

HOLISTIC LEARNING/TEACHING IN ADULT EDUCATION: WOULD YOU PLAY A ONE-STRING GUITAR?

VIRGINIA R. GRIFFIN

Playing a guitar with just one string would soon become monotonous, and the music would be limited in scope. Playing a guitar with six strings allows beautiful and complex music, limited only by our skill to use the six strings and our imagination.

Learning is like playing a guitar. Most of us have been trained by our schooling to play one string – our rational mind. However, we have at least five other strings, and if we learn to play them well, and keep them properly tuned, we can make limitless music in our learning and can then go on to help our students do the same.

What are the other five string in this analogy? They are the other capabilities we have as human beings, in addition to our rational, logical minds. They are our (1) emotional, (2) relational, (3) physical, (4) metaphoric or intuitive, and (5) spiritual capabilities.

My intent in this chapter is to invite you to consider the learning potential in these often-overlooked capabilities, and take a fresh look at the familiar one of rational mind; and to suggest ways you might help yourself and your learners make your learning richer, fuller, and more exciting and beautiful by using all of the strings of your guitar.

As Jean Houston, one of my favorite authors and a leading thinker and researcher in education, has written:

... the human brain is incredibly endowed. We use about ten percent of our physical capacity, and far less of our mental capacity. With holistic/integral education it is quite possible that many students can learn to use a much greater range of their innate capacity.¹

Playing all six strings of our guitar is my analogy for Houston's "holistic/integral education", so let's look at these innate capacities and how we can help ourselves and our learners use a much greater range of them.

Emotional Capability

Recently one of my students wrote in her paper:

During the past semester I have lived my way through a constellation of feelings . . . (In the fourth session) I feel tremendously anxious, suspicious, and just plain fearful . . . (After the eighth session) exhilaration gives way to serenity and ease.²

She explains in her paper how she made use of her emotional conflict (in a different kind of course than she had ever experienced) to undergo an important and unforeseen change in her view of herself, and of what learning and teaching is. The particulars of what happened to Lorna aren't important here; what is important is that emotions - negative or positive - can play a crucial role in enabling our learning.

NEGATIVE EMOTIONS

Frustration, fear, guilt, hurt, rejection, confusion, anger often

serve as blocks to learning.

They do if we (the teacher or the learner) don't recognize them and do something about them. Neither recognizing nor doing something about them is easy. If the emotion promises to be too painful, and something we want to learn is sure to raise that emotion, we avoid the desired learning. We stay away from a class in which we fear we will fail. I avoid learning about how to handle group conflict because I fear and dislike conflict so much.

But not all negative emotions are strong enough to disable us completely. We can defuse, overcome, and use many of them to our advantage in a learning situation.

An important early step is experiencing, rather than denying the emotion. Then we have to acknowledge that we are feeling something. Next comes accurate naming of the emotion. Emotions are interrelated and easily confused. What feels at first like anger may be hurt pride or fear. Another aspect of naming emotions is not to confuse opinions or evaluations with emotions. I'm grateful to Don McFadyen for pointing out to me how we distort the situation if we say "You shouldn't work late so often" rather than "I'm lonely for you". Such substitutions of opinion for emotion often generate intense feelings of anger or anxiety.³

Once emotions are experienced, acknowledged and named they should be accepted. If we accept them for what they are, without judging them or being judged by them, we are free to move to take steps to change, or change the situation.

For example, we may find the courage to say to our learning group "I feel abandoned by the group because no one even acknowledged my comments, I want to feel a part of the group, can you help me?" In most cases, such a comment will lead to discussion that will enable the group to become stronger and more effective, and enable the individual to get back on track in her learning.

In addition to letting others know their effect on us, our emotions help us know ourselves better:

Accepting our emotions means accepting the message they are giving us about ourselves in our present situation. A painful emotion tells us that we put a negative value on the situation, but it also gives us an opportunity to reconsider our values, attitudes, beliefs, etc. since every valuation conveys an implicit message about our stance in the world.⁴

Thus, negative emotions can lead to important learning and change.

Chief among negative emotions in adult learning is one often labelled as resistance to accepting new ideas or change. Al Menlo, an educational psychologist, has clearly stated one of his basic beliefs as one that applies to this emotion.

Persons do not resist change; they seek it as part of their inherent nature. What persons do resist are expected consequences which will diminish their self or social esteem.⁵

He further reminds us that in instances in which learners experience the fear of such consequences we need to both encourage them to be active in their learning and reassure them that they have the power to decide whether or not and how to act.

POSITIVE EMOTIONS

Through attending to our positive emotions, we become aware of what has meaning for us and how our learning can have personal meaning. Since I feel so happy and energized when I am reading gardening books, I know that gardening has meaning for me, even though the actual work of gardening is difficult. When I read transpersonal psychology books, I feel excitement and energy. When I read cognitive psychology books, I get bored and fall asleep. These two observations tell me that transpersonal psychology, at this stage, has more meaning to me than the other. If my job requires me to read cognitive psychology, I have to concoct some purpose for the reading that has special meaning for me so that I can stay awake.

