Define the expectations for the student teaching. If the students are expected to help their fellow students about how to read a map, define clearly the outcomes that they should be facilitating towards.
- Begin with smaller scale, shorter duration facilitations. This helps folks warm up to the idea of peer teaching, allows for feedback so future teaching experiences can be more useful, and helps folks manage fear.

It also helps to keep student teaching fun. If the students are primarily having a good time, it makes it much easier for folks to relax and learn.

Case Study

Case studies are the primary teaching method in law and business schools. Students study a folder of information on the case (participants, the situation, the outcomes, etc.) and then present it to the class. Emphasis is placed on why the outcomes happened, what principles can be generalized from the study, and what can be learned. Fellow students and the instructor then ask questions about the case or the presenters' understanding of it. Case studies require students to understand the course material thoroughly before sharing it. Case studies are essential for permaculture courses. Permaculture is primarily interested in the design of new functional wholes. It is difficult for students to piece together holistic thought from fragmented, small-scale presentations. Permaculture case studies can be at the village scale down to individual home sites.

How to prepare: Preparation for case studies is more intensive when you first begin to use them. Over time as the case folder becomes filled out, preparation time is significantly decreased. Create a large folder, such as a sealing accordion folder, for each case and begin filling it with relevant information. Include articles about the case, clippings from newspapers and magazines, and books that may have been written on the subject. If there are numerous books that refer to the case, a bibliography should be included that references these sources. Also include references to any audio and videotapes that are available, and any other relevant information. Students should also be encouraged to search on the World Wide Web for information, assuming computer resources are available. The more resources that students can draw from, the more powerful and thorough the presentation. It is also possible to create a standardized case report that summarizes the case, just be careful that students don't work directly from this. Over time as the number of groups presenting a case increases, summaries in the file can also increase. If you have video resources, it can be helpful to tape the presentations that can then go into the file. Future groups should be encouraged to use these video resources, but it may be wise in some instances to reserve the viewing of other presentations until after the group has finished.

Procedure: Give each group a case folder. Let them know when the presentation will be, and how long they will have to present. In general, it is rarely necessary to go longer than 10 or 15 minutes. Allow plenty of time for questions and for fellow students to review the materials. Clearly define what you'll be looking for in the presentation. Share the information regarding outcomes based learning with the students. Encourage them to use creative ways of presenting the material, and not get locked into a lecture format. After the students have made their presentation, ask questions that are focused around the clearly stated expectations. After all the groups have done their presentation, do an adaptive learning, asking: what did you learn? and, how do you feel about it? The emotion post-presentation is generally pretty high, adaptive learning focuses it on reviewing and reinforcing what was learned.

Things to look for: Are all group members participating? Is the group focusing its energy and time on designing a presentation that meets the stated learning outcomes? In the presentation, do all group members have a role? Are students demonstrating an understanding of the material? Is the energy level high and focused? Is everyone having a good time?

Tips to make it more effective: Give a demonstration case study presentation yourself at the beginning of the course. Demonstrate some of your best teaching, and what you will be expecting from the students. There's no need for bomb dropping. Tell them they'll be doing case studies, and

to watch how you do it. Allow for lots of questions. Another way to make case study presentations more effective is to encourage students to be creative about how they share the case study information. Some students have used roleplay, humorous talks or other methods to convey the material in an engaging way.

Resources for more information:

For more information on case studies and how to lead them in a class setting, see the Harvard Business School Publications Department: 800-668-6780, Fax: 617-496-1029, E-mail: custserv@hbsp.harvard.edu, or check out their very helpful website: www.hbsp.harvard.edu. Copies of case studies can be mailed in paper form, or can be downloaded in Acrobat format electronically.

Role playing

Role playing is a fun way to get everyone involved in teaching each other. Students can role play a potentially infinite number of possible roles, and the presentation can take any number of forms. Some popular and effective role-plays are interviews, debates, skits, a sermon, etc. Role playing can be one way to present case studies. For example, assign one of the case study groups a case and have them do it as a role played interview. One person can be the interviewer, and two can be the experts on the case. The more folks play into the role, the more fun it is, and the better the learning. This also works well with a debate role play.

Procedure: Clearly define what the subject is that will be role played, the time to prepare, the time to present the role play, the form the role play will take (interview, skit, etc.), and what the learner outcomes should be. The presenters should be encouraged to involve the “audience” (classmates and instructor). As in doing case studies, or any type of presentation, do an adaptive learning or other means to allow everyone to share their experience.

Things to look for: Are the students having a good time? Is everyone participating? Do the role plays convey the content? Do they demonstrate an understanding of the content?

Tips to make it more effective: Role plays should be fun. Make them funny. A case study can be convincingly role played as a Saturday Night Live comedy skit or fake commercial. Try to draw out and involve everyone in the role play. Do a role play yourself; don't be afraid to embarrass yourself in front of the class. For example, one time I had a class do a variety of individual role plays defining, quickly, the subject we were working on. “Pretend you're a fundamentalist preacher, talking on television, and try to get us to send in money to support your cause (the subject).” Everyone drew a role play (preacher, infomercial, etc.), and then I told them at the end they could make up a role play for me to do. At the end I was role playing trying to pick someone up in a bar by selling them on the subject. This is a good thing to do at the end of the day or towards the end of the time together, when trust and group comfort is high.

Resources for more information:

Learning Revolution: A Lifelong Learning Programme for the World's Finest Computer: Your Amazing Brain, Gordon Dryden and Jeannette Vos, Accelerated Learning Systems, 1994.

Ways to Teach your Learner, Ed Rose, Jossey-Bass/Pfeiffer, 1999.

Learning to Learn, Joseph Novak, Cambridge University Press, 1984.

Teaching and Learning through Multiple Intelligences, Linda Campbell, Bruce Campbell, Dee Dickinson, Simon and Schuster, 1996.

Game Design

Game design is a sophisticated teaching method that asks students to use the principles and concepts that they are learning and apply them to the design of a game for the whole class to play. In the beginning it is easier to have the students model their game after a game that is familiar to everyone, such as Monopoly or Go Fish. Game design is a method for having the students teach each other, in a way that is fun and functional.

Procedure: Give the students the general overview of the work they will be doing. Explain that each group will be responsible for creating a game that can be played by the whole group that uses and conveys the principles of what they have been learning. Clearly outline what concepts, principles, and information that they will be expected to incorporate into their game. For beginning groups, give them the option of choosing a well-known game and modeling their game after it. For some conceptual material it may not be possible to create a new game that is modeled after an existing game. It is generally better to keep the games simple without too many rules. Each group should have time to practice playing their game so that it can be fine-tuned and improved based on real-world use.

Things to look for: Is everyone participating? Are the groups having fun designing the games? Is anyone making it too complicated? The groups should keep the games simple.

Tips to make it more effective: Have a wide range of games available that students can choose from. Encourage a little absurdity in the games; this helps make it fun and deepen retention. Practice using this teaching method with a group of fellow facilitators to get an idea how the process works and potential problems that may arise. It can be helpful to develop a fun game yourself that you can lead the class through as a demonstration of how the process can work. Collect the games that students develop to use in future classes. It could be fun to see if the students can work as a large group to combine all of their games together into one big fun game learning.

Resources for more information:

Learning Revolution: A Lifelong Learning Programme for the World's Finest Computer: Your Amazing Brain, Gordon Dryden and Jeannette Vos, Accelerated Learning Systems, 1994.

Ways to Teach your Learner, Ed Rose, Jossey-Bass/Pfeiffer, 1999.

Learning to Learn, Joseph Novak, Cambridge University Press, 1984.

Teaching and Learning through Multiple Intelligences, Linda Campbell, Bruce Campbell, Dee Dickinson, Simon and Schuster, 1996.

Games by Thiagi: Teamwork Games, Sivasailiam Thiagarajan, 1995.

100 Training Games, Gary Kroehnert, McGraw Hill, 1992.

101 Ways to Make Training Active, Melvin Silberman et al, Pfeiffer & Co., 1995.

Immediate Use

Immediately using what has been learned is a powerful source of learning for students. For content that requires that students be able to do something, this method is extremely effective. There are many techniques to involve students in immediately using information or new learning. Some of the most effective are concept mapping, reflection, and complex games.

General Principles

There are some general principles that will guide work using this type of teaching method. There is great room for growth in creating new immediate use teaching methods.

- The sooner students have the opportunity to use the material, the better. Don't wait too long or feedback is lost, and misunderstandings can become entrenched.
- Make it clear what the concepts are that the students should use.
- Explain the concept or concepts in as dynamic a fashion as possible. Give examples and various ways in which the concept may have been used.
- Start small and help people work through using the concepts before turning them loose on bigger or more complex assignments.
- Allow for "dead air." When people are trying to understand and use concepts that they might not be familiar with, there can be significant periods of dead air when no one can process the information. These times are OK. Let the students wallow a little bit in it. It's important to remember that learning is happening, albeit subconsciously.
- Help the students relax into the learning experience by removing threats tied to performance.

