

**PEDAGOGICAL CONDITIONS FOR SOCIAL INTELLIGENCE FORMATION  
IN THE STUDENTS OF TECHNICAL PROFESSIONS**

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**Purpose.** The study of the pedagogical conditions of social intelligence formation among the technical specialties students. **Methodology.** For definitions and characteristics of pedagogical conditions, including the orientation of educational process on the actual level of students' social and personal competences development, there have been used the analysis, the scientific statements systematization and empirical research methods. **Findings.** In order for future professionals to adapt to the new conditions of social life successfully, to interact harmoniously and without conflict in a particular environment, it is necessary for the process of developing abilities, qualities and skills, to be carried out in the educational space of the University systematically. The article considers such effective forms of learning as implicit learning. Learning is the acquisition (and outcome) of individual experience, knowledge and skills when it happens by themselves, naturally. The implicit (hidden, implicit) learning is observed in tasks where the person has to make a decision while it is necessary to consider a large number of interrelated parameters. In the context of the University educational environment, this provision is an exception to the stereotypes and prejudices of the lecturer's demonstrated behavior, samples of emotional response. **Originality.** The article proves the expediency of the living direct interaction compared to book knowledge. The study has conducted the conditions for the social intelligence formation, which has been carried out by using the test and survey methods. The obtained results show that the students of the computer engineering faculty are able to anticipate future actions of people, they can build the strategy of their own behavior, be sensitive to non-verbal expression, but they do not always understand verbal expression correctly, experience difficulties in the analysis of situational interpersonal interaction, make mistakes in finding the reasons for a particular behavior. It is associated with specific professional activity that is work with technology, not with people. The article emphasizes the importance of student-centered learning and competence-oriented approach to the highly qualified specialists training. **Practical value.** The article can be used to organize the learning process of technical specialties students. **Conclusions.** Psychological and pedagogical social intelligence correction program, namely social-psychological training allows to implement the following directions: improving nonverbal skills, broadening the expressive repertoire of behavior, awareness of own nonverbal behavior through the analysis of the nonverbal personality to adequately reflect children with developmental disabilities and achieving positive results in the process of pedagogical interaction, and other activities.

**Keywords:** social intelligence, social mentality, professional education, social competence, acmeology.

**ПЕДАГОГІЧНІ УМОВИ ФОРМУВАННЯ СОЦІАЛЬНОГО ІНТЕЛЕКТУ  
У СТУДЕНТІВ ТЕХНІЧНИХ СПЕЦІАЛЬНОСТЕЙ В ПРОЦЕСІ ПРОФЕСІЙНОГО НАВЧАННЯ**

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Йдеться про соціальний інтелект та його вплив на формування абсолютно нового покоління фахівців: креативних і соціально активних професіоналів. В якості пріоритетного напрямку досягнення цієї мети в нових соціально-економічних умовах виступає компетентісно-орієнтований підхід до підготовки висококваліфікованих фахівців. Це наукове дослідження описує комплекс педагогічних умов, що включають орієнтацію освітнього процесу на актуальний рівень розвитку соціально-особистісних компетенцій студентів. Наведено аналіз соціальної компетентності студентів технічних спеціальностей. Висновок вказує на те, що розвитку соціального інтелекту сприяє імпліцитне навчання. Домінантне становище займає досвід живої безпосередньої взаємодії порівняно з книжним знанням.

**Ключові слова:** соціальний інтелект, соціальне мислення, професійна освіта, соціальна компетентність, акмеологія.

**PROBLEM STATEMENT.** Nowadays, social request is focused not only on the mass creative activity, but on its new social mentality.

In the context of social situation complication in the country, the problem of social competence formation of future technological field specialists, who are intended not only to create and use new equipment, but also to affect the inter-individual relations of staff and society, to be responsible for their own well-being and the social one as well.

There have been pointed out five core competencies by European Union, which have the main role during the specialists' professional education, these are the following: social, communicative, social-informational, cognitive and special.

Social thinking is determined by cognitive activity and worldview position formation, which are the most typical for college age, when all educational activity is based on a systematic and consistent resolution of problem situations.