Another way to say that positive emotions can give us guidance and direction in our learning comes from Castaneda:

Any path is only a path, and there is no affront, to oneself or to others, in dropping it if that is what your heart tells you . . . Look at every path closely and deliberately. Try it as many times as you think necessary. Then ask yourself, and yourself alone, one question . . . Does this path have a heart? If it does, the path is good, if it doesn't it is of no use.⁶

Positive emotions are the rewards we give ourselves when we are "on track" in a project or when we have successfully learned something.

In addition to affirming ourselves to ourselves, we could at a time of feeling the high of accomplishment, reflect on what enabled it to happen, what we've learned about ourselves in the process and how we like to learn.

The Teacher's Role

Those of us who want to help learners recognize and use their emotions for more effective learning have few role models. We see the traditional school as one that functioned not by creating healthy emotional learning environments, but by advocating that "Students are best governed by being kept in an intermittent or constant state of fear." Wanting a different emotional climate, we have to invent ways to create it.

The extent to which you can create a more open climate will depend on the subject matter you teach, the size of your class, and how secure you feel. But acknowledging and dealing with emotions in learning can be an important part of even the hardest sciences and in large classes.

Menlo identifies awareness, skills, and behaviours a teacher of adults needs to have to be successful.⁹ Some of these competencies are relevant to helping learners benefit from the emotions in the classroom:

1. awareness of existence of communication nuances
2. scanning acuity
3. ability to be supportively invitational
4. ability to be non-intrusively encouraging
5. ability to be authentically self-sharing
6. ability to be non-defensive and vital⁹

One of these competencies, scanning acuity, deserves elaboration. The less you become concerned with agendas and content and your own self-esteem, the more you notice what there is to observe in a group of learners - both verbal and non-verbal clues to emotions that are being felt. We can never be sure what the clues mean; a frown can mean "I disagree", "I'm frustrated", or "My shoes hurt my feet". We must ask; if several people are frowning, we had better stop and ask what the frowns mean.

A teacher who is herself non-defensive will be able to encourage the expression of emotion without feeling judgmental and without giving lengthy justification of the activity that stimulated any negative emotion. She can also share with the learners what her emotions are when she hears theirs, and share with them how she will handle hers and use hers to enable further learning.

Another source of help with understanding and dealing with emotion in adult learning is William More's excellent book, listed under Further Readings.

Relational Capability

Since much of our time is spent in relationships with others, we tend to take them for granted, not realizing our teachers, our classmates or learning partners deserve a great deal of credit for whatever learning we achieve."

Do we need others in order to learn? My contention is that we do, although the interactions with others cannot be constant. We need a "being with" and a "being alone" in a rhythmic pulsation to learn best.

TEACHER-LEARNER

It is easy to see that a teacher is helpful in learning situations. But the quality of the relationship between the teacher and the learner, if significant learning is to result, is more difficult to identify and to create. Carl Rogers names what to him are the most important attitudinal qualities for the teacher to have: congruence, empathy, and positive and unconditional regard for the learner." As the learner perceives this genuineness, empathy, and acceptance, a climate of trust grows between the teacher and the learner that is more important than all the scholarly knowledge and technical skill a teacher can have.

Even if we have developed trusting relationships with our learners, we often find them staying more dependent on us than we would like. Many adults tend to have too much faith in the teacher's wisdom and omniscience, and too little faith in their own wisdom and experience. They often need lots of encouragement and guidance in making decisions about their learning. We all have times when we need to be dependent, other times when we need to be independent. The more of our learning we can undertake in an interdependent or mutually cooperative way, the more satisfying our learning will be. A partnership between the teacher and the learners, and among the learners, has many advantages for all persons involved. If this topic intrigues you, you will find Gwyn Griffith's work a helpful source in learning more about interdependence."

As learners make more and more decisions for themselves, with the teacher and other learners, they begin to become intrigued by what they are learning about themselves and how they like to learn, and learn best. Learning how to learn is the subject of an excellent book by Smith;¹³ it is well worth reading.

CO-LEARNERS

How can other learners help us so that we don't become as Cy Houle used to say, "the bland leading the bland"? Again, trust is a necessary element; trust between co-learners is not automatic - it has to be nurtured gradually and carefully. When people first meet in class, they find it difficult to be themselves. They try to impress others and/or

hide their uncertainties and fears. But once trust starts to grow, important discoveries are made:

1. *Others can give needed support and encouragement.*
2. *Others often have similar feelings in the situation, so you are not alone; together you can do something about any problem.*
3. *Talking to someone often helps you sort out your emotions, and find ways to deal with them.*
4. *Finding someone who thinks as you do about a certain topic or learns the same way you do can be very affirming.*
5. *Finding someone whom you trust and respect but who thinks differently about a topic or who learns differently can help you understand yourself more clearly and perhaps alter your perspective or enlarge your learning style.*
6. *Someone who knows you can help you find the personal meaning in an idea that at first doesn't seem to fit.*
7. *By talking to others you sometimes discover what you think. By helping someone understand what you are trying to say, you clarify it for yourself.*
8. *Others can give you personal feedback that is either very confirming, or may lead you to explore some aspect of yourself to which you have been blind.*

