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## **Synergetic Approach to Development of Innovative Education and Training Technology**

*Voronina Vira*

Kharkov scientific research and design Institute “Energoproekt”  
Department of “Radiation Safety and Ecology”  
**Ukraine**



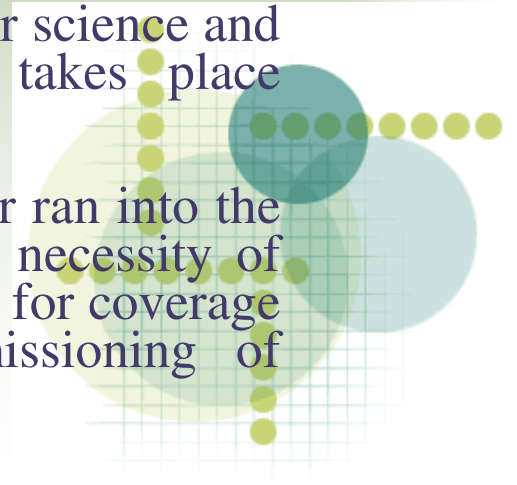
# Necessary knowledge - at the right time, in the right place.



Many countries developing nuclear energy express a hard confidence in that the sector of nuclear energy experiences a critical situation today. In industry there is the long-continued period of depression and low economic growth - as a result of negative public opinion and lack of political support.

Many countries already suffer from the threat of loss of critical knowledge because of personnel aging. Reduction of number of skilled specialists is wide-spread in the nuclear industry because of the low personal interest and inaccessibility of the developed nuclear science and programs of engineering education. The concurrence takes place between different branches of industry for specialists.

A problem is aggravated to those, that a nuclear sector ran into the increasing demand on a skilled personnel, caused by the necessity of update of existing and construction of new power capacities for coverage of energy necessities, and also necessity of decommissioning of deterioration complex of power units.



For the countries, developing nuclear energy, it is important to adhere to system successive conception of update, rejuvenation, professional development and training. By this paying fixed attention on [1]:

- ✓ Clarity of national policy - as the basis of development of the national nuclear educational programs;
- ✓ Motivation of young people for involving capable engineers, scientific and technical workers;
- ✓ Development of partnership and support of international organizations for creation of structure of nuclear education, remote educational is of special importance ;
- ✓ Saving and distribution of knowledge and the best practice, including the tested approaches methods and instruments for effective realization of nuclear knowledge management;
- ✓ Bringing in nuclear organizations to teach graduating students of non-nuclear speciality;
- ✓ Forming the adequate public opinion about nuclear industry;
- ✓ Attention to the adjoint necessities: handling of wastes, medicine, ecology, scientific researches.

*The successful decision of these questions is possible only at general introduction of international cooperation.*



*For development of innovative educational and training technology here suggested using a new synergetic strategy - the interaction or cooperation of two or more organizations, substances, or other agents to produce and combined effect greater than the sum of their separate effects.*

*Self-organization is the property of any system to arranging by means of building on, "growing" from itself of new, more vigorous structures.*

For possibility of bringing in of young specialists, the creation of fund of having a special purpose grants, development of procedure of their payments, establishment of the special raises, is materially needed, for example, due to the economy of wage-fund, to create terms for interesting, perspective, high-paying work. Key is to create terms and conditions, that they independently be engaged in and daily increase the level of theirs professionalism.

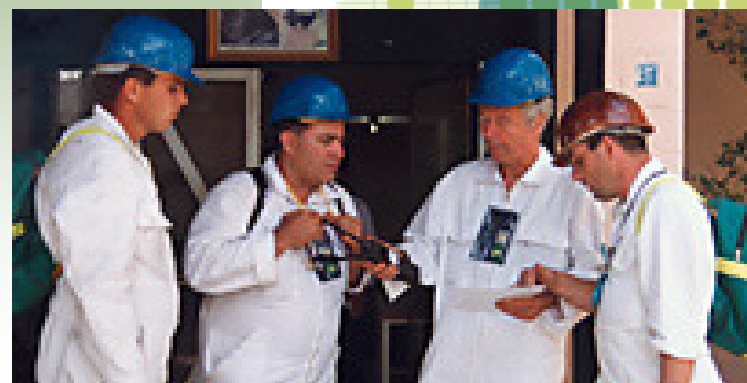




For bringing in and activating of internal resources, it is required the certain external initiative, independently to control the ability of consciousness to the situation, notably, position of criticism [3]:

