

Haven,

A Collaborative Lifelong Cyber-Learning Community

Beginnings

I bought my first 2400 baud modem in 1985. Friends of mine were using these “lightning fast” communications devices to open a long distance dialogue with people in the former Soviet Union in some of the first peace exchanges. I was intrigued. As a child of the '50s, raised with “iron curtains,” a Soviet “enemy,” and air raid drills all through elementary and junior high school, this opportunity to create peace through direct action was a promise of planetary citizenship realized. EcoNet, later to join with PeaceNet in the IGC Network (Institute for Global Communications) blazed Internet trails in citizen diplomacy and helped launch me into cyberspace with their inspiring global activism.

When I connected the modem to my Macintosh Plus computer and logged onto the Internet for the first time, the Whole Earth 'Lectronic Link (“the WELL”) was my home base. Starting in the spring of 1969, a group of practical visionaries published the *Whole Earth Catalog*, offering “access to tools and ideas” that nurtured whole systems thinking, right livelihood and sustainable business, and self-directed learning. The *Whole Earth Catalog* was a new paradigm tsunami and long before GOPHER (an early system for locating documents on the Internet in specific subject areas) and the World Wide Web, I surfed its content-rich pages. The WELL grew out of the creativity of the *Whole Earth Catalog* community. One of the early computer conferencing networks, it was a result of the combined vision of catalog creator Stewart Brand and Larry Brilliant. Stewart and Larry were members of the EIES (Electronic Information Exchange System) network started by Murray Turoff at the New Jersey Institute of Technology in 1974. Murray developed EMISARY, the first computer conferencing system. He designed EIES to facilitate group decision making based on collective intelligence. In 1985, Stewart and Larry turned their experience with EIES into the WELL. This pioneering electronic community is still thriving today.

A few years later, I joined Women's Wire, a San Francisco-based Electronic Bulletin Board or BBS as they were known. It was the first online community for women, started by Nancy Rhine and Ellen Pack. Nancy had been a key staff member of the WELL community.

These conferencing networks and BBSs--EcoNet and PeaceNet, the WELL, Women's Wire--were the ancestors of today's online learning communities. They reflected and embodied two highly significant shifts: from teaching to learning, and from media consumption to invention and creation. These experimental communities encouraged participants in self-directed, lifelong learning and in generating their own media. With EcoNet and PeaceNet, Americans citizens and then-Soviet citizens set out to learn their own truths about each other's culture through email exchange, person to person, direct, not through their countries' textbooks and narrow, mainstream media. Environmental and peace activists could collaborate effectively on local and international projects, sharing information and organizing actions and responses.

The WELL took online conferencing to an entirely new level--people explored the ethics and responsibilities of netizenship, with plenty of real sweat and tears shed along the sometimes arduous way. Thriving, long term dialogues were carried on for years on an incredible range of topics from homeschooling to Generation X to the future. As a result, the WELL community has contributed a great deal of wisdom and guidelines for creating and sustaining online community. Howard Rheingold is one influential WELL veteran. He distilled his insights into a book, *The Virtual Community: Homesteading on the Electronic Frontier* (online at <http://www.rheingold.com/vc/book/>).

Women's Wire offered women a place online to discuss their take on business, health, sexuality, parenting and politics at a time when the Internet was still very much a man's world. Women coached each other in entrepreneurial skills. Editors gathered daily world news that focused on women's issues and created a women's “herstory” archive. The Women's Wire community became a networking hub for women preparing to attend the Beijing Women's Conference in '95, and for those of us who could not attend in person, they helped us participate virtually. During a major staff turnover and conversion from Electronic Bulletin Board conferencing system to the World Wide Web, Women's Wire abandoned its community. That strategic decision left many women disappointed, but I know that all who were participants in their bold experiment are grateful to have ridden its wave.

Paradigm shifting: the journey from teaching to learning, and from media consumption to media generation

“Ours was a house for children, rather than a real school. We had prepared a place for children where a diffused culture could be assimilated, without any need for direct instruction...Yet these children learned to read and write before they were five, and no one had given them any lessons. At that time it seemed miraculous that children of four and a half should be able to write, and that they should have learned without the feeling of having been taught.” ~Maria Montessori, writing about the first Children’s Houses in the slums of Rome in 1907

I was fortunate to experience a shift in emphasis from teaching to learning early in my adult life. Drawn by a vision of ecstatic learning inspired by mentors like George Leonard, Ivan Illich, A.S. Neill and John Holt, I found my way to The New School, an unusual Montessori preschool and elementary “free school,” as an intern. Along with visionaries like John Dewey, the Italian physician-turned-educator Maria Montessori was ahead of her time in leading the way towards self-directed learning. The New School’s founders, Carol and Tom French-Corbett, translated Montessori’s respect for self-directed learning into an extraordinary place. The New School was my first learning community. Parents and staff ran the school together, by consensus. (They weren’t ready yet to extend the democratic vote to the children like Summerhill and the Albany Free School had, but attempting consensus government with staff and parents having equal votes was a big step in the right direction). I left the teacher/student paradigm behind and crossed over fully to learning facilitator with the young people.