Marilyn Taylor,¹⁴ in her research into the experiences of learners in one of my courses, found that learners experience phases in their growth, their emotions, and their involvement with content and resources, and with the other learners in the group. There were times when they yearned to talk to others; at other times they needed to be alone, and avoided discussing their learning. I have since become aware that there are times in each class session when people need to talk to others to explore feelings and ideas, and times when they need silence to centre themselves, to knit together their thoughts, and to reflect on personal meanings in the experience. And then often they need to tell someone about the insights that have come. This is what I mean by rhythmic pulsations in learning with others.

The stages of group growth and ways to help learners develop skills for relating well to others are readily available in other books. Gibb¹⁵ and Johnson¹⁶ are two I find helpful.

LEARNING PARTNERS

Very often a class is too large to allow each person "air time" for exploring his ideas, emotions, and experiences of the course. Then we use small groups. But we still run out of time for each person to deal with their feelings and explore their learnings. To overcome this prob-

lem, we have in recent years urged students in classes to find a learning partner in the class - someone with whom they can spend time outside of class on a regular basis - to help each other in their learning. Ross Keane, one of my students, identified four ways his partnership with Casey Gehrels helped him: deepening insights and converting feelings into learning, expanding insights through sharing, opening new directions in reading and learning and forming new perspectives through challenge or confrontation.²⁷ Casey, his learning partner, as well as talking about changes in his perspective of self, said:

We started to be able to take risks with our ideas and behaviour, we . . . developed the confidence to play with images and visions of a different world. This, in turn, created such an energy that we often became caught in a surge of enthusiasm and excitement; learning and changing became joyous, where before it has often been threatening.²⁸

Because such a significant number of our students have found having a learning partner such an enrichment of their learning, we created a monograph on the idea and the experiences we have had with it.²⁹ Two students, Joan Robinson and Sharon Saberton, gave leadership to this project with my help.

Physical Capability

Have you ever been so tense you had to ask people to repeat important information? Or, have you looked at the clock after being immersed in some project and realized that you had worked most of the night without getting tired? Or you may have at times been so tired you couldn't read even an interesting book. Most people have had these experiences and thus are aware that our physical state and our minds are inevitably linked. Our physical state can both help and hinder our learning.

FIVE SENSES

Our five senses - sight, hearing, smell, taste, and touch - are the only normal ways we take in any information from our surroundings.

The more of these senses we can use in learning something, the more likely we are to understand and remember it.

If I can see your name on a name tag as well as hear you say it, I'm more likely to remember it. If you also smell of cigars and have a strong, calloused handshake, I'm even more certain to remember you, as well as your name.

If all our senses are working properly, we are indeed fortunate. But as adults get older, we tend to lose our sensory acuity, and appreciate a

teacher who speaks loudly enough for us to hear and who uses print and visual aides that are clear and easy to read and see.

TENSION

Some tension and stress are necessary, but too much is a hindrance in our lives, and learning is no exception. The late Beverley Galyean described what happens as "intellectual shutdown in the face of high anxiety".²⁰ As she explains, what happens in the brain is this: Information from the senses enters the brain at the tip of the spine, and must pass through the lower central region of the brain (called the limbic region) to get to the upper and frontal part of the brain (the neo cortex) for processing. Within the lower central region are five glands (including the thalamus and the pituitary) that serve as a gateway.

These glands operate on the basis of emotional preference. If the learner has a positive attitude, or is bored, threatened or overly fatigued by outside stimuli . . . the thalamus secretes a series of hormones called endorphins which anaesthetize the other glands thereby blocking the passage of new information into the neo cortex.²¹

Learners therefore learn better if they have a positive attitude, are interested in what they are learning, and are relaxed and rested.

Teachers can do many things to bring about positive attitudes and higher self-esteem in learners. A learner who has helped plan what and how he is to learn is more likely to be interested in what he is learning. A relaxing learning environment can be created with color, softer lights, music and rearrangement of furniture. A number of relaxation exercises are available (e.g. book by White and Fadiman)²² to use with learners, and are activities they can use by themselves at other times to reduce stress in their lives.

ENERGY

Some experiences stimulate high energy in us, and some seem to drain us of energy. Are you aware of what kinds of learning experiences energize you? What deenergizes you? The learners with whom you work probably would have similar descriptions. Lee Davies studied learners who had experienced a high energy class and others who had had a low energy class experience.²³

An important idea he proposes is that the learner's skill and the challenges in the learning situation have to be at an optimum balance: too much skill and the learner is bored, too much challenge and the learner is frustrated.²⁴

Characteristics (or skills) associated with high energy learning in Lee's study were:

a strong internal sense (being optimistic) but also a move towards sharing with others (letting go and risk taking) and a willingness to receive from others (getting feedback). The high energy experience is where personal internal energy is used and evaluated.²⁸

The characteristics associated with low energy experiences were "holding on, not risking, being a follower, and being pessimistic".²⁸

Groups may be thought of as having an energy level and a flow of energy. Experienced teachers learn to be sensitive to that flow, and respond to it.

