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## **THE CONTEMPORARY TRANSDISCIPLINARY APPROACH AS A METHODOLOGY TO AID STUDENTS OF HUMANITIES AND SOCIAL SCIENCES**

One of the major problems students of humanities and social sciences face is the choice of methodology which they should employ in the theoretic discussion of a given task. In the learning process they are presented with the most essential and emblematic authors and their works relating to the students' major. This provides them with rich theoretic knowledge and creates epistemological competency. However, the moment they attempt a more in-depth study in the form of a thesis or dissertation, they are in a quandary as they realize that they are unaware of the appropriate way of compiling and assembling information which must not only reflect their findings as a new element in their research but it must also delineate the academic approach and contribution of their studies.

This is due to the fact that in the course of their education the necessity of methodological competency is largely neglected and is rarely included as part of their curriculum. Certainly, there exists a logical explanation to support such approach. Not all students graduating with a major in humanities or social sciences will continue with further academic research activities. In fact, the number of students who have the intellectual capacity and desire to embark on this career path is relatively small. However, the needs of those students who do elect to take the extra step should not be overlooked.

Thus, one of the most common practices is for the mentor to assign a specific author and/or task relevant to the intended research activity which brings the student to the dilemma of making the right theoretic choices and selecting the proper methodological course of action.

As a result, here comes the transdisciplinary approach as a move forward toward a novel possibility aimed at helping students to successfully carry out their research in the field of humanities and/or social sciences. The dynamics of modern society and subject research lead to a process that tackles the problem of transferring knowledge and methods from one theoretic field to another.

The term transdisciplinarity is used for the first time by the French psychologist and structuralist Piaget. By employing this term he stresses the need for interaction among various subjects and branches of learning especially in the field of education. In its present classification the place of the transdisciplinary approach is hard to define as it is concurrently in, through, and beyond any academic subject. Today, according to the *Encyclopedia of Life Support Systems* (EOLSS), it signifies a new philosophic movement.

Therefore, the need arises for students to be familiarized with the differences between disciplinary, multidisciplinary, interdisciplinary, and transdisciplinary approach to doing research.

Unlike the disciplinary or subject research which aims at a single level of reality, transdisciplinarity is oriented towards the dynamics characteristic to the interplay of several levels of reality. The latter must be distinguished from the levels of organization, which, according to the systemic approach, may represent identical

levels of reality and may not lead to violation of basic laws. The systemic approach stipulates that two levels of reality are different when the transition from one level to another leads to the violation of fundamental principles and scientific laws.

The transdisciplinary approach, regarded as a process, is characterized by integration and overriding of subject boundaries. As a 'scientific utopia', it stands out as an intellectual category requiring a wide range of disciplinary, scientific, and epistemological potential. It is different from the multi- and interdisciplinary approach in a way that, on one hand, it transcends the subject boundaries, and, on the other, it is not part of any specific subject research. Thus, the transdisciplinary approach allows for the understanding of the complexities of the modern world which is a primary feature of its scientific legitimacy.

The need for a relationship among various academic subjects has led to the emergence of the multidisciplinary and interdisciplinary approaches in the middle of the 20<sup>th</sup> century. The former studies an object, which is the focus of research of several subjects at the same time. For instance, the study of a single cell is incorporated in different subjects taught to students of medicine such as embryology, cytology, physiology, biophysics, pathology, etc. The interdisciplinary approach is characterized by the transfer of research methods from one subject to another. These synergic models are applied to the studies of a number of academic subjects such as sociology, philosophy, and linguistics in the context of a quest for new research methods.

The transdisciplinary approach, as indicated by the prefix 'trans-', signifies a research which is carried out among different subjects, moves through and goes beyond them. It aims at understanding the modern world.

The disciplinary approach in research is directed at one of the levels of Reality. Here, one must distinguish between the levels of Reality and levels of organization. The latter, as defined in the systemic approach, may belong to an identical level of Reality and they do not suggest a violation of essential concepts. The various levels of organization reflect the different structuring of the same fundamental laws.

Unlike the disciplinary (subject) research, the transdisciplinary approach is interested in the dynamics borne out by concurrent interaction of several levels of Reality. The levels of Reality are a cluster of systems invariant to the relations among a host of common laws. For example, the laws governing macrophysics are no longer valid for the laws governing the micro world. This means that two levels of reality may be different if basic laws and concepts are violated while going from one level to the next. Therefore, it becomes mandatory that the process of understanding the foregoing dynamics go through the disciplinary (subject) approach to knowledge first. The transdisciplinary approach, although not new as a method of research, feeds on the disciplinary (subject) research, which thus become illuminated in a new and fruitful way created by the dialectic relations between them.

Reality has trans-subjective dimension due to the fact that even a single ordinary experiment can destroy a well-formulated theory. The transdisciplinary approach rises above the limits of science established with the dawning of the New Age.

Contemporary research approaches lay down the need for dual development – on one hand, through analysis, and on the other, by understanding the complexities of the modern world. This is where the transdisciplinary methodologies come

forward. They offer the possibility of tracking down the genesis of some key concepts employed in the modern methodological practices.

Methodology is a subject which deals with the structure, logical organization, methods, and means of a specific activity. Methodological knowledge consists of two different forms, namely normative and descriptive. The normative methodology is a collection of rules and norms which stipulate the content and sequence of specific activities. The descriptive methodology is in fact a description of the order in which the actual activities are performed. In both cases, the basic purpose of the methodological knowledge is the internal organization and regulation of the information process or, in other words, the actual transformation of the subject under discussion.