Nowadays the problem of new generation specialists' formation (creative and community-minded experts) is really of paramount concern. It is possible to be solved only in case of perfect student-centred education realization. The modern specialist is meant to be an active, creative personality and should realize his personal facilities and should be configured to professional and social achievement. That's why the development of new educational technologies, which realize the acmeological orientation during the specialists' training, based on student-centred education and the one that provides self-evolution, his self-fulfillment during creative activity, self-education and self-assessment and also self-correction and self-organization of activity, is vitally important.

Modern educational conditions in secondary special and higher educational institutions require from their students rather high social maturity level, the ability of learning activities self-organization, the ability to learn. Therefore, it is highly important to form students' social thinking holistic structures in the interconnection with all its components.

The effectiveness of students' social and personal competence formation can be achieved due to following some pedagogical terms complex, which includes the commitment of education to the actual level of students' social and personal competence development, social and professional orientation of education, improving intersubject communications, application of active method and collective mode of education, conducting classes which are aimed at the self-perception and self-development of personality, creating of a favourable climate for all the education subjects and the situation of success.

Therefore, the condition for the students' social intelligence development should be considered in the psychologically favorable class atmosphere, contributing to the development and manifestation of their relationships and their manifestation of sociability and curiosity. The task of the educational process should be the creation of a training system for an acmeologically oriented specialist. The emergence of social intelligence in the process of educational-cognitive tasks solving will occur more successfully than traditional training if only it is possible to build up student's confidence in his own abilities; to create conditions for the manifestation of the value-semantic relation reflexive assessment (selection of sequence learning and cognitive tasks that are appropriate to educational interests); involve students in goal setting and provide them with the choice of implementation strategies to overcome difficulties.

The influence of social intelligence on the success in the professional activity and on the self-fulfillment of a person on a whole is found out by contemporary science. The development of social intelligence provides the student with the successful involvement in the social relations as it gives him a capability to adapt for a new situation during his further life. Thanks to this capability the students' adaptation for social sphere

conditions (social adaptation) takes place.

As a separate mode, the social intelligence was pointed out in the last decade of 20<sup>th</sup> century (E. Li Thorndike), which considered the social intelligence to be a striking cognitive feature, which provides the successful cooperation with people. The problem of function essence, social intelligence formation and development were analyzed in foreign science (H. Allport, J. Hillford, N. Cantor, D. Wechsler, R. Sternberg). The American psychologist, the trait theory creator, Hordon Allport, describes the social intelligence as the special capability to judge people in the right way, to predict their behavior and to provide suitable interpersonal adjustment [5].

However, the mainstream view in science on intelligence that has been formally reduced to understanding it as the ability to solve problems (usually in the definition form as follows "intelligence is what the intelligence tests measure") has led to the fact that the intelligence appeared to be opposed to the natural manifestations of intellectual activity (everyday intelligence), creative intellectual opportunities (creativity), efficacy of social cognition (social competence), etc.

The American psychologist Joe Paul Hillford elaborates the intelligence structural model. This is the second conception, which brings social and academic intelligence into one line, after the Thorndike's model. According to the J. Hillford's conception, integral mentally capability, which identifies the success of communication and social adaptation is the social intelligence. Social intelligence unites and regulates the cognitive processes, which are related to reflectivity of social objects (a person as a company, a group of people).

D. Wechsler, the representative of psychological method, separated an attitude of dependence of social intelligence from abstractive (general) one. Social intelligence is a supplement of the general to social situations. A lot of scientists share this opinion, for example, the British psychologist H. Aizenko, who assesses social intelligence concept as an «unnecessarily elaborate» one [5].

Correlation of social and practical intelligence is determined more accurate in the conception of American professor of Psychology Robert Sternberg within the framework of the intelligence theory which leads to success. In this theory, intelligence is described as a capability to adapt, to form and to choose an environment which suits the aim of society and culture [8].

In the 1987 the book by N. Cantor «Personality and Social Intelligence» was published, in which the author equalizes social intelligence to cognitive competence, which allows people to conceive situations without surprise and with personal interest [3].

A lot of scientist in psychological field are interested in the social intelligence, among them are H. M. Andreeva, E. A. Abulchanova-Slavskaya, A. L. Yuzhaninova, D. Myers, V. A. Labunskaya, E. S. Michailova, H. E. Belitskaya, A. A. Bodalev; in general and age-specific psychology: S. L. Rubinstein, D.

