

# Розділ 2

## РОЗВИТОК ЛІДЕРСТВА ДЛЯ ОСВІТИ

### Section 2

#### LEADERSHIP DEVELOPMENT FOR EDUCATION

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*HURA Tetiana,*  
PhD in Educational Sciences, Assistant Professor,  
Professor and Deputy Head of the Department  
of Pedagogy and Psychology of Social Systems Management,  
National Technical University «Kharkiv Polytechnic Institute»,  
Ukraine

*NECHEPORCHUK Iryna,*  
Assistant of the Department of Pedagogy  
and Psychology of Social Systems Management,  
National Technical University «Kharkiv Polytechnic Institute»,  
Ukraine

### ROLE OF TECHNICAL UNIVERSITY IN THE DEVELOPMENT OF LEADERSHIP AND INSTITUTIONAL POTENTIAL OF SOCIETY

*The mission, vision and values of modern technical university are considered in the article. Particular attention is paid to the analysis of development of leadership and institutional potential of society in terms of technical university. The paper shows the experience in implementation of the leadership strategy in the technical higher educational establishment. The need to pay more attention not only to the professionalism, but also moral and spiritual qualities in the process of personality formation of the modern engineer-leader is pointed out.*

**Keywords:** mission, vision, values, leadership and institutional potential of society, engineer-leader.

**Problem statement and its relevance.** Aggravation of many social, economic and spiritual problems of mankind is that sad baggage with which we entered the twenty-first century. The time when development of science and technology was recognized as a necessary condition for the progress of our civilization gradually fades into the background. More often we hear about the need of not technical but human progress. Today, more than ever, humanity needs the development and progress of spiritual and moral principles, progress of the level and quality of life. Science, as a weapon of nature subjugation, proved to be fatal to human who forgot that he himself is a part of nature. And this weapon ultimately turned against human. The development of science and technology, which had to lead to overall happiness, caused a number of global problems that the question if being smart enough for humanity to survive is still opened. It remains an open question; especially since there is a proven fact that human is not only conscious being, but more unconscious and irrational. Difficulty in solving global environmental and social issues is related to the fact that people are often guided by selfish motives as their own interests, the desire to meet their own needs, passions and desires to obtain maximum satisfaction [6].

Despite the threatening forecasts of modern scientists, our society is not making sufficient efforts to solve environmental, demographic problems, problems of hunger, slavery, child labor and many others. Progressive people all over the world, understanding the complexity of these problems and contradictions, preach and implement humanocentrist approach in education, science and management. That's why technical university should maintain modern progressive ideas [1]. But to implement the ideas engineers-leaders, teachers-leaders, managers-leaders are needed. Therefore future specialists-leaders should be prepared in higher educational establishments. Our article is devoted to the solution of this issue.

**Analysis of scientific papers on the issue.** Consideration of the research on leadership, problems of leadership skills formation of students in higher technical educational establishments, as well as philosophical, psychological, pedagogical literature allow us to determine various aspects of the research problem. Thus, improvement of the managers-leaders training is covered by such native scientists: V. Bereka, L. Vashchenko, D. Halitsyna, L. Danylenko, H. Dmytrenko, O. Elbrekht, H. Yelnikova, S. Kalashnikova, L. Kalinina, L. Karamushka, N. Klokhar, L. Kravchenko, V. Kremen, S. Krysiuk, V. Luhovyi, V. Maiboroda, V. Maslov, O. Melnykov, P. Nadolishnii, N. Nyzhnyk, V. Oliinyk, V. Oluiko, S. Pazynich, A. Pakhariev, M. Piren, O. Ponomarov, D. Prasol, N. Protasova, V. Rebkalo, O. Romanovskyi, M. Rudakevych, T. Sorochan, L. Tovazhnianskyi and others; personal aspects of leadership were interesting to O. Voronov, N. Honcharenko, O. Kovalov, A. Svetsytskyi, U. Bennis, O. Krishtanovska, R. Mills, Kh. Orteha-i-Hasset, V. Pareto and others; psychological characteristics of the leader's role in an organization were considered by B. Kretov, R. Krychevskyi, B. Paryhin, K. Arhinis, G. Berne, G. Kohher, R. Tannebaum, U. Uinni, R. Yanh and others.