Concept Mapping

Concept mapping is a fun technique for asking students to use the information that has been presented, for assessing their understanding, and for requiring a higher order of thinking. Concept maps also requires students to use a visual and spatial basis for their learning. As a group exercise they also require the use of complex communication skills and the interpersonal intelligence. Concept maps can be used as a non-threatening way of testing student understanding, and as a review of material at the end of a learning experience.

Procedure: Doing concept maps is easy. Give each group of learners a large piece of paper with a concept, such as community building, written at the top. On cards or large post-it notes write down individual concepts, such as community meetings, open space, parks, private land ownership, etc. It's best to limit the concepts to between 6 and 8. Then ask the students to place each concept (as written down on each card or post-it note) on the large paper and describe the connections between each individual concept. It usually works best to have students draw lines between the various concepts and write the connection on the line. Other creative options are possible too, such as using drawings, other visuals, or sculpture to convey the connections.

Things to look for: Are the students focused on working together? Are they leaving out any of the concepts? Are they using the information that's been conveyed previously?

Tips to make it more effective: Give students the option of using color to further convey connections. Remind them of the time limit in a non-threatening way. A concept map could be acted out, with each student role-playing a particular concept and the group acting out the connections. This would work best if the students were comfortable and familiar with concept mapping and could apply it to the role-playing method.

Resources for more information: This technique comes from *Learning to Learn*, Joseph Novak, Cambridge University Press, 1984.

I first learned of this from "Modern Teaching Strategies for the Permaculture Educator" by Rick and Naomi Coleman of Permaculture Education and Design Systems in Australia.

Forming into Groups

In skilled facilitation courses, breaking a large group into smaller groups is a daily ritual. In light of the principle of stacking functions, forming into groups should be a way to do something more with the time than simple subdivision. If nothing else forming into groups should be fun. There are a few things to keep in mind though. People can be remarkably territorial and will tend to stay in the same groups with the same people if nothing is done about it. Mix the groups up with different people for different exercises. Separate couples and work partners, and try to generate diversity (of gender, experience, etc.) within each group. Sometimes for variety it can be fun to break the group along gender lines, or by age or by another arbitrary distinction. Once these details have been attended to, look to stack some other functions into the group formation process.

New Mythologies

New Mythologies is a teaching method that asks students to create new stories based on information they have just learned. Students weave new awareness into new myths. The technique requires students to immediately use new understanding, to evaluate it, refashion it into a meaningful story, and then teach it to their fellow students. Almost anything could be turned into a simple story. Student creativity can be quite amazing when it is allowed to roam.

Procedure: This technique can work for individuals or for groups. Give each person or group the opportunity to choose the concept or topic that they would like to tell a story about. Allow plenty of time for the creation of new myths. This can be a daunting exercise, let people know well in advance. Students can fashion their new myth as a hybrid of old myths with the new concepts. For example, the principle of "stacking functions" mentioned above could be told as "The Story of the Busy Pack Rat." "One day the busy pack rat walked outside of his nest and looked around. He looked at the piles of sticks and twigs nestled in among the cactus. 'What a good home,' he thought. He was thankful for how his humble pile of sticks protected him, kept him warm, allowed him to..." Have the students tell their stories in a circle, perhaps around a camp fire. It is helpful to have copies of Grimm's Fairy Tales, Mother Goose, and the work of Joseph Campbell around to inspire students with a story.

Creating a new mythology could also be done as a whole group process. Have everyone sit in a circle. Perhaps review some of the concepts that you would like to have woven into the story. Someone can begin with something traditional like “once upon a time...” or “a long time ago, in a galaxy far, far away...” Encourage everyone to let their minds roam. The more creative and the funnier the story is, the more effective.

Things to look for: Is everyone having a good time? Are they remembering to keep it simple? Is everyone engaged?

Tips to make it more effective: Suggest that students imagine telling the story to children. Keep the language simple, follow the traditional forms, and try to use dramatic imagery. A campfire really helps make the storytelling more dramatic.

Resources for more information: This technique was developed by Christopher Peck, so is not referenced in any separate documentation.

Brainstorming

Brainstorming is a technique for eliciting information and understanding from a group. It has two main applications: as a casual teaching method, and as a more formal method of uncovering creative ideas. In general, brainstorming recognizes the inherent power of student’s understanding. It encourages students to look to themselves and to each other as useful learning resources. Brainstorming is also a fun way to get everyone in the group involved in looking at and solving problems. It can be used at almost any time and at any scale.

Procedure: There are two main ways to use brainstorming as a teaching method: casual and formal, for lack of better terms.

Casual: This method can be used at any time and is useful for getting students to assess their understanding of a subject. It is done best by asking the students a focused question: “what are useful strategies for building urban communities?” Then have someone, yourself or another student, transcribe the responses onto a flip chart or dry erase board. It is important not to edit or rephrase the responses. This technique can be used to open almost any discussion or learning experience. It can also be used as a review of the day’s or a previous day’s activities: “what did we learn yesterday?” These review brainstorms are excellent “stacked” learning opportunities. They encourage reflection, remind students of previous activities, provide a starting point for the day’s work, and allow the facilitator to gauge the groups understanding. It’s also a great way to see what the group already knows, so that the course can be tailored around enhancing weak areas.

Formal brainstorming is used when the greatest degree of creativity is desired. It is known as “formal” brainstorming because it has rules and a more formal structure. Begin by telling students the rules of brainstorming:

- no comments on ideas, either positive or negative;
- no talking that isn’t a suggestion;
- piggybacking is encouraged; each session should be timed, between 5 to 7 minutes;
- allow for dead air;

The rules create a climate in which high creativity is fostered. For a formal brainstorming session it is good to break the group into at least two groups and encourage competition between them, perhaps with a prize, or at least bragging rights. Students should go for quantity, trying to generate as many suggestions as possible. It can help by beginning with a quick brainstorm for all the uses of a nonsense item like a toilet paper roll. This helps get the creative juices flowing.

Once a substantial list of brainstormed responses are generated, there are several ways to use the information. Students can be broken into groups and asked to sieve the lists based on a few criteria, such as which are the most important concepts, or the most immediately useful. The list could be used as the taking off point for a quick lecture on the subject before breaking students into groups to work on a concept. Students can be asked to prioritize the list at your prompting and you can guide it somewhat towards a direction you know beforehand.

Things to look for: Is everyone participating? Do students understand the question? Brainstorming has very immediate evaluation built into it; if students don't understand what is being brainstormed, you'll know it right away.

Tips to make it more effective: Make it fun. Don't censor any comments, only enforce the rules and civility if necessary. Scatological and profane comments are very useful. Usually students need to break through a layer of politeness before they can reach a deeper level of creative potential; encourage this.

Resources for more information:

The brainstorming process described here comes from the work of the Center for Holistic Management. See *Holistic Management: A New Framework for Decision Making* by Allan Savory and Jody Butterfield, available from Island Press. The Allan Savory Center for Holistic Management can also be contacted for more information:

Allan Savory Center for Holistic Management

1010 Tijeras NW

Albuquerque, New Mexico 87102 USA

505-842-5252

www.holisticmanagement.org

Coaching

Coaching is a teaching method of intimate contact between student and teacher. It requires direct, one-on-one communication. The teacher or coach facilitates student understanding and learning through questioning and prompting. The immediate feedback of coaching allows the student to refine understanding and develop skills very rapidly and avoid or correct misunderstandings.

Procedure: Begin with the concept to be covered. Ask the student a leading question: what is the basis for developing a healthy community life? Pursue the dialogue by asking probing questions and following fuzzy areas of understanding. Check all assumptions and ask for the factual basis of all opinions.

Things to look for: Is the student pursuing the inquiry with a serious intent?

Tips to make it more effective: Don't ask dead-ended, yes or no questions. Allow the dialogue to follow its own evolution, probe and poke at fuzzy thinking, but don't try to force someone to a conclusion.

Resources for more information:

The Fifth Discipline: The Art and Practice of the Learning Organization, Peter Senge, 1990.

The Fifth Discipline Fieldbook, Peter Senge, M. Senge, Art Kleiner, Charlotte Roberts, Richard B. Ross, and Bryan J. Smith, Doubleday, 1994.

Applying Successful Training Techniques; A Practical Guide to Coaching and Facilitating, Joe B. Wilson, Pfeiffer & Co., 1995.

The Art of Mentoring; Lead, Follow, and Get Out of the Way, Shirley Peddy, Bullion Books, 1999.

Journalling

Reflective or introspective journalling is a powerful technique that helps students internalize learning and set the stage for more. It encourages students to make connections to previous learnings and take ownership of their education. It uses the intrapersonal intelligence so often neglected.