Several years later, as a founding member of an experimental media lab, I was able to take my explorations in learning community to the next level. The Cyberlab, later SynergyLabs, brought together a diverse group of artists, musicians, programmers, animators, “evolving systems” researchers, virtual reality architects, video pioneers, men and women, of all ages and races. Together, we explored and practiced self-directed, cooperative lifelong learning. In this experimental learning community, my teenage daughter and I were co-learners and collaborators. Extraordinary projects emerged, from live video performances with jazz musicians Ornette Coleman and Herbie Hancock, to videoconferences like the first Summit in Cyberspace with then Prime Minister Shimon Peres of Israel, then President Nelson Mandela of South Africa and former U.S. President Jimmy Carter.

My first introduction to media generation was also at the New School in 1973. We were using early black and white video cameras with “portapacks” to record the children and facilitators in the environment. We analyzed the video in slow motion for feedback on learning styles (facilitators’ and children’s) and the dynamics of interaction in an innovative process pioneered by Nancy Rambusch at Xavier University (Cincinnati, Ohio). It was life changing to step behind the camera for the first time and “make TV.” I never looked at television quite the same.

But my shift to full media empowerment came later...My work in the Cyberlab took me to the further reaches of media and technology. We played and experimented with some of the earliest videophones, connecting with new media explorers in other cities around the world (there was even an “electronic café” in China that had a videophone). Though these early videophones were black and white and transmitted only still images, they were extraordinary to use. Learning how to use them for creative collaborations was a significant advance in my journey from media consumer to media generator.

In 1992, I participated in one of the first demonstrations of a high end videoconferencing system (PictureTel). I was in Monterey, California at a new technologies and design conference and I was videoconferencing with a man in New York City. His image filled the full screen of the monitor in front of me, in rich color, almost in real time—the video moved a little slower than we were moving which actually heightened my senses. I was overcome by my feelings of intimacy in communicating with this stranger 2500 miles away. It was a profound, life-changing encounter. I had a direct experience of the powerful potential videoconferencing had for learning in the future. I recognized that freedom from the need for geographical proximity opened up a world of co-learners and collaborators, enabling people to develop and sustain relationships across distance based on shared interest and commitment.

After that eye-opening experience, I began using software called CU-SeeMe, designed at Cornell University in 1993. It was the first Internet-based videoconferencing software that worked with a simple dial-up modem, and it was free. I was soon in touch with people all over the world using it for collaborative

learning experiments. Today, from my home in Northern California, I can meet with a young person in Idaho who is apprenticing in deep ecology and new media journalism. Using the latest version of the CU-SeeMe software (White Pine's Classpoint), we can visit online articles and web sites about deep ecology and discuss them together "face to face." We can interview people working in deep ecology, and we can take each other on web tours, another feature of the software. It's an extraordinary communication medium.

Worlds Chat, the first networked three dimensional virtual world, debuted in spring of 1994. It evolved from a project called Starbright, sponsored by Steven Spielberg's Starbright Foundation. Starbright World was a 3D world that let seriously ill children use avatars (animated characters used for self-representation) to communicate with each other using computers on a closed circuit network within the hospital.

Worlds Chat was one of the first Internet-based, networked virtual worlds for the general public. You could choose your avatar from an online gallery of possibilities. I had a fondness for the Alice in Wonderland avatar. Using the computer mouse you navigated through a three dimensional world much like you'd move through a videogame, with the significant difference being that you could meet and interact with other people from all over the world who were in the world at the same time as you. When you encountered other avatars, you could initiate conversations with their human counterparts by typing a message. Like my first experience videoconferencing, Worlds Chat gave me a preview of possible online learning communities in the future. These new learning environments would seamlessly incorporate multimedia and a three dimensional, visual and kinetic language to allow richer forms of cross-cultural communication. They would enable new kinds of learning—especially in mathematics and the new sciences of chaos theory and complexity, where text-based, 2D approaches actually inhibit understanding. There was clearly a long way to go still, but I could imagine it.

Software like ActiveWorlds that followed in the path of Worlds Chat let people construct their own virtual worlds from the "ground" up, offering a major turning point in the shift from media consumption to media generation. One young person who collaborated on a world using the ActiveWorlds software enthusiastically likened it to playing with Legos—it was second nature for him. He shared with me how stepping into the creator role had forever changed his relationship to more passive, consumer-style media like television and conventional video games. He was giving form to his own creative visions and gaining valuable skills of teamwork in the process. There was no going back...that is paradigm shifting.

Shortly after I discovered Worlds Chat, I had a Eureka! experience that changed my life. I saw the World Wide Web for the first time on an extremely fast computer (the SGI Indigo) connected to the Internet via an extremely high speed line (called a T1 line, it is 20 to 100 times faster than a dial-up modem). I was standing in an air-conditioned exhibition hall in downtown Los Angeles—it was 1994. I felt like I'd stepped into a time machine and was being transported several years into the future. Rather than seeing the web where it was (most people were using much slower dial-up modems to access the Web at the time), I could see where it was going. I realized that these technologies—videoconferencing, 3D virtual worlds, and the World Wide Web—would soon converge, enabling the emergence of an extraordinary new global learning environment. In that moment of awareness and insight, I made the decision to actively participate in creating that future, especially as it applied to the future of learning.