- Ability to consider their opinion and value orientations not as uniquely meaningful and equitable, but as mediated by other opinions and orientations;
- The skill on own initiative to test ability the ideas and presentations most strong from possible objections, what only can be brought against them;
- Ability to find positive aspects in the obviously negative phenomenon;
- Ability to avoid groundless and petty faultfinding;
- Ability to avoid options "we (they) are however better (worse)";
- Ability to estimate itself objectively in the possible (expected) situation of action of negative factors.
- Education will achieve its objective, if terms, environment, where creative personality would be developed, will be created.

It is good to teach those, who want to study and know, why they need new knowledge.

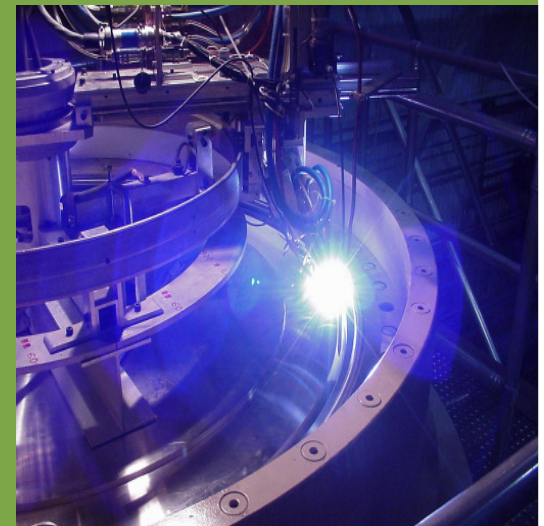


In connection with new senses, its purpose, content, having personality-valued sense and technological bases, transforming content in self-management by means of synergetic guidelines general and private principles and orienting terms, become the basic components of the system of the self-management educational activity.

In accordance with these provisions, the monologue of the educator yields a place to the semantic dialog, co-operation, partnership, orientations, on the real developing individual freedom - all that develops human in a man [4].

The observance of principle of «accessibility» of educational and educating information is important. Accessibility, among the great number of the features, has another important quality. The open knowledge possesses the property to admit at its "territory", to be opened slightly for a cognizing man. The world of knowledge is "opened" before a student due to work of his consciousness, as main personality value. A teacher does not "present" knowledge in the kind prepared for understanding, but gives them an discovering context, thanking to the description of developed by special method [5].

Transition of personality to the new state is accompanied by experiencing by consciousness of the situation and the place in it. It results in the appearance of personality position of two kinds: social adjusting (complete submission to the terms of environment with inevitable assimilation and degradation of the personality) or active creative activity on transformation of situation (nonadaptive activity as the basis of self-development and self-realization of the personality). The second position corresponds to the state of the self-management creation of teaching and studying, education and self-education and is determined as purpose of educational activity.



Many researchers take the deciding role of position of leader of enterprise, to his creative enthusiasm, goodwill in the atmosphere of freedom of thought and self-actualization [6,7]. The great number of methods is selected for this achievement: to show interest to the actions of young people; to acknowledge and encourage the great number of variants of answers; to encourage the sense of anticipating and expectation; to show the other point of view for well-known objects, phenomena, etc.

Organization by the leader of collective of situations of success is the important component of creative atmosphere. The situation of success is the variety of pedagogical situation, forming at young specialist the subjective desire to join creative activity at the level of their possibilities, providing necessary terms for this purpose [8]. The situation of success develops non-standard thought, aspiration to the creative self-actualization, forms at personality position of active participant of process of activity.

Strengthening and development of nuclear knowledge experience and jurisdiction is the important aspect both safe and successful application of nuclear technologies and exposition in the popular form of knowledge, forming the proper relation of public to further development of atomic energy.

