be offered access to this resource to introduce students to the technological and social aspects of sustainable development in mountainous regions. It is expected that more than 100 students and doctoral candidates, over 50 representatives of environmental NGOs and activists, over 20 university lecturers, over 20 small and medium-sized business representatives, and over 20 local officials will benefit from it.

Teachers from Kosiv Lyceum will have the opportunity to receive a Professional Development Certificate and supplementary literature to address regional issues of local development in the upper classes of the lyceum. The materials collected for students and educators will strengthen network interaction and student mobility in the Carpathian region.

The National Environmental Center of Ukraine will use the establishment of professional connections for institutional growth and planning similar events.

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# THE NEED FOR A CHANGE OF CONCEPTUAL BASIS EDUCATION SYSTEMS AT THE CURRENT STAGE OF COMMUNITY DEVELOPMENT

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## Topicality.

The UN development program assesses the quality of life, or the country's Human Development Index, by three main indicators: average age, average income per capita, and level of education [1].

Humanity's need to create an artificial education system through the transfer of sociocultural experience accumulated by previous generations in the form of professional knowledge and moral values arose in connection with the need to prepare future generations for the most effective participation in all spheres of society. And since it is customary to divide the history of human development into a number of stages according to the focus of the economy on the production of the main types of products and, accordingly, according to the number of the able-bodied population employed in this field, then at each stage of its development the economy required different answers to the questions about the functions of the elements that define the education system as artificial: its purpose or main function - "Why teach?", content – "What to teach?", methods – "How to teach?", contingent of students – "Who to teach?" and teachers – "Who teaches?"

Even before the middle of the 20th century, students received the content of professional skills and their formation by the method of knowledge transfer: at the agricultural stage – in farming and animal husbandry, and at the industrial stage – narrow specialists capable of ensuring the highest labor productivity and thereby maximum profit in their workplace. But already at the modern – informational – stage, where ideas and interdisciplinary technologies based on natural sciences became the most valuable product of

production, it turned out that the education system cannot train a creative person capable of creating such products. And if we take into account that the pace of scientific and technical progress requires the performer of a constant need for retraining, because specific competences quickly become obsolete, and the development of society will not stop at the informational stage and, according to V. E. Khmelko, a human-creating stage awaits us ahead [8], the world education system was in crisis even before the end of the 20th century.

In Ukraine, by the way, this crisis is deepened by the consequences of the "reform" of the former Minister of the Ministry of Education and Culture Dmytro Tabachnyk and his followers about reducing the amount of time spent on science subjects in secondary schools and focusing on professional colleges [5], as well as an overly inflated and unfounded belief in critical thinking [6].

#### Goal.

Identify the qualities of a creative personality, which the modern education system should form in new generations, and the basic principles on which it should be built for this process.

# Research methodology and organization.

Already, the transition to the information stage and the need to create a fundamentally new product — science-intensive ideas and technologies — have fundamentally changed the requirements for the qualities of employees: a person who effectively responds to constant changes in technology both in his workplace and in the entire technological chain is needed. To prepare a flexible specialist of "tomorrow" "outstripping pedagogy" – educational technology based on TRIZis necessary – a system of intellectual and psychological development that forms stable components of a creative style of thinking in a socialized individual [3].

An analysis of the various literature related to the success of countries that managed to achieve rapid economic success revealed that **three qualities of the "human factor" were the main ones: communicativeness** as the ability to work in a team, **creativity** as the ability to generate new ideas, and **learning** ability as the ability quickly learn and practically apply new information [4]. In the category "wealth and competitiveness of the country", the economy of production is inferior to the economy of Knowledge and Man — the owner of this knowledge [7].

# Research results.

Qualities of a creative personality identified by specialists, which meet the requirements of the modern economy, determined the tasks of the education system, but did not foresee the methods of implementing these tasks. The search for their solution will be carried out using the author's developments: **the functional-systemic approach and the theory of the development of artificial systems** [3].

