LEARNING COMMUNITIES:

WHOLENESS AND PARTNESS, AUTONOMY AND DEPENDENCE

IN THE LEARNING ECOLOGY

Jan Visser

President, Learning Development Institute

http://www.learndev.org

This paper has been prepared at the request of the organizers of the International Symposium on Learning Communities, held in Barcelona, Spain, on October 5 and 6, 2001. It is the extended version op a preliminary document presented during the inaugural plenary session of the symposium. The paper provides a conceptual framework that situates the idea of learning communities in the context of an ecological view of learning. The argument presented in this paper is in conformity with the claim of the symposium organizers that "learning communities and educational networks are some of the most promising topics for 21st century education" and should therefore be seen as "the core theme of the education project of the Universal Forum of Cultures – Barcelona 2004." In attempting to provide a framework for thinking about this "core theme," I shall address questions about the fundamental reasons for human learning, exploring its essential nature and then looking at how that compares with what we actually do when we promote and facilitate learning. One of my conclusions will be that we require a changed mindset to overcome the current restraints in the development of human learning. In that context I shall refer to the need to develop a broader definitional framework for learning, one that focuses on dialogue and constructive interaction with change as the essential dimensions for building learning communities. I will conclude with a brief analysis of the importance of the dialogue among cultures in addressing the urgent global issues defined by the Universal Forum of Cultures – Barcelona 2004.

Why we learn

At the outset of our explorations of the "core theme of the education project of the Universal Forum of Cultures – Barcelona 2004," we must ask ourselves why we learn, and try to answer that question against the backdrop of the particular conditions of our time. My first observation is that our era is fundamentally different from earlier times in at least the following respects.

To start with, the pace at which our environment changes has rapidly overtaken the rhythm set by the approximately 20-year time interval with which successive human generations replace each other. This has profound implications for the ways in which members of the human species must prepare themselves for life and maintain their preparedness throughout life. At the relatively modest rate of change that characterized most of human history until about half a century ago, it was generally possible for the sitting generation to assume that the world was as it was and to leave it to the next generation to prepare itself for a new set of circumstances, the old generation being able

to tell the new one what those new circumstances would be. During the past decades this reality has dramatically altered. Significant change now takes place within the lifespan of a single generation. Thus, it is no longer possible to prepare oneself for life in the way past generations would do so, i.e., by going to school and, after graduating from it, embarking on a career path that required little to no further learning. For the same reason it has become impossible for an older generation to tell the younger generation what it should learn. Clearly, everyone, at any age, is in now in need of learning. Moreover, while responding to their innate learning needs, people of different ages continually interact with each other. Consequently, *the never-ending development throughout life of the capacity to learn has taken precedence over the learning of specific competencies early in life*.

A second aspect in which our era significantly differs from previous times has to do with our demographic expansion and the increased levels of interaction in which it results. Hominid development on the planet Earth started about three million years ago. Until the advent of the agricultural revolution, some ten thousand years ago, no more than about eight million people populated the earth. That number had grown to a couple of hundred million by the beginning of the Christian era, reaching 500 million around the year 1600, one billion (10^9) around 1800, and approximately three billion (3.10^9) by the year 1960. After that it took less than 40 years to double the number, which reached the six billion (6.10^9) mark by the end of the last century.

The number is still growing, yet the dimensions of the planet and the extent of its resources are limited. The problem is much bigger than that of unbridled demographic growth as such. In fact, the entire history of the human species, starting with the invention of agriculture – which led to unchecked demographic growth in the first place – has been one of reaping the benefits of our creative potential first, leaving the solution of the resulting problems to subsequent generations. No doubt, this phenomenon has continued to challenge our inventiveness and contributed enormously to how clever we have become as a species. The downside is that it is also responsible for the problems humanity now faces.

Every new opportunity we create comes with its own set of problems that require to be dealt with. To do so, we invent the next set of technologies, pushing the frontier and opening up yet newer vistas while at the same time creating the next set of problems that require the next set of solutions. This process goes on and on *ad infinitum*. After the relatively short period – short in evolutionary terms – of 10,000 years of technological development we have now reached a point where it is no longer sufficient to simply deal with the consequences of the creative interventions of *past* generations; we must come to terms with and manage our *own* creativeness if we don't want things to run out of control. In other words, there is a need for metacreativity, the capacity to creatively arbitrate our creative actions, to apply our creative energy to addressing problems resulting from our creativeness. Such metacreativity requires reflectiveness; sovereignty of thinking; solidarity among human beings; a sense of belonging, of being part of a larger whole; the capacity to visualize the world one interacts with in terms of problems that afford challenges and opportunities, and the desire and ability to take charge of one's life in a problem-oriented fashion. In short, it requires the development of learning at a higher, more comprehensive level than what is foreseen in and practiced in most of the

traditional instructional contexts. In fact, we urgently require a much fuller perspective human learning and the role played by instruction within that context.