As one has said:

Submitting to whatever is happening will give us a surge of renewed energy in any unfamiliar situation. If we stop running "against the tide", if we stop being so "set" and "rigid" in our habits, we can adapt much more easily to change.²⁹

I have found as a teacher and as an individual that the suggestion that you "get in touch with your energy and go with that" is a freeing one, and allows you to tap into your inner wisdom. If you have no energy for a learning task, there may be a good reason. Identifying and dealing with the reason often pays rich dividends in clarifying or redirecting the task.

BODY REACTIONS AS SIGNALS

We all know that our bodies reflect our emotions: anxiety becomes tense shoulder muscles or knots in the stomach; embarrassment turns into a blush on the cheeks. Sometimes however, we feel the bodily reaction without having noticed the emotion. Sometimes we ignore the emotion, sometimes we deny it or repress it. The body knows it is there, however, and expresses it in some way.

For example, when I feel my shoulders feeling very tense I know to look for areas in which I am feeling inadequate. When I have identified the area, I can then do something about it - either become adequate or adjust my standards to something less than "perfection". If I have been accurate in my diagnosis, my shoulders soon relax, and I have learned something.

My suggestion here is that we pay attention to body signals, examine our lives to find the emotional source, and cope with the triggering situation as best we can, often through learning.

Signals from the body are not always saying that something is wrong. Excitement and pleasure are perhaps more important signals; their source is to be cherished and nurtured.

Rational, Intellectual Capability

Our ability to use words and sentences to convey our ideas; to read a book and understand its ideas; analyse a problem situation, gather information, decide on a logical solution and evaluate its effect, all come from our rational or intellectual capability.

I think of this capability as residing primarily in our left brain hemisphere. The left hemisphere "analyses, abstracts, counts, marks time, plans step-by-step procedures, verbalizes, makes rational statements based on logic."³ I say "resides primarily" in the left hemisphere because the two hemispheres are connected and interact in every activity we do.³ This is the capability that adult educators give most of their attention to, it is the one our school system spends most of its energy to develop. We tend to equate its development and use with "learning". We use it and are aware of it daily.

Therefore, we have had much experience of using the capability, and have had years of opportunity to watch our teachers use various means to help us and classmates develop it. We cannot assume, however, that we know the best ways to help our learners use it. Maybe we weren't very observant as we watched our teachers, maybe they were using a limited range of methods or methods that weren't appropriate for use with adults.

Let's identify some of the methods that can be used to help learners use this capability.

LECTURE

The most often used method is the lecture; its use is based on the perspective that learning means acquiring information from an authority who has more information than the learner and can better help the learner find meaning in it, and find a structure for understanding it, and remembering the information. The lecturer most often finds the structure form within the logical organization of the subject matter being taught, but other and often better organizing schemes for a lecture are available. Ausabel proposes making the new material meaningful and related to material the learner already knows.³ Miller provides us a good overview of Ausabel's work:

Ausabel's approach to teaching tends to be deductive, that is, he recommends proceeding from general ideas to specific information. He calls this "progressive differentiation", which means that the teacher should develop new concepts that are closely related to the ideas that have been presented previously . . .

Advance organizers facilitate progressive differentiation and integrative reconciliation. Advance organizers are concepts that are abstract and inclusive and prepare the student to learn new infor-

mation. Advance organizers should use ideas and terms that are already familiar to the learner.³²

He developed his ideas for education of children, but they are equally useful for adults and parallel the common statement in adult education: "You must start where the learner is".

Other ways to make lectures more interesting and useful for adults include orienting the lecture to specific interests or problems that the learners recognize and want to solve, including visuals and illustrations, including relevant humor and wit, and including ideas for application of the information being presented, or giving the learners time, along with the lecture, to think about and discuss how they might make applications.

DEMONSTRATIONS WITH PRACTICE

Much of adult education is helping people develop skills, learning how to do something. Therefore we often show them how to do it, explaining the process as we go, and helping them know why we do it as we do. Then, we must remember, the learner needs an opportunity to practice the skill, and have any mistakes corrected, and have the correct way affirmed so that he has the correct action and steps clearly in his mind.

EXPERIMENTS, RESEARCH, DISCOVERY LEARNING

Some adult learners want to become informed and competent in an academic discipline, such as history, physics, chemistry, sociology, psychology. Teachers in these areas often help the learner become engaged in some form of discovery learning, so that the adult can begin to develop a conceptual framework of the field and skills in the method of inquiry used by scholars in that particular field.

