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К вопросу об эффективности применения методики игрового и традиционного обучения в преподавании биологии на английском языке в школе

В статье описано исследование-эксперимент, проведенное учителями Школы для одаренных детей им. Н.Нурмакова и преподавателями КарГУ им. Е.А.Букедова. Цель исследования заключается в сравнительном анализе эффективности достижения результатов обучения экспериментальных групп и групп традиционного обучения. В эксперименте принимали участие ученики 7 класса ШОД им. Н.Нурмакова. После проведения исследования были сделаны соответствующие выводы по применению методики игрового обучения и традиционной методики в преподавании биологии на английском языке.

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Formation of informational competence of university students in a credit system

The article reveals the author's approach to the organization of the process of formation of students informational competence under credit system. In this article the nature, structure, functions, development of informational competence of students were revealed and the methods for designing and pedagogical conditions were provided. The content of process's technological providing, which include the model and pedagogical technologies were proved. It is noted that the credit system of education has been recognized worldwide as one of the most important areas of integration of education with production, and as the essential component of the continuous educational system. And today it is necessary to form the elements of the new informational technologies.

Key words: competence, modern education, skills, technology, professional activity, educational process, professional tasks, system of knowledge, cognitive competence, information.

Important goals of modern education is to develop students' ability to act and to be successful, the formation of such qualities as a professional universalism, the ability to change the scope of activities, methods, activities at a high level. There are such demands as personality traits, mobility, determination, responsibility, ability to acquire and apply knowledge in unfamiliar situations, the ability to build communication with other people. Therefore, the main result of the activities of the educational institution should not become a system of knowledge, skills, and the ability of a person to act in a particular situation. This explains the emergence of many ideas of competency approach in education. Question on key competences has become a subject of discussion worldwide. Particularly relevant this problem sounds now in connection with the transition of Kazakhstan higher education from a linear system to speed the credit system of training of bachelors and graduates. Modernization of Kazakhstan education was a result of the need for understanding the specifics of the learning process in a «knowledge economy». The transition to an informational society requires solutions of fundamentally new problems of training people adapted to the rapidly changing realities that can not only receive, store and reproduce information, but also to produce new and manage information flows and effectively handle them [1].

The modern education, if it really claims to be modern is to create conditions for the formation of the graduates' competencies, which would ensure them success and demand for occupational and psychological comfort in their personal life. One of the key competences, in our opinion, is the informational competence.

Modern society is characterized by the rapid development of science and technology, the advent of new informational technologies, radically transforming the lives of people. The rate of renewal of knowledge are so high that over the life a person has to relearn many times, learn new professions. Continuing education is becoming a reality and necessity. For a successful education and primarily self, a person must possess a number of competencies, key among which, in our opinion, can be regarded as informational competence. Instead of a simple transfer of knowledge and skills from teacher to student, the education priority is the development of a student's ability to set their own learning goals, design ways to implement, monitor and evaluate their achievements, work with different sources of information to evaluate them and on this basis to formulate their own opinions, judgment, evaluation.

Achieving this goal is possible due to the formation of competencies, including universal, multi-professional abilities, skills and methods for their effective application in practice. Mastering universal learning activities give students the opportunity to self-successful assimilation of new knowledge, skills and competences through the development of skills to learn. This capability is provided by the fact that the universal learning activities — a generalized actions that generate motivation to learn and allow students to navigate the various fields of knowledge.

The most important task of a modern system of education is to develop a set of «universal educational action,» providing «learning to learn», a person's ability to self-development and self-improvement through conscious and active appropriation of new social experience, not only the development of students' specific subject knowledge and skills within individual disciplines. In this case, knowledge and skills are considered to be derived from the relevant species targeted action, i.e. They are formed, used and stored in close connection with the active actions of the students. All this suggests a system of key competences. In science, there is still no clear understanding of the term «competence», although the competence approach is widespread in the education system. Dictionaries offer separate general competence and individual competence.