The pace at which the process of responding to ever new challenges moves forward is rapidly accelerating. It leads to explosive development, which causes human activity to impact not only locally, but to affect people everywhere as well as to have consequences that not we, but future generations will experience. Consequently, we have become, more than ever, a species whose members' well-being is intimately linked to the well-being of others, both those who share our passage through life and those whose life is still to emerge. *There is thus a great urgency for us not only to learn to live together, but first and foremost to learn to learn together, having in mind the dynamic relationship between where we come from and where we are going.*

A further difference between our era and earlier times has to do with the existence of challenges of a truly global nature. As a consequence of our explosive growth, our planetary society faces problems that have potential consequences that threaten our sustainability as a species as well as the sustainability of many other life forms on earth. Those problems are complex in nature; complex not just in the sense of 'difficult to tackle,' but rather in the sense in which Complex Adaptive Systems are complex. The solution of such problems is no longer solely dependent on some sort of centralized intervention, such as on the part the organs of government. Instead, they require the participative problem solving involvement of all. *For our increasingly planetary society to work, we must be aware of the world as a whole while, as individuals and local communities, we must focus on the interaction with our immediate environment.*

Not only do we face global problems in terms of their spatial dimensions, these same problems also challenge our imagination in the perspective of another dimension of our perceptual framework, namely *time*. The very possibility – at least from the perspective of our technological capability – to annihilate human life on earth, forces us, once again, but now more forcefully than ever, to face the age-old question "Why are we here?" It is a question that will never be answered, but always be asked. In contrast with earlier times, it is no longer a rhetorical challenge, but a practical one. Whether we look at human life as a miraculous accident of evolutionary history or perceive of it as embedded in a framework of intention, our fundamental inability to answer the question "Why are we here?" should hold us from taking it seriously. Rather, it should compel us to reflect on ourselves from the perspective of our place in the universe and the related question: "Who are we that we may be so clever as to be able to destroy ourselves and other life with us?" In other words, *there is a need to reinstate in our thinking about learning a concern with ultimate values.*

Finally, our increasing technological capability makes it possible to intervene more and more in our very humanity. In a discussion on the meaning of learning, organized by the Learning Development Institute at last year's International Meeting of the Association for Educational Communications and Technology in Denver, Colorado, Spohrer (2000, October, p. 4) asserted that, while "it is not surprising that at this time of rapid change, we choose to ask the question 'what is the meaning of learning?'" (p. 4), a more powerful question emerges. "By the middle of this century," Spohrer says, "we may well be asking 'what is the meaning of being human?' as our grandchildren develop the capability to create new intelligent species of biological, digital and hybrid life forms" (p. 4). In line with the recommendations in Spohrer's paper, this calls for urgent attention to

the need to *develop meta-learning abilities that allow us to ask pertinent questions, to set responsible goals and to use technology wisely in the pursuit of those goals.*

The learning we need

Learning is the one human factor that plays a vital role in the context of all of the above challenges. However, it can't be learning as we used to think about it. A radical redefinition of what it means to learn is required. More is needed than mastering the set of fixed skills a traditional curriculum helps students to acquire. The idea of the traditional curriculum is, in fact, wholly at odds with what is needed, as we must move away from the sacrosanct idea that *all* learning is undertaken in a step-by-step fashion leading the learner from a particular point to a well-defined next destination. While this may be true for certain specific learning tasks, it is not a good perspective on learning in general. Antonio Machado in his "Cantares" advises the traveler through life: "Caminante, no hay camino, se hace camino al andar. Al andar se hace camino," and, therefore, as the road before us is always under construction – by us, who travel it – learners must in the first place have a keen eye for the problems ahead of them. Throughout life those problems will constantly change, providing novel challenges all the time. Lederman (1999, April) refers in this connection to how in the education of scientists, "one is accustomed to the need to develop the ability to function in entirely unpredictable situations, for such is the nature of scientific exploration" and continues to say:

> This points to a search for educational processes that will strive for the capability of adapting, and even thriving in areas of new problems and new opportunities. Schools must look across all disciplines, across the knowledge base of the sciences, across the wisdom of the humanities, the verities and explorations of the arts, for the ingredients that will enable our students to continually interact with a world in change, with the imminence of changes bringing essentially unforeseeable consequences. Obviously, a vital component of such education is the habit of lifelong learning. (p. 3)

In other words, *if there is such a thing as "preparation for life," then it must be a preparation that allows us to cope with the unpredictable.*

Consequently, designed learning environments worth their salt must be structured around problems, problems that have to do with whole human beings, body and mind, and that can very often not be tackled by simply adding up the separate pieces of compartmentalized knowledge that multiple disciplines have generated. A transdisciplinary view, in addition to the wealth of cognitive heritage that we owe to the development of our various disciplines, is definitely important. It requires collaboration among human beings. A good learning environment, responsive to the challenges of our time, must therefore lead people to continually develop their consciousness and their ability to deal with novel situations – which is, after all, what the word "intelligence" means – by working together. *Creative collaboration is what is required* (John-Steiner, 2000).