PROBLEM-SOLVING

Adults sometimes turn to adult educators for help in solving problems. Adult educators often believe that the way to help learners is not only to provide some needed information, but to help the adult develop problem solving skills such as identifying the question (an inquiry-oriented question), identifying alternatives, collecting data, drawing conclusion, expressing (or applying the conclusion), and evaluating the results.³³

I feel compelled here to state my belief that this very rational problem-solving method omits very important human aspects such as emotions. I am grateful for an article by Kneeland, in which he suggests a concrete way to consider emotions in problem-solving.³⁴

I don't want to leave an impression that Miller³⁵ limits his interests to the rational mode. In his discussions of the educational spectrum, he describes a broad range of orientations to learning and curriculum - including humanistic and transpersonal.

OTHER

Debates, seminars, and guided discussions are sometimes used to help learners develop the skills of forming logical arguments, seeing something from different points of view and other cognitive skills. Thinking games are available for use with children to help them develop cognitive skills.³⁸ I don't know anyone who has applied these ideas to adult learners, but I think if we as adult educators are alert to these cognitive skills (such as pattern detection, formulating questions, thinking of possibilities, using logical representations, determining relevance) we will find ways to reinforce adults in keeping their cognitive skills sharp as they go about the business of learning other content.

Hart, who gives more attention in his writing to current brain research than do most cognitive psychologists, defines the process of learning as the "extraction from confusion of meaningful patterns".³⁹ He makes an interesting and convincing case that methods used in most schools are antagonistic to what we now know about how the brain functions, instead of being "brain-compatible".⁴⁰ His theory of learning is clearly spelled out, as are his implications for how teachers of children can better facilitate learning. Those implications: rich input, effective and extensive communication between learners, immediate feedback from reality, and learner selected risk rather than imposed threat⁴¹ seem relevant for adult learning as well. I think you will find it stimulating reading.

As you will have gathered by now,

I regard the rational capability as crucial and central in adult learning and functioning, but incomplete.

The next capability we will examine helps to round it out.

Metaphoric or Intuitive Capability

The role of metaphoric thinking is to invent, to create, and to challenge conformity by extending what is known into new meadows of knowing.⁴²

The metaphoric mind is a partner to the rational mind. It is different in the way it perceives information, the information it perceives, the way it processes information, the way it retrieves information, and the way it expresses itself.

I have a friend who many times does not hear the words you say to her - she is busy attending to the tone of your voice, the rhythm and pitch of your speaking, and is intuiting what all of the information means about the quality of your present experience so she can choose

how to relate to you. She has a strong metaphoric capability. She is artistic, creative, intuitive.

The metaphoric mind is this, and more; it

... is the reservoir of the intuitive simultaneous, spontaneous, diffuse, and non-linear functions of thinking. It is voiceless but adds emotional color to language, it accommodates inexactitude as it works figuratively, linking dissimilar objects to develop an unrelated third. Above all it is a pattern detector.⁴¹

Brain hemisphere research⁴² suggests that what I have described so far is housed primarily in the right brain hemisphere. For my purposes here I'd like to term metaphoric mind to be beyond what is usually described as right brain functioning, and to include what is often described as the subconscious. The two have many similarities, and are "tapped" with similar techniques for learning purposes. So I find it difficult to separate them - perhaps the subconscious is the right brain's storage and reprocessing of all past experience. For example, imagery is a right brain activity - for many it is visual, has no sense of time, is without words.⁴³

But the specific image comes out of the workings of the subconscious, and is released only by quieting the rational mind, relaxing and moving into another state of consciousness.

The specific image is the result of creatively reprocessed past experiences - our "inner wisdom's" attempt to make sense of all the input without resorting to the "pros" and "cons" and words of rational problem solving.

I recently was reminded of the power this version of the metaphoric mind has when I had hypnosis to lose weight. The process was one of deep relaxation, dredging up and focussing on an image of myself when I was at my ideal weight, and knowing that I would want to eat only that amount of food that would allow me to lose 1-2 pounds a week, so that I could again look like my ideal image. I was amazed how easy it was to lose 50 pounds. Dieting has never been so easy. My doctor who hypnotized me did not control my mind; he helped me release my subconscious mind and use its power to control my eating. Prior to hypnosis, I attempted a rational approach, identifying all the reasons why I should lose weight, and planning low calorie meals; but I gained, instead of losing. Rational mind by itself was not enough but it did lead me to seek the help I needed. And my knowledge of nutrition provided essential help along the way.

Rational mind and metaphoric mind are necessary partners.

There are many activities described in the literature that you can use to get in touch with your metaphoric mind, and to help your learners do the same.

Common elements in all of them:

- a) Knowing with certainty that learning will occur.*
- b) Temporarily suspending or quieting rational mind*
- c) Remaining open to the expected, but more especially to the unexpected.*

You don't have to be a hypnotist. These techniques have been used in just about any subject matter area: from physics and chemistry to personal problem solving, from tennis to cooking, from typing to self understanding. Some of the techniques are centering,²⁴ visualization,²⁵ guided imagery,²⁶ meditation,²⁷ dream analysis,²⁸ synectics,²⁹ and psychosynthesis.³¹ Entire books have been written about each, as you can see from my footnotes.