I began to notice something significant. At the Cyberlab, we hosted many gatherings for our local community with a focus on learning. Over and over I heard people saying the same thing, whether parents, school principals or teachers—"I know education has to change but I don't know what it could look like."

I realized that from my unique experiences and my "future" vantage point, I did see how it could be. We were living one possible scenario at the lab and it was an extraordinary experience appreciated by all the community members. I'd met and worked closely with many young people who were inhabiting a very different world, where self-directed learning was primary, apprenticeship was commonplace and collaboration was key. Cyberspace and virtual worlds were a natural extension of their everyday world that opened entirely new possibilities for creativity and learning.

Time spent in dialogue and study with visionary social systems thinkers like Bela H. Banathy and Barbara Vogl helped me refine and evolve my visions of the possible. To differentiate this *self-directed lifelong learning community/new media generative* paradigm from the standard teacher-directed/passive media-based education, I invented a new word—*edge-ucation*. It came from my own peak learning experiences, when I always found myself standing at an edge that offered an entirely new vista—I could see things I'd never seen before and I could make extraordinary new connections. These were breakthroughs in my learning how to learn.

Think Globally, Act Locally

In 1972, while he was advisor to the United Nations Conference on the Environment, René Dubos gave us the now familiar phrase, “Think Globally, Act Locally.” He wanted people to realize that to make a difference in the global environment, we must begin by considering our local bioregion--essential wisdom that more and more communities are taking to heart. Peter Berg, one of the founders of the bioregional movement, states it succinctly, “Bioregions are geographic areas having common characteristics of soil, watershed, climate, native plants and animals that exist within the whole planetary biosphere as unique and contributive parts. A bioregion refers both to geographical terrain and a terrain of consciousness -- to a place and the ideas that have developed about how to live in that place...The bioregion is my window on the planetary biosphere and the means for participating in it.”

Community learning centers are natural sites for “acting locally” and nurturing bioregional awareness and sensitivity. I see the spontaneous growth of community learning centers as one of the most exciting developments on the learning horizon today. One of the primary intentions of this book is to offer working examples of these community learning centers and simple guidelines for their creation to encourage their proliferation.

Ideally, the community learning center supports self-directed, lifelong learning in a non-hierarchical structure. Participation is voluntary. Forms of financial support vary from public funding, to minimal membership fees, to tuition. Learning facilitators assist participants in locating co-learners, mentors and learning resources, apprenticeships and internships, and in goal-setting and self assessment if requested, portfolio preparation, and sustainable livelihood coaching. A community may have several learning centers, serving the needs of a diverse population.

As the model evolves, facilitators and learning community members will begin to network with other centers in their community to share resources, co-host bioregional events, collaborate on watershed restoration projects, share apprenticeship databases, etc. Computers with Internet connectivity will become an integral part of many of the centers. This will be especially valuable in offering access to young people and their families, and adults in the community that do not have a personal computer and Internet access. Internationally, the community learning center model is becoming a successful interim solution to the serious problem of universal computer and Internet access, often referred to as the Digital Divide (see Access Issues at the end of this chapter). I would strongly encourage anyone now at work on creating a community learning center to budget in at least one computer and Internet access. It’s an important service you can offer community members--the Internet is a profound resource we are only beginning to understand how to use.

With the explosive development of the Internet, particularly the World Wide Web, I think it is necessary now to reconsider Rene’s statement. Perhaps today, more of us have a sense of what it means to act locally. But what does “Think Globally” mean in the 21st century? How do we begin? At the same time as we are evolving our sense of place (“reinhabiting our bioregions” as Peter Berg urges us to do), we are called upon to develop and evolve global thinking skills. I see this as one of the primary roles of online learning communities. They offer us an extraordinary and unprecedented context to practice global thinking by enabling international dialogue, exchange and collaboration.

This is not optimistic dreaming. Amazing global thinking experiments have been flowering for several years, supported by email alone. Econet and Peacenet, the WELL, and Women’s Wire were among the first generation of online learning communities. They pointed the way, by exploring how to create and sustain real communities in this strange new realm of electronically-mediated communications. Organizations like Thinkquest and the International Education and Resource Network (I*EARN) are examples of what I call second generation learning communities.

Thinkquest (<http://www.thinkquest.org>) was founded in 1996 by Advanced Network & Services, one of the early developers of the high speed portions of the Internet used by universities and research institutions today. Thinkquest programs catalyzed the creation of the largest database in the world of educational websites created by young people for young people. Since 1996, almost 50,000 teens and educators from 100 countries have participated in ThinkQuest, bringing together youth from widely divergent cultures and languages, levels of technology, and socio-economic backgrounds.

I attended the Thinkquest Conference in November of 1998 in Los Angeles, California with the specific intention to meet these teenagers who were collaborating across distance. I wanted to learn from these young cybernauts. Most of them were meeting face to face for the first time. They enthusiastically shared with me how their experiences had changed their lives. I was especially impressed with how the

collaborations had given them incredible self-confidence, and belief in their ability to master what ever it was they needed to learn to make their projects work. They had gained uncanny wisdom about encountering obstacles—language and time zone barriers, expectations and disappointment, technological hurdles, conflict management and resolution. My conversations with these young people have encouraged and inspired me to trust where I am going in distance edge-ucation.