Possibly most importantly in the above context, we must conceive of learning as an ecological phenomenon. Any learning community – be it a school, a corporation or organization, a family, a city or region, or even an entire society – is always itself part of something larger that learns. At the same time, it is also the environment in which smaller

learning entities are nested. I have given much emphasis to the concept of "learning ecology" in my writings over recent years (e.g. Visser 1999, April; 2001b), and find it also increasingly reflected in the work of other authors, such as Solomon (2000, October) and Shotter (2000, October). A related notion, that of "ecological human development," pervades the work of developmental psychologist Bronfenbrenner and his collaborators (e.g. Bronfenbrenner, 1995; Bronfenbrenner & Ceci, 1994). The learning ecology is made up of a host of what one can call "sub-learning environments." Those sub-learning environments – in fact, the learning communities that operate within them – interact with each other, allowing the learning occurring in each of them to become mutually reinforcing. Some of those sub-learning environments are instructional settings, such as the school, but the concept also includes, for instance, the family; the Internet; museums; nature; sports, spiritual practice, and broadcast media. The variety and diversity of such sub-learning environments is in fact endless, as they tend to emerge, submerge, reemerge, and regroup all the time while one's learning life develops. *At a societal level we must be aware of the need to develop "learning environmental policies" that can ensure that learning becomes mutually reinforcing in the different, though interconnected, parts of the learning ecology.*

The need for a changed mindset

What was said above about learning does not necessarily blend easily with the way in which most people perceive learning. Many people think of learning in the first place as something one does in school. Talking about learning thus evokes images of classrooms, textbooks, and teachers. Those images, in turn, relate to particular preconceptions about the mechanisms through which learning takes place. Thus, for instance, teachers are seen as having knowledge that students don't have. The teachers therefore have as their prime responsibility to dispense knowledge to the unknowing students, making sure that knowledge enters into their heads. The teachers' work is being made easy by the use of textbooks, which are seen as additional repositories of knowledge. Within this frame of thinking, the act of learning is thus one of acquisition of knowledge. As knowledge is supposed to reside in someone's head, learning is thought of as an individual act. Linked to this idea is the notion that people require a fixed minimum amount of knowledge so as to be properly prepared for life, whence the view that learning is in the first place undertaken early in life while engaged in by adults if, for some reason, one had missed one's chance early on and wanted to compensate for it later or, alternatively, to be able to adjust to the occasional change in performance requirements. The traditions that have marked the development of school-based learning have furthermore led to knowledge being seen as decomposable into parts that are best organized into disciplines. Moreover, such disciplines, and the way they are being taught, have greatly favored particular styles of learning and thinking, appealing to people in a limited domain of a wide range of different intelligences. Besides, the practice of schooling has led us to conceive of learning as a process that is determined by such timeframes as 50 minutes (a lesson), several months (a term), or several years (a curriculum) and spatial connotations derived from the traditional ideas of school architecture. The left-hand column in Table 1 below presents a non-exhaustive overview of some of the most commonly held beliefs about learning as referred to above. It is interesting to note how those same beliefs often continue to persist in the conception of learning environments built around the use of modern information and communication

technologies. In fact, in quite a number of cases such so-called virtual learning environments are more traditional in outlook from the perspective of how learning is being facilitated than many a conventional brick-and-mortar school setting.

The right-hand side of Table 1 presents alternative ways of looking at learning. They are part of a picture that starts to emerge when one is willing to shift the focus away from the values, attitudes, traditions and modes of thinking and behaving that pertain to the dominant culture of schooling and instead to evolve towards a culture of learning.

Table 1: Existing and emerging views of learning

Common beliefs about learning	Less common, but more appropriate views of learning
Learning seen as linked to school or instructional settings	School or instructional settings seen as part of wider learning context
Linked to particular age group	Learning as lifelong disposition
Acquisition paradigm	Participation paradigm
Seen as individual activity	Seen as individual and social activity
Takes place in the heads of people	Takes mainly place outside the heads of people
Empty vessel metaphor	Learning as dialogic disposition
Preparation for life	Inherent feature of life (humans prepare for, maintain and continually further develop lifelong learning)
Reaction to change	Constructive participation in change
Disciplinarity	Disciplinarity, multi-, inter-, and transdisciplinarity
Compartmentalization of knowledge	Consilience
Involves limited slice of the intelligence spectrum (seen as fixed)	Addresses multiple intelligences that are seen as able to develop
Limited to specific space-time frames	Multiple space-time frames
Favoring only certain learning styles	Accommodating different learning styles
Extrinsically motivated	Intrinsically motivated (motivation awakened through dialogue)

The story of learning as told by those who learn[1]

For more than a year and a half now, the Learning Development Institute (LDI) has engaged in a research effort aimed at collecting and analyzing people's learning stories. Prospective authors of such stories are approached with three simple questions: "What is your most meaningful learning experience?" Why should that particular learning experience be considered meaningful?" and "What were the key conditions that allowed that learning experience to occur?" An example of a typical learning story is presented in the sidebar on the next page. Other sample learning stories can be found at http://www.learndev.org/LearningStories.html.