Procedure: There are two main ways to use journalling in a course setting: reflective and free flow. Reflective journalling asks students to write in their learning journal about what they have learned in the previous day, or whatever time period is appropriate. Ask students to make connections to things they may already know. Some leading questions: what does this remind me of? how could I use this learning? what does this learning excite me to learn more about? how do I feel about what I'm learning?

Free flow journalling comes from the work of writing guru Natalie Goldberg. It is a simple technique with profound possibilities. For a set amount of time, ten minutes or so, students are to put pen to paper and not lift it. They can work on a specific question, such as what did I learn? or, how do I feel about what I've learned? Students shouldn't judge what comes into their minds, but are encouraged to just write, letting the words flow onto the paper as freely as possible. After the ten minutes are up, ask the students to review what they have written and look for themes and major ideas. It is also useful to have the students do several free flow writing sessions and return and review after several sessions to see what patterns may emerge.

Things to look for: In general it is best to encourage students to take responsibility for their learning through journalling.

Tips to make it more effective: Journal every day at the same time and encourage students to create a learning portfolio (see sidebar) for recording their thoughts and observations. Use journalling before an adaptive learning to deepen student introspection and insight. Students can be asked to write on the two questions of adaptive learning: what did I learn? how do I feel about it? These two questions help balance both sides of the brain in the learning experience.

Resources for more information:

Teaching and Learning through Multiple Intelligences, Linda Campbell, Bruce Campbell, Dee Dickinson, Simon and Schuster, 1996.

The Process-Centered School: Sustaining a Renaissance Community, Editors: Arthur Costa, Rosemarie Liebmann, Corwin Press, 1997.

The Lifelong Learner, Ronald Gross, Simon and Schuster, 1977.

Complex Games

Complex games are ones that require the use of several complex intellectual skills, that generally are goal directed. These games can be useful for simulating real-life situations (SimFarm, managing a farm), or situations that are impossible to replicate (Civilization, directing the growth of a culture; SimEarth, managing Gaia for various ends). Games should be an adjunct to other learning and should be scheduled in to reinforce existing content.

Procedure: Most of the complex games are very easy to learn, though pretty difficult to succeed at. See the directions for each particular game.

Things to look for: The games by Maxis such as SimCity, SimCity 2000, and SimFarm are excellent games for developing more complex learning skills.

Tips to make it more effective: Ask students to evaluate what they are learning from the game. What seems to affect winning the game? What hidden rules are there? How does the game differ from real life? How are the skills learned in the game applicable to similar situations in real life?

Resources for more information: For more information on these games, investigate on the World Wide Web. There are web search resources in the bibliography. A good bookstore with computer game titles is also another natural place to look.

Wopout-Bepout-Bebe**(worst possible outcome – best possible outcome – beliefs & behaviors)**

This is a learning method that comes from the work of Bob Chadwick and his consensus building process. It is normally used in a group setting to help the group focus on what it wants for itself. It is very useful for students to begin to coalesce as a learning group and express desires for what they want to learn. It is one way of bringing out the learning outcomes, both positive and negative. The Wopout-Bepout-Bebe process also helps create a learning circle that encourages respectful listening and collaborative learning outcomes.

Procedure: Have everyone sit in a circle. With a large group it may be necessary to break into smaller groups. Within the group, multiple small groups or the one group, have one person be the facilitator and one person the recorder. The facilitator's job is to make sure that each person in the group gets a chance to speak, and that respectful listening is the standard. Each person answers the question "what is the worst possible outcome?" The question can be focused on any number of events or time spans. For example, the group may be thinking about the weekend workshop they

are doing together. So the question could be rephrased slightly “what is the worst possible outcome of this weekend’s work together?” Students should be encouraged to speak as honestly as possible.

The recorder is charged with writing up on a flip chart what each person says as accurately as possible without paraphrasing, or editing it. The recorder can ask for confirmation and corrections from the speaker. Once everyone has had a chance to speak, and had an opportunity to add more comments, the facilitator then reads all of the statements. If there are multiple groups, the facilitator for each group reads the outcomes to everyone. This process serves several purposes. The person who voices the outcome has the experience of everyone in the group listening respectfully to what they say. Then the statement is recorded exactly on the flip chart. With the reading of the individual statements out loud, each person has their words read to the whole group and heard by everyone. All of this reinforces the voice of each person in the group as it simultaneously builds a group identity and group trust.

The same process is done for the next two questions, “what are the best possible outcomes?” and, “what are the beliefs and behaviors that support these best outcomes?” It is important to not take a break after the worst possible outcomes section as this can reinforce the negative possibilities. Move along quickly and maintain focus on the positive alternatives.

Things to look for: Is everyone participating? The facilitators should be watch guarding their group to ensure respectful listening and that everyone’s voice is heard. Watch out for any dwelling in the worst possible outcome; move quickly into the best possible outcomes section.

Tips to make it more effective: Give power to the group. Charge them with the responsibility of creating their reality in the classroom. The Wopout-Bepout-Bebe exercise can be used to open a workshop or course. It helps set the cultural standards within the group that everyone will abide by. This helps the facilitator’s job enormously. It can also be used at the end of the course with the focus being on what will happen if the students put what they have learned into practice. The following exercise known as future pacing is also an excellent way of accomplishing the same end.

Resources for more information: Please see Bob Chadwick’s “The Consensus Building Process” workbook for more details on the uses and subtleties of the process. Bob can be reached at Consensus Associates, PO Box 235, Terrebonne, Oregon 97760, 503/548-7112.

Future Pacing

Future pacing is borrowed from Neuro-Linguistic Programming, and is very similar to the Wopout-Bepout-Bebe process but takes it to another level. Future pacing guides people to picture the future, to imagine themselves in the future doing whatever it is that they want to be doing. It may be applied to something that has been difficult for them to do in the past, for example speaking to a crowd. One would picture oneself doing it, having fun doing it, reaching people in the way they want to, being well received, etc.

Procedure: Each student will follow the Wopout-Bepout-Bebe process, individually. Have each student write out the worst possible outcomes for a particular situation. It is sometimes useful to do an adaptive learning right after they finish. Then have them immediately go into the best possible outcomes they can imagine for the situation. This round can often be shared in an

adaptive learning as well. Then ask the students to write out what they WILL do, those behaviors and actions that they will undertake to help create the best possible outcomes. Give students time, and encourage them, to imagine themselves doing the new behaviors or actions. Ask them to consider how it feels, how people respond, what the world looks like, etc. The idea is to create a mental visualization that is pleasurable and excites real change in the desired direction.

Things to look for: Be careful that students don't get caught in the trap of limiting the best possible behaviors. Encourage them to dream as big and as broadly as possible.

Tips to make it more effective: Begin perhaps by asking students to look at a situation that is challenging for them. Encourage them to work through it, to face it head on.

Resources for more information: Look for the Institute for Neuro-Linguistic Programming on the World Wide Web.

Learn by Doing

Learn by doing is not much different than Immediate Use. It is based on similar forms and requires a similar foundation. Please refer to the Immediate Use section for the general principles and guidelines for making this teaching method effective. Learn by Doing is more than building projects, it includes intellectual work as well.

General Principles

As much as possible, engage the students in doing the process or procedure in a realistic way. For physical processes, safety is the biggest concern. Ensure that all students understand safe behaviors. This includes the safe use of tools, safe body mechanics to avoid injury, what to do if there is an injury, and how to pace themselves for careful work.

Hand's-on Projects

Hand's-on Projects are the only way to actually learn how to do something that requires physical effort, such as building a table, or planting a garden. Many students report that hand's-on projects are some of the most enjoyable and most memorable of their entire learning experience. If your learning outcomes for the course include students being able to DO something, learn by doing techniques will be near the top of your list.

Procedure: The procedure for each process will be unique, but there are some general rules to follow. Give the students a clear idea of what will be accomplished during the hand's-on project: "today we will dig a garden bed." Make the learning outcomes explicit: "by the end of the exercise everyone will know how to dig a garden bed." Review safety issues, such as how to carefully and safely use a shovel. Review all of the steps of the process. If the students also receive a handout that clearly explains the process there is a much greater chance that the students will be able to repeat the process on their own, especially if it's particularly detailed. Go through each step in the process, helping the students complete it successfully. It may be necessary to demonstrate the whole process before having the students do it themselves. When everyone has finished, have everyone compare the work that each individual or group has done. Ask the students to compare what they learned, what worked, and what may still be a little fuzzy. Give the students additional resources so they can repeat the work on their own more successfully.

Things to look for: Is everyone participating? Don't let a particular person, group, or gender dominate. Break up couples, mix genders, and split up those who may be authorities on the subject. Has the person or group completed the task effectively? Evaluation is obvious for hand's-on projects.