At the same Thinkquest conference, I met Ed Gragert, the director of I*EARN, and Adriana Vilela, a teacher from Argentina who was a participant in I*EARN's network. I*EARN (<http://www.igc.apc.org/iearn/>) was launched in 1988 to demonstrate that kids could work together to make a difference on the planet using low-cost telecommunication technologies, first between the U.S. and the Soviet Union. Today there are 50 countries involved. In an interview, Adriana told me how her work with I*EARN had been a force for positive change:

“It impacted not only the lives of the students and teachers, but also the lives of parents and the community. I'm one of the thousands of teachers in I*EARN whose teaching practice has been affected greatly, deeply by I*EARN. I live in a very isolated place, Patagonia, which is the southern region of Argentina. I've been working in a public secondary school with very underprivileged children. I've been there for 20 years now. I was a bit disappointed about teaching with very few resources that we teachers have in a developing country, especially in a very far away place like the one where I live. Perhaps my anecdote as a teacher is that I was ready to quit because I had given up. That's the truth. The year I was ready to quit the minister of education sent this proposal for the school to be one of the first five pilots schools in Argentina to work with this technology for telecommunications. Well, I was caught by this and I never left. I'm still a teacher in Argentina nearly eight years later because working with this technology and I*EARN, I could see the difference that it makes for students and teachers and also the community where we live.

It involves every pedagogical issue that we teachers are concerned about, like how to teach meaningfully, how to get the students more involved and in charge and take responsibility for their own learning, how to work collaboratively and take action in society. This is the first principal of democracy really.”

Supported by grants from corporations and family funds, Thinkquest and I*EARN leverage the potential of the Internet for educators and students around the world. These educators and students have been profoundly changed by their participation, naturally gravitating towards a new model of learning facilitators or coaches assisting collaborative learning teams. But these second generation learning communities still have their foundations in a 20th century educational system. I see them as transitional, no doubt, pioneers in their own right, evolving a 21st century approach to learning out of the ashes of the old. Using new media technologies they are enabling thousands of youth and adults all over the world to explore new models for learning —this is their unique strength and valuable contribution.

I'm especially interested in what I call third generation online learning communities. These Internet-based collectives have their roots in the new paradigm of self-directed and collaborative, community-based lifelong learning (what I call *edge-ucation*). Their emergence parallels the evolution of the World Wide Web. They use discussion lists, websites, 3D worlds for their gathering spaces. They are guided by insights of visionary edge-ucators like Ivan Illich, John Holt, Bela H. Banathy, and Seymour Papert and by the experiences of people living the new learning paradigm with their families and friends. They are deeply influenced and informed by the new sciences—complexity theory, systems thinking, second order cybernetics. These learning communities can be accessed and participated in by teachers and young people in schools but they are not tied to schools. They are philosophically partnered with the community learning center movement. They are a recent phenomenon. Because of this, in their nature, they are experimental, evolving entirely new approaches to learning.

This book you are reading and its companion website are excellent examples of the efforts of a third generation learning community. Thirty authors and about seventy other co-learners and contributors have come together on the “Learning Communities” discussion list over a period of a year in a remarkable “learning community about learning communities,” completely online, in a very challenging text-only environment. Our moderator Bill Ellis is in Maine. The website host Ib Bang is in Denmark. I am in California. I've met only one list member face to face and that was a brief encounter at an educational conference over 15 years ago.

When I discovered this network of kindred spirits, I was living in a cottage in a redwood forest, 30 minutes from the nearest small town. It was exhilarating to dive into a book collaboration with other community learning center pioneers from all over the world with my computer and slow modem (phone lines in the woods were too old to support a high speed modem) as the portal. I was suddenly immersed with people deeply committed to creating a new learning system. A Coalition for Self-Learning, a name we gave ourselves, exhibits the characteristics of a third generation learning community—it is self-organizing, collaborative, spontaneous, complex, emerging--qualities our catalyst and list moderator Bill Ellis is quick to emphasize to new community members.

So how do these two relate--local community learning centers and online learning communities? They complement each other. The online community can connect participants in the local center to people all over the world for exploration, co-learning and collaboration. By contributing to and creating an online learning community, participants in the local center become media generators. Helping to construct cyberspace changes our relationship to it dramatically. It is empowering. The local learning center gives online learning community participants the place to put their feet on the ground and their hands in the soil. It's a haven in the physical world for sharing the joys and challenges of direct person to person contact and intimacy on the co-learning trail. Taking René's words to heart, the online learning community becomes the global counterpoint to the local community learning center, and the local learning center grounds the online learning community in an honest sense of place. It's a potent combination. Let's weave them together right from the start.

How might we begin the weaving? Some local centers will feel inspired to create their own online learning communities. Some may consider collaborating with one other or a few centers in other parts of the world to create a shared online learning community. The Coalition for Self-Learning discussion list/community (see the Resources Section) and the AERO discussion list and website (see Resources) will be helpful in facilitating these connections between local centers. Other centers may choose to participate in and contribute to existing online learning communities for which they feel an affinity. Haven is an online learning community that welcomes local centers to participate. The Edge-ucation Matrix of Haven supports community learning centers in creating their own online learning communities and NEXUS, Haven's Learning Community Network, is a web directory for online learning communities to announce themselves.