Preliminary results of this research, related to the analysis of a first set of learning stories, were presented last year at the International Conference of the Association for Educational Communications and Technology in Denver, Colorado (Visser & Visser, 2000, October). The research effort has since expanded, both in terms of broadening the

---

[1] This segment of the paper is adapted from LDI Working Paper # 2 on "Factors that Foster the Evolution of a Learning Society" (Visser, 2001a).

research partnership and by enlarging the conceptual framework. Several universities have joined LDI and more and more learning stories are being added to the database. Further iterations of the learning story concept are being experimented with and a wider range of conditions under which people learn is being contemplated, including the collection of audio-recorded learning stories among members of the Aymara and Quechua speaking illiterate communities in the highlands of Bolivia by Cole Genge of the University of Massachusetts at Amherst.

The preliminary research findings are, earlier presented at the above-mentioned meeting in Denver, are reiterated in this paper as they underscore much of what was said earlier regarding what it means to be learning. They reveal that people perceive their learning as meaningful when any or more of the following things happen:

- Learning results in ownership of knowledge (i.e., it involves autonomous processes of making decisions, choices, guesses, mistakes and discoveries, and developing the various emotions that accompany those processes).
- Learning is maintained across the lifespan (i.e., any particular learning experience is perceived as an integral part of one's lifelong involvement in learning).
- Learning lays the path for continued growth (i.e., learning is generative).
- Learning has implications in the real-life context (i.e., it is seen as inherently relevant).
- Learning results from the active involvement in facilitating someone else's learning (such as when a teacher discovers that his or her efforts to share experience with someone else are rewarded by a deepening of his or her own understanding).
- Learning changes negative self-perceptions into positive ones (The formulation of this finding should be interpreted against the backdrop of the initially negative experience many of the contributors to the learning stories project have had with the perceptions imposed on them by the traditional school system).
- Learning results in the discovery of persistence as a strategy to manage life's challenges (indicating the importance of situating learning in the context of serious long-term pursuits).

The following text is adapted, by way of example, from the learning story of Rodolfo, a Mexican man reflecting on his boyhood experiences. The original version of this story in Spanish is available at http://www.learndev.org.

The one who took the world apart

From a very early age onward, Rodolfo had the habit to dismantle anything mechanical he could lay his hands on. Mechanical things looked like they had some life in them. He dismantled them even though he knew that his behavior would almost certainly result in severe punishment from his parents. Rodolfo took things apart to find out why and how they worked. At the same time it allowed him to construct ideas that pertained to his world of fantasy. Thus he was able, for instance, using the parts of things he had previously dismantled, to build a 'movie' projector using an old shoebox. In the process he became aware of physical principles, not realizing that those things would normally only be taught at the bachelor level.

Punishment did not deter Rodolfo. His curiosity and interest only increased the more sophisticated the things he continued to take apart. They included, when he had reached the age of 12, those new radio receivers with 'bulbs' on them. In trying to understand how they worked he experienced electric shocks and could see sparks flashing when connecting different points with pieces of metal. He also discovered that generally, when a radio didn't work, it was because one of those bulbs was somehow damaged and did not glow the way it should. This became the key to turning punishment into reward. Henceforth, Rodolfo would repair radios and all kinds of other things, making a little profit.

Taking things apart has remained Rodolfo's preferred way of learning. Had it not been for the poverty and the scarcity of the environment in which he grew up, his creativity and sense of exploration might never have been challenged so much and he might never have discovered his secret to learning.

Such learning was found to be particularly facilitated when (1) an initially negative condition could be transformed into a positive challenge; (2) a role model was present or emotionally significant support was available in the environment of the learner; (3) there were opportunities for independent exploration of one's learning as well as metacognition, i.e. for finding one's own ways to learn and for reflecting on them.

Very few of the learning stories that were collected made any direct reference to the school context. Among those that did, only a small proportion reported positively about the school. The larger proportion represented stories of survival, i.e., stories of people who had been able to overcome the negative impact of the school environment on them and therefore, as mentioned above, to turn this initially negative condition into a positive challenge.

