Chapter 12
Reflections on a Definition: Revisiting the Meaning of Learning

Jan Visser

Introduction

We learn all the time. Literally. We learn all the time we live. In fact, learning and living are profoundly intertwined. Learning is an integral aspect of what it means to live a fully human life. It starts nine months before we are born and ends when we die. Or does it? Any new human organism emerges in the context of an evolutionary history – genetically as well as culturally – that allows it to take over from and build on what those who went before it left behind. Thus, others will similarly take over from us and build on what, of our own learning, remains relevant and valid for future generations.

Increasingly, such future generations, including those that are growing up right now, will be 'planetary' generations. The pervasive opportunities to share information around the world is making us and them more and more aware of what we share, within the limits of a small planet, in terms of opportunities, resources, diversity and, particularly also, challenges and problems. This modern-day context has profound implications for how we should look at learning in a lifelong, life-wide and trans-generational perspective. Inequitable access to increasingly limited resources such as food; injustice in the distribution of wealth and power around the globe; scarcity of water; insufficiencies of the traditional ways of producing energy; degradation of ecosystem services; disintegration of societal coherence; unbridled urbanisation and unchecked pollution as well as dramatic loss of biodiversity are just some of the crucial issues we are facing, which will be increasingly among the concerns of future generations if humanity is to survive at all (e.g. Barnosky et al. 2011). They are all an integral part of a polycrisis the solution of which is a *conditio sine qua non* for sustaining human life on earth (Morin and Kern 1999; Crutzen 2002; Sachs 2007). The challenges the world faces in terms of sustained constructive

J. Visser (✉)
Learning Development Institute, P.O. Box 2105, Jupiter, Florida 33468, USA
e-mail: jvisser@learndev.org

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human presence on earth, and the risks involved in not responding adequately and in a timely fashion to such challenges, make serious, profound and continual reflection on how and what we learn and how learning should be conceived, facilitated and nurtured, both urgent and highly relevant. It requires that we start looking at learning differently, that we extend and deepen the meaning of learning.

Different Visions of Learning

Probably the most common view of learning – the one that comes most immediately to mind in people when they hear the word 'learning' – is that of children, adolescents or young adults being taught by someone knowledgeable in a physical space that looks like a classroom with the use of some basic aids to facilitate communication, such as a blackboard or a textbook. Expanding beyond that rudimentary vision, it may be recognised that a physical classroom does not need to have walls. A class can be gathered in the shade of a tree or under a roof without walls, as I have frequently seen while working in African countries; a chalkboard may be an improvised painted scrap of wood, textbooks may be absent because they are out of reach for the poor, and teachers may have deficient content knowledge and lack propitious pedagogical skills, but they will usually be well motivated to give of their best to those being taught. On the other end of the luxury spectrum, one sees classrooms that are opulently equipped with comfortable furniture, effective communication tools, demonstration devices, facilities to allow learners to acquire hands-on experience, with teachers who are among the finest and most knowledgeable known. Besides, whatever the level of luxury or sophistication, classrooms do not have to be physical spaces. They can also be closed or open virtual learning environments in which students interact with each other and the online teachers or facilitators who accompany them in their learning efforts via digital means without being physically, and not necessarily synchronously, present, supporting themselves in their learning efforts by tools and facilities they seek out wherever they can find them in their real-life physical or virtual environment.

Whichever of the above modalities is involved in the learning process, most people will likely think of learning as something that takes place under conditions that have been deliberately planned, having particular learning goals in mind to serve the assumed or expressed needs of learners. Indeed, the schooling metaphor prominently dominates what is subsumed under, if not explicitly articulated in, most commonly accepted definitions of learning. Consequently, lifelong learning is frequently interpreted in terms of lifelong exposure and access to opportunities to become part of such deliberately planned learning experiences as face-to-face courses or training events of some kind, of short or longer duration; varied distance education experiences; and individually or collectively pursued self-taught courses. However, it so happens that such intentional learning – intended by either the learner or someone who sees an opportunity to attend to assumed learning needs – are but a tiny part of our learning life (e.g. Bransford et al. 2008). We learn all the time, even while we

sleep. Agreement with that latter claim obviously depends on how one defines learning. Let us therefore look at the meaning of learning.