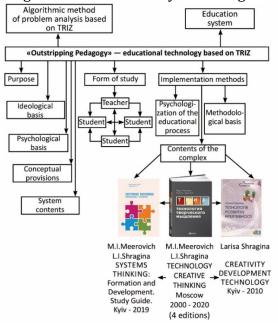
According to the laws of the development of artificial systems, the **content of education** ("What to teach?") should be the methods of organizing thinking and developing the qualities of a creative personality, for which a transition from unreflective assimilation of knowledge to conscious mastery and mastery of thinking techniques and operations is required. And for this, first of all, it is necessary **to change the methodology** ("How to teach?") – the method of knowledge transfer: the educational process should be organized as a group research activity to "extract" new knowledge for students. Such an organization of the process orients the student not to obtaining the correct answer, but to understanding how exactly this answer was obtained. As a result, on the material of any educational subject, generalized ways of thinking are formed in him, which he can use to find solutions to problems of various nature. Working in a group will ensure the psychologization of this process, which will enable the formation of communicative skills, and the need to conduct research and solve emerging problems – heuristics (the formation of creative qualities) and pedagogy (the ability to learn). The answer to the question "Who to teach?" determined by the need to involve more and more people in the creative process and unambiguous both in economic and social terms: the elitist system of

education, which was previously intended for a narrow circle of people, must become universally accessible.

The last element remains: who teaches? **The key element of education reform is the teacher**: any pedagogical technology is ultimately implemented in a school classroom or university classroom. Psychologists know well that only a personality is capable of raising a new personality, and only talent can raise a new talent!

Most of the reforms in the education system in the last 50–60 years (polytechnicization, computerization, humanitarianization, etc.) did not give the expected result, primarily because they only shuffled the amount of knowledge, that is, the content of education, and only slightly touched on the methodology, but did not include personality of the teacher. But the most advanced technological process will fail if it is performed by unqualified personnel. Because the learning process is also a technology, where a living human personality acts as a "product".

To prepare a creative teacher and already with his help to increase the productivity of the educational process – the percentage of "graduation" of gifted children – the innovative technology " Outstripping Pedagogy" is intended, which since the end of the 80s of the XX century developed and implemented in the educational process by the Laboratory "TRIZ-Pedagogy of Ukraine". Its purpose is the formation of the system thinking of teachers and students directly in the educational process on the basis of the tools developed in technical creativity in the form of flexible algorithms of the theory of solving inventive tasks (TRIZ) [2].



The structure of the technology "OUTSTRIPPING PEDAGOGICS"

## Conclusions.

In a state that wants to be developed, the education system should form creative thinking qualities in new members of society, which would give them the opportunity to quickly and with positive emotions change qualifications during technological changes and successfully solve creative tasks. As the more than 30-year practice of introducing "Outstripping pedagogy" into the educational process of various educational institutions has shown, this technology fully meets the requirements of society for the modern education system.

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# МЕТОДОЛОГІЯ ЯКІСНОЇ ОСВІТИ В СТРАТЕГІЇ СТАЛОГО РОЗВИТКУ: ВИКЛИКИ ТА ПЕРСПЕКТИВИ ЗАБЕЗПЕЧЕННІ ЯКОСТІ ОСВІТИ

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Слова «сталий розвиток» стали популярними в сучасному дискурсі, навіть стратегічні документи та бюджет України враховують цю концепцію. «Сталий розвиток» це переклад англійського sustainable development. «Sustainable» можна перекласти також як «життєздатний», «екологічний» або навіть «невиснажливий». Це поняття має безліч трактувань та варіацій, але найпоширенішим є визначення Міжнародної комісії ООН з навколишнього середовища і розвитку. Сталий розвиток визначається – як розвиток, який «задовольняє потреби сьогодення без шкоди для здатності майбутніх поколінь задовольнити свої». Сталий розвиток – це спосіб організації діяльності суспільства, за якою воно зможе існувати в довгостроковій перспективі. Суть сталого розвитку полягає у визначенні життєздатних схем, що враховують та збалансовують економічні, соціальні та екологічні аспекти людської діяльності. Ухвалюючи рішення, громади, компанії та громадяни мають враховувати не лише перспективу 10-20 років, а й далеке майбутнє. Концепція сталого розвитку стосується лише екологічної ситуації, ця концепція зачіпає всі сфери життя: економічну, соціальну та екологічну. Центральне місце в концепції займає людина сучасного та людина майбутнього. Як експлуатація ресурсів,