Tips to make it more effective: Break complex processes into easier pieces. Give the students time to reflect on what they're doing, and how they might use it in their own situation.

Resources for more information:

Teaching and Learning through Multiple Intelligences, Linda Campbell, Bruce Campbell, Dee Dickinson, Simon and Schuster, 1996.

The Process-Centered School: Sustaining a Renaissance Community, Editors: Arthur Costa, Rosemarie Liebmann, Corwin Press, 1997.

Earth User's Guide to Permaculture: Teacher's Notes, Rosemary Morrow, 1994.

Group Research Project

Group research projects are a great way to “stack” several learning objectives into one exercise. Group research projects ask a group of learners to work together to solve a problem or answer a question. They combine the usefulness of cooperative or collaborative work with the skills of researching a topic. They also give students an idea of the resources available for further learning.

Procedure: Break the students into groups. Give each group its research topic or question that they will be working on. Give them a defined time limit for the exercise. Give them guidelines for how they are to be working together. This can be left up to the group's discretion. Give the group the expected outcome: a group presentation of the results of their research, a concept map of their results, a role-play, whatever. Give the students a time limit for the presentation, if that's what they're doing. Once all groups have presented, do an adaptive learning. Also ask each group what they learned about the group process: how did you work together? did anyone dominate? who was quiet? how could you have worked together better? It is important that students develop group skills, evaluating how the group worked begins to develop this consciousness.

Things to look for: Is everyone participating? Is the group focused on answering the question or solving the problem? Is each group making the best use of the relevant resources? If not, suggest alternatives. Is each group conscious of the time restraints? Occasional reminders help everyone stay focused.

Tips to make it more effective: Circulate through the groups, asking leading questions based on their progress, or if they appear stuck somewhere. Give the students ample time to complete the project. Encourage everyone to use all of the resources available, including your self and other possible authorities in the class.

Resources for more information: This technique comes from “Modern Teaching Strategies for the Permaculture Educator” by Rick and Naomi Coleman of Permaculture Education and Design Systems in Australia.

Ways to Teach your Learner, Ed Rose, Jossey-Bass/Pfeiffer, 1999.

Teaching and Learning through Multiple Intelligences, Linda Campbell, Bruce Campbell, Dee Dickinson, Simon and Schuster, 1996.

The Process-Centered School: Sustaining a Renaissance Community, Editors: Arthur Costa, Rosemarie Liebmann, Corwin Press, 1997.

Design Project

Design projects are applied hand's-on learning for the design professions. Permaculture is primarily a design process, so design projects should play a fundamental role in all permaculture design courses. They require a deep understanding of the whole process and encourage students to engage fully in their learning. Teaching and asking students to engage with the permaculture design process, however it may be conceived, is similar to the tai chi example given on page 16. At the beginning students are simply going through the paces, without understanding the underlying principles or mindset. Over time, as they use the process more their familiarity grows and they begin to internalize permaculture as a way of seeing and thinking about the world. This is the ultimate intent of the permaculture design process and mention should be made to students about this.

Procedure: Design projects should be done in small groups of between 3-5 people. Give each group a specific site to design. It can be the course site or another location that the students can work intimately with. Clearly define the limits of the site that they should be focused on. Give the students fairly simple sites to begin with. It is also possible to assign folks their own home sites, or nearby schools, parks, churches or other public areas. Give each group a clear outline for the outcomes of the design. For example, the clients for the site may want a high degree of food self-sufficiency, with a minimal need to import amendments and to create habitat for butterflies. Each design should also clearly demonstrate fundamental permaculture principles. Tell the students that you will be looking for clear examples of how these principles were applied. The designs should also reflect an understanding of the primary methods of design such as sectors and zones. It may be helpful to have these expectations printed out so each group can have them before them as reminders. Let the students know how long their presentations should be, and how much in-class time they will have to prepare.

Students should be encouraged to create designs that are colorful, interactive, and as three-dimensional as possible. Students should be encouraged to break out of simple maps or diagrams and to explore other means to convey their design insights.

When a group finishes its presentation, ask questions about how the design work reflects principles and design methods if it's not clear. Then open it up so that the whole class can comment and ask questions. Encourage everyone to interact with the design work closely.

Things to look for: Is everyone participating? Are the groups following a good timeline for finishing the work in time for the presentations? Do the designs seem to be reflecting an understanding of permaculture principles and design methodologies? Are the groups integrating all they've learned?

Tips to make it more effective: Begin with simple design challenges. It may be helpful to have the students do a simple design exercise and presentation in a short time. This allows them the opportunity to make some mistakes and learn from them in a small-scale trial. A second run-through of the design process also helps deepen their understanding of it. It is also possible to break the design process into phases. The students can begin by doing an in-depth assessment of the site and present their conclusions to the group and receive feedback. They can then do client interviews and create a vision for some of the outcomes from the design work. This phase can also be presented to the group. Each phase of work like this can be worked up and presented for feedback from the group. This also helps build confidence in presentation skills.

Resources for more information:

Earth User's Guide to Permaculture: Teacher's Notes, Rosemary Morrow, 1994.

Teaching and Learning through Multiple Intelligences, Linda Campbell, Bruce Campbell, Dee Dickinson, Simon and Schuster, 1996.

The Process-Centered School: Sustaining a Renaissance Community, Editors: Arthur Costa, Rosemarie Liebmann, Corwin Press, 1997.

Discussion

Discussion is an excellent learning technique for adults, though it does take practice to realize its full potential. Discussion encourages students to consider their opinions, perspectives, and biases by comparing them with their fellow students. By discussion in these teaching methods we mean a more formal teaching method, not just the conversation that students and facilitator may have.

General Principles

Encourage students to practice the discipline of respectful listening. Some of the precepts of respectful listening: no interruptions, no dominating the floor, look at the person who's speaking, don't prepare what you're saying while someone else is talking, just listen intently. Encourage a group identity for the discussion. Comments should not be directed towards the facilitator, but to the group as a whole. Encourage the group to pursue a line of thought. This means that the discussion progresses, a comment should flow from earlier comments and build upon the understanding of the group. Beginning discussion groups tend to make independent comments ("well, I think . . ." "well, I think . . .") without relating them to earlier comments, and usually direct them at the facilitator. Encourage students to be aware of this. It may be necessary for the facilitator to drop out of the discussion for a significant period, and merely model respectful listening.

Discussion can be allowed to flow naturally from the day's events in the class. Facilitators should be sensitive to these opportunities. The following methods are specific ways to apply the principles of discussion.

Seminar

Seminar is a teaching method used extensively at St. John's College in Annapolis, Maryland and Santa Fe, New Mexico, and as an advanced method in graduate courses at other colleges. Seminar is a guided discussion centered on a particular text or topic, and led by a guiding question. A small group of students led by the teacher or another student focuses itself with the intent of gaining

clarity of a subject through collaborative discussion. It is an excellent technique for deepening understanding of a subject and honing more significant ways of thinking. It is not as effective at training people how to DO something, but it has an important place in the training regimen

Procedure: Have everyone sit in a circle so that everyone can see the faces of all the other participants. Remind students of the precepts of respectful listening, and challenge them to rise to the best example of it. Remind the students of the suggestions for good discussion: group intent, group center, and follow the flow of the discussion. Set a time limit for the discussion that everyone knows. Open the discussion with a leading question. A good leading question is open-ended but also will tend to take the group through the significant aspects of the reading or topic. Obviously, a good leading question cannot be answered in a quantifiable way, or with a yes or no. A good leading question also does not set up a rigid dichotomy in a potentially polarized discussion. For example, when discussing abortion, don't ask "is abortion right or wrong?" This will lead to severe polarization and unresolvable debate. Better questions might be: what are the common elements between the pro-choice and right-to-life arguments? how has the debate about abortion altered free speech rights in America? These questions encourage a critical look at the issue and allow for common ground and common understanding to develop between all participants.

Things to look for: Is everyone participating? Try to gently draw out the quiet folks. Allow equal airtime for everyone who wants it. At the beginning this may take some work as students become accustomed to listening with respect. Is the discussion flowing? Is the group forming a group consciousness and working on questions as a whole? Is the spirit amicable and respectful?

Tips to make it more effective: Ask good leading questions. This will require considerable preparation on your part. The better the question, the easier the discussion will flow. Model respectful listening. Insist on respectful listening and group discussion from the outset.

Resources for more information:

The Fifth Discipline: The Art and Practice of the Learning Organization, Peter Senge, 1990.

The Fifth Discipline Fieldbook, Peter Senge, M. Senge, Art Kleiner, Charlotte Roberts, Richard B. Ross, and Bryan J. Smith, Doubleday, 1994.

Teaching and Learning through Multiple Intelligences, Linda Campbell, Bruce Campbell, Dee Dickinson, Simon and Schuster, 1996.

