
**FEATURES OF ECOLOGICAL COMPETENCE
OF STUDENTS LIVING IN CONDITIONS OF BIG CITY
(by the example of the students
of the Peoples' Friendship University of Russia)***

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The features of the ecological competence of students in the conditions of the capital megalopolis are investigated in the submitted article. The ecological competence is considered by the authors as a complex and integrated property of an ecologically focused personality in which there is a structure, components and indicators of the ecological culture. The data of a comparative pilot study of the ecological competence of the students of different faculties which testify to the existence of the qualitative and quantitative distinctions are provided in the work.

Key words: ecological competence of personality, ecological consciousness, ecologically focused personality, structure, criteria and indicators of ecological competence, students, megalopolis.

The deepening ecological crisis, the rapid growth of the cities, the increasing contradictions between the consumer essence of the technocratic society and the natural resources of our planet have inevitably brought about the emergence of the actual requirement for a change of the attitude to nature, the formation of a new ecocentric type of the personality with an ecological consciousness.

The Bologna Process and the establishment of the new state standards of education defined the emergence of a new unit of the analysis of the professional qualities formation. This new unit was professional competence. Many researchers began to refer the ecological competence to the integrated indicators of the competence of a future expert [1; 2].

The concept of the ecological competence is now treated ambiguously. All the researchers agree on the need to define it as complex personal education which has inter-professional and even super-professional character [1; 2]. But, depending on the approach, the authors allocate a different quantity of components and levels of the manifestation of the ecological competence, and some authors even unite it as a whole with the other competences (socio-ecological, ecologically-legal, ecologically-valueological etc.).

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In this work we adhere to the approach in which competence is understood as a set of the interconnected qualities of the personality (knowledge, abilities, skills, ways of activity), the subjects defined in relation to a certain circle and processes. It is necessary to operate in a qualitative and productive way in relation to them. Respectively, the competence is a person's possession of a certain competency including his/her attitude towards the object of his/her activity (the ability of the personality to integrate knowledge, aptitudes, skills and ways of their use in the changing environment). The distinctive feature of the ecological competence is its real manifestation in the practical ecologically focused activities, in a concrete ecological situation. The ecological competence is not only an integrated property, but also a criterion of the manifestation of an ecologically focused personality [1].

In a certain measure specifying and expanding the various approaches to the definition of the structure of the ecological competence of a personality we single out the motivational and evaluative, cognitive, activity-behavioral, emotional and conative, reflective components [1; 2].

The motivational-evaluative component assumes a combination of interests, requirements, value orientations which induce the implementation of an ecologically focused professional activity; the existence of the ecologically significant qualities of the personality (humanity, empathy, responsibility, initiative, etc.). An important constituent of the motivational-evaluative component is the need for the implementation of an ecologically focused activity, for a voluntary and conscious participation in it, the existence of a sense of responsibility for its results.

The cognitive component assumes the presence of the system of the ecological knowledge (world-outlook, natural-science, standard and legal, practical), acting as a rough basis for an ecologically focused professional activity. Within the competence approach the ecological knowledge must be considered as a means not only for implementing an ecologically focused professional activity, but also for undergoing the process of socialization of the personality, professional self-improvement etc.

The activity-behavioral component in the structure of the ecological competence presupposes the possession of the abilities for the practical application of the ecological knowledge in the professional activity as a whole, in the solution of the specific environmental problems. Thus the concept of the «ecologically focused activity» does not substitute for the concept of the «interaction with nature», because the practical activity of people is aimed at the preservation and improvement of the environment, the creation and development of the ecological production, and also the further development of the spiritual activity, connected with the formation of an ecological culture.

The emotionally-conative component includes the ability for the emotional experience in all the aspects of the relationship with nature (within the professional activity, education, rest etc.). It is an ability to experience pleasure from the feeling of harmony with nature and suffer from its destruction.

The reflective component includes the ability for the self-assessment of the attitude of a person to the surrounding natural world; his/her own readiness for implementing an ecologically focused professional activity, its results, the aspiration and readiness for self-education, self-awareness through feeling as an integral part of nature.

The presented structurally-substantial characteristic allows formulating the integral criteria of the ecological competence of the personality and the adequate indicators of its formation in a future expert:

— motivational-evaluative criterion (the stability of the interest to the environmental problems, the existence of a requirement for the increase of the level of the ecological knowledge, the motivation of an ecologically focused activity, including professional, the prevailing nature of the values important for the personality, etc.);

— cognitive criterion (the volume, consciousness, the durability of the ecological knowledge; the possession of rational methods of searching for and processing the ecological information, the ways of taking the ecologically focused decisions in the professional activity, and also in the concrete ecological situations);

— activity-practical criterion (readiness for the transformation of the surrounding natural world on the basis of the experience of using the ecological knowledge, the ability to project and put into action the ideas of the ecological expediency in professional and other kinds of activity, to solve the real environmental problems creatively; the experience of the practical ecologically focused activity, etc.);

— emotionally-conative criterion (the emotionally significant experiences of the harmony and beauty of nature, a unity with it, ecological empathy, compassion);

— reflective criterion (the reflective strategies of the personality, the introspection of the attitude to the surrounding natural world and to oneself as its integral part, the assessment of one's own readiness for the implementation of the ecologically focused professional activity, to its results).