The Meaning of Learning

In an attempt to better understand the meaning of learning, the Learning Development Institute embarked, during the early years of the current millennium, on the Learning Stories Project (Y. L. Visser and J. Visser 2000; J. Visser et al. 2000; Learning Development Institute: Meaning of Learning [MOL] n.d.). Several hundred people around the world were asked the question: 'What has been the most meaningful learning experience in your life?' Respondents were young, mature and of advanced age; literate as well as illiterate; from developing nations alongside industrialised ones; and they were usually approached in the context of workshops, meetings, training programmes, everyday work settings or online. They were told to consider learning not only as the outcome of formal events but to look in an equally serious manner at what they had learned outside such formal settings. Most of their answers were given in the form of a one-or-two-page written mini-essay, but some chose to respond by way of a poem, a drawing, a verbally delivered narrative or by acting something out. Respondents were furthermore asked to clarify why they thought these learning experiences deserved to be considered particularly meaningful and what conditions had allowed them to occur. After analysis of the collected narratives, the results revealed a clear trend among those who participated for learners to be seen as inhabitants of not just one, but a wide variety of learning spaces, the large majority of which are not inspired by the above mentioned schooling metaphor (J. Visser et al. 2002; M. Visser and J. Visser 2003b). The most dramatically meaningful learning experiences reported were often associated with emotions, an area the importance of which generally receives little attention in formal education. Meaningful learning experiences almost invariably occurred outside the formal learning context.

It makes sense, therefore, to conceive of a learning landscape that is truly comprehensive, comprising formal, non-formal as well as informal learning, through which learners and communities of learning navigate along and across the lifespan. The three concepts just mentioned, formal, non-formal and informal learning, are commonly listed in that order, referring to decreasing levels of formality in structure, requirements and expectations as well as in order of decreasing assumed relevance and importance. It is a kind of compartmentalisation that may appeal to policy makers and planners of educational infrastructure; however, from the perspective of the learner it does not make sense. The true lifelong learner perceives of his or her learning as an integral experience. Thus, Colley et al. (2002) conclude, on the basis of a wide-ranging study of relevant literature about formal, non-formal and informal learning, that the limits of and associations between these concepts can only be understood with reference to the wider historical, social, political and economic contexts of learning, and to the theoretical view of learning held by those who use these concepts.

Let us look at this in more detail.

The Elusive Concept

Informal learning is an elusive concept and, properly speaking, a misnomer. It is a misnomer because learning is neither formal nor informal. Learning is just learning. What may be different and distinguishable in terms of the level of formality involved is not learning per se, but rather the prompts that cause us to learn and the circumstances in which we learn. Thus, for the purpose of this chapter, the term 'informal learning' should be taken to mean 'learning in informal settings'. It is a reference to all the learning we engage in outside of contexts that have been deliberately planned and structured to facilitate the attainment of specific learning goals, often with the intent that competence gains, achieved through such learning, be measured and certified.

Learning outside any of the formal contexts referred to above may in fact be more important and more pervasive than what we learn in formal settings. Livingstone (1999) likens informal learning to an iceberg – 'mostly invisible at the surface and immense in its mostly submerged informal aspects' (p. 17). According to the survey of informal learning among Canadian adults on which Livingstone's study is based, over 95% of those surveyed 'are involved in some form of explicit informal learning activities that they can identify as significant' (p. 20). They typically dedicate an average of around 15 hours a week to such informal learning.

The above figure does not take into account tacit informal learning. Explicit informal learning is distinct from tacit informal learning in that in the case of the former the learner consciously identifies such learning as significant, both in terms of the knowledge, understanding or skill acquired and the process of acquisition involved (Livingstone 1999, pp. 3–4). The above finding is consistent with earlier studies in both Canada (e.g. Tough 1979) and the USA (particularly studies based on the *National Longitudinal Survey of Youth* 1979). According to Livingstone's analysis, the trend towards informal learning has increased significantly over the past decades and particularly most recently. Nonetheless, despite its magnitude and common occurrence, the impact of informal learning on human behaviour often fails to become explicitly visible. The reason is a simple one. If no conditions are specifically put in place to make the learning happen, few researchers will go out to measure it. It is simply taken for granted, the same way that the parameters that condition it are taken for granted. Moreover, existing perceptions and definitions of learning are mostly still thoroughly grounded in the idea that learning is the result of some deliberate action on the part of forces outside the learner, be it thoughtfully crafted instruction or exposure to and immersion in a purposefully designed learning environment. In the perspective of such definitions, the learner is the object of an intervention aimed at bringing about change in the learner. Research based on such definitions typically zooms in on learning outcomes and sometimes, which is more interesting, on the processes learners engage in while learning. In the absence of deliberate interventions, it is usually recognised that learning can still take place. However, if it does, it is seen as incidental or accidental and seldom given the importance that is attributed to learning in the formal context.