Adaptive Learning

Adaptive learning is an excellent technique for gauging the understanding of the group and getting a feel for student's comfort level, as well as giving everyone a chance to learn from each other. It is a fundamental piece of establishing the learning circle environment. Adaptive learning was developed by Bob Chadwick and figures prominently in his Consensus Building Process. It is a simple learning technique of asking a group of learners two questions: what did you learn? and, how do you feel about it? The group should be sitting in a circle and each person answers in turn. When one person is speaking, the others listen respectfully and intently.

Procedure: Begin with everyone sitting in a circle. It is important to have everyone within view of everyone else in the circle. It also helps to have everyone sitting on the floor, though this is not absolutely necessary or possible. Set the stage by dimming the lights a little, and/or by allowing conversations to die out and some silence to pervade the room as everyone waits for the exercise to begin. It is important to create the conditions for reflection, to allow students to look within them selves for a more complete expression.

Ask the students to reflect on the day, or the session, or the exercise that you just completed. Tell them that the group is going to do what is known as adaptive learning, which is an opportunity for them to express what they're learning and how they are feeling about it. Explain the few rules: whoever is speaking has the floor, no interruptions, listen as deeply and as respectfully as possible, no cross talk (commenting on, making suggestions about, or trying to solve the problems of someone else in the circle), and try to speak as truthfully as possible. Tell the students there are two questions: what did you learn today/in this session/in this exercise? and, how did you feel about it? Each person answers the two questions in turn going around the circle.

Tips to make it more effective: It is helpful after several sessions to let the students know that the two questions are intended to access the whole brain, the right-side feeling, and the left-side rationalizing. It is important that the facilitator model the process and the rules of adaptive learning. Try to listen as deeply and compassionately as possible, but remember to not take things personally. This can be difficult if participants are expressing dissatisfaction with the course, or your facilitation. This is a group learning process for everyone involved, facilitator included. Take all suggestions and concerns seriously, but do not be defensive when it is your turn to speak. This will undermine the entire intent of adaptive learning. Hear and acknowledge their concerns, but do not evaluate, comment on, or try to explain them. You can work to address the concerns later, outside of the circle, the following day, or in another session.

Sometimes adaptive learning can be highly emotional for students, particularly if the session was stressful, or raised difficult personal issues. It is important to remember the rules during these times. It may be necessary to take the reins if this happens, as gently as possible, reminding folks of the rules. It is also helpful to remember the Native America use of council, during which they share their experiences, some of which can be quite painful and intense. During these "healing councils" the participants make a prayer at the beginning, offering their words up to the Great Spirit. This is another form of discouraging cross talk.

This exercise can be modified slightly by having the students journal for fifteen minutes prior to doing the adaptive learning. For more information, suggested questions, and how to lead the exercise, please see the Journalling exercise. Adaptive learning has numerous applications within the learning environment. It also has numerous other applications such as in conflict resolution, decision making, design charettes, etc. limited only by the creativity of the participants.

Resources for more information: Please see Bob Chadwick's "The Consensus Building Process" workbook for more details on the uses and subtleties of the process. Bob can be reached at Consensus Associates, PO Box 235, Terrebonne, Oregon 97760, 503/548-7112.

Group Storytelling

Group storytelling is a fun way for students and facilitator to become acquainted. It recognizes that each person in the group is simultaneously teacher and learner. Group storytelling is a nice way to spend a relaxed evening around a campfire. Students should be encouraged to share stories that convey or reflect permaculture in some way. Group storytelling can also be a way for the folks in a course to get to know each other better. “Two truths and a lie” is one fun way to uncover interesting details about the lives of fellow students.

Anecdotal References

Anecdotal references is a teaching technique for using highly relevant stories and drawing lessons from them. The facilitator should establish over time a repertoire of good anecdotal references that are relevant to the topic that they teach. They can then draw upon them as needed to make a point, elicit discussion, and provide another form of reinforcing content. Anecdotal references also make good floaters.

Procedure: Develop a portfolio of relevant anecdotes that are written down and kept current. Some stories change over time and some stay the same. It is important to have them written down to ensure that the details are remembered accurately. It also helps to maintain a list of good questions that the anecdote suggests and elicits. The anecdotal reference is also a good place to track concerns or specific points that students bring up.

Things to look for: Is the anecdote relevant? Is the anecdote supporting the point being made? Does it offer another way of looking at the point being made? Do the students understand the connection you’re making with it? Are the students making their own connections?

Tips to make it more effective: Find good anecdotes. Stories that are funny or memorable in some unique way are more effective. Build your portfolio of anecdotal references over time. Don’t get stuck in the rut of telling the same stories repeatedly. Use the anecdotes as floaters when you have extra time to fill. A floater is an exercise that you have ready but don’t have a particular time to use. You let it float until a time slot opens up.

Demonstration

A demonstration is an effective way to convey how a process happens or how to do something. It is most effective as a teaching method if the students have an opportunity to do the process demonstrated.

General Guidelines

When doing demonstrations, there are some general guidelines to follow to make it more effective. In general, the more fun and dramatic the more memorable it will be.

- Keep the presentation to a reasonable length. Please see the recommendations under Lecture for suggestions on how long a demonstration should be.
- If the process is quite long and involved, break it into logical sections and demonstrate each separately.
- Clearly explain what the process being demonstrated is, why it is important, how the students will be able to use it.

- Follow all safety guidelines closely, and insist on the same from the students.
- Keep the demonstration as lively and as colorful as possible. The more dramatic, the more memorable.

Walk & Talk

Walk & Talk is a specific form of demonstration that is particularly useful when teaching in a demonstration site, such as a noted building, permaculture site or botanical garden. It allows the students and facilitator to wander the site, ask questions and begin to develop a sophisticated level of dialogue that includes the site as a primary resource; the site becomes an interlocutor. Walk & Talk is not an easy teaching method as it requires the facilitator to have a high degree of familiarity with the site and the material being presented. It is also difficult to follow a set schedule of presentation and questions. Students will ask whatever comes to mind as the site suggests, so the facilitator must be comfortable with the level of understanding and flexibility required.

Procedure: Facilitator and students walk the site as a group, looking at specific examples that the facilitator wants to highlight, and answering questions that the site suggests. Try to plan the flow of the walk so that it follows a logical progression. Use the site as you would a dramatic slide show to demonstrate the full content that you want to present. The facilitator should encourage all questions and a free-flowing dialogue. As facilitator skill and student comfort increase, questions become more penetrating and the dialogue between site, facilitator, and students becomes very rich and dynamic. With practice this teaching method can be a tremendous learning experience for the facilitator as well.

This teaching method is most effective if it builds off an earlier presentation of material. Students can be encouraged to use the information they just learned to assess and understand the site. The facilitator can use the site to present the material and then ask the students to interact with it to test their understanding. For example, after walking the site and explaining the process of soil erosion, the facilitator could then ask the students to explore the site and look for other examples of erosion taking place.

Things to look for: Is everyone participating? In a walk & talk demonstration it is very easy for some participants to fade into the woodwork. Take great care to draw everyone into the dialogue. Ask questions of the particularly reticent participants. Are students using their new understanding to relate to and assess the site? Are they looking at it with a fresh perspective? Are they asking questions to demonstrate their thoughts about the site?

Tips to make it more effective: Take students to beautiful and dramatic sites to demonstrate concepts. Allow the students to direct the flow of the dialogue. The more in control they are of their learning, the more meaningful it will be for them. Don't let the walk & talk go on too long. An hour or two should probably be considered the longest for an effective walk & talk. Beyond that students have a difficult time processing additional information. If there is only one day to visit a site, break the walk & talk into several 1-2 hour chunks and alternate with a period for journaling, the reading of relevant material, or some other way of creating a mental recess.

Resources for more information: See the section on field trips for more information on appropriate guidelines.

Audio-visual

Audio-visual presentations have long been a mainstay of the educational repertoire. They are more effective than a simple lecture by using images and sound to help build redundancy in the information presented. It is important to remember however that audio-visual methods have only a 20% retention rate. Someone cannot learn how to garden by watching a video about it, they need to practice and apply what they learn. Audio-visual methods are best used as an introduction to more sophisticated teaching methods. They also function as useful ways to review material. Please see the section “Developing Effective Learning Experiences” for more specific information about how to use different methods together.

Slides & Overheads

Slides and overheads are an effective way to outline information and present the experiences of others. Slides help give a picture to a difficult-to-conceive concept. Slides and overheads are also an effective way to tell a story in words and pictures. The most effective slide and overhead shows are a reasonable length, tell a story, use dramatic and well-conceived images, and use music to support the mood of the presentation and presenter. Please see the section on Lecture for more information on how to make the spoken word portions of the presentation more effective.