Competence — a special personal ability to solve a certain class of professional tasks. Just under the jurisdiction understand formally described requirements for personal, professional, and so on. The quality of employees (or to any group of employees). The aggregate competencies; availability of knowledge and experience required to operate effectively in a given subject area called competence. Competence — a new quality of the subject of activity, manifested in the ability of systemic application of knowledge, skills, values and helps to solve various contradictions, challenges, best practices in social, professional and personal context. Competence — the objective result of the development of competencies of person.

Dictionary of Russian scientist D.N.Ushakov defines competence as a range of issues, events in which the person has an authoritative, recognition, knowledge and experience. Accordingly, the competent — awareness is a recognized expert in any subject. Dictionary of Foreign Words emphasizes that competence — is the possession of knowledge to judge anything, give weighty, authoritative opinion, and competence — the terms of reference of any institution or entity; range of issues in which the person has the knowledge, experience. There is also such a distribution of meanings in these terms: competence — it is written on paper and potentially proposed for development personality and semantic field of competence defined by the current development and ready for use by the person. Competence is personal, mastered during the activity, the quality of a person which may occur only during activity [2].

Lobanova N.N., considering professional competence, indicates that this system of the person property, which includes three components: professional and educational, vocational and activity, professional and personal [3]. For L.A.Petrovskaja it is important to highlight the communicative competence, which is defined as the ability, including two trends: the normative social assimilation as defined norms and standards and personal and creative as the design standards in the course of communication, based on the orientation of the participants in a situation in itself. Maintaining and updating the position LA Peter's, B.I.Hasan allocates conflict competence as a level of awareness of the range of possible strategies of behavior in conflict and skills to implement these strategies in a particular situation. John Raven gives the following definition of «Competence — is a specific abilities required for the effective implementation of specific actions in a particular domain and includes highly specialized knowledge, a special kind of subject skills, ways of thinking, as well as the sense of responsibility for their actions.» In this case, Raven says the so-called «higher competence», which suggests the presence of a high level of human initiative, ability to organize other people to achieve their goals, willingness to evaluate and analyze the social consequences of their actions, etc [4].

We believe that competence — a neoplasm of the subject of activity, generating in the process of training, which is a systemic manifestation of knowledge, skills, abilities and personal qualities to successfully solve the functional tasks that make up the essence of professional activity.

Competence — objectified in the competence activities of the employee; range of issues in which he is well aware.

Education has always been directed to the development of man. The main task of education — to teach the student to work independently, to build a system of knowledge, based on their requests, opportunities, aspirations, and to ensure the development and reproduction of their social experience. Competence approach «puts in the first place is not the student awareness and ability to solve problems that arise in the following situations: 1) knowledge and explanation of the phenomena of reality; 2) during the development of modern technology; 3) in human relations; 4) into practical life in the performance of social roles...». The purpose of the competency approach is the quality of education, particularly competent education is not the assimilation of «ready-made knowledge,» and the organization of educational process, which would examine the conditions of origin and formation of knowledge. Learning outcomes, as noted in the Strategy of modernization of education, should be a set of core competencies in the intellectual, civil, communication, information and other spheres.

Just as there is no single definition of competence, there is no uniform structure of competences. By analyzing the existing approaches, it can be argued that the most frequent among the components of competency authors call:

- educational and cognitive competence or set of skills and abilities of cognitive activity, ownership mechanisms of goal-setting, planning, analysis, reflection, self-evaluation of success of their own activities, possession of methods of action in non-standard situations, heuristic methods for solving problems, possession measuring skills, the use of statistical and other methods of knowledge.
- information competence or ability in using information technology to search for, analyze, select, process and transmit the information.
- communicative competence or possession of skills of interaction with others, the ability to work in a group, familiarity with the different social roles.