Yet, informal learning is ubiquitous, frequently appearing in circumstances that we do not normally think of as learning contexts. Besides, it may serve purposes that are not necessarily the same as those that drive most formal learning efforts. More particularly, such purposes are often beyond what is required for 'enhancing productivity in the economic sphere' (UNESCO 1999, p. 6). In addition, the population of informal learners may have characteristics that are different from those that characterise the formal learners. One of the interesting, counterintuitive, findings in Livingstone's (1999) study is that, among those surveyed, 'the less schooled appear in many instances and significant dimensions of knowledge to be at least as competent as the more highly schooled' (p. 23). All these deviations from the mainstream perceptions we have about learning make it difficult to pin down what is exactly going on here. This causes informal learning to be treated as something of minor importance that is thought to take place at the margins – or even totally outside – of the realm of 'real' learning, and therefore not worthy of our serious attention. We know precious little about informal learning. Or, as Livingstone observes,

> The submerged informal part of the iceberg of detectable adult learning does not have the same hierarchical structure as the pyramid of organized education. We are really still at the 'ether stage' of understanding the processes and outcomes of informal learning, with little comprehension of their internal dynamics. (pp. 22–23)

The fact that we know so little is a good reason to try and find out more.

A Brief Indicative Survey of the Learning Landscape

The learning landscape is complex, varied and comprehensive. Formal learning is part of it, but so are multiple other modalities of learning. Below we will highlight some areas of interest, other than formal learning, that merit our attention. The overview is far from complete. The purpose of presenting the overview is to make visible the wide-ranging nature of the learning landscape and the diversity of learning modalities comprised in it.

Free-Choice Learning

Learning results, for instance, from people's interaction with expressions of culture, the beauty of nature and the products of human ingenuity and achievement via museums, concert halls, theatres, cinemas, archaeological parks and nature reserves. The extent to which people learn in such contexts is usually a matter of their own choice, whence the notion of free-choice learning coined by Falk and Dierking (2002). We note though that many different designations are in use, all of them pointing at different aspects of the same multifaceted phenomenon.

Learning in Social Settings

Next come people's participation in community-based organisations, and, increasingly, their involvement in digital modes of dialogic communication, such as via social networking Internet sites or while playing web-based video games.

Learning in the Workplace

Another area is that of informal learning in the workplace, the pervasiveness and importance of which are being recognised (e.g. Loewenstein and Spletzer 1999) while at the same time it is clear that 'any distinctions there are among formal training, informal training, and learning by doing' still await further analysis (Frazis and Spletzer 2005, p. 57).

Distance Education

Important alternatives to traditional ways of formal learning in the face-to-face mode furthermore exist thanks to a growing endeavour to offer courses and even entire educational programmes via distance education. This mode of educational provision has existed for a long time, using the postal services in addition to radio and TV to allow students and teachers or facilitators to communicate with each other (e.g. Schramm et al. 1967). However, distance education has really taken off grand scale – and in the process become better known as e-learning – more recently with the advent of Internet-based communication and the use of web-based teaching-learning platforms that allow for patterns of interaction to develop among students and teachers that rival those offered by the traditional classroom (Moore and Tait 2002). If properly employed, which unfortunately still rarely happens, the use of these new technologies in education may actually do a better job for those desirous to learn, but lacking the time to fill the seats of conventional classrooms, than the traditional school.

Self-Learning

Most distance education attempts to emulate the characteristics of formal school-based teaching and learning (Simonson 2000). Students who learn in the distance education mode are thus usually motivated by the prospect of receiving diplomas, certificates and degrees from providing institutions to which they pay. However, an additional way of learning – for learning's sake rather than for

diplomas, and costing little or no money – is emerging thanks to the same technologies that drive the expansion of distance education. Increasingly, educational materials are being made available over the Internet either for free (see e.g. OER Foundation n.d.; MIT Open Course Ware n.d.; TV Ontario n.d.; Science Friday n.d.) or at prices that are a mere minor fraction of what one would pay for attending classes at a traditional institution (e.g. Teaching Company n.d.).