**The purpose of this paper** is to analyze the disclosure of the problem of definition of the role of technical university in the development of leadership and institutional potential of society.

**Main material.** Models of the XXI century specialist, that are being developed, must include not only components such as professionalism and quality basic training, but they should pay special attention to the humanization and humanitarization of the process of new specialists training in terms of technical university. Modern person, first of all, must understand the complexity of environmental, spiritual, economic problems and the need for their fundamental and urgent solutions. And, secondly, on the subconscious level the need to act based on consciousness of the unity

of nature and human as the highest value should be laid in person [3].

However, the model of engineer-specialist can not be limited only by the above said disciplines. Engineer-leader should be the necessary component of this model. And not just because the fact that specificity of our country is that specialists-engineers hold a lot of high managerial positions. But because these functions require specific skills combined with great responsibility. All people must be involved in solving global problems but not each person individually. And only then there'll be a possible way out of the crisis of modern civilization. We can say that every inhabitant of the Earth is responsible for his own home, his planet, his present and future [4]. But the responsibility of the leader-engineer for this is special.

It is important to note that those people become leaders which have a special ability to influence other people, their thoughts, attitudes and actions. If the combined activity of each individual affects society as a whole, the activity of engineer-leader that has organizing and subordinate influence, and directed to the activity of many other people in any direction, in the end, fundamentally affects livelihoods, sustainability of social systems: consortium, separate company or firm, higher technical educational establishment.

Thus, the main social role of engineer-leader that turns control function to one of the most important is the organizational and educational impact on people, that would allow efficient enterprise operation, the goals achievement of the organization and with that the salvation of global problems of mankind.

In the economic revival of Ukraine critical value belongs to leaders of higher education establishments. Global trends in questions of management of higher education establishment are the ability to combine creative efforts of all staff. Neither higher education establishments of the III-IV accreditation levels nor colleges, technical and specialized schools have impersonal «cogs», who carry out orders of the authorities blindly. A person is no longer just an impersonal, easily replaceable part of the productive forces, which plays the same or even less important role as technical means of production. The gradual, steady rejection of the view on a person as an addition to the machine, that provides its clear and efficient operation is happening. Competitiveness and survival of higher education establishment directly depend on the potential and quality of the entire team of employees, which solve any problem of the institution in its creative effort. Contribution to the management and organization of higher technical educational establishment is required from everyone. It turned out that in potential versatility of the human personality there is a possibility of almost infinite increase in productivity, quality and performance of work [5]. Of course, the decisive role of the organization of such work, art to motivate staff and students to creativity, promotion of joint decision-making and responsibility of each person for the overall success or failure belongs to the skilful chief-leader of higher educational establishment.

Mission of modern university is to contribute to the holistic development of each person, leadership formation and service to a person, community and society [2]. University is the main institution, purpose of which is not only to spread existing knowledge, but also the production of new knowledge. During the last decades the world's leading universities shifted the emphasis on scientific and research activity, but learning process stays as a fundamental component of the university mission. With regard to the role of technical university in the development of leadership and institutional potential, the mission of National technical university «Kharkiv polytechnic institute» (NTU «KhPI») provides the following tasks: search, support and education of leaders; highly qualified leaders training to their managerial activity at commercial complexes of Ukraine: fuel and power, metallurgical, engineering, agriculture, social, transport, construction, chemical and etc.; use of scientific research based on the interaction of education and science; development and implementation of advanced information technologies and means of training in the educational process to prepare managers-leaders; wide international cooperation with leading universities of the world

for training leaders; advanced training, specialization, retraining staff for leadership training; provision of educational content according to the latest science and technology achievements, the main trends of production and economy of Ukraine to prepare managers-leaders; provision of education and cultural and spiritual development of leaders; facilitation of the implementation of fundamental and applied research by most talented students-leaders; promotion of practical skills development, particularly among students-leaders in the process of integration of education, science and industry; participation of students-leaders in international projects and programs, scientific conferences, seminars and exhibitions; creation of joint research centers, institutes, and other organizations with foreign partners, where the best students-leaders could carry out educational and research programs and receive relevant documents on education.