Haven

There is no pre-given territory of which we can make a map -- the map making itself brings forth the features of the territory.

~Fritjof Capra, *The Web of Life*

The best way I've discovered to learn about learning communities is to design, create and participate in one. In the '70s and '80s, I catalyzed local community learning centers—one for unschooling families and later, one for teenagers. After my Eureka! experience in 1994, I began meditating on my ideal online learning environment--what would it be like?

Several years earlier, I had encountered the powerful ideas of Christopher Alexander, an iconoclastic architect. Studying hundreds of cities, towns and buildings over a period of several years, he looked for underlying patterns that resonated what he calls "timeless qualities"---freedom, wholeness, completeness, comfort, harmony, habitability, durability, openness, resilience, variability, and adaptability.

He believes that patterns embodying these timeless qualities are what give structures their vitality. They touch the soul and vastly improve our daily lives. Nikos Salingaros, an architectural theorist, describes Alexander's work in these words, "There is an emphasis throughout on the potential of the individual, the importance of a spiritual connection to the built world; the need for cooperation among people; the empowerment of individuals or small groups of people to shape their environment."

Christopher writes, "...people can shape buildings for themselves, and have done it for centuries, by using languages which I call pattern languages...But in our time, the languages have broken down...To work our ways towards a shared and living language once again, we must first learn how to discover patterns which are deep, and capable of generating life." In his two volume design guide, *A Pattern Language*, and *The Timeless Way of Building*, he invites people to evolve and add to his 253 patterns, co-

creating a common language for building everything from a sustainable community to a family dwelling or cooperative workshop space to a children's bedroom or a garden path.

I began to apply his pattern language and design process to the architecture of online learning spaces. People in fields as diverse as organizational development and software design have appreciated Alexander's ideas and the parallels between the architecture of towns and buildings with information systems. The first "webmaster" I apprenticed with, Matisse Enzer, had also been deeply influenced by Alexander's work. The faculty and staff at the University of Pittsburgh used a pattern language process to design the university information system. From the moment I saw the web, I experienced the "space" of it. When I first began to imagine an online learning community, I was very aware that I was experiencing and creating a space, not a website. Christopher Alexander's pattern language helped me to articulate the patterns and qualities I wanted Haven to express and evoke.

I started with one of the most basic patterns, Network of Learning (pattern 18 in *A Pattern Language*). Here is the essence of the pattern as I have evolved it...A network of learning facilitates a shift in emphasis from teaching to learning, helps decentralize the process of learning, and enriches it with contact with many places and people all over the local community (and extending the pattern to the Internet environment—all over the world). It supports voluntary participation in a diversity of learning opportunities by illuminating pathways of access. Skillful network guides help learners master navigation and assist them in finding their way to particular resources, peers, collaborators, mentors, and experts they are seeking. The learning network extends beyond the limited domain of credentialed teachers to recognize everyone as mentor/learner. The network of learning is all-inclusive, valuing the experience and expertise of a 14-year-old computer programmer alongside the skills and insights of an earthworm specialist in Vietnam, a Shawnee native speaker or a professor of linguistics. Responsibility for orchestrating learning is in the hands of the learners. Self-assessment replaces standardized testing.

The Focal Points of Haven, An Online Learning Community

Interconnection is the song at the heart of Haven. My particular dream of learning community came from wanting to share a space with people who realize there is no separation between how we learn, how we work, and how we live. The focal points are edge-ucation, right livelihood and deep ecology. It's a place to explore and restore the relationships between these and to reflect on and initiate transformation in how we learn, and work, and solve the world's most pressing problems. Haven is dedicated to young people to give them support to live interconnected lives. It's a way station for adults who aspire to create sustainability in their personal lives, their communities and on the planet. We aim to nurture those aspirations. We're especially interested in exploring the far reaches of learning how to learn.

From Vision to Form: Making it Real

...we discovered that the process, the actual coming together, is as important as the original intent. Often, the thing hoped for is what brings the people together, but the coming together in a deep and passionate way is what makes the hoped-for thing happen, whether it happens on the first try or the eighty-first. The two are mutually reinforcing, and, for some, the community building aspect is fulfilling in itself.

~From "The Art of Community Building," *Orion Afield* magazine, Summer 1999, p. 9

On a very practical level, the Haven learning community encourages self-directed design of ecstatic learning paths and supports individuals in this endeavor, especially teenagers, through a combination of one-on-one mentoring, collaborations and apprenticeships in a distance-learning environment. Recognizing that local learning centers and online learning communities are significant new forms with incredible potential for transformation (societal and individual), we are dedicated to spreading the news by studying and promoting the best of these experiments. The Edge-ucation Matrix of Haven specifically intends to encourage the design and evolution of these new learning centers at both the global (online) and community (local) level. Informal study circles give community members the opportunity to explore existing resources for creating community learning centers and online learning communities. Online courses, called Journeys, and the more in-depth Edge-ucator's Path apprenticeship assist individuals and groups in practicing the skills needed to participate in and significantly contribute to the creation of collaborative lifelong learning communities.