Early Learning

Interestingly, perhaps the most powerful informal learning we engage in during the lifespan occurs at the start of life, at a time when there is little else to engage in but feeding ourselves and getting to know the world around us in ways that allow us to start manipulating our environment to our advantage (Gopnik et al. 1999). It is a discovery journey in which the infant takes the lead and to which the adult environment responds in a spontaneous and caring fashion, cautiously providing encouragement when possible while carefully avoiding anything that might disrupt or discourage the informal learning process. Facilitating the infant's learning is seen, by those who attempt to nurture it, as a process of interacting with opportunities naturally afforded by the learning child. How different this often becomes when the child goes to school!

Much of early learning is a play of reciprocal action and response between infant and caretakers. Based on Donald's (2001, p. 255) assertion that such early interactions 'interlock the infant's growing mind with those of its caretakers and ultimately the broader society', Egan (2008, p. 46) argues:

> The peek-a-boo game, the mutual sticking out of tongues, the hiding and revealing, the weeping and the laughter – will later find their way into language. The rituals of expectation and satisfaction become stories; the pretend games become metaphors; our sense of humor becomes jokes; sequences and patterns become mathematics and rhymes, and so on.

Such learning is all but formal. It is self-organised among those who partake in it as is much of what we learn in later life, sometimes helped in fundamental ways by what we learn in formal settings. However, the rigidity of formal learning can equally well lead, as a number of the learning stories we gathered shows, to blocking or frustrating the way to further development when the child goes to school. Gaining better insight into the workings of informal learning may well be important in the first place for getting a better handle on how informal and formal learning should be conceived—each of them—as part of an integrated learning landscape, ecologically co-existing and interacting with each other, rather than in separation from one another (J. Visser 2008). Besides, important lessons derived from how we effectively learn informally, and how such learning can be facilitated, may well also reveal ways in which formal learning can be improved.

Learning for Transition and Completion

Learning in old age, often prompted by the experience of painful loss; the need to cope with disease and debilitation; and the coming to terms with one's mortality (this might be named 'learning for completion') constitutes no doubt yet another powerful (and by its very nature final) occasion for the individual to learn – learning in ways that have no longer much to do with how and what one learned in school. Yet, it is learning all the same, and perhaps the most profound learning experience we may engage in during our lifetime. In fact, learning for completion may be seen as a special instance of 'learning for transition', a similar act of learning, often stretched out over several years and having to do with the necessity to redefine one's being-in-the-world. Examples of such transitions may include the passage from a life of school-based learning to one's integration in the world of work; starting to live together with a spouse; creating a family; seeing one's children leave home; and retirement. The transformations we undergo at such – and other less obvious – junctures in life are often profound. The learning processes we go through to make the transitions happen vary greatly across individuals, communities, cultures and circumstances.

Organismic Learning

Added to all of the above instances of learning at the individual level should be the notion of organismic learning.[1] We function not only at the individual level, but also as integrated elements in social entities, such as families, communities of practice or corporate bodies. Such social entities, just like individuals, learn, transform themselves and grow while they interact with the world around them.

Transgressing Boundaries, ICT and the Learning Ecology

The realisation that learning spaces do not exist in isolation is important in an age in which technologies make it not only possible, but increasingly likely, and even natural for learners not to feel confined to a particular learning space. Learners will readily transgress boundaries. When such transgression becomes the norm rather than the exception, it is only natural for researchers to become interested in how the different learning spaces are connected among themselves as part of a wider learning

[1]The term 'organismic learning' is used instead of 'organisational learning' to give the concept a broader meaning that can just as easily be applied to self-organised social units, such as families, as to deliberately organised social entities, such as corporate bodies. Most of the literature on organisational learning refers to the latter.