A. Leontiev, A. V. Petrovkiy; in correctional pedagogy and psychology for special needs: L. S. Vyhotskiy, V. H. Petrova, V. V. Korkunov, O. K. Avahelian.

Starting from 1911, the new conception of social intelligence was elaborated by Russian psychologist V. N. Kunitsina, where social intelligence is equalized to social competence [2]. V. N. Kunitsyn proved that the higher the level of social intelligence is, the more developed self-regulation, self-confidence, the ability to influence are developed. The lower the level of social intelligence is, the more it is represented by modesty, reflexivity, aggressiveness, etc., the more it is likely, in the author's opinion, that the person suffers from loneliness, low self-esteem, conflict, newrotation, mentally and physically exhausted. Thus, according to V. N. Kunitsyna, pronounced reflexivity doesn't contribute to the development of social intelligence and energy potential is its necessary condition [2].

In educational science a lot of scientists are also interested in social intelligence. The junior teenagers' social intelligence formation was analyzed by E. V. Vatina. The development of children's and adults' social intelligence was examined in different kinds of activities was under consideration in the number of researches by I. V. Kharitonova, B. A. Henkina, O. Y. Pavlova.

N. N. Kniazeva, D. V. Liusin, D. Matthews, R. Roberts, D. V. Ushakov, O. B. Chesnokova researched social intelligence in age-dependent dynamics. Age-specific aspect of social intelligence development is important in education [7].

In spite of lots of interesting researches, the development of social intelligence problem in education can't be called active.

**EXPERIMENTAL PART AND RESULTS OBTAINED.** One of the personality social capabilities is social intelligence. The ability for perception social facts and relations between people may not correlate with the level of general intelligence. The existing practice of this conception identification leads to this conception blurring.

There are some contradictions exist in approaches to the study of everyday, practical and theoretical thinking that allow to make a conclusion about the unjustified identification of social and practical thinking. According to S. L. Rubinstein, social thinking may be practical if it is aimed at solving specific life problems associated with communication in conflict situations, management etc., as well as the theoretical one if it aims at regularities cognition of the society functioning and development. And practical thinking always expresses the interests, the views of a particular individual.

S. L. Rubinstein and B. M. Teplov drew attention to the individual characteristics of mind and their connection with the personal characteristics, its activities. Perseverance, courage, sharpness, flexibility, criticality of mind occur to be the qualities that don't arise from the system of knowledge digestible by the human, the rules of thought, but are the personal characteristics that de-

velop in the course of life functioning.

The social intelligence formation is the most effective process while performing leading activity. The essential conditions for future specialists' professional education are the ability to understand and solve challenges during the studying, the ability to identify and formulate personally important problems, to interpret social situations.

Adolescence is the period of person's physical maturity completion, stormy growth of his/her identity, outlook formation, career choices and the start of early adult life. This is the period of life between adolescence and adulthood. The student's period age limits are conventional and are approximately between 17 or 18 till 22-23. In adolescence, social intelligence development takes place, which is considered to be one of a person's characteristic that is manifested in all spheres of life.

Modern conditions of education in secondary special and higher educational institutions require students with a high level of social maturity, ability of self-organization of learning activities, the ability to learn. Thus, it is highly important is the formation of students' holistic structures of thinking in the relationship with all its constituent components.

The main objective of professional education is training of competent employee with proper level and specialty, who is competitive on a labour-market, responsible, fluent in his profession and is acquainted with related fields, who can work effectively up to world standards, who is ready to constant professional growth, social and occupational mobility; repletion of personality's wants during the education. Competency-based approach is priority area to train competent employees under the new socio-economic conditions.

The high level social mentality formation is the main goal of educational institutions, because it has strong influence on professional success of students in future and on their life activities.

By the way, in 1909 J. Dewey in his book «How We Think» said that there are a lot of subjects at schools and all of them present a lot of materials and principles. That's why it is necessary to find a general direction of teaching which will help to deal with this subject disunity. On the author's opinion «the main, essential and unifying factor is a final objective of mind position and thinking habit which we describe as scientific» [1, p. 345].