While the research effort continues and a more detailed and complete picture emerges, current results point in the direction of issues that get surprisingly little attention from the research and development community. In the light of these learning stories, it is difficult to escape the conclusion that our perspective is too much that of the formal contexts and procedures through which we help people to learn, or so we think. The learning processes we deal with tend to emphasize the immediate over the long-term and evolutionary; the definable over the exploratory; and the individual over the social. Does it mean that what we do is all wrong? Well, probably not, but we are likely to be too focused. While there may be lots of things we do correctly, those things would only really start making sense and give meaning to people's lives if they became integrated in a more comprehensive set of conditions and considerations. The more overriding dimensions of that set of conditions and considerations relate to the integral nature of how the different factors fit together and how they situate learning, at different levels of human and social organization, within the context of an ongoing pattern of activity. That set of conditions should furthermore reflect the historical and evolutionary context of which we are part.

It has always been the premise of the likes of educators, educational planners, instructional designers, educational technologists, educational communicators that it is possible to consciously influence people's learning. Research on the effectiveness of instructional events, communication procedures, and technological interventions does indeed support that premise. The bulk of such research, however, has focused on narrowly defined learning tasks rather than the more comprehensive behaviors that the authors of our learning stories emphasize. Emphasis has been on the bricks, making it difficult to see what kind of building resulted from our disconnected actions to add brick to brick. No wonder, then, that the evolution of a learning society has been hampered.

Clearly, the research initiated through the Learning Stories Project focuses on a unit of analysis whose order of magnitude is distinct from that of the more mainstream research. It can be argued that studies like those of the Learning Stories Project that focus on a *broadened unit of analysis*, in addition to such comprehensive reviews as the one undertaken by the National Research Council (Bransford, Brown & Cocking, 1999) that summarize research in the framework of *broad themes*, as well as *longitudinal studies* about the development of learning behavior in people are crucial to the deeper understanding of human learning. They help create visions of the whole, visions that have long remained obscured by our overriding obsession with detail but that are nevertheless essential to appreciate the beauty and harmony of the evolving learning landscape.

Learning: The elements of a definition

As so much of what happens and what does not happen in terms of the development of human learning is determined by commonly held perceptions about learning, it is important to take a more serious look here at how learning is being defined. Most people don't define learning explicitly. However, even if they don't define it explicitly, it can easily be derived from their writings that their implicit definitions of learning are limited to what happens in a purposefully structured learning environment in which desired attitudinal or competence goals are to be achieved along the lines of well-designed processes. Such settings are the ones in which most of the existing research practice is rooted. Basically, therefore, what we learn from educational research is that "well-designed instruction works," each specific study adding to our knowledge of what "well-designed" means and the term "instruction" referring to processes ranging from highly directive ones that make people learn in prescribed ways to the more imaginatively designed environments that allow people to find their own ways to specifically defined learning goals. There is precious little research about learning that takes place beyond the instructional context, such as incidental learning, or about how attention to the conditions of learning in multiple settings (instructional as well as non-instructional ones) may mutually reinforce the depth of our learning. We seem to avoid messy situations.

The past decade has seen an emerging interest in broadening the way we look at learning to beyond the instructional context *per se*. According to De Vaney and Butler (1996), past definitions of learning have long remained under the spell of Hilgard's (1948) definition, which states that "learning is the process by which activity originates or is changed through training procedures…as distinguished from changes by factors not attributable to training" (p. 4). Only quite recently, this close linkage between instruction and learning has started to disappear. Driscoll (2000), for instance, analyzes the definitional assumptions shared by current learning theories. She notes that, in order "to be considered learning, a change in performance or performance potential must come about as a result of the learner's experience and *interaction with the world*" (p. 11; emphasis added).

I view learning as a lifelong "disposition to dialogue...with [our] human, social, biological and physical environment" (Visser, 2001b, p. 453). We – as individuals as well as together, in all manner of socially organized configurations – engage in that dialogue to allow us to "interact constructively with change" (p. 453).[2] The emphasis on dialogue in this definition is also a major defining dimension of the work of Shotter (e.g. 1997 and 2000, October). It is equally present in the thinking of Savery and Duffy (1995) about constructivist learning environments and resonates well with John-Steiner's (2000) imaginative concept of "creative collaboration." It is a corollary also of the emphasis that Tessmer and Richey (1997) put on "context" as an important factor to be taken into account in the design of learning environments as well as of the idea that learning and activity are inseparable concepts (Jonassen, 2000, October). It is furthermore embedded in how Cole & Engeström (1993) see the building of knowledge as a cultural-historical

---

[2] The complete definition reads as follows: "*Human learning is the disposition of human beings, and of the social entities to which they pertain, to engage in continuous dialogue with the human, social, biological and physical environment, so as to generate intelligent behavior to interact constructively with change*" (Visser, 2001b, p. 453).