ecology rather than to focus on what happens within a particular learning space, be it formal or informal. Thus, Sefton-Green (2004) argues, with regard to the role played by information and communication technologies (ICT) in the lives of children, that the recognition that so many children are now 'immersed in ICT related activities in their homes and with their friends requires us to acknowledge a wider "ecology" of education where schools, homes, playtime, the library and the museum all play their part' (pp. 5–6). However, it is not just technology that provokes such change. As Brown and Duguid (1996) noted eight years earlier in regard of what drives change in another learning space, the university, 'It's probably less helpful… to say simply that the university will change because of changing technologies than to say the emerging computational infrastructure will be crucially important in retooling the already changing university…' (p. 2). The drivers of change in today's world are multiple. Technology is but one of them. Thus, speaking three years later at a gathering of the American Association for Higher Education, Brown (1999) furthermore suggested that by taking a fresh look at 'the notions of learning, working and playing in the digital age and how today's kids – growing up digital – might actually be quite different from what we might first think', we may have a chance 'by stepping back and looking at the forces and trends underlying the digital world,…to create a new kind of learning matrix, one that I will call a learning ecology' (p. 3). The perspective suggested by Brown shifts the usual focus on ICT as an opportunity for doing more of the same by different means to one that is concerned with changing the very meaning of learning. Coincidentally, the present author arrives at the notion of a learning ecology from a different angle, namely by considering that learning entities at different levels of organisational complexity – ranging from the individual to the social – behave like Complex Adaptive Systems (CAS) (J. Visser 1999). He thus argues that it is crucially important to recognise the ecological wholeness of the learning environment. Learning entities (individual/social) at diverse levels of organisational complexity live in that environment. They use its resources and are themselves part of the resources that make up the environment. They are organised and should be allowed to self-(re)organise perpetually, in a complex web of nested frameworks relevant to human learning behaviour as it relates to different timeframes and spatial contexts (pp. 11–12).

A more elaborate argument for the interpretation of the learning ecology in terms of Complex Adaptive Systems, and its implications for how learning should be redefined in such a perspective, appeared in the first edition of this handbook (J. Visser 2001).

Multiplicity of Meanings

The above explorations, incomplete and condensed as they are, cannot provide but an indicative view of the complexity and richness of what human learning entails. They should have shown, though, that today's learners find themselves in a learning landscape that is richly multifaceted and constantly and dramatically changing in

terms of the modalities through which people learn; the purposes for which they learn; and the context, including temporal and spatial frames of reference, in which learning acquires its meaning. They should also have made clear that traditional definitions of learning poorly capture such complexity, richness and beauty.

Reenvisioning Learning

The marginal attention paid to learning beyond what happens in the world of formal education, instruction and training may be linked to the tendency to define learning, implicitly or explicitly, in terms of what happens inside of the purposely established human and material infrastructure created to make formal learning happen, i.e. schools, providing general education at different levels, and training environments, created in response to more narrowly defined human performance improvement needs, often occasioned by opportunities and challenges one meets along the lifespan. The same tendency also leads to wishing to measure what is being achieved, which is necessary for certification of acquired skills. This is no doubt useful and serves recognised societal goals, at least in industrialised societies, but the strong focus – too strong from the vantage point of this author – on formal learning obfuscates a vision of learning that is more integral, complete and comprehensive.

Much of the educational literature assumes that we all share the same (restricted) notion of learning. It thus does not take the trouble to define the concept in depth. In fact, defining learning is far from easy. The difficulty is comparable to the difficulty of trying to define life. It is not too difficult to identify some basic characteristics of things that are alive, such as homeostasis, metabolism and reproduction, and it is not too difficult either to point to some specific things that happen when learning occurs, such as that someone's ability to perform specific tasks changes, but do we really capture the full complexity of what it means to be alive or what it means to be learning when we limit ourselves to merely identifying such basic features?

De Vaney and Butler (1996) assert that 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). That definition clearly excludes anything that might have resulted from the learner's exposure to a non-instructional or non-training setting. Only relatively recently has the close linkage between instruction and learning started to disappear. Thus, Driscoll (2000) analyses 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). Moreover, Tessmer and Richey (1997), writing from an instructional design perspective, argue for broadening the design concerns to beyond the instructional context as such and to

recognise 'context' as an important factor in the design of instruction. These authors thus acknowledge that learning results from more than instruction per se.

