

Science as a lifelong learning process

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Towards a Knowledge Society: Is Knowledge a Public Good?
Dynamics of Knowledge Production and Distribution

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This text introduces some reflections inspired by my participation in the World Knowledge Dialogue 2006 as a researcher and professor in Educational Sciences. It aims to inspire questions, insights and ideas allowing to improve the next editions of this conference.

Position

As any observation is fundamentally grounded in the position of the observer, it seems important to locate the following ones in regard of my own background. As a researcher and professor working in the field of organizational psychology, adult education and in philosophy of education, my main topic of interest is related to the development of a capacity of critical reflection among adults¹, and more specifically, among novices and professional scientists, considered as adult learners. More specifically, I assume the strong necessity for researchers to be able to develop critical skills and knowledge allowing them to reflect on their own work and the practices of their peers as well. Such a position involves an understanding of critique as a complex phenomenon² involving the adoption of a constructivist epistemology³. It fundamentally requires the adoption of a complex way of thinking⁴.

If such a critical ability involves the capacity of reflecting on one's own assumptions about oneself and the world⁵, one has to admit that it supposes a learning process too. Learning to develop a critical understanding can be then perceived as an individual and as a collective process based on knowledge development, as well as personal and organizational development. Considering the specificities of adult learning, enhancing critical reflection among scientists involves the consideration of both their knowledge and their personal life experience⁶.

Observations and reflections

My participation to this first edition of the World Knowledge Dialogue (WKD) has been for me an opportunity to conduct a kind of "ethnographic" observation, raising questions about science as it is understood and practiced. From a personal point of view, it has also been an opportunity of learning,

¹ Alhadeff, M. (2003, October). *Rethinking Transformative Learning and the concept of "Critical Reflection" through the Paradigm of Complexity*. Paper presented at the 5th International Transformative Learning Conference "Transformative Learning in action: Building bridges across contexts and disciplines", Teachers College, Columbia University, New York.

² Alhadeff, M. (2004). *Conjuguer l'hétérogénéité de la critique en sciences de l'éducation: de l'hypocrit(ique) à l'hypercritique*. In R. Arce, Farina, F., Novo, M., Egado, A., Ardoino, J., Berger, G. (Ed.), *La pensée critique en éducation* (pp. 34-46). St-Jacques de Compostelle: Universidade de Santiago de Compostela.

³ Alhadeff, M. (2005). *Complexité de la critique et critique de la complexité en formation*. In J. Clénet & D. Poisson (Eds.), *Complexité de la formation et formation à la complexité* (pp. 227-242). Paris: L'Harmattan.

Le Moigne, J.-L. (2001). *Le constructivisme. Les enracinements (tome I)*. Paris: L'Harmattan.

⁴ Morin, E. (1990). *Introduction à la pensée complexe*. Paris: ESF.

⁵ Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. San Francisco: Jossey-Bass.

⁶ Dominicé, P. (2000). *Learning from our lives. Using Educational Biographies with adults*. San Francisco: Jossey-Bass.

both from an intellectual and an experiential point of view. Following are some spontaneous reflections that emerged during these three days.

To "dialogue" involves sharing and exchanging, to give, to receive and to take. What are the participants ready to give and what are they ready to receive during WKD? Beyond the intellectual dimension of such a transaction, what does it involve from a personal point of view? Is it neutral? How do we learn to share and to exchange knowledge? What are the costs and the benefits from a personal point of view and from an institutional one?

Which representations do researchers have about the difficulties involved with interdisciplinarity? Inter-, multi-, co-, transdisciplinary experiences have been developed for a long time. These various approaches need to be well defined and distinguished from each other. Where do we find them today? Why are they not more often institutionalized? Crossing borders between disciplines has a cost. From an intellectual point of view, it raises epistemological and methodological questions. From a human point of view, it involves an economical dimension but also psychological and social ones. Grounding a project going beyond traditional disciplinarity, as the one promoted by the WKD, supposes the acknowledgement of such investments. This involves an understanding of the way people experience such a process, from a very intimate point of view, and why not, to coach them in order to facilitate such a process.

Working through scientific compartmentalization supposes to recognize and to understand scientific dynamics, at least at two levels: (a) epistemological / theoretical and (b) psycho-anthropo-social⁷. From an epistemological point of view, inter-/multi-/co-/trans-disciplinarity supposes to make explicit the systems of values and the standards defining the legitimacy of the framework used to link knowledge produced in heterogeneous fields of inquiry. From a psycho-anthropo-sociological point of view, such practices suppose to understand the human realities involved in the work of doing research (see for instance psychology, sociology or anthropology of knowledge, Sciences and Technology Studies, etc.) Every scientist and every scientific discipline is characterized by her/his/its own identity. Because inter-/multi-/co-/trans-disciplinarity challenges standard processes of knowledge production, it challenges scientific identities as well. Such challenges have to be acknowledged in order to understand resistances encountered. Such assumptions on science are not shared by many scientists, even if they constitutes a fundamental reality of the academic field. Because sciences development need resources, and because such resources are limited, the academic field is a field full of struggles too. Promoting inter-/multi-/co-/trans-disciplinarity involves the recognition and understanding of the stakes of such struggles. Because of the cost of such a recognition, it is often denied by scientists themselves.