process. Added in the definition from which the above quotes originate (Visser, 2001b), is the idea that we engage in dialogue for a purpose, a purpose that becomes increasingly more important in the context of the various challenges pointed out at the beginning of this paper. The need not to see us as mere passive entities that can only *react* to change, but instead to conceive of ourselves as *active and conscious participants* in it, stands out. Moreover, as we ourselves also contribute to change, it is eminently important that we do so in a constructive manner. As humans we have the ability to choose between being constructive and being destructive. I thus contend, and explicitly define, that human learning must include the imperative that our dialogue be a constructive one. To be an educated person then means *to be able to take charge and give direction to one's life; to do so while being fully aware that "one's life" is inseparably interwoven, in space and time, with the lives of others; and to enhance our common humanity through the active dialogue that ensues.*

Learning communities: The building blocks of dialogic interaction

The above definition that learning is a disposition, which leads to a process, rather than that process itself; that the process it leads to is a dialogic process; that it transcends the individual and includes the social; and that it is related to a conscious effort to engage constructively with one's ever changing environment, that definition is quite a bit more comprehensive than traditional definitions, which focus on learning engaged in by isolated individuals who are subjected to deliberate processes that change their performance. *The difference is between doing things yourself together with others, and things being done to you.* In the context of the thinking that emerges from previous definitions, it is only natural for educators to perceive of themselves as having to tell others what to do. Such an attitude on the part of educators results in the expectation of submission, passiveness and obedience on the part of the learner, connotations that are, indeed, not alien to the etymological meaning of the word "education" (Mayor & Visser, in print). Learning as a "disposition...to engage in continuous dialogue," a disposition shared by all human beings, cannot but lead to an entirely different learning reality, a true "learning ecology" in which all that learns does so thanks to the learning engaged in by others.

Within the ecological and dialogic vision of learning referred to above, learning communities are both *part* and *whole*. They are *dependent* and *autonomous* at the same time, entertaining those two modes of existence in a parallel fashion. This view is essential if we want learning to mean more than what is contained in the various notions that link the concept predominantly to the context of instruction. It is also an important view in the context of rethinking the instructional reality as such.

At the beginning of this paper I have highlighted five major challenges humanity faces at this juncture in time. In developing my argument, I have linked those challenges to the need to fundamentally broaden the meaning of learning. An important thread throughout that argument is the essential interconnectedness of the society of humans. Feldman (2000) refers in this connection to the search for "balance between individuality and social connectedness" (p. xii) as the central theme of the current century, contrasting it with the past century's focus on "intellectual development that placed the lone seeker of knowledge...at the center of the developmental process" (p. ix). The shift of focus comes at a good time, considering the convoluted nature of the challenges earlier referred to, which make it difficult for them to be addressed through solo efforts. They call for

visions of learning that are built around notions of sustained collaboration and dynamically evolving dialectic relationships between individuals and communities. Such visions have only marginally to do with the content of learning. Rather, they impact on *how* people learn and therefore on how the learning landscape should be restructured.

As the organizers of the International Symposium on Learning Communities suggested, learning communities are indeed at the core of new visions about learning. However, such visions are at risk of remaining truncated, stunted, incomplete visions if the different kinds of learning communities proposed for discussion are going to be treated as closed entities, unrelated to other communities, closed off from the world that surrounds them, and with disregard for their constituents. *Wholeness and partness; individuality and communality; autonomy and dependence, at different levels of complexity at which learning organizes itself, must be respected, not as competing notions, but as belonging together within an overall ecological perspective of learning.*

Cultures of learning and learning of cultures

We live once again in a time in which cultures may easily perceive one another as potential threats to their existence, well being, and possibilities for development. By way of example (and drawing on one of my earlier papers [Visser, 1997]) one may look at the issue of languages. Language, in this context, is merely one way through which a culture expresses itself, asserts its identity within the community of other cultures, and allows its members to develop their individual identity within the particular culture.

"European culture arose as a reflection on the destiny of a multilingual civilization," writes Umberto Eco (1995, p. 18). At its present stage, it is "in urgent need of a common language that might heal its linguistic fractures" while, at the same time, it "needs to remain true to its historic vocation as the continent of different languages" (p. 344). To reconcile the two demands, Eco offers a solution not far from what is already being practiced by certain Web-based communities (Visser, 1997). Eco refers to "a community of peoples with an increased ability to receive the spirit, to taste or savour the aroma of different dialects" (p.350, 351). In such a community of peoples, "differences of language [should] no longer [be] barriers to communication" (p. 351). Quite to the contrary, Eco suggests, as within that community

> people can meet each other and speak together, each in his or her own tongue, understanding, as best as they can, the speech of others. In this way, even those who never learn to speak another language fluently could still participate in its particular genius, catching a glimpse of the particular cultural universe that every individual expresses each time he or she speaks the language of his or her ancestors in his or her own tradition. (p. 351)