Note that in the above definition by Driscoll (2000), which marks an important step forward when compared to prior definitions, the purpose of learning is still seen as 'a change in performance or performance potential' (p. 11). The purpose is utilitarian, and the focus is on the outcome rather than the process. However, learners and the learning environment in which learners operate do not exist in isolation from each other. They co-exist and co-evolve in a dialectic fashion. In other words, the question is not what one takes away from the learning environment; what one contributes to it is equally important and perhaps more crucial. Shotter (e.g. 1997) therefore emphasises the dialogic nature of learning, and thus the essential inclusion of other learners (who may be teachers or facilitators), in the learning context. Von Glasersfeld (1984) and Savery and Duffy (1995) do the same with particular reference to constructivist conceptions – radical constructivist conceptions in the case of the former – of the learning environment. John-Steiner (2000) elevates the idea of dialogue to the level of creative collaboration.

Uneasiness about too restraining definitions of learning can also be found in the collection of contributions by multiple authors to the special issue of the *Educational Technology Magazine* on broadening the definition of learning and the implications of doing so for educators and designers of instruction (Y. L. Visser et al. 2002). The same uneasiness was the prompt to two major transdisciplinary debates on the *Book of Problems* at the 2002 and 2003 annual conventions of the Association for Educational Communications and Technology (AECT) (Learning Development Institute 2004; J. Visser and M. Visser 2003a; J. Visser et al. 2004) and a similar debate on *Learners in a Changing Learning Landscape* at the 2005 AECT convention (J. Visser 2005), which eventually resulted in a collaboratively authored volume on *Learners in a Changing Learning Landscape: Reflections from a Dialogue on New Roles and Expectations* (J. Visser and M. Visser-Valfrey 2008).

Concluding Thoughts and Recommendations[2]

It is against the backdrop of the inadequacy of existing definitions of learning discussed in the previous section that I proposed in the first edition of this handbook an alternative definition of learning (J. Visser 2001), which I called an 'undefinition' because it aimed at removing the boundaries from around the existing, too narrowly conceived definitions of learning. The views of learning based on these too narrowly conceived definitions have long determined educational policies and research agendas that no longer fit the needs and interests of our time.

Following are some reflections *à propos* this undefinition.

[2]Part of the first segment of this section is adapted from J. Visser (2008).

Constructive Interaction with Change

Human learning is distinct from animal learning and machine learning. Humans operate at a level of consciousness not shared by other organisms in the animal kingdom (Edelman 2004) and most certainly not – some say not yet – by intelligent machines. It allows us to experience joy and sorrow as we transit through life. It is the cause of the eternal amazement with which we stand, generation after generation, in awe of who we are, where we came from, what we are here for and where we are going. It is at the origin of our sense of belonging, of being part of a larger whole, an experience to which we give expression in religious beliefs; mythologies; evolving worldviews based on the methodical and disciplined pursuit of scientific insight; and great works of art. Within the above perspective, being human means having the unique opportunity to participate consciously – for a brief period of time – in the evolution of the universe. During that ephemeral timeframe, we transform the world at the same time as we are transformed by the changing world around us. We do so consciously. Learning is what makes it happen.

Accordingly, human learning must be conceived of in terms of purposeful interaction with a constantly changing environment to which we continually seek to adapt while being ourselves the conscious participants in creating the change. 'Constructive interaction with change' thus ought to feature prominently in a definition of human learning, expressing what learning is ultimately all about. The focus, then, is no longer on the product but also, and perhaps more importantly, on the process. Besides, it should be recognised that not only individual human beings partake in such constructive conscious interaction with change. The same behaviour equally applies to social entities at a variety of levels of complex organisation of which humans are part. Learning takes place within, between and among individuals and social entities. The importance of 'the social' in this connection is furthermore highlighted by a review study by Meltzoff et al. (2009, p. 288) on the *Foundations for a New Science of Learning*, which concludes that a 'convergence of discoveries in psychology, neuroscience, and machine learning has resulted in principles of human learning that are leading to changes in educational theory and the design of learning environments' and that a 'key component [in this context] is the role of 'the social' in learning'.

Moreover, learning as conceived in this perspective is intimately interwoven with life itself. It is therefore not something one engages in merely from time to time, but rather a lifelong disposition, one that is characterised by openness towards dialogue. It is through this dialogue that we continually transform ourselves, each other and our environment. Hence, I define human learning as 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' (J. Visser 2001, p. 453).