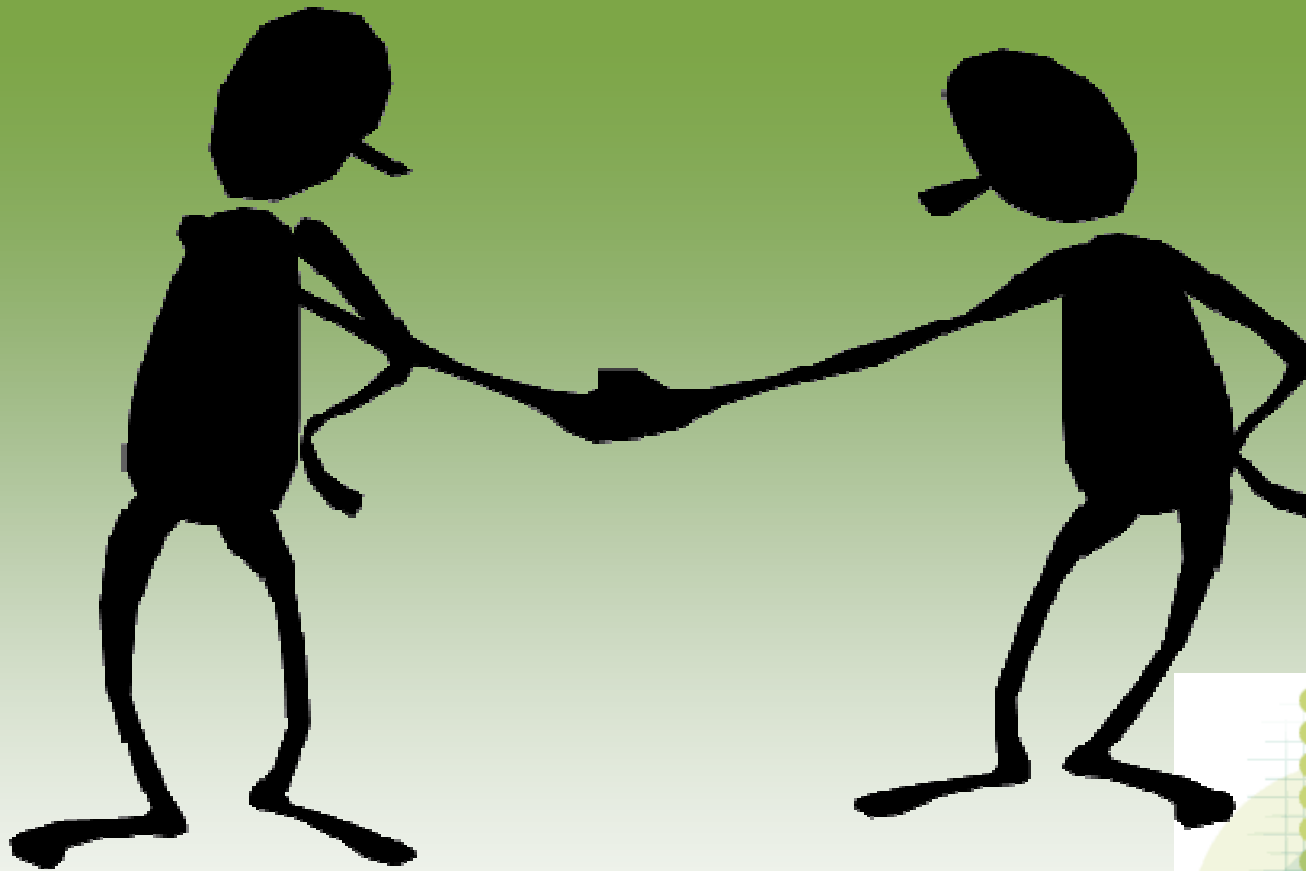


To Achieve **Sustainability** in Renaissance of nuclear power *Synergetic approach towards educational and training technology* shows, if human culture in XXI wants to preserve exist and gain new essential knowledge the methods and practices of teaching have to be changed in the root — i.e. in requiring effective knowledge management systems, when each recognizes such values hierarchy to correspond human demands in the current critical phase of their development.





# Thank you for attention



Voronina V.A.

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