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#### **Yesipova O. O. Use of mind maps technology in training of future engineers-educators of computer profile**

The article analyzes the technology of creating mind maps that allow processing, logically representing, introducing, and visualizing educational information. A survey among future computer engineer educators has shown that, in addition to subject knowledge, the modern student seeks to obtain a meta-subject, including work with educational information, such as structuring, processing of information etc. It is determined that one of the technologies that allows forming these meta-subject skills is the creation of mind maps. Software for developing mind maps have been assessed by the indicators of cost, language, platform, integration of services, work offline ability, logical presentation of educational information, graphic coloring, visualization of educational information, the ability to use hyperlinks among associations, the ability to draw arrows between mind maps concepts, the ability to work with a map by several people at the same time.

Coggle and Mindomo Basic have been found to be the best tools for creating mind maps by the indicators above. The results of implementation of the mind maps technology into the educational process of future engineers-educators of computer profile showed that 93 % of students were satisfied with the use of the said technology and highlight the following advantages of its use, namely: visualization of educational material; ease of perception; better memorization of training material; active mode of study; motivation to study the educational material which is better processed; forming of analytical, logical, cognitive abilities.

In the future, it is planned to conduct research on the use of the technology of creation of intellectual cards in the process of planning of educational activity by future engineers-educators of a computer profile.

**Key words:** engineers, educators, computer profile, mind maps, technology, survey, empirical research.

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**Ihnatieva O. L.**

### SPECIFIC FEATURES OF AESTHETIC EDUCATION IN AGRICULTURAL ESTABLISHMENTS OF HIGHER EDUCATION

Ukrainian Government allocates the resources to support our teachers in delivering quality higher education programs for all young Ukrainians. It recognizes the important role they play in equipping young Ukrainians with the knowledge, skills and capabilities to work in the contemporary world.

Nowadays the problem of a student personality formation is of no less importance than training a competitive specialist. It's necessary to identify and analyze the innovative approaches to aesthetic culture in agrarian universities. The urgency, theoretical and practical significance of the problem, the need to resolve existing contradictions and to emphasize the peculiarities of the process of creating the students' aesthetic culture in agricultural establishments of higher education have determined the goal of this article.

Modern agrarian education must settle two important questions: to train the real specialist for the agrarian sector in conformity with the needs of society directed towards the market economy, and to bring up a personality that is able to revive the best traditions of the Ukrainian village. Highly educated and competitive specialists capable to apply the newest technologies in agricultural industry are of great demand nowadays. The question of formation of a personality who realizes the importance of agricultural work for the society and environment, it is no less important. In an education process in agricultural establishments of higher education the aesthetic education is the main aspect in the formation of aesthetic culture of a student personality.

The research is aimed to identify and theoretically substantiate the organizational and pedagogical conditions of the students' aesthetic education in agricultural establishments of higher education and to experimentally check the methods of their implementation. In the article the author attracts the reader's attention to some specific features of aesthetic education in agricultural establishments of higher education.

**Key words:** agrarian education, humanization and humanitarization of education, aesthetic education, latest technologies, personality, market economy, modern agroindustrial complex.

Issues of humanization and humanitarization of education are priority provisions of the National Doctrine of Educational Development, the Bologna Process, the laws of Ukraine «On Education» and «On Higher Education». The implementation of these provisions must ensure the transition to a new humanistic and innovative educational system in the 21st century. In this qualitatively new system, the agrarian education is of primary importance. In the agricultural sector, deep transformation processes are taking place. The modern Ukrainian village needs an well-educated specialist with a high level of aesthetic culture. The present time realities indicate that, for lack of culture, agricultural professionals lose at the labor market.

Modern agrarian education must address two important issues: to prepare a real specialist for the agricultural sector in conformity with the needs of the market-oriented society, and to create a person who is able to renew the best traditions of the Ukrainian village. The modern agro-industrial complex needs a highly educated and competitive specialist who is able to effectively implement the latest technologies in agricultural production, to be a true owner of the native land. The issue of a personality formation, who understands the significance and importance of agricultural work for society and the environment, is of no less importance. In the educational process of agricultural establishments of higher education the aesthetic education, the main aspect of which is the formation of the aesthetic culture of a student's personality, is of great importance.