From Consumers to Participant-Users of Learning Resources

The prime initiative for setting up formal learning systems is generally not with the learners. Nations and states set up school systems to cater to society defined learning needs of those born within their bounds. Specific institutions in society, such as corporate and government entities, create training opportunities to meet their demand for specific competencies. Learners use those opportunities because of formal requirements and expectations, particularly those that pertain to their career development. While there is increasingly greater openness towards learner participation in structuring the learning experience and the environment in which it takes place, the learner is basically expected to accept the package for what it is. The learner is the consumer of a readymade or, at best, partly customisable product.

Beyond the formal learning environment, the learner's role is different. Yes, the prompts to learning may occasionally still be associated with the pursuit of formal learning objectives or formal expectations present in, for instance, the work environment of the learner. However, if so, it is the learner who determines how to pursue such goals. Moreover, prompts to learning are often not related to any such formal expectations, as argued earlier in this chapter in the section that surveyed the learning landscape. Individuals may pursue learning for reasons that are entirely detached from their participation in productive life. They select what to learn, identify opportunities to pursue their learning and take control over the ways in which they engage with such opportunities. Because of their informality, these processes are much 'messier' than formal ones. Informal learners swarm, so to say, throughout the learning landscape. Their presence in it is ecological in the sense that their use of its resources – including notably human resources – contributes to, rather than takes away from, the richness of the environment. Instead of simply being consumers, they are participant-users of the resources present in the learning landscape through which they pursue their lifelong journey.

The Unbound Learning Environment

To learners who conceive of themselves as independent of and not restricted to formal learning opportunities and resources, the learning environment that they see has no bounds. This remains true even if such learners may at times choose to use formal learning opportunities and resources, which they then do on the basis of a conscious and autonomous choice. They are, in the words of Nunan (1996), feral learners. They are not deterred by the absence in their proximate surroundings of readymade solutions for their particular interests and needs. Rather, they go out and negotiate opportunities wherever the environment affords them. They

do not necessarily stay the course of what they initially set out to do but allow themselves to branch off in different directions if this makes more sense to them. Feral learning, according to Hall (2008) is about 'discovering what might be "out there" rather than reaching pre-defined targets'. She thus suggests that 'feral learning is by nature student-led, holistic, transparent, respectful, seamless, a-curricular and complex'.

It would be a mistake to assume that one is either a formal or an informal learner. Most people engage in both kinds of learning and develop specific competencies and dispositions for the different settings in which they learn. As mentioned before, we all start out informally, but, in those societies where the school becomes a dominant reality in a child's life, the perception of what constitutes the learning environment soon becomes narrowed down. Those who drop or walk out, or who are pushed out of the system, may more easily rediscover the full richness of the learning ecology than those who derive their success in life from conforming to the system. This may explain Livingstone's (1999) earlier cited observation that 'the less schooled [among the informal learners] appear in many instances and significant dimensions of knowledge to be at least as competent as the more highly schooled' (p. 23). In view of the inseparability of informal and formal learning, expanding research to beyond the area of formal learning should therefore not try to isolate yet another area but rather seek to broaden the picture. The same applies to the actions of those responsible for setting policies of educational development (or wouldn't it be better to call this 'learning development'?).

Ecological Frameworks

Particular attention should then go to exploring the ecological nature of learning. Doing so should bring into perspective that learning relates to adaptive human behaviour beyond the 'deliberate acquisition of specific skills, knowledge, habits and propensities, motivated by individual choices or societal expectations, usually by exposing oneself to a purposely designed instructional – or self-instructional – process' (J. Visser 2008). It should also seek to broaden the definition of learning (e.g. J. Visser 2001; Y. L. Visser et al. 2002). Research should thus be informed by theory that facilitates considering the complexity of the learning landscape. Conversely, it should contribute to such theory development. Besides, as Meltzoff et al. (2009, p. 288) conclude, innovative 'educational practice… [should be] leading to the design of new experimental work'. Technological developments that facilitate self-organised social networking, such as the increasingly ubiquitous use of handheld communication devices (e.g. Scanlon et al. 2005) and the Semantic Web (e.g. Anderson and Whitelock 2004), provide interesting opportunities for making inroads into such research and practice, which, by nature of the reality under scrutiny in this chapter, requires creativity in developing novel methods of inquiry.

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