Modern science is characterized by the rapid development of the so-called pan-scientific methodological concept and the research methods related to it, such as the interdisciplinary, multidisciplinary, and transdisciplinary approach. This is supported by the following circumstances:

Firstly, the academic studies treat more complex subjects from the natural and social environment. This leads to the increase in the abstract level in which a subject is analyzed and to the decrease of the level of its transparency. For instance, a complex subject such as urban development is difficult to undergo discussion through a single example because it consists of a multitude of natural, social, and technological elements, which in turn are discussed separately in different academic topics. In these circumstances, the research tools and approach to analyzing a subject acquires a central role in the world of knowledge.

Secondly, a set of tasks related to methodology creates an interconnection between science and practice, which leads to solving more complex problems such as the problems in education. This brings the need to act on two levels: experts from various academic fields should combine their efforts in building a universal model which tackles the complexity of a specific subject and also the concepts and solutions that present information about that subject should be united under a common practical system.

The scientific characteristics of the modern trends in methodology establish certain philosophic grounds which are reflected in the broader picture created by science in the world around us. Thus, we cannot ignore the images and content set forth by these characteristics as they are closely interrelated with the important role of methodology.

Methodology encompasses various heuristic, systematic, and ideological elements. These elements are organized in an orderly manner and characterize scientific knowledge. The basic components of Science are the images and concepts of principal objects (the world, the universe, etc.) as well as the typology and classification of objects according to a specific pattern and their relation to space and time.

Together with the role of methodology, the development of epistemology is an aspect to be reckoned with in search of new meanings and answers to questions in the world of science, as our civilization strives for solutions and life-long strategies. The changes in modern science coincide with the quest for new ideas and meanings in the field of culture, philosophy, religion, art, etc.

Therefore, it is important to direct our attention to three groups of questions, which arise out of the need for understanding the modern stages of development of methodology.

1. Do the complexities which exist when discussing topics from the natural and social sciences need to make scientific knowledge more complicated as well? Should there be a single viewpoint on the development of the world of knowledge or can we allow for multiple analyses?

2. Based on which subject concept do we apply the synthetic model and the results of studying the complex subject? What kind of language do we use for the findings to be clearly understood by scientists in different fields?

3. In the process of carrying out a study, the characteristics irrelevant to the research topic are either eliminated or the researcher simply chooses to ignore them. Here, a question arises as to whether the researcher always relates the topic under investigation to the already established scientific knowledge?

It is obvious that the answers to these questions are held in the concepts and directives of methodology (interdisciplinary, multidisciplinary, transdisciplinary) which represent the main components of scientific knowledge such as the issues discussed, their classification, their relationship and interaction in space and time.

The transdisciplinary approach has its own general view on science and knowledge. This view as such stands for a single system of universal order. The area under discussion as well as the various processes and their interaction within this system represent its usual elements. In this case, the transdisciplinary approach serves as a basic tool which researchers use in normative and descriptive methodology. Thus, transdisciplinarity becomes an academic subject of its own. It has all the necessary qualities which make it possible for that approach to be part of the educational system and to be implemented in the process of solving problematic tasks relating to natural and social sciences.

### **Proposal for developing a Center for Transdisciplinary Studies (CTS)**

Main objectives:

- Creating a policy for teaching the concepts and methods of the transdisciplinary approach in universities;
- Creating and developing special skills for utilizing transdisciplinary methods by regular students, PhD students, and teachers within the university system, which should aim not only at solving problematic tasks relating to natural and social sciences but also at coping with the challenges that lie ahead in their professional environment.

In conjunction with its main goals, CTS may be established in the following areas:

1. Organization and Methodology;
2. Education and training;
3. Major scientific studies;
4. International scientific projects.

Organization and Methodology:

- Seeking out the most effective forms of organizing and implementing CTS;
- Designing a course in transdisciplinary methodology according to a specific major;

- Supplying relevant materials to university libraries.

Education and training:

- Designing a curriculum and ensuring students' access to relevant literature and materials; teaching basic concepts of transdisciplinary methodology;
- Teacher training in transdisciplinary methodology;
- Organizing courses in transdisciplinary methodology according to a specific plan – as a core requirement or as an elective course;
- Setting up seminars and conferences in line with relevant topics which motivate and encourage the use of transdisciplinary methodology to solve departmental problems.

Major scientific studies:

- Analyzing the existing concepts in the transdisciplinary approach and methodology;
- Designing methods and techniques for applying the transdisciplinary approach to practice;
- Performing necessary scientific research and experimental studies to create strategies in order to solve urgent problems in the field of education;
- Conducting scientific conferences in order to generate and share good practices in applying the transdisciplinary approach when solving problematic tasks in Academia.

International scientific projects:

- Coordinating international cooperation in search of ways to introduce the transdisciplinary approach in the field of tertiary education;
- Organizing or participating in international conferences to exchange good practices in applying the transdisciplinary approach in the field of tertiary education;
- Borrowing and incorporating existing transdisciplinary methods in order to solve academic problems;
- Ensuring university support and teacher training in transdisciplinary methodology;
- Providing methodological assistance and support to universities which have already introduced academic centers for transdisciplinary research.

In conclusion, the use of transdisciplinary approach is a way to broaden one's academic view on life. This may be achieved by expanding scientific knowledge, by creating a common model of tackling complex subjects, and by improving the methods used in dealing with such complex subjects.

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