The issues of the application of innovative approaches to the concept of aesthetic culture in universities have been highlighted by a great number of domestic and foreign authors. In particular, H. Apresian, O. Burov, S. Hinter, I. Ziaziun, M. Kahan, A. Komarova, H. Labkovska, V. Lypskyi, V. Malakhov, N. Myropolska, M. Ovsiannykov, L. Pechko, S. Rappoport associate its formation primarily with the development of aesthetic creative abilities of the individual. Aesthetic culture really manifests itself in any act of a personality, in the relation to the environment, to social life, to work. Aesthetic education of a personality is one of the urgent problems of modern education. In modern pedagogy there are many definitions of the «aesthetic education» concept. We think that several of them are worth paying attention to. In V. Shatskaya's work «General Issues of Aesthetic Education at School» the aesthetic education is defined as the education of the ability to purposefully understand and evaluate the beauty in the surrounding reality – in nature, in public life, in work, in the phenomena of art [3]. M. Kyiashchenko and M. Laizerov believe that «aesthetic education is a purposeful system of active formation of a personality, capable of perceiving and appreciating everything beautiful, perfect and harmonious in life and art, capable of living and creating according to the laws of beauty» [4, p. 15]. At the same time, the scientists emphasize that aesthetic education changes the aesthetic attitude to the environment and the personal response to the environment, and then develops into the reflected attitude to the world.

In view of the foregoing, the issue of purposeful pedagogical influence on the individual aimed at the development of aesthetic creative abilities is understudied and of particular interest nowadays. This should reach the ultimate goal of aesthetic education – the formation in the personality the spiritual and moral qualities, aesthetic creative abilities that are intended for socially active transformation of the world [3, p. 36]. All aesthetic phenomena and objects of the surrounding world influence the personalities and develop their human consciousness, feelings, moral qualities, activate their creative abilities.

Therefore, by aesthetic education we mean the formation of a harmonious, thoroughly developed and confident personality with high aesthetic culture, able to act productively and purposefully, to creatively apply the acquired experience and knowledge to the full use of his own potential.

To achieve the goal of aesthetic education, there are three main tasks to be solved:

- building up the aesthetic knowledge base, that is the precondition for arousing interest in aesthetic objects and phenomena;
- formation and development of the individual aesthetic perception abilities that make it possible to appreciate and enjoy aesthetically important objects and phenomena;
- breeding the qualities, needs, and abilities of the individual that transform him into an active creator of aesthetic values, enabling him not only to enjoy the beauty of the world, but also to transform it according to the «laws of beauty» [9, p. 61].

Thus, we have come to the conclusion that aesthetic education is a process of the purposeful pedagogical influence on the individual; formation of the aesthetic attitude to the world, the ability to perceive, understand, evaluate beautiful in all its manifestations; developing aesthetic tastes and ideals, needs and abilities.

The **main goal of article** is the identification and analysis of the innovative approaches to aesthetic culture in agrarian universities. The urgency, theoretical and practical significance of the problem, the need to resolve existing contradictions and to emphasize the peculiarities of the process of creating the students' aesthetic culture in agricultural establishments of higher education have determined the goal of this article.

Globalization as a leading sign of the present time and socio-cultural processes in Ukraine determine the urgency of reinterpretation of the conceptual principles of students' aesthetic education. The aesthetic attitude of young people to the world is being formed mainly under the influence of natural factors of the social environment, namely mass media and especially television. The disciplines of the aesthetic cycle occupy not very important place in the agricultural establishments of higher education. Therefore, education in establishments of higher education, being isolated from the whole system of extracurricular and educational work, can't objectively and flexibly respond to socio-cultural conditions and needs. Modern establishments of higher education should become the centers of true

cultural education, fostering a creative and well-educated personality, characterized by high emotional and aesthetic culture [7].

Students must be the intellectual, moral and aesthetic elite of the society, and the level of the development of their aesthetic culture has to be paid special attention to. At the present stage of the society development, the paradigm of aesthetic education is changing and going beyond the limits of the aesthetic cycle; some new phenomena of aesthetic education are being considered: beauty, as a category of economics, is a means of technological progress, and is used to preserve the natural and cultural environment, but everyday life is filled up with aesthetics. All spheres of human activity contain the elements of aesthetic creative activity, which is the result of aesthetic development of the personality.

There are some peculiarities in the development of students' aesthetic culture, and especially the students of agricultural establishments of higher education. In general, the students' body is a group of young people with a very different cultural background, experience, character and habits. It consists of both the residents of remote villages and exclusively urban dwellers. The difference in the received aesthetic education can't be ignored. It was influenced by school teams where the future students were trained and the family environment where their childhood years were spent. The villagers, who are mostly the students of agricultural establishments of higher education, need special attention in the out-of-class educational work.

We will pay attention to the level and peculiarities of aesthetic education of the students of agricultural establishments of higher education. The analysis of the national pedagogical heritage (works by O. Burov, M. Hrushevskiy, M. Drahomanov, O. Dukhnovych, E. Kviatkovskiy, M. Kyiashchenko, M. Leizerov, T. Lubenets, A. Makarenko, I. Ohienko, M. Pirohov, S. Rusova, G. Skovoroda, V. Sukhomlynskiy) showed the growing interest of educators in the problems of aesthetic education of students at universities, which opens the prospects for theoretical understanding of the directions in the formation of aesthetic culture in the new socio-cultural conditions. Among the scientists who are engaged in the problem of educational activity in agricultural establishments of higher education, the works by S. Amelina, S. Bilan, V. Bondarenko, L. Herasymov, O. Voshchevska, A. Halieieva, M. Levochko, V. Lozovetska, N. Nerukh, O. Tepla are worth mentioning.