Inter-/multi-/co-/trans-disciplinarity involves working both on institutional and on personal boundaries. As it has been said many times, dialogue opportunities were not so frequent (paradoxally) during the conference. Dialogue sometimes inspires fears. It involves the recognition of both identity and otherness (*altérité*). Identity is present when we recognize, as scientists, that we share some basic values, beliefs and objectives. Otherness has to be recognized if we want to really learn from each other; indeed, it is needed to understand fully what makes us different and what makes the process of dialogue so difficult. Dialogue among people is a field of study by itself (see psychology, sociology, educational sciences, management, etc. as disciplines studying dialogue and relationships between individuals in organizations). Promoting dialogue may benefit scientific understanding of what is involved. Why not use experts' knowledge from these fields of study?

Even if the vision of an objective science is still very alive, one is forced to admit that science production is a process which is culturally embedded. Its evolution follows various paths depending on the continents, the countries, the languages, the institutions in which they are developed. Cultural diversity of sciences involves various systems of values and various systems of beliefs which contribute to the determination of what is considered the legitimate way of doing research (including in an inter-/multi-/co-/trans-disciplinary way). Sharing heterogeneous scientific backgrounds involves finally the discovery of the right language to do so. The right balance has to be found between "high-expertise" and "vulgar" ways of knowing. Having a shared objective contributes to bring heterogeneous people together. What kind of shared objectives could be promoted by the WKD?

⁷ Morin, E. (1986). *La Méthode (vol.3) La Connaissance de la Connaissance*. Paris: Seuil.

Morin, E. (1991). *La Méthode (vol.4) Les Idées. Leur habitat, leur vie, leurs moeurs, leur organisation*. Paris: Seuil.

What kind of language should be used? Are the values grounding such a process going by themselves or should we plan to take time to discuss them, to make them explicit?

Suggestions

Following what has been previously written, here are a couple of suggestions which appeared to me as meaningful right after the conference.

In order to help recognize the heterogeneity of sciences, a right balance has to be found between the various cultures and sub-cultures of sciences (disciplines, trends of research, school of thought) represented during the conference and the lectures. For the same reason, national, gender and generational diversity has to be promoted and explicitly recognized during the event. To acknowledge the identitary dimension of doing research (what makes everyone be a singular researcher with his/her own expertise / identity) may help to shape an area of encounter between scientists.

Because dialogue requires time and space to be developed, enough room has to be provided during the event to facilitate the encounters. Because every researcher (some more than others) may already have experiences related to inter-/multi-/co-/trans-disciplinarity, it can be useful to explore them. To do so, we have to recognize that inter-/multi-/co-/trans-disciplinarity can be experienced following a formal way (institutionalized) but also in the daily life, following informal paths. This first edition of WKD has been the opportunity of questioning some institutionalized practices. It may be beneficial to recognize the value of informal experiences of inter-/multi-/co-/trans-disciplinarity, even if they do not bring to any institutionalized process. That could constitute by itself a possibility of dialogue.

If we consider talking scientifically about genetics, the best is to invite experts in genetics (as it has been done, actually). If we consider developing dialogue among people and promoting inter-/multi-/co-/trans-disciplinary learning, why are we not inviting experts mastering such a process in order to facilitate it? Because recognizing scientific heterogeneity is a challenging experience involving learning, it can be managed as a learning opportunity. It may be interesting and helpful to consider the participation of practitioners already trained and experienced to facilitate and promote effective dialogues among participants. From such a perspective, the WKD could be understood as a lifelong learning opportunity targeting a public constituted by humanists.

Because science is a social field itself, it may be interesting and helpful to consider the participation of researchers working on science as a field of study. Psychologists, sociologists or anthropologists of sciences may represent good professional observers. They may help to develop a reflexive point of view on the process of dialogue promoted by the conference.

Finally, from a theoretical and epistemological point of view, various researches have been done on inter-/multi-/co-/trans-disciplinarity as specific methodologies of research. To consider including in the program discussions or lectures made by researchers working on these approaches may help clarify the kind of work promoted and the specificity of the knowledge produced. It may help develop a meta-understanding of the stakes involved.

Final notes

Participating in the WKD was an enriching experience for at least two reasons. On one hand, it stimulated a personal discovery of scientific fields and cultures with which I was not necessary familiar. On the other hand, it reinforced my belief in the necessity to build bridges between these fields and those constituting my own scientific background. Science is not only a process of knowledge construction, it is also a human adventure and a lifelong learning process. It involves organizational and personal dimensions whose recognition does not happen automatically. I wish this kind of encounter will find its position in the larger process of building a new culture of science based on personal and collective learning. By bringing people to share the same humanist values, I wish it may help promote a vision of science involving more than just epistemological, theoretical and methodological considerations, a vision of science rehabilitating the fundamental human nature of knowledge production.

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