J. Dewey and his successors represented by such American educational scientists as B. Boud, W. Kilpatrick; D. Childs etc., developed a new direction in pedagogical theory, which was named "pragmatic pedagogy". Theoretical base of the given approach is a thesis on human identity active essence positing that the human changes the environment depending on gained practical experience, actively adapting to it.

J. Dewey believed that schools should create in their students such state of mind that can lead to a correct judgment in the field of all the cases where the student would go.

"Intellectual aim of education (unlike the moral one) is unique and entirely logical in this sense, it is the education of careful, quick and thorough thinking skills" [1, p. 248].

This goal he considered to be more important than traditional training of students with extensive stocks of information, or highest degree of skills in special branches.

Amongst the main disadvantages of the current educational system J. Dewey named the following ones:

1) overestimation of theoretical subjects over practical activities;

2) authoritarian style of teaching, which makes a pupil indifferent to the subject;

3) mechanical arrangement of the subjects, which deprives them of intellectual power.

A student as a subject of learning activity has large intellectual and psychological resources, that aren't recognized enough and used in the process of traditional studying.

A student, who has a well-developed intellect, is able to get maximum information about people's behavior, to understand body language, to tell quick and precise judgment on people, to predict their reactions in given circumstances successfully, to be farseeing in relations with others, which contributes to successful adaptation in the process of applying for a job, maintaining of optimum psychological climate, display of interest, prowess and creativity in future professional activity and allows to forecast its successfulness.

In the process of studying social thinking functions (problem statement, interpretation, representation) [4] and their structural components such as choosing an alternative while deciding vital tasks, dialogical thinking, prediction and choice of your position in society are developed.

Social thinking is formed in parallel with the development of formal logical thinking. But it does not stop and continues to evolve and after formal logic thinking is formed. In other words, social thinking develops, more precisely, it can develop all life long.

The development of social thinking is influenced by such students' personality traits as responsibility, determined by internal locus of control, communicativeness, life satisfaction and ability for self-definition.

Nowadays, education along with other social institutes executes its socializing function most effectively by introducing students to life in society giving them a set of values, knowledge and skills.

Due to change of ideological views, social images, ideals and self presence of people in general, higher education performs a stabilizing function and aids students to adapt to new living conditions, develops social activity, forms readiness to self-definition.

So, that's why there is a need to regard psychologically favorable working environment, that helps to develop social skills as the condition of social intellect developing.

In order for future specialists to adapt successfully to new conditions of living in the society, to cooperate

peacefully and harmoniously in certain environment it is necessary for process of developing qualities and skills to be performed in educational space of higher educational establishment systematically.

Unfortunately, today the process of students' socialization, development of their social competency cannot be estimated as full-fledged. While studying, students, who gained certain experience in practical activity, aren't always ready to execute different functions in society, they do not often gain proper social experience, because the process of students' social development is viewed only as suspended occurrence over objective process of becoming a specialist, that's why the problem of forming social competence of students in a higher educational establishment gains a special relevancy [6].

The research about the level of knowledge about social competence, skills, abilities and merits which are important for future personal and professional development and for participation in social life, has been carried out among the students of Kremenchuk Mykhailo Ostrohradskyi National University (26 male and 4 female technical students).

The assessment of social intelligence conditions formation has been performed with help of text and questionnaire methods. J. Hilford's and M. Sullivan's «Social Intelligence Test» has been used for social intelligence level detection.

The analysis shows that the students of the computer engineering faculty coped successfully with the subtest that measures the ability to foresee behavior consequences (24 students have shown the average level and 6 of them have shown the above average level) and with the subtest, which measures the ability to evaluate non-verbal expression (27 students have shown the average level and 1 of them has shown the above average level) correctly. The subtest indicators which measure the ability to evaluate speech expression are as follows: 15 students have demonstrated the average level, 8 of them have shown low figures in the field of communication. At the subtest showing the ability to analyze interpersonal interaction situations, the subjects have received the lowest results from all subtests which are as follows: 26 students have the low level on this criterion.

The obtained results show that the students of the computer engineering faculty are able to anticipate future actions of people, they can build a strategy of their own behavior, be sensitive to non-verbal expression, but they do not always understand correctly verbal expression, they experience difficulties in the analysis of situational interpersonal interaction, make mistakes in finding the reasons for a particular behavior. It is associated with specific professional activities – work with technology, not with people. In the process of educational activity you must consider this specificity and increase the social competence of students of technical specialties. In general, 18 of the future computer engineering specialists showed the average level of the social intelligence development and 12 of them have below average social intelligence level that sug-

gests low involvement of this category in the process of interpersonal communication.