The educators at establishments of higher education need to find out how all of these factors have influenced the development of each student. It is impossible to assume that the base of the student's aesthetic culture has already been formed, and to continue the educational work based on this assumption. An individual approach to the aesthetic educational process and an initial corrective course are, in our view, the key to success.

In this aspect, the works by I. Bekh, A. Boiko, O. Dubaseniuk, S. Zolotukhina, I. Ziaziun, N. Nichuk, V. Lozova, A. Mudryk, N. Nychkalo, E. Nosenko, V. Semychenko, T. Sushchenko, N. Tarasevych, N. Shchurkova, devoted to the study of a personal orientation in the upbringing process, are of great interest. According to these researchers, one of the most effective factors in the formation of a cultural personality is the alignment of one's needs and interests with the needs of the society.

The study of the results of scientists' theoretical research and comparison with the practical experience in pedagogical process at the agrarian universities reveals the following contradictions between:

- the public need for the professionals in the agrarian sector with a high level of culture and lack of methodological and methodical base to meet this need;
- the humanization of education and the teachers' authoritarian style of communication with students, which does not imply any equal professional dialogue;
- the search for ways of intensification of the educational process and traditional methods and forms of education and training, which hamper the development of the aesthetic culture of future specialists-agrarians;
- the recognition of the need for a personality-centered approach to the organization of the pedagogical process in establishments of higher education and the predominance of general methods in teaching and extra-curricular work.

The study of the theoretical works of scientists and practical experience of the educational process at agricultural universities made it possible to formulate the problem of this research – the need for the development of the concept of students' aesthetic culture and the technology of its implementation in the educational process of the university.

The questions that arise in the process of the students' aesthetic upbringing in agricultural establishments of higher education remain understudied by scientists and researchers. It leads to some contradictions in the content of the educational process. Thus, the solution of these contradictions requires a revision of the organizational and pedagogical principles in the students' training process.

Agricultural universities in practice often provide one-sided professional training for students. The goal of comprehensive harmonious development of the individual is not fully realized. Finding ways for overcoming this contradiction is one of the most important tasks of practical and theoretical pedagogy of higher education.

The theory and practice of education in agricultural establishments of higher education were studied in the scientific works by R. Balan, L. Baranovska, S. Zaskaleta, D. Ishchenko, P. Luzan.

According to the analysis of literary sources, the problem of aesthetic education of students in agricultural universities was not the subject of special pedagogical research. So far, no comprehensive study has been done to solve the problems of the organizational and pedagogical conditions of the students' aesthetic education, as well as the ways of ensuring their effectiveness in agricultural universities.

The purpose of the research is to identify and theoretically substantiate the organizational and pedagogical conditions of the students' aesthetic education in agricultural establishments of higher education and to experimentally check the methods of their implementation.

According to this purpose the following tasks are defined:

- to analyze the history of the development of the students' aesthetic education in agricultural establishments of higher education in Ukraine;
- to identify the specifics of the organization of the students' aesthetic education in agricultural establishments of higher education in Ukraine and the peculiarities of aesthetic education in modern conditions;
- to determine and experimentally check the organizational and pedagogical conditions of the students' aesthetic education in agricultural establishments of higher education;
- to prepare methodological recommendations for the organization of the students' aesthetic education in agricultural establishments of higher education.

The process of development of students' aesthetic culture is limited by the period of study. During exactly these years, the student must, at the same time with his professional knowledge, achieve such level of aesthetic culture that will determine all actions in his future life.

Aesthetic education of students in agricultural establishments of higher education consists in maximizing and developing the aesthetic foundations laid in the family, school, and in eliminating the mistaken opinions that do not meet the high requirements of aesthetic culture. The modern Ukrainian village needs a well-educated professional and master with a high level of aesthetic culture. Such specialist is able to be competitive at the modern labor market and to successfully solve any professional problems. But the realities of today's life indicate that the professionals in the agrarian sector lack aesthetic culture and therefore lose at the labor market.

An objective factor and, at the same time, a peculiarity of the formation of students' aesthetic feelings are the life goals that they are guided by, while gaining knowledge. An important source of students' aesthetic experience of the agricultural universities is the nature where they grew up and spent their childhood. It is difficult to overestimate the influence of nature on the formation of a future agricultural specialist. For future professionals in the field of agriculture, nature is not only the source of aesthetic experience, but also the sphere of daily work. Getting to know its laws, the future agronomists, foresters, machine operators learn to act in conformity with these laws, increase the productivity of crops, modify our land according to the needs of our society.