Haven's Patterns for an Online Learning Community

The Councils and the Dialogues are the basic processes at the center of each of the three major zones in the Haven learning community—the Edge-ucation Zone, the Right Livelihood Zone and the Deep Ecology Zone. Council and Dialogue are the patterns unique to Haven to catalyze and support a web-based network of learning. The Councils present the ideas, exemplary projects and organizations of people who have given deep consideration to the central Haven motifs of edge-ucation, right livelihood and sustainable business, and deep ecology. The Dialogues give participants the opportunity to explore ideas presented in the Councils, as well as initiate learning conversations about topics of interest. Until recently, participants used email and discussion lists for the Dialogues (known as asynchronous communication), but we are now experimenting with what we call “synchronous space” using the Haven Dialogue Zone which lets a group of us meet together all at the same time using “chat” software. These dialogues can then be archived and read by others later.

We have identified eight essential skills to help us practice and develop our global thinking. They are: Storytelling, Dialogue, Collaboration, Bioregional awareness, Ecological/systems thinking, Design literacy and competence, Linguistic flexibility and inventiveness, and Image-ination or visual thinking. Continually asking ourselves how we can nurture these skills helps shape all of Haven. The Journeys and apprenticeships explore these skills in depth.

Special projects and events let us bring festival and ceremony into cyberspace. Earth Day is a major holiday for us. Haven went live on the Web on Earth Day '95 amidst a face to face celebration with friends and contributors in San Francisco. It has become a Haven tradition to continue the celebration with a live online event every Earth Day. We send out an announcement to various email lists and websites inviting people to participate in The Earth Stories Project, our Gaian Storytelling Festival. The Earth Stories Project encourages people to consider their interconnections in the web of life and share their experiences in story and art. We invite people to participate year 'round, but on Earth Day, a team of us stay online all day, posting the stories (words and/or images) in the Deep Ecology Zone as they come in from all over the world. It's always an exhilarating experience for everyone involved, and it introduces new people to Haven.

We welcome local learning centers to participate in the future. Children's contributions are especially appreciated. We celebrate both Earth Days, Spring equinox and April 22nd of every year. Join us for one and get a feel for hosting your own online events. As singer/songwriter Patti Smith says, “Be a gathering.”

Our electronic newsletter, *Interconnect*, plays an important role in the life of our learning community. It lets community members know what's changed since their last visit. Haven's participants appreciate receiving email updates, informing them of new material, programs and events. Every month we include reviews of other learning communities, favorite websites, insights from the dialogues, etc. And we use it to announce our Journeys and apprenticeships.

The Structure of the Learning Community

Participants choose different levels of involvement in the learning community. Here's a glimpse of how it all works currently. The Edge-ucation, Right Livelihood and Deep Ecology zones of the Haven web center (<http://www.haven.net>) present opportunities for self-directed learning and dialogue. We encourage participants to initiate their own learning conversations using asynchronous discussion and the synchronous chat software in the Dialogue Zone. The PATTERNS learning community, a founding member of NEXUS, our learning community directory and network, is beginning one on autopoiesis, and we are catalyzing another focused on second order cybernetics and the future of learning.

Out of the wider community, some people step into roles as collaborators and contributors to the content in the web center, bringing a diverse range of stories and projects. Teens and adults who are especially drawn to the focus of the learning community and choose to get more involved enter The Edge-ucation Matrix. This is the core of the Haven global studies center. Here we offer short introductory experiences called Journeys, and deep apprenticeships and mentoring, using a rich multimedia mix of text, image, audio and video communication (asynchronous and synchronous). Apprentices who complete three sessions in the Matrix can become interns, and eventually may become facilitators, mentors and resource guides in the learning community.

This same structure of collaborators, contributors, Journeys, mentoring and apprenticeships is mirrored in the form of our local learning center, also called The Edge-ucation Matrix. Because there are quite a variety of programs in our community for younger children and their families, the Edge-ucation Matrix serves teenagers and adults. We support teens in creating alternate paths to higher learning through self study (autodidactics), learning conversations, mentoring, and apprenticeships. We offer coaching in right livelihood and the creation of sustainable business, drawing on role models from the local community.

The Bayside Children's College (see Resource section), a learning center in our local community, shares its space with us in the late afternoons and evenings. We are beginning to host informal salons on edge-ucation, right livelihood and deep ecology. Our local learning center is just beginning to evolve. We are in the process now of building alliances with other organizations and learning centers like the Santa Cruz Live Oak Grange, our community center for sustainable agriculture, the Theater of Restoration, an organization facilitating the use of performance art for environment restoration in homeschool education, and the Order of Green Knights, a men's service group and lodge dedicated to helping men, especially teenagers, reconnect to the earth through rites of passage, restoration service projects and earth literacy education. For our first collaborative project, our four organizations are co-sponsoring a workshop on mapping our bioregion with Peter Berg. We anticipate that in the future, participants in the local Edge-ucation Matrix and these other organizations will become active shapers of the Haven online learning community.