The indicators of the social intelligence development level of the technical specialties students are presented in table 1.

Table 1– The number of student surveyed according to the levels of social intelligence development (G. Guildford and M. Sullivan test).

The name of the scale	The levels of social intelligence			
	High number of people	Above average number of people	Average number of people	Low number of people
1 subtest	–	6	24	–
2 subtest	–	1	27	2
3 subtest	–	7	15	8
4 subtest	–	1	3	26

Theoretical analysis of the social intelligence formation problem and consideration of priority activities that provide the greatest opportunity for it have allowed to identify psycho-pedagogical conditions, influenced on this process.

Under the conditions it refers to a set of interrelated requirements on the basis of which the purposeful process of the any properties formation is carried out.

The following conditions for the social intelligence formation have been theoretically defined and proved:

- motivation strengthening to self-realization (increase the level of pedagogical competence in priority activities);

- knowledge and understanding of the social intelligence importance for the successful implementation of professional activities prior in terms of fulfillment, achievement the necessary competence there;

- effective subject-subject interaction practical skills improvement, the decision of the communicative tasks;

- monitoring and evaluation of social intelligence properties formation as a factor of self-realization according to the results of development level diagnostics.

CONCLUSIONS. In conclusion it should be mentioned that the social mindset of the student aged people is regarded by many scientists in the context of the development of professional thinking due to the problematic process, research learning; problem-based learning is considered to be a system of methods and means providing the possibility of creative participation in the process of new knowledge assimilation, the formation of creative thinking and cognitive interests of the individual.

The task of the educational process should be the creation of the acmeologic-oriented specialist training system.

The emergence of social intelligence in the process of solving educational-cognitive tasks will occur more successfully than traditional training under the following conditions: to form confidence in his own abilities; to create conditions for the manifestation of the reflexive assessment of value-semantic relations (selection of sequence learning and cognitive tasks that are appropriate to educational interests); to include student in

goal setting and provide him with the choice of implementation strategies to overcome difficulties.

The development of social intelligence is contributed by implicit learning, and in accordance with A. Bandur'a theory of social learning– learning by observation. Learning is the acquisition (and the outcome) of individual experience, knowledge and skills when it happens by itself, naturally. The implicit (hidden) learning is observed in tasks where the person should consider a large number of interrelated parameters in their decisions. In the context of the educational environment of university, this statement means the stereotypes and prejudices exception of the demonstrated behaviors, samples of emotional response. The dominant position is taken by the experience of direct interaction compared to book knowledge. The only way to measure the effectiveness of learning can be the activity.

The University needs to create a multidimensional, variable system of education in the way to involve the students in different types of activities, real or simulated professional situations that expand representation of the students about their internal world and the experiences possible in a variety of situations.

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**ПЕДАГОГИЧЕСКИЕ УСЛОВИЯ ФОРМИРОВАНИЯ СОЦИАЛЬНОГО ИНТЕЛЛЕКТА  
У СТУДЕНТОВ ТЕХНИЧЕСКИХ СПЕЦИАЛЬНОСТЕЙ  
В ПРОЦЕССЕ ПРОФЕССИОНАЛЬНОГО ОБУЧЕНИЯ**

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Рассмотрено формирование социального интеллекта и его влияния на формирование совершенно нового поколения специалистов: креативных и социально активных профессионалов. В качестве приоритетного направления достижения этой цели в новых социально-экономических условиях выступает компетентностно-ориентированный подход к подготовке высококвалифицированных специалистов. Это научное исследование описывает комплекс педагогических условий, включающих ориентацию образовательного процесса на актуальный уровень развития социально-личностных компетенций студентов. Приведен анализ социальной компетентности студентов технических специальностей. Вывод указывает на то, что развитию социального интеллекта содействует имплицитное научение. Доминантное положение занимает опыт живого непосредственного взаимодействия по сравнению с книжным знанием.

**Ключевые слова:** социальный интеллект, социальное мышление, профессиональное образование, социальная компетентность, акмеология.

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