In the European study released this structure competencies — general competence, including instrumental, interpersonal, systemic; as well as special competence, divided by levels. In turn, each of these competencies in the structure are divided into individual competence. So, instrumental competence include the ability to analyze and synthesize the ability to organize and plan, information management skills (ability to retrieve and analyze information from various sources), the ability to make decisions. Interpersonal competencies include the ability to criticism and self-criticism, the ability to work in a team, interpersonal skills. System competence include the ability to apply knowledge in practice, learning ability, the ability to adapt to new situations, the ability to generate new ideas, responsible for the quality, the will to succeed. YES I AM. Leontiev identifies the following key competences of students considered as an indicator of achieving a new quality of education: 1) personal competence as «the process of personal development and broadcast personality of his co-holding other people and culture through creative and communicative processes»; 2) civic competence as the ability to apply in practice the rights and duties arising from the status of a citizen; 3) educational competence as a person's ability to lifelong learning, based on the development of information, communication, design and research skills.

A clear basis for the hierarchy of core competencies suggested AV Khutorskaya. As a base, he proposes to use differentiated curriculum. It can be divided by the total metasubject (for all subjects), intersubject (for a cycle of subjects or educational areas), objective (for each subject). Accordingly, all existing competence should be presented in a three-level hierarchy:

- key-refer to the total (metasubject) educational content;
- general subject competence — belong to a particular range of subjects and educational areas;
- subject — private in relation to the two previous levels of competence with a specific description and the opportunity to build in the subjects.

A.V. Khutorskoy who identified 7 key competencies:

1. Value-semantic competence. This competence in the field of philosophy associated with the value submitted by the students, his ability to see and understand the world around us, to navigate it, aware of their role and mission, to be able to select target and semantic units for their actions and deeds, to make decisions. This competency provides a mechanism for self-determination in situations of student training and other activities. It affects the student's individual educational trajectory and the program of his life as a whole.

2. General cultural competence. Range of issues in which the student should be knowledgeable, to have knowledge and experience activities. It features national and universal culture, spiritual and moral foundations of human life and humanity, of individual peoples, cultural foundations of family, social, public events and traditions, the role of science and religion in human life, and their impact on the world, competence in the household and cultural and leisure sphere, for example, possession of effective ways of organizing free time.

3. Training and cognitive competence. This set of competencies in the area of student self-learning activities, including elements of the logical, methodological, obshcheuchebnyh activity, correlated with the real object known. This includes the knowledge and skills of goal setting, planning, analysis, reflection, self-learning and cognitive activity. Pupil masters creative skills of productive activity, extracting the knowledge directly from the reality, possession receptions action in unusual situations, heuristic methods to solve problems. As part of the competence requirements defined by the relevant functional literacy: the ability to distinguish facts from fiction, possession measuring skills, the use of probabilistic, statistical and other methods of cognition.

4. Information competence. With the help of real objects (TV, tape recorder, phone, fax, computer, printer, modem, copier) and information technology (audio and video, email, media, Internet) are formed ability to search for, analyze and select relevant information, organize, convert, store, and transmit it. This expertise provides the student with the skills activity information contained in the academic subjects and educational areas, as well as in the surrounding world.

5. Communicative competence. Includes the necessary knowledge of languages, ways of interacting with others and remote people and events, group work skills, knowledge of different social roles in the team. The pupil should be able to present themselves, write a letter, a questionnaire, a statement, ask a question, to debate, and others.

6. Social and Labour competence. Means possession of knowledge and experience in civil and social activities (performing the role of citizen observers, voter, representative), in social and labor issues (rights of the consumer, customer, client, producer), in the field of family relationships and responsibilities in matters of economics and law in professional self-determination. This competence includes, for example, the ability to analyze the situation on the labor market, to act in accordance with the personal and societal benefits, ethics own labor and civil relations. Trainee seizes the minimum necessary for life in modern society skills of social activity and functional literacy.

7. The competence of personal self-improvement. Aims to develop methods of physical, spiritual and intellectual self-development, self-help and emotional self-regulation. Real object here is the pupil. He seizes modes of activity in their own interests and capabilities, resulting in its continuous self-knowledge, the development of modern man necessary personal qualities, the formation of a psychological literacy, culture, thinking and behavior. This competence include personal hygiene, taking care of their own health, sexual literacy, internal environmental culture.

