

## ASPECTS ON EDUCATION AND TRAINING OF YOUNG PEOPLE THROUGH TRANSDISCIPLINARY EDUCATIONAL PROJECTS

Carmen Olguța Brezuleanu<sup>1\*</sup>, Mădălina Maria Cantea Brezuleanu<sup>2</sup>

<sup>1</sup>University of Agricultural Sciences and Veterinary Medicine of Iasi, Romania

<sup>2</sup>„Alexandru Ioan Cuza” University Iasi, Romania

### Abstract

*The educational system must guarantee access for all young people to education and training, adapted to the economic realities. In this sense, transdisciplinary approach is centred on the realities of contemporary society, regarding the relevant issues of real life and how it is affected people's life. In particular, it tries to understand and to resolve the complex problems of the challenges. Educational project in the transdisciplinary approach it is a modern method of teaching-learning used in agronomic education. It stimulates creative students involved in the project through the development of critical thinking, helping them in: decision making, self organizing and self-assessment of individual resources, adopting positive attitudes in acquiring cognitive and trans-curricular skills.*

*Educational project in transdisciplinary for agronomic education approach is focused on active learning, a method which creates observable behaviors such as: behaviors that indicate active participation, creative thinking, applied learning, involvement in building knowledge. Active learning became more interesting, stimulating, significant and students participate during whole activity, being stimulated cooperation and creativity. Aims of more disciplines agri- food, planned in the same week are reached during daily activities which includes fragments from those disciplines into a single generic and it is facilitate a good quality knowledge acquisition, which will be remembered for a long time.*

*Real problems from daily life could be solved much easier by pupils and students, no matter the complexity degree, due to achievement of knowledge, abilities and competences which couldn't be separated by one or another discipline.*

**Key words:** transdisciplinarity, educational project, agri- food, creative thinking

### INTRODUCTION

Good quality education involves applying the diversity model through a differentiated approach, initiating projects involving pupils, teachers of different specialties, educational partners, starting with parents, civil society, the media and the community.

Transdisciplinarity is specific to educational projects and addresses issues that cross the boundaries of two or more disciplines, aiming at a holistic approach. It also involves concepts or methods that were originally developed by a discipline, but are currently widely used by other scientific disciplines. The concepts of multi-, inter- and

transdisciplinarity are not antagonistic but complementary because they have the common goal of better understanding of reality. The main distinction between pluri and interdisciplinarity lies in the type of relationship that is established between the combined disciplines: multidisciplinary simply combines a series of independent disciplines that contribute together to the realization of the scientific approach, while interdisciplinarity conveys and transforms the methods, generating new and improved tools, better suited to the subject of research. Transdisciplinarity goes even further, targeting a unity of knowledge beyond isolated disciplines, while pluri and interdisciplinarity research always remain within the boundaries of traditional disciplines.

---

\*Corresponding author: olgutabrez@yahoo.com

The manuscript was received: 25.09.2018

Accepted for publication: 15.04.2019

## MATERIALS AND METHODS

The methods of work used were: investigation, documentation, application of questionnaires, analysis, interdisciplinary design and evaluation of the obtained results. Since the students and teachers from the Iasi partner high schools expressed their wish to come to USAMV Iasi, as a result of the fruitful project activities that took place during the previous two years, it was decided to run the project "Student for a day at USAMV Iasi, fifth edition," April, 2018. to be held at the university in its laboratories and Aula Magna.

## RESULTS AND DISCUSSION

The current educational approaches specific to the postmodern society in which we live have the obligation to bring the educational process of the pupils' daily life and the needs of the community in which they live, to the complexities of the roles that today's students will play in the future society, to being autonomous, family member and community, citizen and producer, to the subject and subject of multiple and diverse successive life experiences that will help him to know himself and to approach a conception democratic. The problem is that of overcoming rigid borders, shifting emphasis to awareness, cooperation, critical and creative thinking, adaptability, and the ever-changing world. In this sense, the transdisciplinary approach to learning content is supportive of today's educational needs. Its finality is the understanding of the present world, one of its imperatives being the unity of knowledge.

During the classroom teaching process, which is a complex one, teachers have to come up with viable suggestions to structure the agro-food lessons so that students' wrong perceptions are removed because teachers or students who support hours at work the pedagogic should help students:

- Identify and select "key issues"
- Focus on these key issues during the transdisciplinary learning process,
- develop the ability to restore the links between past knowledge and new knowledge and information acquired
- Explains the links between new information and knowledge and old concepts using as many variations as possible (visual,

verbal or scholarly) appropriate to pupils' age and ability to comprehend

- Provide sufficient examples of the new knowledge they have taught
- carry out a systematic process with regular returns, providing the teacher with the category of information and examples to help them review their misconceptions.

**Transdisciplinary approaches specific to agro-alimentary realities and interdisciplinary referrals are necessary in the study of specialized disciplines at USAMV Iasi,** the didactic requirements being related to the updating of the specific notions of several specialized disciplines and their presentation in new and interesting forms complementary to the subject, offering a overall vision.

Transdisciplinary project education enables pupils and students to address important study topics, develop new skills, work on the capabilities they already have, and create products that characterize them. In this way, they are involved in making decisions about the content, process and product of learning, and are required to make decisions, work collaboratively, take the initiative, and make public presentations during the course of the work. This learning approach provides a useful work alternative that makes the transition from "traditional" training to training that promotes real-life real-life situations, providing differentiated training, and the incorporation of higher-level thinking skills.