The ecological competence finds its manifestation in the ecological activity. The activity is determined by the necessary quality of consciousness. In this case it is a question of ecological consciousness [1; 3]. The connection between the ecological competence and the ecological consciousness is defined by the ecological activity. It is possible to consider the ecological consciousness as an emerging form of the individual and public consciousness.

In the modern culture the anthropocentric type of ecological consciousness is prevailing. It is characterized by the opposition of the personality as supreme value and the nature as his/her property, the objective perception of nature and a pragmatic approach to it. The ecocentric type of the ecological consciousness acts as an alternative to the anthropocentric consciousness. It is characterized by the following distinctive features: the orientation toward ecological expediency, the rejection of a hierarchical picture of the world, the subjective perception of nature, the balance of the pragmatic and non-pragmatic attitude to it [3]. The ecological consciousness can be considered as a wider concept in relation to the ecological competence [1; 3]. It is possible to speak about the personality that possesses a high level of the ecological competence as a personality with an ecologically aligned consciousness and an ecologically focused outlook.

Taking into account the two concepts of the ecological competence and the ecological consciousness, we could use a new technique of the Test of Ecological Motivation (the TEM). This technique was created in the Laboratory of Ecological Psychology of the Institute of Psychology of Russian Science Academy. Now it is undergoing a successful approbation [4]. The group of authors kindly provided us with the opportunity to use this test in our research.

The technique of the TEM was developed for the diagnostics of the ecological consciousness, for empirical studying of those of its structures which cause environmental friendliness of its behavior in the situations having direct or remote ecological consequences and, as a result, demanding ecological responsibility for the actions and acts [4]. The fact that this technique obviously covers rather a wide range of intrinsic characteristics, both the ecological consciousness and the ecological competence, seemed important and interesting to us.

The third year students of the ecological faculty of the PFUR (50 respondents) and third year students of the agrarian faculty (50 respondents: veterinarians — 37 students and agrarians — 13 students) took part in our research. A studied sample was picked up so that there was a possibility to compare the data on the TEM in students for whom the environmental issues are the main zone of the professional activity with a group of students, a subject of which professional activity are natural objects, but environmental issues are studied as additional.

Proceeding from the problems of a pilot study and the convenience of the analysis of the results, we averaged the data on each scale for the two groups of respondents. The received results of the mean values are presented in table.

Table

**Summary results of the mean values on the TEM scales
for two groups of respondents: students of agrarian faculty and students-ecologists**

| The TEM scales | Groups of respondents | |
|--|-----------------------|------------------|
| | Ecological Faculty | Agrarian Faculty |
| N+ — positive impact of nature on the person | 36,87 | 40,38 |
| N- — negative impact of nature on the person | 36,22 | 40,54 |
| H+ — positive impact of the person on nature | 31,01 | 30,72 |
| H- — negative impact of the person on nature | 53,33 | 53,38 |
| NE — environment | 3,02 | 3,41 |
| TE — technogenic environment | 2,00 | 1,52 |
| SE — social environment | 2,34 | 2,34 |
| EM — ecological motivation | 10,9 | 11,4 |
| U — unity with nature | 18,4 | 18,8 |
| U1 — esthetic feelings | 6,91 | 6,86 |
| U2 — Corporal feelings | 5,20 | 5,60 |
| U3 — Activity | 6,32 | 6,36 |
| R — ecological responsibility | 13,77 | 12,98 |
| R1 — personal level | 2,79 | 2,25 |
| R2 — close habitat | 2,58 | 2,53 |
| R3 — regional level | 2,67 | 2,65 |
| R4 — state level | 2,20 | 2,17 |
| R5 — international level | 1,47 | 1,46 |
| R6 — a limit on luxury | 2,05 | 1,95 |
| EA — ecological awareness | 1,46 | 2,24 |

In the analysis of the indicators on the first four scales (the subtest «Ecological threats») an ecocentric type of ecological consciousness is revealed in ecology students. The awareness of the necessity and importance of the «positive impact of nature on the person» against the «negative impact of the person on nature» (the awareness of the global ecological crisis) induces the person to care for the environment preservation. In the four polar scheme they get into the quadrant designated as the «care of nature».

The anthropocentric type of the ecological consciousness is diagnosed in the students of agrarian faculty. Their generalized indicators on the four scales are located in a quadrant «fight against the nature». The fear of the forces of nature («the negative impact of nature on the person»), the feeling of powerlessness in the face of the destructive impact of natural and anthropogenic disasters, a pragmatic approach to nature lead to the urge to subordinate the environment to the purposes.

On the scale N («the negative influence of nature on the person») the indicators in the group of students-ecologists have appeared statistically significantly lower: 40,54 — in the students of the agrarian faculty and 36,22 — in students-ecologists ($t = 2,1$; $p < 0,05$ and $U = 953,5$; $p < 0,05$). It testifies to their more optimistic estimation of the consequences of the natural cataclysms, less expressed fear of anthropogenic natural disasters. Here the effective presence of a special knowledge of the natural processes and the possibility of the regeneration in the ecosystems on the condition of carrying out some special activity, in our opinion, is essential.