Procedure: Set up the machines (slide or overhead projector) well before the presentation. Check everything to make sure it is functioning properly. It is wise to have a back-up bulb. Run through the presentation several times before debuting it before a class. Don't schedule a slide or overhead show immediately after lunch. A warm room with the lights off is a ticket to sleeping students. Allow students to take ownership of the show by asking questions and helping control the speed of the presentation. Encourage questions during and after the presentation.

Things to look for: Is everyone awake? Is everyone participating? Are students asking questions that demonstrate an understanding of the material?

Tips to make it more effective: Do the presentation for a test group to gauge their responses and the effectiveness of the presentation. Always keep the show evolving, so that it doesn't get stale in the telling. Do slide shows with slides that you have taken. If one does a slide show with slides taken by someone else, big problems can arise when students begin to ask questions that the presenter knows nothing about. “What time of day was this shot? What's that thing there in the corner?” Develop a slide library over time so that the slide show can evolve and change.

Resources for more information:

Games by Thiagi: Lecture Games, Sivasailiam Thiagarajan, 1995.

101 Ways to Make Training Active, Melvin Silberman et al, Pfeiffer & Co., 1995.

How to Run Seminars and Workshops - Presentation Skills for Consultants, Trainers and Teachers, Robert Jolles, John Wiley and Sons, 1993.

Video

Video resources are a great way to tell a story or make a point from an expert's perspective without the expert being present. Videos also can reinforce content in a different way and allow for a good visual basis of understanding. Videos can also function as useful demonstration tools, particularly for individuals who can rewind and review the tape.

Procedure: Set up the video machine in advance and check to make sure everything is functioning properly. Cue the video up to the appropriate spot. After the video is finished, ask for questions or comments. If time permits, let the students rewind the tape to review sections under question.

Things to look for: Is everyone awake? Does the video convey the content as intended? Is everyone participating in the following question period?

Tips to make it more effective: Keep video viewing to about a half hour in length. Any longer and retention drops quickly. Give students questions before hand that they can look for answers to while watching. Avoid videos that are merely the talking head of some expert. These are negatively useful in that it is a lecture format on tape without the feel of the speaker in person.

Resources for more information:

The Lifelong Learner, Ronald Gross, Simon and Schuster, 1977.

Teaching and Learning through Multiple Intelligences, Linda Campbell, Bruce Campbell, Dee Dickinson, Simon and Schuster, 1996.

Reading

Reading can be a difficult method to incorporate into a class, particularly if time is short. Short essays can be used effectively if combined with a seminar type discussion. Reading is fundamental for learning, but is best used if ways are found to encourage reading outside of class as preparation for in-class course work.

General Guidelines

If you intend to incorporate reading selections into the daily class work, there are a few considerations to keep in mind:

- Keep the reading short. Short essays, poetry, and other very focused reading exercises work best.
- Go for the provocative. These types of writing generate heated discussion and help folks remember the reading.
- Always do a reading in conjunction with a seminar style discussion. If you don't combine reading with discussion or some other way of using the material, retention is quite low.

Lecture

Traditionally, lecture has been one of the most used, one might say abused, teaching methods. When most people think of school and past learning experiences, they often think of long lecture

periods. Lecture is one of the most effective ways to convey information. Unfortunately, it is one of the least effective forms for learning. This is particularly true with subject matter that is process oriented, or is complex in nature. No one can learn to garden by listening to a lecture about it. They must garden in order to learn how. Lectures are best at conveying the speaker's passion and interest in the subject. One of the best lectures I've ever been to was a presentation about the theory of multiple intelligences. The presenter, a very intelligent and engaging woman, kept the presentation brief (and told us she would at the beginning), was very funny, and used humorous overheads to make a point about each intelligence. Two hours after the presentation I could only have named maybe three or four of the intelligences, but I was excited with the possibilities of using the theory in my teaching. Two weeks later I couldn't name but a couple, but I knew that multiple intelligences were important, and key to good facilitation. I didn't know how to use them but I knew they were important. Some suggestions to make your brief lectures fun and interesting.

General Guidelines

- Keep it short. Here's an easy formula: maximum lecture length = 1/2 the age of youngest person in the room. If the youngest person is 30, maximum lecture length should be 15 minutes. This general rule helps ensure that learning is actually taking place. The younger the group, the smaller the role lecture should play in the whole learning experience.
- Make it funny. If it's funny, people will be more involved in what's being said and will have a better chance of remembering the information.
- Use images and music to enhance the presentation. Very rarely should there ever be a lecture per se. Make the lecture an audio-visual presentation. This doubles the retention level for the students.
- Make it poetry. Use words to paint an evocative picture. Help people dream through your words.
- Do something striking. Everyone remembers the time I entered the room and led class in an aikido *gi* (a martial arts outfit). Do something a little strange or remarkable to sink the experience into people's minds.
- Ask questions. Every few minutes ask a question that encourages everyone to think about what you're saying.
- Encourage questions. Turn the lecture into a dialogue with more learner control.

Other teaching methods.

There are several other teaching methods that don't fall easily into these generalized categories. They can be usefully integrated into a learning experience.

Thematic

The thematic teaching method is a way of exploring commonalities and connections between diverse subjects. Thematic teaching centers a learning experience on a core concept such as "evolution." Explore how the concept is revealed in a variety of subjects and fields. Students could explore how evolution is reflected in the world of ideas, in fashion, in technological change, in music, art, etc. Or they could choose a concept such as the color blue and explore it in similar ways. Thematic organizing allows students to draw connections between seemingly dissimilar concepts in the world.

Field Trips

Field trips are a great way to build diversity into a course. They are a kind of combination of expert lecturer and the Walk & Talk teaching methods. They allow students to explore a site or information that they wouldn't be able to access otherwise. Some suggestions for creating effective field trips:

- Reduce the number of stops. 2-3 stops are probably enough in the course of an all-day trip. The field trip should be educational not just an exercise in variety.
- Choose each site carefully. For outdoor field trips, a high point in the landscape is good. Everyone can sit in a circle and everyone can see a variety of things, and the facilitator can comment on important points. For indoor field trips, such as to a museum, see the suggestions under the Walk & Talk method for more information.
- Encourage discussion. Have everyone in a circle and ask for points of view and explanations of what is being observed.
- Search and regroup. Occasionally, give everyone a task, set a time limit and ask them to walk around, looking for specific things, and then regroup for discussion.
- Encourage each person to make new acquaintances. One of the best ways to do this is to make a rule "that no one can sit in the same seat, next to the same person, more than once." On field trips using vans or cars, have everyone ride in a different vehicle after each stop. People tend to be remarkably territorial. If you leave them alone, they will always go back to their original places. With encouragement, they will sit elsewhere and learn a terrific amount from each other. (Be alert for stragglers, however. You don't want to leave anyone behind).
- Do an adaptive learning at the end of the field trip. Obviously, this gets tougher if you have groups in excess of 30 people. Ask each person to answer "what did I learn, and how do I feel about it?" Adaptive learning helps ensure proper closure for the event, and ensures that people actually learned something.
- Establish some learning outcomes before arriving. State some yourself and allow everyone a chance to express what they think they will learn or what they would like to learn on the field trip.

Resources for more information: This information was adapted from the work of a holistic management educator whose name is currently lost.

Expert Lecturer

Bringing in an expert lecturer can be an excellent way to fill in gaps in the leading facilitator's skills or understanding, providing some variety, and broadening the student's experience. It's best if the guest lecturer is familiar with these guidelines and can be a guest facilitator not a guest lecturer! Provide clear guidelines for the guest facilitator. Give them the full context of the learning experience, and the group standards that have been established. It is also important to give the guest a clear idea of the learning outcomes that you expect him to take the students toward. Always have the guest facilitator allow time for questions and a good give and take with students.

Learning Portfolio

A learning portfolio is a tool for tracking the progress of learning over time. The learning portfolio is a repository for all the work that the student (or facilitator for that matter) does. Students should be encouraged to maintain a portfolio to show prospective employers, mentors, or clients and to document how and what they've learned. Contents of the portfolio should include: all examples of work done, such as design projects, etc.

Developing Effective Learning Experiences

Developing effective learning experiences is at the heart of the art of being a gifted facilitator. Effective learning experiences incorporate the Elements for Whole Person Learning to the highest degree possible while creatively mixing effective teaching methods, directed towards satisfying the identified learner outcomes. The learning pyramid presented above is a critical component for developing effective learning experiences. Most of the learning experiences should be drawn from the most effective methods. Establish from the beginning the learning circle environment.

Use the learning pyramid as a guide for designing specific exercises and for structuring the whole course. The learning pyramid suggests a “three-headed” approach to learning exercises. This “three-headed” approach is based on teaching to the diversity of learning capacities and styles present in the group, and building in meaningful redundancy in the learning experiences. The first head, which can take approximately 15% of the total time for the exercise, is a lively and colorful explanation of the material. This can be through slides, overheads, or demonstration. The bulk of the exercise, approximately 70% of the time, is spent applying the concept, actually doing the thing explained, or teaching someone else how to do it. The remainder of the time is spent discussing it as a group, or doing an adaptive learning. This “three-headed” approach covers a broad range of learning capacities and styles, and reinforces the learning in a variety of ways. The percentages are not rigid rules but flexible suggestions for how to design the learning experience.