In order to achieve a transdisciplinary approach of the educational project specific to the current agro-alimentary realities, under the conditions of promotion of healthy agro-alimentary principles, the curricular areas of the 5 specializations of UȘAMV IAȘI were studied and they were treated unitarily under the title "Student for one day at USAMV Iași, 5 th Edition, April 2018. The themes were proposed by the students who follow the DPPD courses of USAMV Iași and make pedagogical practice in the pre-university partners, ie high schools in Iasi. Suggestion of the topics: The wheat, the richness of our field and meals, Food classification, Cozonac, delight of holidays, Bee and apiculture products, Chocolate, nutritional and sensory

qualities, were made by the coordinating teachers. Investigations were carried out in the partner countries in the high schools in Transylvania on the usefulness of developing interdisciplinary, transdisciplinary projects that took place during the school week otherwise in April 2018 when more than 300 pupils from the pedagogical practice high schools came to USAMV Iasi and where - they could carry out the transdisciplinary projects set up together with the mentor teachers. In this sense, active / participatory learning / teaching strategies could be successfully practiced with the following advantages over classical teaching:

- transform the student / student from the subject into the subject of learning;
- makes the pupil / student co-participant in his / her own education;
- Engages all the psychic forces of knowledge;
- assures the student / student the opportunity to manifest themselves as an individual, but also as a team member;
- develops cognitive thinking;
- develop the intrinsic motivation for learning;
- provide for self-evaluation, with profound formative character.

Poster and materials of "Student for a day at USAMV Iași, 5th edition", April, 2018



In conducting the didactic process in a transdisciplinary approach, it is possible to structure the cognitive activity in six mental operations: perception, interiorization, constructing mental structures, translating into language, internal accommodation, external adaptation. These correspond to categories of competences organized around several defining verbs, expressing complex mental operations, which students / students were able to practice together:

**Reception** concretized through the following operational concepts: identification of terms, relationships, processes; the observation of some phenomena, processes; - the perception of some relationships, connections; nominating concepts; collecting data from various sources, defining concepts.

Primary processing (data) concretized through the following operational concepts:

comparing data, establishing relationships; partial conclusions; classifications and representations; investigation, discovery, exploitation; experimentation.

**Algorithmization** concretized by the following operational concepts: reduction to a scheme; anticipating results; identification of invariants; solving problems.

**Communication** within the educational process concretized through the following operational concepts: description of states, systems, processes, phenomena; exposure to ideas, concepts, solutions; presenting arguments in a discussion; supporting one point of view.

**Secondary processing (results)**, concretized by the following operational concepts: comparison of results, conclusions; evaluation of results; interpretation of results;

critical reporting to a context; developing strategies; relationships between different types of strategies.

**The transfer** is concretized through the following operational concepts: application; generalization and customization; integration; check; optimization; transposition; negotiation; making connections; context-friendliness.

The current educational approaches specific to the postmodern society require differential treatment of pupils and the integrated approach of knowledge become mandatory, and transdisciplinarity allows learning in the knowledge society of the agro-alimentary realities and ensures:

- training of transferable skills;
- the development of communication skills, intercognition, self-knowledge, assuming roles in the team, formation of prosocial behavior;

- formative assessment.

Transdisciplinarity allows:

- creating mental models based on transfer and integration and determining the success in the personal and social life of the educator.

- Developing the competence to learn to learn in a creative way.

Therefore, the transdisciplinary approach specific to the agro-alimentary realities used in the realization of the educational project: "Student for a day at USAMV Iași, 5th edition", April 2018 presented a series of advantages, of which we mention:

has enabled the establishment of a biunivo learning relationship between the educational partners: students, students, teachers;

- have been able to engage pupils in learning through challenging, significant problems, adapted to their cognitive level;

- Knowledge acquired in new and complex situations has been acquired and applied to foster the transfer and the generation of new knowledge;

- the learning process centered on collaborative research, integrated learning, identification and problem solving;

- students were given the appropriate formal framework for organizing knowledge by providing an appropriate framework for the transfer of knowledge from everyday life to school practice from one discipline to another, vertically and horizontally;



## CONCLUSIONS

In the conditions of the current postmodern society in which: technology is progressing, science is pushing its development, new jobs are emerging every day, needs are growing, the application of interdisciplinary educational projects with reference to current agro-alimentary realities proved useful because for students and students participants:

-Ability and manipulation of information manipulation are absolutely necessary to survive.

-The knowledge acquired through learning becomes a real wealth and source of power.

Finding a job Today's students and students acquire additional skills that after graduation they need to help:

- be able to think critically and strategically to solve their problems;

- be able to learn in an ever changing environment;

- he can build knowledge from many sources, from many perspectives;

- be able to collaborate locally and regionally.

## REFERENCES

- [1] Brezuleanu Camen Olguța, Educational project approaching teaching-learning, transcurricular modern method. *Lucrări Științifice USAMV Iasi, Seria Agronomie*, vol.53 (1), Editura „Ion Ionescu de la Brad”, pag. 320-322, ISSN 1454-7414 ,2010
- [2] Brezuleanu Camen Olguța, Brezuleanu Stejărel, Iațco Constantin, Educational management and leadership strategies in the agricultural practical teaching partnerships *Environmental Engineering And Management Journal*, April 2013, no. 4, pag. 645-649, print ISSN: 1582-9596, eISSN: 1843-3707, Impact factor 1,117, Journal Citation Reports published by Thomson Reuters, 2013
- [3] Brezuleanu Camen Olguța, Didactics of Agronomic Disciplines, "Ion Ionescu de la Brad" Publishing House, Iași, 2016
- [4] Petrescu, P., Pop, V.: *Transdisciplinarity - a New Approach to Learning Situations*, Didactic and Pedagogical Publishing House, Bucharest