I owe thanks to Marge Denis for these statements, drawn from her list of basic processes of intuitive learning.³² Marge also makes the point, and many people's experience verifies it, that you cannot *will* the metaphoric mind to function. You have to let it function, relax so that it will, and trust that it will. Artistic endeavours emerge from the metaphoric mind, too. Drawing, painting, sculpting with clay, weaving, creating music, poetry, all allow the right brain to function and reveal to us what we can be and how we can integrate and synthesize ideas, as well as create.

I have never used my metaphoric mind to create music or poetry but I have used it to synthesize ideas. Several years ago at the end of a course, I listed the major learning processes I had experienced during the course, as I had asked students in the course to do. I had a list of about 30 processes. Understandably, no one was particularly interested in my list. After class was over, I decided I needed to do more work with the list, to see if I could find a way to make it more meaningful and interesting to myself and others. I first cut the list into individual processes. Next I grouped similar processes together and gave each grouping a name (a rational, cognitive process identified by Taba).³³ By then I had no further ideas of what to do, but was not yet satisfied. So I went to bed, but did not sleep.

Suddenly an idea came— a metaphor to represent the grouping of process. I grabbed my tape recorder which was by my bed, put in a blank tape, and described the metaphor. (I knew that if I got up and got pencil and paper, I would lose the idea in logic and rational structures.) I talked into the recorder until the idea was exhausted, shut off the recorder and tried to sleep. About 30 minutes later, more ideas emerged, and I talked them onto the tape until I felt finished. This cycle occurred at least three more times. I was awake and productive nearly all night, and by morning I had synthesized ideas that have served me

well in my teaching for five years, and were the beginnings of this chapter. It was a most exciting night.

Had I sat at my desk with a blank page in front of me, and tried to create the metaphor and the synthesis of ideas, I would have given up in frustration or something very boring would have come from my rational mind.

I recognize how incomplete this section is. I take comfort in my knowledge that you will be able to create ways to use the metaphoric mind in your teaching. But the metaphoric mind works better if you give it some input from the rational mind. I hope you are able to find, read, enjoy, and profit from some of the suggested readings I have listed.

Spiritual Capability

Our spiritual capability that helps us in learning is not necessarily one that grows out of a religious background. The spiritual is difficult to define. I can only make some statements about some of what it includes:

Spirituality involves an awareness of all there is and an openness to what is not. It is the strength and fearlessness to allow ourselves to transcend reality and ourselves.⁵⁴

Spirituality is an awareness, wonder, deep sense of awe of the present, the potential, of persons or nature. It is an awareness and awe of connectedness of what is and what could be. It includes your vision of what could be for yourself - your purpose in life - for others, for nature.

The fact that I can plant a seed and it becomes a flower, share a bit of knowledge and it becomes another's, smile at someone and receive a smile in return, are to me continual spiritual exercises.⁵⁵

Aldous Huxley⁵⁶ quotes a poem by Wordsworth, in which he writes impatiently about books:

Enough Science and of Art;
Close up those barren leaves;
Come forth and bring with you a heart
That watches and receives.

I like the phrase "a heart that watches and receives" but do not feel we have to set aside our spiritual capability while we are reading a book or engaging in a rational mind, scientific experiment. As Buscaglia says:

The scientific answer had not taken the mystery from the experience. Because something can be explained need not affect its wonder."⁹

As I think back about teachers and learners whom I have known who have allowed their spiritual capability to develop even to some extent, their way of expressing themselves in everyday conversations reveals the awe they feel about life, learning, and the deep (or higher) sources of meaning. They recognize each other and have an immediate sense of trust in each other as co-learners about life. We can begin to understand why this is so as we take in the words of Molly Brown as she describes spiritual awakening and transformation:

Spiritual experiences are those which give us new expansive perceptions about our relationship to the cosmos, which allow us to glimpse a reality beyond the logical, rational, physically bound world we usually consider to be our home. These new perceptions are naturally accompanied by strong emotions of fear, joy, hope, and even despair. Our thinking may become confused, disjointed, and at the same time expansive. We may create whole new patterns of understanding from this seemingly mental chaos . . .

When we undergo such experiences, our values change. We become more open to 'transpersonal' values: ethical, aesthetic, heroic, humanitarian, altruistic, and creative . . ."⁹

Many adults have had such experiences without thinking of them as spiritual. Brown goes on to explain:

Spiritual awakening takes many forms, compatible with the qualities and characteristics of the individual. It may be an artistic urge, a strong impulse to express one's self in color, shapes, textures, or music. It may come as a vision to create something of service to the world. . . . Many people speak of "being guided" in their lives by a wisdom beyond their consciousness."⁹

Some of the adults who come to our classes may be there to gain information and skill needed to fulfill a spiritual urge or "obsession". What a privilege we have to help them fulfill their vision.

Brown describes how the metaphors and procedures of psycho-synthesis can help people develop and express their "Higher Selves" or spiritual capability. Using these procedures requires special training, but students who take the training often subsequently reveal how important it has been for them in their lives.