Mission of modern university is related to its vision. According to experts in research of the problems of higher education, vision of modern university is the creation of an enabling environment, infrastructure and conditions for personality development; implementation of educational standards; development of scientific potential, improvement of scientific and research, training and innovation activity; formation of the university SMART-space; development of corporate culture of leadership service as a modern management system; assistance in leadership skills development of students through their participation in student's government; creation of conditions for meaningful leisure of students and staff; deepening of integration in international space of higher education and science; demonstration of openness and making information available to the community [7].

In our view, vision of technical university primarily NTU «KhPI» is a high quality of education: its solidity, depth, practical orientation; the presence of more than 40 recognized research schools; high demand for graduates in the labor market, native and international recognition of the university; high places in national and international rankings; high level of assessment of the quality of training by employers and scientific-theoretical, methodological training of scientific and teaching staff; development of infrastructure and financial base of the university; top leadership among national education, which implements new achievements of scientific and technological progress to the learning process, modern educational technologies; availability of certificates of international and national recognition.

Mission and vision of the university depends on its values, because values of an organization are a powerful regulator of individual and group behavior of staff that reflects life principles and goals of the organization and choices of methods of their implementation made by individual. Values of the organization are shown in the organizational culture, in particular, in rules, norms and traditions. They govern the employees' behavior in the performance of their official duties, one-time and permanent assignments, business interaction and interpersonal communication [2].

Values of National technical university «Kharkiv polytechnic institute», which promote the development of leadership and institutional potential of society are: academic freedom; high demands on the quality of training; democratic control; the election of authorities, collegiality of decisions; pluralism of thoughts; support of the accepted norms of scientific community; high quality of education; openness and willingness to cooperate at all levels; compliance with social, national, religious and other principles of equality of staff and students; individual approach to each employee and student, respect; concern for the social protection of students, for the availability of qualified teachers and for the increase of the educational and cultural level of students and teachers; introduction of advanced information technologies and means of training in the educational process; promotion of innovative training programs implementation for scientific and teaching staff; creation of conditions for the exchange of students, post-graduates, doctoral students, research, scientific and teaching staff; advanced training of employees; provision of cultural and spiritual development of personality; education of people enrolled in the university to respect the Constitution of Ukraine; facilitation of implementation and production of new high-tech

products; concern for integration of education, science and industry; implementation of innovative development projects.

Let's consider a concrete experience in implementation of leadership strategies at NTU «KhPI». In the last 15 years the basic tenets of the concept of future engineers-leaders training are gradually introduced. Thus, the university opened new specialties: «Psychology», «Administrative management», «Pedagogy of high school», «Management», «Personnel management and labor economics», «Management of organization and administration», «Management of innovative activity», «Power management», «Management of foreign economic activity», «Sociology», «Intellectual property», «Quality, standardization and certification», «Marketing», «Systems of artificial intelligence», «Social informatics», «Innovative management», «Ecology and environment protection», «Economics of enterprise» and others. Development of leadership potential at technical university is promoted by the subjects that form leadership skills of humanitarian and technical elite. These are «Psychology», «Pedagogy», «Psychology of management», «Psychology of success», «Philosophy of success», «Rhetoric», «Conflictology and psychology of management», «Psychology of activity and learning management», «Behavioral competence in project management», «Pedagogy and psychology of high school», «Communication processes in education», «Basics of pedagogy of high school», «Management of the development of social economic systems», «Basics of management in energetics», «Training on psychology of communication», «Training on negotiation organization», «Basics of professional psychology», «Psychology and methods of teaching specialized subjects», «Psychological and pedagogical basics of teaching», «History of science and technology», «Legal basis of management activity», etc. In their pedagogical practice teachers of technical university actively use such technologies of education that promote leadership potential development of future specialists of technical profile. These are business games (educational, industrial, research); case-technologies; technologies of the analysis of specific situations; trainings; simulation exercises; thematic discussions; technologies of problem-based learning; methods of projects and debates; technologies of game design and more. Thus, the educational process at technical university is based on the interpenetration of technical disciplines and humanities.

**Conclusions.** This study gives reason to the following:

1. Development of leadership and institutional potential of society is no longer a privilege of humanitarian universities, but it becomes a leading component of training at technical university.