The interesting distinctions were revealed in the preferences of the environment type in the situations of the environment conflict. Though the sequence of preferences in a situation of the conflict of environments didn't differ in two groups (first — environment, then — the social environment, and then — the technogenic environment), but in the ecologists the indicator of the preference of the technogenic environment (TE) appeared statistically significantly higher: 2 — in ecology students; 1,52 — in the students of the agrarian faculty ($t = 2,5$; $p < 0,05$ and $U = 943,5$; $p < 0,05$). In our opinion, it is the result of the specific training of the professional ecologists that receive the additional knowledge of the technogenic environment which is very important for the further activity. It should be especially noted that the absolute indicator of an ecological motivation (EM) appeared rather high in the two groups of respondents.

The subtest «Unity with nature» allows us to judge how much the person feels as part of nature and what this experience is connected with. In all of our respondents the esthetic component dominates in the feeling of the unity with nature (the indicator «esthetic feelings»), leaving an indicator «activity» in the second place, and in the third place according to the importance there is an indicator «corporal feelings». Besides the esthetic feelings, the young people also show high values in the activity parameter in the feeling of unity with nature. «Esthetic feelings» are meant as positive emotional and sensual experiences, an admiration for nature, and a perceptual and affective component of the interaction with environment. «Activity» reflects the muscular feelings closely connected with the movements in the environment, an active interaction with it.

The assessment of the experience of ecological responsibility was made according to the subtest «Ecological responsibility». The statistically significant distinctions were received by us on R1 scale — «personal level of ecological responsibility». The indicators in the group of students-ecologists appeared statistically significantly higher: 2,79 — in the students-ecologists and 2,25 — in the students of the agrarian faculty ($t = 3,3$; $p < 0,05$ and $U = 823$; $p < 0,05$). A higher level of personal responsibility for the solution of the environmental problems is characteristic for the students-ecologists. It is a highly expected result which certifies the higher level of the ecological motivation.

As a whole, the sequence of delegating responsibility in ecologists looks as follows: personal responsibility, regional level, close habitat, state level, and international level.

The students of the agrarian faculty delegate the highest level of responsibility to regional structures. And further the sequence proceeds: close habitat, personal responsibility, state level, international level. The attention is drawn to the fact that in both groups there is pessimism in relation to the possibility of the environmental problems solution by the state structures.

On the scale of «ecological awareness» there were received quite expected results: 1,46 — in the students-ecologists and 2,23 — in the students of the agrarian faculty ($t = 2,1$; $p < 0,05$ и $U = 1038$; $p < 0,05$). This indicator is interpreted as inverse, i. e. the points for the absence of the answer are counted up. The ecologists proved to be more ecologically informed. In our opinion, this parameter testifies to a higher level of the formation of the cognitive component of ecological competence in them.

As a result of the discussion we come to a conclusion that the ecological competence of the students-ecologists appears qualitatively and quantitatively different from that of the students of the agrarian faculty. Their level of the ecological motivation and responsibility is higher, their relation to nature bears an ecocentric character (the peculiarities of the motivational-evaluative component); they have higher indicators of the ecological awareness (the characteristic of the cognitive component), a more expressed readiness for the implementation of the ecological activity on the personal level (an activity-behavioral component). The qualitative peculiarity of the emotionally-conative component is the high value of both the esthetic feelings connected with nature, and the feeling of activity which reflects the muscular feelings closely connected with the changes in the environment. The reflective component is characterized by the awareness of the need and the importance of the positive impact of nature on the person in contrast to the negative impact of the person on nature which induces the conscious care for the environment preservation.

The fact that in the sphere of the professional activity of the students of the agrarian faculty (agriculturists and veterinarians) natural objects prevail, automatically doesn't lead to the formation of the ecocentric type of the ecological consciousness, to a high personal ecological awareness and taking the responsibility for the solution of the environmental problems. In the students-ecologists the relationship questions in the nature-person system are on the awareness level. The ecological education makes the person subjectivate the natural phenomena and processes. And in the students of the agrarian faculty, apparently, nature becomes only the object for their professional activity in the tideway of an especially pragmatic approach.

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**ОСОБЕННОСТИ ЭКОЛОГИЧЕСКОЙ
КОМПЕТЕНТНОСТИ СТУДЕНТОВ, ЖИВУЩИХ
В УСЛОВИЯХ БОЛЬШОГО ГОРОДА
(на примере студентов Российского
университета дружбы народов)**

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В предлагаемой статье раскрыты особенности экологической компетентности студентов в условиях мегаполиса. Экологическая компетентность рассматривается как комплексное и интегративное свойство личности экологически, имеющее свою структуру, компоненты и показатели. Приводятся данные сравнительного экспериментального исследования экологической компетентности студентов различных факультетов, которые свидетельствуют о существовании качественных и количественных различий.

Ключевые слова: экологическая компетентность личности, экологическое сознание, эколого-ориентированная личность, студенты, мегаполис.