There are surely many paths to becoming aware of our spiritual capabilities and using them in our learning. I again turn to Brown for another thought that enables me to feel that I am on the journey and am able to support others on their journeys:

Spiritual awakening is an awakening to who we really are and a

transformation in how we manifest our special qualities in the world . . .

When we free ourselves of inhibitions, distortions, and fear which block our self-understanding, how rich and beautiful are our gifts, how joyful their expression, and how awesome the impact they can have upon the world."

The Whole Picture

I have described these six capabilities as separate phenomena, but they are not separate; they are very much interrelated. In some, perhaps most, learning projects all are operating, sometimes even simultaneously. For example, meet fictional Ann. She is meditating one day; an image appears in her metaphoric mind. It suggests that she wants to make a major change in her life. But thoughts of major change stir strong emotions, taking form in physical agitation and sleeplessness. She talks with a friend (relational) about the image, finding it somewhat difficult to express the image in words, but explains it and her feelings to her friend. She then identifies all the pros and cons of the change (rational) and still feels indecisive (emotional). She then consults her "wise inner person" (metaphoric) to find another way of making the change that would not be so disruptive in her life. The answer she finds fits in beautifully with her vision of her life's purpose (spiritual), so she makes the decision to make the altered change, and learns what steps to take to do so (rational). She is now happy (emotional) and full of energy to begin (physical). She is convinced she has made the right decisions because her whole being feels in harmony (spiritual).

I remember an incident in my class at least ten years ago. We were engaged in a total group discussion. People were excited, and everyone wanted to get into the conversation. As time went on, more and more people were getting frustrated because they couldn't get into the discussion, you could see it in how they were sitting in their chairs, and in the looks on their faces. Jeff finally interrupted and said: "This reminds me of an airport with lots of planes stacked up, waiting to land. As soon as one lands, another one zooms down and lands." His metaphor was so graphic and accurate, we all broke into laughter. We then decided to use another technique to allow everyone to talk yet for the whole group to hear the essence of the relevant ideas. The situation was one using relational, emotional, physical, rational, and metaphoric capabilities. The learning that I carry with me from that event is how important it is for everyone in a group to have "air time" (to mix metaphors).

The research dealing with the relationships between capabilities is sparse. There are two studies I can report, however. One deals with the emotional and the rational. Common belief is that a highly emotional person is also chaotic, diffuse, and disorganized. However, in one

study it was shown that this is not so. The study demonstrates that the wider the range of one's emotional expressions, the more complex is one's intellectual expression.⁴¹ The research, done by Summers, suggests:

A person who is capable of shifting viewpoints and considering a situation from its multiple perspectives is especially likely to rapidly alter his or her initial evaluation and to transform the corresponding emotions.⁴²

This research is seen as strongly supporting a theory of emotional-cognitive structures, proposed by Gray and LaViolette; the theory maintains that thoughts are embedded in emotional codes in our brains.⁴³ Gray gives us as educators some hint about how to use this information:

We are feeling beings before we are thinking beings. Emotional nuances play the primary and organizing role, and the cognitive structures are more passive. Therefore, the ideal transmission of knowledge should start with an emotional nuance.⁴⁴

Another combination which research helps us understand a little more is the rational-metaphoric. Samples watched children of various ages work through learning sequences in physics, natural science, and astronomy. Teacher interventions were not allowed, so the children were following their natural inclinations. They spent most of their early time in a problem sequence in play (metaphoric). When they tired of that they switched to the rational. When they had had enough of that, they switched back to play. They alternated back and forth between the approaches. About two-thirds of the way through the sequence, they became more rational, "constantly choosing linear and logical explanation and routes for exploration . . . The closer the children got to a rational solution, the more difficult it was for them to return to the metaphor."⁴⁵ He also reports that at that stage the children's appearance changed, they became more serious, didn't smile as much, their body movement diminished, and they seemed to be looking for approval from nearby adults.

This research reporting how children play at various stages of learning reminds me of the important, innovative research of Melamed:⁴⁶ the role of play in adult learning. She states:

During the course of my study, five areas emerged as particularly compatible with a playful approach to living and learning. Although play is not an isolated phenomenon in these themes, its threads intertwine, enrich and humanize each of them. The areas are:

Relational - the capacity for cooperation and connectedness.

Experiential - validating and learning from experience.

Metaphoric - intuitive and right-brain thinking.

Integrative - valuing a holistic and orgasmic connectedness to people and things.

Empowering - facilitating transformation in ourselves and the world(s) we inhabit.⁶⁷

We can also look at personal experience and historical evidence to see the interrelatedness of the six capabilities. Instances of high level creativity and inventiveness show us several capabilities at work. Gray gives us two instances: Kekule's deciphering of the benzene ring after being moved by a dream of a snake swallowing its tail, and:

'Einstein's repeated statement that ideas came to him first in the form of vague and diffuse bodily sensations that gradually refined themselves into exact and reproducible feeling-tones.' Only when this process was completed could Einstein mathematically define the new concept.⁶⁸

Few of us are Einsteins, even in our own field, but we can use all of these capabilities for a more creative life through richer, fuller learning.

