THE GEOGRAPHY IN THE TRANSDISCIPLINARITY CONTEXT

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Résumé. *Parmi les chercheurs qui se sont consacrés à l'étude de l'époque contemporaine, le consensus est presque unanime: le monde dans lequel nous vivons connaît en permanence des transformations profondes. Les changements sont si rapides, que Gilles Lipovetsky, sociologue français, tout en faisant une analyse pertinente de la fin du XX^{ème} siècle, l'intitule L'empire de l'éphémère. En effet, Lipovetsky constate que la société actuelle fonctionne de façon alerte, sur les pas de la publicité et du vecteur de la surconsommation. On a affaire à l'ère du big-bang disciplinaire et des spécialisations excessives.*

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1. Introduction – trans concepts

Basarab Nicolescu, romanian physicist, currently one of the informed person regarding the domain of the transdisciplinary research, suggests a relationship between epistemology and education in the context of the complexity as accepted foundation of the contemporary world.

The multidisciplinarity refers to study an object in one and the same discipline by means of several disciplines at once. In geography we can study the pedosphere chapter in terms of the geography, chemistry, physics, biology, geology and economics. Thus, the study subject is enriched at the confluence of several disciplines, but the resulted plus is the *appanage* of the subject source, in this case geography.

The interdisciplinarity refers to transfer the methods from one discipline into another. Here three levels are distinguished; an level which can be applied: the transfer of the methods of nuclear physics into the medicine lead to treat different affections; un epistemological level: the method transfer of the formal logic into the law domain generates the analysis regarding the epistemology of the law; a generator level of new disciplines: the method transfer of the mathematics into the domain of physics has led to appear mathematical physics.

As previous case, although the interdisciplinarity exceeds the compartmentalization of the disciplines, its goal remains at the level of the disciplinary investigation. Virtually, the third level of the interdisciplinarity even contributes to what was called in the twenties century "disciplinary Big Bang".

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The transdisciplinarity refers to what is in the same time between disciplines, within various disciplines and beyond any discipline. Its goal is to understand the present world, one of its imperatives being the unity of the knowledge. Both from the epistemological point of view and curricular, the "trans" approaching requires the merging of the disciplines in the perspective of the representation and settlement of the complex problems of the contemporaneousness. For example, for the "Fundamental Issues of Political Geography of the Contemporary World – the Conflicts" theme we can merge the disciplines: religion, economics, history, demography.

The curriculum plan is delimited the instrumental transdisciplinarity, which allows pupil to get the intellectual work methods and techniques that can be used in new situations. These acquisitions are, therefore, transferable. In this sense, the didactic emphasis is on the solving of problems and not on knowledge-for-knowledge.

The behaviour transdisciplinarity allows pupil to organize each of its steps of knowledge/learning in different situations. In this context, the didactic orientation is on the activity of the subject who learns. Therefore, the perspective is metacognitive.

2. Another type of learning

The complexity of our world, the new epistemological orientations, the need for transferable acquisitions and the emphasis on the subject who learns and on the metacognition indicate the need for changes in education. The handling of facts and standard examples of the disciplines and their accumulation in the mind of the pupil is a solution with little prospects of success.

The knowledge is expending exponentially. Trying to keep up with this accumulation is still impossible to add every year a new history text or a new chapter of regional geography. The information, the facts can be accumulated to a point. The pupils have greater need for learning skills that enable them to access the multiple sources of data and to apply the skills of the integrative, creative and critical thinking for the assimilation, sorting and modelling of the information.

The main reason is the adapting to the contemporary society. In a world of the rapid changes and the global interactions, the citizen needs the skills of conceptual thinking to understand the complexity of the economic, political and social relations. In this case, the emphasis on conceptualization is necessary to build a deep understanding and a dynamic and lasting learning applied in new contexts. It is necessary to abstract from a factual basis the key principles and the generalizations that are truly "big ideas" that could be transferred in time, space and beyond a culture limits. From this perspective, the researchers in education plead for a radical change of the didactic act orientation.