The Edge-ucation Matrix: a learning community hub

In addition to being a learning community with the edge-ucation, right livelihood and deep ecology motifs, Haven is a *meta-learning-community* focused on the design, creation and networking of learning communities, particularly online learning communities. Since we perceive local learning centers and online learning communities as two of the most significant new forms capable of nurturing lifelong learners and designers of sustainable democratic and ecological systems, we are committed to encourage and support the forms' flowering and proliferation. Through the Edge-ucation Matrix of Haven, we offer introductory courses on the online learning community model and we mentor and/or consult with individuals and teams who are attempting to create local learning centers and online learning communities. The Edge-ucator's Path Apprenticeship is an in-depth design journey for people initiating online learning communities.

NEXUS is our online learning community directory and network. It serves the purpose of connecting online learning communities with each other to share resources and support. It also connects the online learning communities with individuals, families, edge-ucators, and local learning centers seeking to participate in creative learning communities. Descriptions of member online learning communities are provided with links to their websites. The Haven facilitators continually review and feature the work of visionary learning communities in the Edge-ucation Zone of the Haven web center, the *Interconnect* e-newsletter, and the *PATTERNS* newsletter. Participants of online learning communities in the network are invited to share their stories, image-inations and projects in the different zones of Haven. Members are welcome to use the Haven Dialogue Zone for their conversations and study circles. To help support NEXUS, learning communities in the network pay an annual membership fee.

Our model for long term sustainability

Our ongoing work as distance learning consultants and course designers/coaches creates a foundation for us to build upon. We have chosen not to seek advertisers to date. Consulting work and membership fees from NEXUS and monthly fees from the Journeys, formal mentoring relationships and apprenticeships are beginning to help sustain Haven. In the GreenTraders area of the Right Livelihood zone, we have a business directory. We plan to actively seek more businesses for this section in the future and will charge an annual membership fee for the listings. In addition, we are writing grant proposals to expand some of our projects.

Haven is on the more elaborate end of the spectrum of online learning communities. Keep in mind that it is six years old. It started small and has grown organically. Effective and engaging learning communities can be as simple as an email list with homepages on the Web for participants. Explore a wide range of learning communities and check out their models for sustainability. This will spark ideas. Brainstorm with your community. You'll undoubtedly invent your own unique combination of strategies.

Next Steps

Our local community has several home-centered-learning charter schools in the area and we are exploring ways to work together. I'm coaching facilitators, parents and young people on using the Internet creatively in a charter program that is focused on watershed ecology. Long range, I am working towards a collaboration where the homeschool programs and charter schools can subcontract with Haven for distance learning services. This will make our Journeys, apprenticeships and mentoring alliances available to area young people free of charge. We are also seeking sponsorships from local businesses so that more educators in our community can participate in Journeys and the Edge-ucator's Path apprenticeship. We are connecting with our local university's field studies programs to set up education and environmental studies internships in the Haven online learning community.

The Future

It will be a while before the web is navigable in networked 3D worlds. But for some, it's a reality now, especially people under 25. A generation of young people who have grown up with legos, logo, html, vrm, Java, Adobe Photoshop and Premiere, Sonic the hedgehog, Laura Cross, Ultima Online, Asheron's Call, and personal avatars, are architecting the cyberspace of the future today. What visionary educator Seymour Papert calls *megachange* is on its way:

"The decision to make is not whether we will continue with school or change it. It will collapse. Our question is whether we'll wait until we're driven to the wall and the system is collapsed from within from its own internal contradictions before we decide that we're going to create conditions that will allow a new system where there'll be diversity of learning paths, diversity of teaching methods, diversity of subjects to be learned."

How can we best prepare ourselves to flow with megachange as it sweeps us up? One very direct way is to practice image-ination or visual thinking. Over 31,000 years ago, our ancestors were painting the most extraordinary images of animals in the Chauvet-Pont-d'Arc cave in the Ardèche region of Southern France. The skill of these artists working with ocher, charcoal and hematite contradicts previous theories of a slow and steady maturing of art through various ages from primitive to more sophisticated style. The Chauvet artists have stunned us with their use of proportion, perspective and depth. The French Ministry of Culture writes that these cave paintings, rediscovered in 1994, "have revolutionised hitherto accepted concepts on the appearance of art and its development, and prove that homo sapiens learnt to draw at a very early stage." It seems that image-ination is a defining characteristic of homo sapiens, central to our nature.

Today, we're still working with ocher, charcoal and hematite but we've added supercomputers, graphics workstations and elaborate 3 dimensional software to paint the DNA spiral and reoviruses (known to kill cancer cells), and to model tornado vortices and the ozone hole. These visualization tools are quite literally global thinking tools—they let us see our planet in ways never before seen, and in ways absolutely necessary to reverse environmental degradation and create sustainable development.

My daughter started studying photography when she was fourteen. A disenchantment with the toxicity of darkroom chemicals drew her into the digital world and she apprenticed with a master of digital photography. She has grown up using a videocamera for her journal. Recently a friend gave her a video conferencing camera for her birthday. I have one, too. We were excited about connecting with them since we live in two different cities. Software called NetMeeting let us connect via the Internet. She suggested we try the "shared whiteboard" which I had never used. We could each draw and see what the other was drawing. We could even draw together. Then she uploaded a photo of a lizard she'd shot in the desert on her recent camping trip. It came up on the "whiteboard." I was awestruck. I quickly uploaded some images I had been collecting, and we were in another world together. A visual world. I can't come up with the words easily to describe to you what a shift in communication this was. And fun!