What Eco advocates as a solution for a multilingual Europe, holds, probably even more forcefully, for the world at large. The rate at which globally languages are disappearing is frightening. Pinker (1994) refers in this context to the linguist Michael Krauss who "estimates that 150 North American Indian languages, about 80 % of the existing ones, are moribund" (p. 259). The picture, according to the same linguist, is not much better elsewhere with 90 % of the languages in Alaska and northern Siberia, 23 % in Central and South America, 70 % in Russia, and 90 % in Australia at risk of disappearing for good. Worldwide his count adds up to about 3000, i.e. 50 % of the total number of languages still in existence. But for how long? Let's listen to Pinker:

Only about 600 languages are reasonably safe by dint of the sheer number of their speakers, say, a minimum of 100 000 (though this does not *guarantee* even short-term survival), and this optimistic assumption still suggests that between 3 600 and 5 400 languages, as many as 90 % of the world's total, are threatened with extinction in the next [i.e. the twenty-first, JV] century. (p. 259)

Pinker (1994) refers to the extinction of languages as reminiscent of the extinction of species in the biological world. Their causes overlap. "Languages disappear by the destruction of the habitats of their speakers, as well as by genocide, forced assimilation and assimilatory education, demographic submersion, and bombardment by electronic media" (p. 260). In an argument similar to that of Eco (1995) referred to above, Pinker warns that

for anthropology and human evolutionary biology, languages trace the history and geography of the species, and the extinction of a language ... can be like the burning of a library of historical documents or the extinction of the last species in a phylum. But the reasons are not just scientific. As Krauss writes, 'Any language is a supreme achievement of a uniquely human collective genius, as divine and endless a mystery as a living organism.' (p. 260)

Language is but one dimension, albeit an important one, among the multiple ways in which a culture asserts itself as a contributing element in a multicultural context. What holds for languages, holds, more strongly even, for cultures. They are, to borrow Krauss's words, each of them in their own idiosyncratic way, the supreme achievement of a uniquely human collective genius, the result of a process of growth the exact evolution of which it is difficult to trace back in time. The comparison of cultures with living organisms is in order. So is the notion that cultures emerge, develop, separate in parts, recombine, dissolve, submerge, and merge as part of an ecological-evolutionary process. From this perspective the concern with survival is well justified. What is not justified is the equation of 'survival' with 'unaltered continued existence.' The latter would only be possible if cultures would define themselves in isolation of other cultures, thus avoiding contact with the outside world, which is anti-ecological.

Cultures of learning, the concept advanced earlier on in this paper, emerge from the learning behavior of cultures. In other words, 'cultures of learning' will not exist without the 'learning of cultures.' For cultures to learn, they must conceive of themselves as open systems that are in constant constructive dialogue with other cultures, establishing dynamic equilibria in the patterns of interaction with the outside world that ensue. Such constructive dialogue has in mind the overall well being of the entire ecology of cultures. The focus on such issues as the ones defined by the Universal Forum of Cultures – Barcelona 2004, i.e., peace, sustainable development, and cultural diversity, is necessary to move the dialogue along as these issues transcend the individual interests of single cultures. I thus suggest that it is issues that should inspire the overall conceptualization of learning communities, rather than such defining externalities as institutional or territorial boundaries – as is the case with classrooms, schools, and cities – or features related to the means by which the dialogue takes place, such as the Internet in the case of virtual communities.

The emerging information society has great potential to create the conditions for pervasive learning and cultural dialogue. Without pervasive learning and cultural dialogue humankind is at risk of extinguishing itself as it will no longer be able to respond creatively to the rate of change it is itself responsible for creating. The information society, besides its potential to let us generate new forms of learning together, also carries in it the potential of its own destruction, by destroying the linguistic and cultural diversity in the human habitats that are required for the universal dialogue among cultures to evolve in an ecologically sound manner. Such disaster, though more than ever within reach of our current technological potential, is by no means a necessary – or even likely – outcome of the spread and use of global systems of communication and information. Life has always been a play at the edge. It thrives on its proximity to its potential annihilation. Ensuring its continuation and further growth merely requires that we continue to generate dialogue that builds upon dialogue; dialogue, to paraphrase a statement by Fynsk (1996) about language, that happens when dialogue becomes a question addressed to dialogue itself, or rather "*in response*, in fascinated and repeated response to the speaking that occurs (p. 242)" as dialogue becomes aware 'that there is dialogue'...

References

Bronfenbrenner, U. (1995). Developmental ecology through space and time: A future perspective. In P. Moen, G.H. Elder, Jr., and K. Luscher (Eds.), *Examining lives in context: Perspectives on the ecology of human development*. (pp. 619-647). Washington, DC: APA Books.

Bronfenbrenner, U. & Ceci, S. J. (1994). Nature-nurture reconceptualized: A bio-ecological model. *Psychological Review, 101* (4), 568-586.