2. Study of humanities at technical university focuses on raising the level of general education and knowledge of future engineers, economists, managers, promotion of their culture level, human values ingrafting and leadership skills development.

3. Development of leadership and institutional potential at technical university implies parallel conduction of basic and applied social and psychological research, development of methods and means of reliable psycho-educational assessment, general issues of pedagogy and psychology of higher technical school.

4. Mission, vision and values of modern higher technical educational establishment contribute to the system of engineer-leader training, which is being developed at NTU «KhPI».

5. Preparation of future leaders is justified from economic, environmental and moral point of view. In the process of formation of the modern engineer-leader more attention should be paid not only to his high professionalism, but his morality and spirituality.

So, all these require proper consideration in future engineers' training process, and improvement of future engineers-leaders training.

As prospects for further development the authors consider development of the concept of a leadership center at technical university.

### References

1. Babaiev V. M. Problemy formuvannya osobystosti lidera: [navch. posibn.] / V. M. Babaiev, O. H. Romanovskiy, O. S. Ponomarov – Kh. : NTU «KhPI», – 2000. – 290 s.
2. Misiia universytetu. Elektronnyi resurs / [http://online.zakon.kz/Dokument/Poriadok/formulirovki/myssii\\_i\\_tsennoستي](http://online.zakon.kz/Dokument/Poriadok/formulirovki/myssii_i_tsennoستي).
3. Ponomarov O. S. Model profesiinnoi diialnosti fakhivtsia: [tekst lektsii] / Ponomarov O. S. – Kh. : NTU «KhPI», 2006. – 36 s.
4. Ponomarov A. S. Model spetsyalista kak istochnik vybora i obosnovaniia sodержaniia professionalnogo obrazovaniia: [tekst lektsii] / A. S. Ponomarev. – Kh. : NTU «KhPI», 2006. – 58 s.
5. Romanovskiy O. H. Problemy formuvannya osobystosti lidera / O. H. Romanovskiy, V. M. Babaiev, O. S. Ponomarov. – Kh. : Maidan, 2000. – 193 s.
6. Tovazhnianskyi L. L. Kontseptsiiia formuvannya humanitarno-tekhnichnoi elity v NTU «KhPI» ta shliakhy yii realizatsii: [Navch.-metod.posibn.] / L. L. Tovazhnianskyi, O. H. Romanovskiy, O. S. Ponomarov. – Kh. : NTU «KhPI», 2004. – 416 s.
7. Viziiia universytetu Elektronnyi resurs / <http://il.kubg.edu.ua/prouniversitet/vizytivka/-viziia/viziia>.

*Гура Тетяна, Нечепорчук Ирина*

### РОЛЬ ТЕХНІЧНОГО УНІВЕРСИТЕТУ У РОЗВИТКУ ЛІДЕРСЬКОГО ТА ІНСТИТУЦІЙНОГО ПОТЕНЦІАЛУ СУСПІЛЬСТВА

*У статті розглядається місія, візія та цінності сучасного технічного університету. Особливу увагу приділено аналізу розвитку лідерського та інституційного потенціалу суспільства в умовах технічного університету. В статті висвітлено досвід реалізації стратегії лідерства в технічному вузі. Наголошено на необхідності при формуванні особистості сучасного інженера-лідера більше уваги приділяти не тільки високому професіоналізму, але і його моральним та духовним якостям.*

**Ключові слова:** місія, візія, цінності, лідерський та інституційний потенціал суспільства, інженер-лідер.

*Гура Татьяна, Нечепорчук Ирина*

### РОЛЬ ТЕХНИЧЕСКОГО УНИВЕРСИТЕТА В РАЗВИТИИ ЛИДЕРСКОГО И ИНСТИТУЦИОНАЛЬНОГО ПОТЕНЦИАЛА ОБЩЕСТВА

*В статье рассматривается миссия, видение и ценности современного технического университета. Особое внимание уделено анализу развития лидерского и институционального потенциала общества в условиях технического университета. В статье освещен опыт реализации стратегии лидерства в техническом вузе. Отмечена необходимость при формировании личности современного инженера-лидера больше внимания уделять не только высокому профессионализму, но и его нравственным и духовным качествам.*

**Ключевые слова:** миссия, видение, ценности, лидерский и институциональный потенциал общества, инженер-лидер.