This approach is most similar to the positions and requirements are reflected in the new educational standards, in which as the key positions stated the following units of competence: personal, which provide value-sense orientation students regulators that provide the organization by the students of their learning activities, communication that provide a view of the position of the communication partner or activity and cognitive.

Analysis of theoretical models and principles of competence-based approach, however, does not answer the question of how the means of a subject teacher may form a particular competence of students. In this article we will try to show the possibility of formation of informational competence, agreed in advance that the real learning process any job has a lot of functions and works on the formation of a whole range of competencies.

Another important remark concerning the formation and evaluation of information competence: any job and exercise, proposed by student within the competence approach is seen as a diagnosed, and as a formative, i.e offering to analyze those students, the teacher can identify any difficulties and build skills, as well as to assess the degree of their development. Designing and using this system tasks, the teacher can implement and differentiated approach to the students, because the system of tasks includes several levels of difficulty, which makes it possible to quantify the educational outcome (table).

In the evaluation of formation of key competencies we can rely on the three-tier model.

Level	Formed ways of activity
Low (required)	<ul style="list-style-type: none"> – general orientation of the student in the methods of proposed activity; – knowledge of the basic information location; – reproductive playback of generalized educational abilities by known algorithms; – «recognition» of a new problem that has arisen in a familiar situation; – the availability and adoption of any outside help.
Average (level of opportunities)	<ul style="list-style-type: none"> – ability to search for the missing information to solve the problem in a variety of sources and work with it; – the ability to solve some practical tasks in familiar situations; – attempt to transfer existing knowledge, skills and ways of activity in the new situation; – readiness to render all possible assistance to the other venturers; – minimal outside help.
Advanced (creative)	<ul style="list-style-type: none"> – the ability to predict possible difficulties and challenges in the search for solutions; – ability to design complex processes; – skilled migration of existing knowledge, skills, ways of life in a new unfamiliar situations; – lack of outside help; – assisting other venturers; – ability to reflect on their actions.

For the construction of diagnostic and formative tasks on information we relied on the competence development Zagrebina M.G., Plotnikova A.Y., Sevostyanova O.V, Smirnova I.V. [1]. The authors emphasize that «evaluation by competence-oriented test tasks differs substantially from the traditional formation evaluation (knowledge, skills,...), as it can not be carried out exclusively via the closed type jobs requiring one correct prescribed finally, a learned response. Test required competencies can not be considered true (valid) if the check does not work, and some information (albeit on these activities). Although some aspects of competences possible and appropriate to check with the help of closed questions, the need to monitor new result makes the whole education specialists refer to an open test tasks, which are so named because the answer to the questions of these tasks can not be predicted verbatim. After fulfillment of the open type requires the student committing certain efforts to find the necessary information, the resolution of the problem or the results of its clearance decision. The job always requires a detailed answer.

The proposed technology is necessary for several reasons classification associated with the peculiarities of information and its processing methods:

1. The number of sources of information, which simultaneously works child. Depending on the age and degree of development of competence appropriate it may be one, two, three, four and even five sources. Depending on the completeness of the proposed materials teachers can judge the competence of latitude under consideration. In the future, this is the series of tasks related to the variation of the number of sources is the basis for the formation of essay writing skills, review of any problems, etc.

2. The volume of the material. Depending on the source volume can be calculated in different ways: the number of words (for elementary school students), the number of sentences, paragraphs, paragraphs, pages, etc. This indicator allows the teacher to differentiate subtle enough information competence in quantitative characteristics.