The following is a set of questions to help guide you step-by-step through the process of developing effective learning experiences. The questions are correlated to the previous information in the text.

Process for Designing Effective Learning Experiences

- How much time do you have? (Time Management Guideline)
- How many students are in the class?
- What are the desired learner outcomes? (Outcomes Based Education Guideline)
- What is the learning environment that you want to create? Establish the learning circle environment. Use all of the Elements to help create this beneficial environment.

- What teaching methods will you use to help achieve the learning outcomes? Based on the learning pyramid, choose teaching methods from the base of the pyramid, those methods known to be most effective.
- How will you create an enriched environment for the course? (Enriched Environment Guideline)
- How will the teaching methods be combined in a functional and meaningful way for the whole course? (Time Management Guideline & this section)
- What materials are needed for the course? This is specific for each learning experience. Plan this as soon as possible so acquiring and assembling the materials is a painless process.
- Will there be any guest facilitators? See suggestions under the teaching methods. Plan this as soon as possible to ensure the guest's availability.
- Will there be a field trip? See suggestions under the teaching methods. Plan this as soon as possible to ensure the availability of the sites.
- How are the exercises "stacked" for multiple benefits? See the suggestions under the teaching methods.
- Has redundancy been built into the learning exercises? See the suggestions under the teaching methods.
- Is there a high level of diversity and choice available for the students? (Diversity & Choices Guideline)
- Is the time allocated for each exercise and for the entire course adequate to meet the learning outcomes? (Time Management Guideline)

Effective Learning Experience Examples

Let's take as an example of this process teaching a group about how to help build consensus in a community. We'll do this example for one exercise briefly, for a whole one-day workshop, and discuss the possibilities for extending the training to a week.

A Single Learning Exercise Example

- How much time do you have? Let's give ourselves one hour for this exercise.
- How many students are in the class? The workshop is composed of 20 students, adults between the ages of 31 and 62, with experience working in social services.

- What are the desired learner outcomes? At the end of the hour we want the students to be able to explain and use the major pieces of the consensus building process – the worst possible outcomes – best possible outcomes – beliefs and behaviors exercise (Wopout-Bepout-BeBe) – and have the experience of using the process. We want the students to be excited and motivated to use the process, and eager to learn more.
- What is the learning environment that you want to create? The exercise effectively establishes the learning circle environment. We want it to be fun, engaging, and to create excitement for more learning.
- What teaching methods will you use to help achieve the learning outcomes? Based on the learning pyramid, we have chosen a teaching method from the base of the pyramid, one of the methods known to be most effective: immediate use. The students will be given a brief introduction (approximately 5-6 minutes) to the process with a set of colorful and interesting overheads. They will spend the majority of the time (approximately 40 minutes) actually engaging in the process. They will go through each step of the exercise and ask and answer each question for themselves. The facilitator will end with a brief (5 minute) overview of what has been learned, and how the students can begin to facilitate the exercise themselves. The poster with the overview information will be posted for the entirety of the course. They will finish (approximately 10-15 minutes) by doing an adaptive learning about the experience.
- How will you create an enriched environment for the course? The course is being held at a community resource center that is full of a variety of resources. There's a full library of resources on community development, videos, web access, etc. Community activists are also regularly coming and going.
- How will the teaching methods be combined in a functional and meaningful way for the whole course? This is one learning exercise that combines three teaching methods into a comprehensive and meaningful whole, based on the “three-headed” approach.
- What materials are needed for the course? An overhead projector and screen, several flip charts and paper, pens, overview posters, comfortable seating.
- Will there be any guest facilitators? Not for this short exercise.
- Will there be a field trip? Not for this short exercise.
- How are the exercises “stacked” for multiple benefits? This exercise teaches the material, gives the students the experience of the consensus building process, and begins to develop the group into a learning circle and community. Students also see how to facilitate the process themselves.
- Has redundancy been built into the learning exercises? Not for this short exercise. Redundancy will depend on the whole course.

- Is there a high level of diversity and choice available for the students? Not for this short exercise. This will depend on the whole course.
- Is the time allocated for each exercise and for the entire course adequate to meet the learning outcomes? One hour is sufficient time for this exercise.

The One-Day Workshop Example

- How much time do you have? This is a one-day workshop focused on learning how to help build community consensus.
- How many students are in the class? 20 students, as above.
- What are the desired learner outcomes? By the end of the workshop the students will be able to facilitate the consensus process, understand how and why to help people build community, have begun to develop themselves as a learning community, have a sense of how to move forward with their learning, and have a good time.
- What is the learning environment that you want to create? We will establish the learning circle environment by using the Wopout-Bepout-BeBe exercise, several adaptive learnings, and by using the most effective teaching methods that empower the learners.
- What teaching methods will you use to help achieve the learning outcomes? Based on the learning pyramid, we have chosen teaching methods from the base of the pyramid, those methods known to be most effective.

The day begins with the Wopout-Bepout-BeBe focused on the questions what are the worst possible outcomes of this workshop? What are the best possible outcomes of our work together? What beliefs and behaviors will support us achieving the best possible outcomes for the workshop? The group keeps the flip charts with this information up on the wall for the duration of the workshop.

An expert facilitator then leads the group through a systems analysis modeling process that helps them understand how to model what they see happening in their community and to understand the real driving forces for change. As a group they model the systems process for an imaginary community's waste disposal problem. The guest facilitator answers questions on her experience facilitating group systems awareness.

The next step will be an informal brainstorming process on all of the problems facing the community. The list is then sieved down to three fundamental issues. The class is broken into three groups who each take one of the fundamental issues and create a systems model of the processes creating or driving the issue. The class then does a formal brainstorming process on creative ways to address the issue. The group breaks for a potluck lunch.

After lunch the group watches a half-hour video on using the consensus building process, and the successes it's had in several communities. There is time for questions and some dialogue on the issues the video raises.

The bulk of the afternoon will be spent doing an extended Wopout-Bepout-BeBe exercise on the question of "what will happen if we bring this process to our community?" A couple hours are allocated for this process to allow the students time to really explore the question and feel comfortable with the process. The day ends with an extended adaptive learning. To close the group does a fun exercise that is symbolic of a simple answer coming out of overwhelming complexity.

- How will you create an enriched environment for the course? The course is being held at a community resource center that is full of a variety of resources. There's a full library of resources on community development, videos, web access, etc. Community activists are also regularly coming and going.
- How will the teaching methods be combined in a functional and meaningful way for the whole course? The teaching methods and the schedule above are designed to provide variety for the students and flow together in a meaningful way.
- What materials are needed for the course? Same as for the exercise above.
- Will there be any guest facilitators? One guest facilitator on modeling complex systems for communities.
- Will there be a field trip? No field trip for this day.
- How are the exercises "stacked" for multiple benefits? The exercises effectively teach the consensus building process while giving the students the experience of building community within the group.
- Has redundancy been built into the learning exercises? The primary thrust of the workshop, the core of the consensus building process, is covered twice in two different ways. The adaptive learning is also done twice.
- Is there a high level of diversity and choice available for the students? There is a high level of diversity planned into the course. Choice is somewhat limited, which is generally hard to accomplish in a short workshop.
- Is the time allocated for each exercise and for the entire course adequate to meet the learning outcomes? Yes.

Extending the Learning Experience Example

There are several ways to extend the workshop to achieve the learning outcomes in a six-day course. The longer time frame allows the students to relax a little more and have an opportunity to

experience pieces of the consensus building process in more depth. Each day should end with a thorough adaptive learning. The course could begin in the same way with the introductory Wopout-Bepout-BeBe exercise. The first day could be spent exploring all of the problems and possible solutions existing in the community. The first day could be dedicated to building up a group understanding of the situation. Day two could be dedicated to the guest facilitator and the group working through the community systems modeling with some detail. The morning of day three uses the Wopout-Bepout-BeBe exercise focused on a question that the group generates, such as what will be the impact of further empowering the community resource center? The afternoon of day three is open to allow students to take advantage of the resources of the community center. This gives students an opportunity to choose what they need more information about. Days four and five are led by several guest facilitators who lead the students through several important skills such as how to deal with governmental departments, facilitation in a hostile environment, and how to find funding for building community projects. The morning of day six is focused on answering questions and pulling in loose ends. It is student directed. The afternoon of the last day is the future pacing process focused on what the students will actually do in their community. The course ends with an adaptive learning and a fun closing exercise.