We both realize that with these tools one day, we'll be working and creating with friends on the other side of the world. If my Portuguese is weak, and my Brazilian collaborator's English is rusty, our image-inations can help us bridge the gaps. We can share photos, video, even animations to illustrate our thoughts and ideas. I will never forget the moment I opened a photo attached to an email sent by my Brazilian collaborator Saulo Petean. We had not yet met in person. Together with another Brazilian, Alexandre Lage, we were assisting a Mebengokré Indian community in creating a website. Saulo sent photos taken with a

digital camera of himself, and a child in the village. Those digital images transported me from my desk in San Francisco to the Amazon rainforest.

Some people will question why I put so much emphasis on this. We're experiencing a profound shift in how we communicate. For those of us raised on penmanship and text-based book-learning, this can be a hard one to see coming. The future online is very VISUAL, and it is 3D (if not 4D). Words won't go away, but multimedia is more than jargon. Visual thinking is powerful, transformative, life-changing. It can help bridge language barriers. It is essential to understanding and working with the mathematics of complexity, chaos theory, systems modeling. Ralph Abraham is a mathematician and pioneer in the field of dynamical systems theory. In a 1996 interview with Haven facilitator and PATTERNS editor Barbara Vogl, Ralph remarked, "The more complex the system, such as the one we live in, the more chaotic it's behavior. Chaos theory provides us with a better understanding of such processes. And if we don't understand chaotic behavior, then we can't understand the complex system we live in well enough to give it guidance and play a part in the creation of our future."

Sketch your ideas more. Begin to pay as much attention to communicating in imagery as you do with words. You can find used black and white, and color videoconferencing cameras for sale on the Web for twenty to fifty dollars (look for the Connectix models on ebay.com). In addition to videoconferencing, these versatile cameras can shoot still photos and short movies. They're an excellent beginning tool to take you deeper into visual thinking. Explore 3-D worlds--meet a friend in one. Co-design your learning community as a 3-D world. Even though you might not be able to build it yet, imagining it as a virtual world will move you in a creative direction and will open up possibilities you won't see in text and photos. Enjoy straddling this low bandwidth moment, living in text, going multimedia. It's an awesome moment to be alive. We've got our hands full.

If You're Ready to Begin...

Here are a few suggestions. Talk to kids about how they are using the web. Involve young people as equals at the visioning, planning, design and content level of the learning community. My "imagician" daughter Zohara designed some of my favorite graphics on the site. Young people are key consultants in the evolution of the Haven learning community. I think it is no accident that many of my friends' webmasters are their children. Given the opportunity, kids learn how to construct cyberspace really quickly. At a local learning center here in my community, a teenager does the coaching in Internet skills, Photoshop and other software. Haven's intern, Lisa Felten, alias Blue Rose, came to us through an announcement in a local homeschooling newsletter. She has designed some beautiful pages for the Deep Ecology zone. Consider creating an online learning community team at your local learning center. Try a cluster design for the learning community so that small interest groups can create and evolve their own independent but connected zones. Trust the kids to lead the way and to be tremendously capable of managing the complexity of the ongoing maintenance of a web learning community.

Find collaborators. Share tasks. Pool equipment. Seek interns. Be patient. It can be slow going, with unbelievable techno-hurdles presenting themselves at every step of the way. Enjoy the surprises. As your community grows, encourage members to contribute. Your strength will come from their unique contributions. Seek diversity...young, old, multiracial. Reach out through cyberspace to people in the opposite hemisphere. Share stories with each other. Aim for international. Record your experiences along the way and make them available to others. Spread the wisdom gained. Value your sense of humor above all. And don't forget to get your hands in the dirt. Plant seeds.

ACCESS ISSUES: technology in the service of community

Remember when you visit and participate in online learning communities today, this is early in their development. Access is still a tremendous issue. Only a fraction of voices are represented. Make access issues a focal point of inquiry and action in your local learning center and online learning community. With increased awareness of international access issues, we can work to insure that no one is left behind. Local learning centers can make a significant contribution here by functioning as Community Access Centers. The very unique possibility that online learning communities offer is global participation. Our children will grow up taking this for granted. It is up to us to help shape the quality of that participation and the diversity of voices represented.

For your own research into access issues, here are a few places to begin. Art McGee of the Institute for Global Communications (<http://www.igc.org/amcgee/e-race.html>) maintains an excellent page of links. The Benton Foundation in cooperation with The National Urban League hosts the Digital Divide Network website (<http://www.DigitalDivideNetwork.org>) and the DIGITALDIVIDE mailing list. The list serves as a public forum for Digital Divide issues with a special emphasis on finding practical solutions. To subscribe, send email to digitaldivide-request@list.benton.org and put subscribe DIGITALDIVIDE yourname in the first line of the message body. For additional resources on Access issues, be sure to read the extended, hyperlinked version of this chapter on the Creating Learning Centers website. Publish your insights. Write about exemplary models you find. In the words of E.M. Forster, Only connect!

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