Thus, nature acts as a powerful means of aesthetic education of students of agricultural universities. Therefore, the formation of love for nature, cognition of its laws is one of the important tasks of the process of students' aesthetic education in agricultural establishments of higher education.

We should bear in mind, that even among the people with equal aesthetical development, the feeling of beauty is revealed differently in different conditions. An agronomist will never feast his eyes in the blue cornflowers, if he sees them in the golden fields, or he will never like a modern tractor or harvester, if the operation of these machines is poor. And vice versa, he will perceive with enthusiasm and deep emotional pleasure the field, being rationally planned, weed-free, with a high cultivation culture. Therefore, the process of aesthetical development includes the utilitarian components that derive from the nature of the chosen profession, life experience and future goals.

**Conclusions.** The future specialist, like no one else, should take into account the opinion, expressed by A. S. Makarenko, that the aesthetic sense is a sense of quality. Today's and future specialist in the field of agriculture can develop and enrich his feelings when he views his work in the light of quality, is able to critically evaluate his own experience and appreciate the experience of others. Such qualities, however, do not appear themselves, they are the result of the purposeful ideological and educational work of the university pedagogical staff.

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### **Ігнат'єва О. Л. Особливості естетичного виховання в сільськогосподарських закладах вищої освіти**

Уряд України виділяє ресурси для підтримки наших викладачів у наданні якісних програм вищої освіти для всіх молодих українців. Він визнає важливу роль, яку вони відіграють у забезпеченні молодих українців знаннями, вміннями та можливостями для роботи в сучасному світі.

На сучасному етапі питання формування особистості студента не менш важливе, ніж підготовка конкурентоспроможного фахівця. Необхідно визначити та проаналізувати інноваційні підходи до естетичної культури в аграрних університетах. Актуальність, теоретична та практична значущість проблеми, необхідність вирішення наявних суперечностей та акцентування на особливостях процесу створення естетичної культури студентів у вищих навчальних закладах сільськогосподарського галузі визначили мету статті.

Сучасна аграрна освіта повинна вирішити два важливі питання: підготувати справжнього фахівця для аграрного сектору відповідно до потреб суспільства, спрямованих на ринкову економіку, та виховати особистість, яка здатна відродити кращі традиції українського села. Сьогодні великим попитом користуються високоосвічені та конкурентоспроможні фахівці, здатні застосовувати новітні технології в аграрній галузі. Не менш важливим є питання формування особистості, яка усвідомлює важливість сільськогосподарських робіт для суспільства та довкілля. У навчальному процесі в сільськогосподарських закладах вищої освіти естетична освіта є головним аспектом формування естетичної культури особистості студента.

Дослідження має на меті виявити та теоретично обґрунтувати організаційно-педагогічні умови естетичного виховання студентів у сільськогосподарських закладах вищої освіти та експериментально перевірити методи їх реалізації. У статті автор привертає увагу читача до деяких особливостей естетичного виховання в сільськогосподарських закладах вищої школи.

**Ключові слова:** аграрна освіта, гуманізації та гуманітаризації освіти, естетичне виховання, новітні технології, особистість, ринкова економіка, сучасний агропромисловий комплекс.

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## **ПСИХОЛОГО-ПЕДАГОГІЧНІ ОСОБЛИВОСТІ ФОРМУВАННЯ ЛОГІКО-МАТЕМАТИЧНИХ КОМПЕТЕНЦІЙ СТАРШИХ ДОШКІЛЬНИКІВ**

Стаття присвячена проблемі логіко-математичного розвитку дітей старшого дошкільного віку. Мета дослідження – розкрити психолого-педагогічні особливості формування логіко-математичних компетенцій старших дошкільників. Здійснено аналіз психолого-педагогічної та методичної літератури з означеної проблеми, доведено її актуальність, яка окреслена в змісті Базового компоненту дошкільної освіти. Розкрито особливості логіко-математичного розвитку дітей, зокрема оволодіння вміннями розумових дій і операцій, які поступово формуються на основі зовнішніх практичних дій.

З'ясовано, що до кінця дошкільного віку у дітей повинна бути розвинута такі логіко-математичні компетенції: виявлення інтересу до математичної діяльності; наявність знань про кількість, форму, величину предметів, простір, час; здатність дитини самостійно здійснювати класифікацію геометричних фігур, предметів та множин за якісними ознаками та чисельністю; серіацію, тобто впорядкування предметів за величиною, масою, об'ємом, розташування у просторі; обчислення та вимірювання кількості, відстані, розмірів, довжини, ширини, висоти, об'єму, маси, часу; вміння використовувати знання в різних життєвих ситуаціях, здійснювати самоконтроль та самооцінку, виявляти самостійність.