Overcoming resistance to learning in a new way

Occasionally some students have a difficult time accepting new ways of learning. A facilitation style of teaching can seem “soft” or too “touchy-feely” to some students. Most people grew up with a very autocratic, lecture mode of teaching where the student is passive receptor. Making the change to a facilitation style can be difficult for the teacher, but can be difficult for students too. “No pain, no gain,” seems to be the motto for some folks. An open environment where students are free to express how they are feeling about the class and its style is a good way to ensure that everyone feels free to comment and express frustrations. “The carrot, not the stick,” seems to be the best way to entice students into the new paradigm. The benefits of accepting the new mode of learning need to be clear and present. My experience is that the adaptive learning process give everyone a chance to express what they think and how they’re feeling, and that over time dissatisfactions dissipate effortlessly in this environment.

Developing the Art of Teaching

Teaching is an art. It is a life-long discipline that requires commitment and perseverance to attain mastery. These Guidelines are intended to help set you firmly on the path. The only way this outcome will be achieved for you, however, is by diligent practice. As such, learning to teach necessarily requires a directed learning process and benefits greatly from the lessons of the learning pyramid and effective teaching methods. In other words, you have to teach in order to learn how to teach. Reading a Guidebook on teaching is not enough. We have assembled a selection of several strategies known to help along the path: lifelong learning, a learning contract, finding a mentor, incremental and transformative change, and community of learners. These strategies are useful as you develop as a teacher, but are useful for all learners, so can be usefully shared with your students as the opportunity presents itself.

Lifelong Learning

Lifelong learning is a perspective on education that reminds us that our learning takes place over our whole lifetime. It is not a discrete process that has an end or a completion. Many of the skills important for lifelong learning have been incorporated into this Guidebook. Most important for the independent facilitator is to create a community of fellow learners who can work together for mutual benefit. Please see the books mentioned below for more information and inspiration on becoming a lifelong learner.

Resources for more information:

Superlearning, Sheila Ostrander, Delta-The Confucian Press, 1979.

Learning Revolution: A Lifelong Learning Programme for the World's Finest Computer: Your Amazing Brain, Gordon Dryden and Jeannette Vos, Accelerated Learning Systems, 1994.

Ways to Teach your Learner, Ed Rose, Jossey-Bass/Pfeiffer, 1999.

The Independent Scholar's Handbook, Ronald Gross, Addison-Wesley, 1982.

The Lifelong Learner, Ronald Gross, Simon and Schuster, 1977.

Learning to Learn, Joseph Novak, Cambridge University Press, 1984.

The Fifth Discipline: The Art and Practice of the Learning Organization, Peter Senge, 1990.

The Fifth Discipline Fieldbook, Peter Senge, M. Senge, Art Kleiner, Charlotte Roberts, Richard B. Ross, and Bryan J. Smith, Doubleday, 1994.

Principle-Centered Leadership, Stephen R. Covey, Simon & Schuster, 1990.

First Things First, Stephen Covey, Roger Merrill and Rebecca Merrill, Simon & Schuster, 1994.

In Flow: The Psychology of Optimal Experience, Mihaly Csikszentmihalyi, Harper, 1991.

The Path of Least Resistance: Principles for Creating What You Want to Create, Robert Fritz, Stillpoint Publishing, 1984.

The Evolving Self, Mihaly Csikszentmihalyi, Harper Collins, New York, 1993.

Learning Contract

A learning contract is a statement of desired learning outcomes, with a process for achieving them and a means for documenting their completion. The learning contract is not a legally binding document nor is it intended to constrain or limit the educational process. It can be revised at any time by the author and is intended to help focus the learning process and clarify its direction. Writing down and revising the learning contract has been shown to dramatically enhance the effectiveness, clarity, and purpose of a learning process. The learning contract is best when it is created by a student with the help of a mentor and a couple of trusted advisors. The mentor reads

the contract, makes suggestions and helps the learner get clear about what the learning process will really be about.

Brainstorming is an important tool for creating the learning contract. The three sections of the learning contract – learning outcomes, methods of achieving outcomes, and evidence of accomplishment – are created by beginning with the learning outcomes and correlating the other two sections to them. Come up with a list of all the learning outcomes that currently interest you. If the list is long, look for common themes or ways in which several outcomes are combined under a general heading. There should be no more than 6 or 7 outcomes in a learning contract. Any more than this and it becomes unwieldy. A mentor can help greatly in this process. A learning contract can be focused around one learning outcome. After the learning outcomes have been clarified, the methods of accomplishment are generated to take you there. There can be many methods of accomplishment to achieve one learning outcome. The evidence of accomplishment can be several things or just one that demonstrate that the outcome has been reached. How will you know that you achieved this learning outcome? is the leading question for this section. Here's a short example of how this looks.

Learning Outcome

– to become a skilled teacher and facilitator of permaculture learning experiences

Methods of Achieving Outcome

- 1) Read *Developing the Art of Teaching: Guidelines for Effective Facilitation*.
- 2) Ask Mack McKnight to mentor me as a teaching apprentice.
- 3) Work with local permaculture guild to form a teaching team and meet monthly to improve skills.
- 4) Teach one weekend course per quarter with the teaching team.
- 5) ... etc.

Evidence of Accomplishment

- 1) I will feel an increasing degree of confidence and "flow" in my teaching experiences.
- 2) Evaluations from students will reflect a deep understanding of permaculture and an appreciation for my teaching skill.
- 3) Have mentor video a teaching experience and provide feedback that training is progressing.
- 4) Increasing demand for teaching services.
- 5) ... etc.

The Mentor Relationship

The mentor relationship is a very useful way to help move yourself forward towards your learning outcomes. A mentor embodies the Japanese concept of the *sensei*, one who has gone before. The *sensei* or mentor is someone who has been down the path that you're traveling and is willing to share their experience and guidance with you. A mentor relationship can be formal, where the relationship is codified in writing, or it can be more casual, evolving over time. Finding a mentor can be a difficult process. Ask friends and associates and an appropriate person may emerge over time.

Resources for more information:

The Art of Mentoring: Lead, Follow, and Get Out of the Way, Shirley Peddy, Bullion Books, 1999.

Incremental and Transformative Change

Developing as a gifted facilitator is a long and arduous path. Change will happen at varying rates, sometimes in rapid spurts, sometimes in slow and gradual inclines. Incremental change recognizes that changes that you make in your teaching should happen slowly, in reasonable bite-sized pieces that can be studied and digested over time. If you have an on-going teaching practice introduce new concepts, such as new teaching methods, slowly and a few at a time. This will allow you time to evaluate the new ideas and see how they work for you. It can be difficult to plan for the correct amount of time for new methods, so start slowly.

Transformative change implies the paradigm shift that may happen in your teaching as you slowly incorporate more of these guidelines into your work. Underlying these guidelines is a perspective on the world that sees wholes and relationships as primary, a perspective that values the power in diversity and the worth of everyone's story. Using these guidelines will slowly transform your way of seeing the world so that it is more in concert with this view. If this is your perspective already, this Guidebook is a set of tools to help you realize this vision in the world.

Resources for more information:

The Independent Scholar's Handbook, Ronald Gross, Addison-Wesley, 1982.

The Lifelong Learner, Ronald Gross, Simon and Schuster, 1977.

Learning to Learn, Joseph Novak, Cambridge University Press, 1984.

Superlearning, Sheila Ostrander, Delta-The Confucian Press, 1979.

Learning Revolution: A Lifelong Learning Programme for the World's Finest Computer: Your Amazing Brain, Gordon Dryden and Jeannette Vos, Accelerated Learning Systems, 1994.

First Things First, Stephen Covey, Roger Merrill and Rebecca Merrill, Simon & Schuster, 1994.

In Flow: The Psychology of Optimal Experience, Mihaly Csikszentmihalyi, Harper, 1991.

The Path of Least Resistance: Principles for Creating What You Want to Create, Robert Fritz, Stillpoint Publishing, 1984.

The Evolving Self, Mihaly Csikszentmihalyi, Harper Collins, New York, 1993.

Community of Learners

A cornerstone of developing as a gifted facilitator is having a community of folks to develop with. This community can offer many benefits to the developing facilitator: support for making changes and trying out innovations, suggestions for new ideas, and a team to draw from for skilled guest facilitators. Finding a community of learners can be a difficult process. Advertise for folks, form a teaching team to team teach a course, as you're looking for a mentor, perhaps other folks will surface, look to professional organizations, etc.

Resources for more information:

The Fifth Discipline: The Art and Practice of the Learning Organization, Peter Senge, 1990.

The Fifth Discipline Fieldbook, Peter Senge, M. Senge, Art Kleiner, Charlotte Roberts, Richard B. Ross, and Bryan J. Smith, Doubleday, 1994.

Principle-Centered Leadership, Stephen R. Covey, Simon & Schuster, 1990.