Cole & Engeström (1993). A cultural-historical approach to distributed cognition. In G. Salomon (Ed.), *Distributed cognitions: Psychological and educational considerations*. Cambridge, UK: Cambridge University Press.

De Vaney, A. & Butler, R. P. (1996). Voices of the founders: Early discourses in educational technology. In D. H. Jonassen (Ed.), *Handbook of research for educational communications and technology*. New York, NY: Simon and Schuster Macmillan (pp3-45).

Driscoll, M. P. (2000). *Psychology of learning for instruction*. Needham Heights, MA: Allyn & Bacon.

Eco, U. (1995). *The search for the perfect language*. Oxford, UK: Blackwell.

Feldman, D. H. (2000). Foreword. In V. John-Steiner, *Creative collaboration* (pp. ix-xiii). New York, NY: Oxford University Press, Inc.

Fynsk, C. (1996). *Language and relation: ...that there is language*. Stanford, CA: Stanford University Press.

Hilgard, E. R. (1948). *Unconscious processes and man's rationality*. Urbana, IL (as quoted in De Vaney & Butler, 1996).

John-Steiner, V. (2000). *Creative collaboration*. Oxford, UK: Oxford University Press.

Jonassen, D. (2000, October) Learning as activity. Paper presented at the Presidential Session on *In Search of the Meaning of Learning* (J. Visser, Chair) at the International Conference of the Association for Educational Communications and Technology, Denver, CO [Online]. Available at www.learndev.org/dl/DenverJonassen.PDF.

Lederman, L. M. (1999, April). On the threshold of the 21st century: Comments on science education. Paper presented at the Symposium on *Overcoming the underdevelopment of learning* (J. Visser, Chair) at the Annual Meeting of the American Educational Research Association, Montreal, Canada [Online]. Available at http://www.learndev.org/dl/lederman_f.pdf.

Mayor, F., & Visser, J. (in print). La educación y el aprendizaje en el tiempo de las nuevas tecnologías de información y de comunicación: Diálogo entre Federico Mayor y Jan Visser. In P. Mayor Menéndez & J. M. Areilza Carvajal (Eds.), *Internet, una profecía.* Barcelona, Spain: Editorial Ariel (Expected publication date: February 2002).

Pinker, S. (1994). *The language instinct: How the mind creates languages*. New York, NY: William Marrow and Company, Inc.

Savery, J. R., and Duffy, T. M. (1995). Problem based learning: An instructional model and its constructivist framework. *Educational Technology, 35*(5), 31-38.

Shotter, J. (1997). The social construction of our 'inner' lives. *Journal of Constructivist Psychology, 10*, 7-24.

Shotter, J. (2000, October). The meaning of learning in the perspective of rapid technological change. Paper presented at the Presidential Session on *In Search of the Meaning of Learning* (J. Visser, Chair) at the International Conference of the Association for Educational Communications and Technology, Denver, CO [Online]. Available at http://www.learndev.org/dl/DenverSpohrer.PDF.

Solomon, D. L. (2000, October). Philosophy and the learning ecology. Paper presented at the Presidential Session on *In Search of the Meaning of Learning* (J. Visser, Chair) at the International Conference of the Association for Educational Communications and Technology, Denver, CO [Online]. Available at www.learndev.org/dl/DenverShotter.PDF.

Tessmer, M. & Richey, R. C. (1997). The role of context in learning and instructional design. *Educational Technology Research and Development 45*(2), 85-115.

Visser, J. (1997). Multilingualism in a pervasive learning environment. In *Le plutilinguisme dans la société de l'information*, Conference proceedings of the Colloque International sur Le Plurilinguisme dans la Société de l'Information (pp133-148), held at UNESCO, Paris, December 4-6, 1997. Paris, France: Forum International des Sciences Humaines. [Online]. Available at http://www.unesco.org/education/educprog/lwf/doc/multi.html.

Visser, J. (1999). Overcoming the underdevelopment of learning: A transdisciplinary view. Paper presented at the Symposium on *Overcoming the underdevelopment of learning* (J. Visser, Chair) at the Annual Meeting of the American Educational Research Association, Montreal, Canada [Online]. Available at http://www.learndev.org/dl/visser_f.pdf.

Visser, J. (2001a). *Factors that foster the evolution of a learning society*. LDI Working Paper # 2 [Online]. Available at http://www.learndev.org/dl/FactorsThatFoster.PDF.

Visser, J. (2001b). Integrity, completeness and comprehensiveness of the learning environment: Meeting the basic learning needs of all throughout life. In D. N. Aspin, J. D. Chapman, M. J. Hatton and Y. Sawano (Eds.), *International Handbook of Lifelong Learning* (pp. 447-472). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Visser, Y. L. & Visser, J. (2000, October). *The learning stories project*. Paper presented at the International Conference of the Association for Educational Communications and Technology, Denver, CO.