3. The legitimacy of the conceptual learning

The importance of the learning concepts arises from their characteristics, namely: the concepts are timeless (underlying the structure of any discipline, the concepts will always be basic for the domain – the time may change only the examples that illustrate it); the concepts are universal (the concepts of a discipline are always the same indifferently of culture and the geographical space). Of course, the specific examples that highlight these concepts can migrate from one culture to another. This is the reason why in the present society, that is becoming more multicultural, the ability to find relevant examples beyond the boundaries of a culture becomes a guarantee of a quality learning); the concepts are abstract and broad, but

synthetically presented (rendered in 1 – 2 words); the learning centred on concepts favours the development of the cross-concepts.

4. Examples of macroconcepts with illustrations in geography

The space is a macroconcept of great generality, common to many fields of knowledge, but its origins are confused with those of the geography as a science. The space designates a certain territory with an internal functional coherence defined by the characteristics and relatively well-defined. There are many meanings of "space": the watched space, living space, perceived space, real space, imaginary space. The space means its territorial and horizontal size and a certain vertical component.

In geography, this vertical component is justified by the existence of a certain dimension in which the phenomena of the earth's surface are reflected to a certain altitude (microclimate, solar radiation reflection, emission of pollutants, energy exchange atmosphere-hydrosphere-lithosphere etc.) The space usually means a territory that can be observed directly. As a result of the changes in social-political area, the concept of "space" has expanded greatly.

We can talk about a linguistic space, an economic space, a community space, a political space; this represents fragments of the current global space which is universal. The space, in geographical sense, is characterized by certain elements, processes and phenomena (so giving you functionality) and presents limits which can be identified fairly.

5. Forming of the cross-competences

The reforms of the 80's end and 90s, which marked most European education systems, are all attempts to balance the school – contemporary society relationship. The goal of these reforms was to form some cross-competences that enable the integration of the graduate in the labour market from "global state".

The cross-concepts represent the structural ensemble of knowledge, skills and attitudes that are mobilized to solve complex problems in the real world. They are the result of an efficient learning, the acquisition being enough mobile to allow the transfer. The cross-competences do not result by the learning within a single field of study (table 1).

Table 1: Correlations between the school and the work place in two perspectives – traditional and modern

	At school	At work place
The traditional perspective	The expert teacher sends knowledge to passive pupils	The workers assume themselves listlessly the place designated in an hierarchical organization
	The emphasis is placed on facts and on getting the correct answer	The emphasis is placed on limited responses to limited problems and on fulfilment of a precise task
	What is learned is devoid of significant context	The emphasis is placed on the specific task that is independent of organizational context and company strategy

The modern perspective	Under the supervision of the teacher, the pupils take the responsibility their own learning, developing during this process the metacognitive and autoevaluative competences (competences of permanent learning)	The workers are responsible for identifying and solving the problems and adapting to change through learning
	The emphasis is placed on alternative modalities to frame different aspects and to solve the problems	The workers are confronted with non-routine problems which have to be analysed and solved
	Are introduced ideas, principles, facts that are used and understood in a meaning context	The workers make decisions that require understanding the broader context of their own activities and the priority of the company

(source: Berryman în Hidden Challenges to Education System in Transition Economies, World Bank, 1999)

Conclusions

Recognizing the distinct radical character of the transdisciplinarity in relation to disciplinarity, multidisciplinarity and intertransdisciplinarity would nevertheless be extremely dangerous to absolutize this distinction, because in a such a case the transdisciplinarity would remain empty of all its content and the efficiency of its action would be reduced to zero. The complementary character of the disciplinary, multidisciplinary, interdisciplinary and transdisciplinary modes of knowledge are highlighted by force in the "accompaniers of the dying men" case. This approach relatively recent in our civilization is very important, because recognizing the role that our death has in our own life, we discover unsuspected dimensions of the life itself.

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