Keane, in his research,⁶⁹ has documented and illustrated how men who were not Einsteins, did use all of the capabilities as they worked their way through long periods of self-doubt in their lives to emerge into fuller, more integrated selves. They experienced phases of disorientation, search for meaning and peace. Self-acceptance, and integration. These men used all of the capabilities in very crucial times during their journeys out of doubt.

I have a hunch that if we have more or less equally developed all of these capabilities, they will serve as checks and balances on each other, and keep us from going overboard in one direction. The whole has a wisdom beyond the sum of 'he parts.

Learners Awareness of Capabilities

An increasing number of people are becoming aware of this enlarged view of the potential of humans in learning. It is compatible with the new paradigm or world view Marilyn Ferguson describes in *The Aquarian Conspiracy*.⁷⁰ Several assumptions will change in education as this new paradigm becomes more prevalent. Some of the newer assumptions that are emerging:

- Learning as a process, a journey.
- Relatively flexible structure. Belief that there are many ways to teach a given subject.
- Priority of self-image as the generator of performance.
- Inner experience seen as context for learning. Use of imagery, story-telling, dream journals, centering exercises, and exploration of feeling is encouraged.

- Strives for whole-brain education. Augments left-brain rationality with holistic, nonlinear, and intuitive strategies. Confluence and fusion of the two processes emphasized.
- Concern with the individual's performance in terms of potential. Interest in testing outer limits, transcending perceived limitations.
- Concern for the environment of learning: lighting, colors, air, physical comfort, needs for privacy and interaction, quiet and exuberant activities.
- Human relationships between teachers and learners of primary importance.
- Teacher is learner, too, learning from students.⁷¹

She also states: ". . . we are capable of imagination, invention, and experiences we have only glimpsed."⁷²

There are other writers who describe what they see emerging as a new paradigm.⁷³ I don't claim that the view of learners that I have posed here captures all the characteristics they see emerging, but it is compatible with them.

Nonetheless, it has been my experience, even recently, that most adult learners are not aware of the potential of all of these capabilities in their own learning. Once they become aware of them by experiencing them in their own learning, they feel greatly empowered and eager to learn more and experience more of their own resources.

When first introduced to these ideas, learners seem to react in one of two ways: (1) resistance and disbelief based on fear; or (2) relief that at last the way they have learned all their lives is being recognized. More express resistance than relief.

So how do we help learners recognize they have been playing only one string of their guitar and are missing out on music that is fun and more beautiful?

Helping Learners Learn How to Learn More Fully

None of us would advertize ourselves as guitar teachers if we could play only one string, regardless of how many notes we could play on that string. We could get a lot further if we could play a few chords, at least, using three or four strings.

I'm suggesting that before we attempt to help learners use any of the capabilities other than the rational, that we become comfortable and confident of our own use of the capability that we want to introduce into our classroom.

I think my own progression through them has been: (1) rational, (2) relational, (3) emotional, (4) physical, (5) metaphoric, and (6) spiritual. I have not developed as fully as I want to in the final two - metaphoric and spiritual, and am continually learning more about each of the six.

If we have used a particular capability in our own learning, and know one or two techniques we are comfortable using, our confidence and trust is communicated to our learners, and they become willing to risk or experiment.

A technique that I have learned from my doctor⁷³ will serve well in this context, too. He does a lot of hypnosis, and finds most people are afraid to undergo hypnosis. He thus explains hypnosis as moving to another state of consciousness, a phenomenon that we all experience hundreds of times a day. We sometimes are very intensely focussed on something, then we drift on into daydreams, we relax, then we become very busy, thinking of many tasks at once. All are different states of consciousness.

As teachers, we can help ourselves and our learners become aware of how much of our everyday experience these capabilities are. There is nothing new or strange about them; we are just going to use them in our learning.

My doctor further reassures hypnosis patients that hypnosis can only help them do what they want to do (stop smoking, lose weight, be free of pain). The patient is always in control; he cannot be coerced into doing something he objects to.

Learners going through an imagery exercise are always in control; if the directions are not comfortable or helpful, they can change them for themselves. If everyone else is on a fantasy trip back a dark tunnel, but Sue is afraid of the dark, she could climb a mountain instead.

A final caution is that there are no "shoulds" or "oughts" in emotions, in physical reactions, in intuition, in imagery, in spirituality, in relationships. We must not judge or question what a learner has had as an inner experience. We just accept. If the learner's experience was an unusual one, he may want to explore it later with you, but the exploration can never be judgemental.

Think of how much you are as a person because of your rational capability and the training it has had.

If each of our other capabilities could add $\frac{1}{10}$ as much to your experience and your being (and I suspect they can add more than that) think how rich you would be.

Wouldn't it be worth a little effort and openness to what could be? Wouldn't you rather play all the strings of your guitar and teach others to play more beautiful music on their guitars?

I'm listing, for further reading, a number of books and articles that you might find useful as a source of ideas of how to help learners. Those with useful techniques are marked with an asterisk (*).

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