3. A method for presenting information. Information for students can be offered in the form of text (and this may be the text from the textbook or supplementary source), pre-selected by the teacher and containing only the necessary information; it may be a text containing redundant information within which the student must find the facts that are needed; may be pattern diagram reproduction, graphics, tables, etc. Especially, you can select the audio and video information, which should also be used for teacher formation of information competence. To work with students in secondary and high school can be recommended as a way of presenting information, not the text, and link to it in the form of a list of references or Internet addresses. Perhaps this way of presenting information is appropriate and already in the works with students grades 3–4, demonstrating the high level of information competence. Do not forget that part of the work on finding information a student can perform with the help of parents, as in the promotion of the child's zone of proximal development is directly related to the active role of the adult, which helps in the development of new techniques and ways of life.

4. The complexity of the source of information. The source can be simple, that is, contain information of one type — text only, image only, or only the table, and can be complex, involving audiovisual (music — the picture) or verbal and graphical (text — Graph / Chart) information. Complexity of primary processing, of course, due to the complexity of the source, reason and purpose of the search, as well as the complexity of the logic operations and the degree of independence of their performance. Increasing the complexity of the issue does not occur by simultaneous sources of information and complexity of tasks to them. If a student works with simple sources of information, it gets more difficult task of recovery and the primary organizing information or its treatment. In case significantly more complicated sources, reference to them can remain at the previous level of complexity. Subjectively (due to personal interest or because of the preferences of some domain) one task may seem a student is easier than the other.

5. The nature of the sources of information. These relationships are given the wording of the job for the primary processing and systematization of the information contained in the sources. By the nature of the relationship can be identified:

– A match of information contained in one source, with the information contained in other source. For example, in the job provides information on Ivan Petrovich Ivanov, teacher of physics, information is given in the form of testimonials written assistant principal of the school. The second source comprises an autobiography of the same person. The student is given the task to make the story of this man. In this case, information about Ivanov Ivan Petrovich — the person will be largely identical to the information about him as a teacher of physics.

– Submission of information one another (one inside the other information). For example, the student is given the text of theatrical costume, which contains information about the history of theatrical costumes. Given the task to talk about the history of costume, the student retrieves this information from the text.

– The intersection of one and the other information (data have a common part). For example, students are given information about herbs that grow in the desert, and umbrella plants growing in all climatic zones and in the wilderness, in particular. The student is given the task to talk about umbrella plant in the desert. It retrieves the required information and processes it, given that not all umbrella plants grow in the desert, and not all of the plants growing in the desert, umbrella.

– Contradiction audio and other information (information exclude one another). For example, the student presents the text containing the description of the battle of Borodino, made Kutuzov and Napoleon, both of them reported about their victory in the battle. Learners are encouraged to process the information and to make a conclusion about the cause and nature of conflict in the estimates of the outcome of the battle. The disciple must come to the conclusion that within their chosen strategies both had the right to consider the result of the battle for his victory, and to point out the contradiction, the cause of which — different strategies, but the essence of contradictions — in assessing the outcome of the battle.

– Opposition to one another information (search for common ground for the two details that carry the opposite information, but do not exhaust the amount of information on the subject). For example, when asked about the purpose of art, you may have the fragments of texts Symbolists, claiming this mission through the role of the sign pointing to the eternal meaning, and the Impressionists, finding it in a unique moment of fixation, the perceived unique entity; These estimates exclude one another, but are not limited to the question about the purpose of art.

6. The type of information that can be direct or indirect. Direct information is extracted from the source without additional arguments, and implicitly requires reasoning. The student is given the task: «to study the proposal text and answer the question:» Is there life on Venus? «If the source contains direct information, the child will find the answer to the question in the following form:» There is no life on Venus... «. If the source contains indirect information, it might look like this: «The temperature of the atmosphere of this planet is about 485 degrees Celsius and at this temperature, all living things die.»

7. The most difficult, but the most significant in the technology related to the formation of information competence, is the gradual complication of the activities of students in understanding, processing and information processing.

7.1. Peculiarities of responders' answers

- Questions with a short answer,
- Issues with semi — deployed structured response
- Unstructured questions with detailed answer.

If you answer is required to give a brief answer to complete the unfinished sentence, the calculation or drawing. Such questions are very similar to closed-end jobs. They are distinguished only able to express the

correct answer is not word for word, and descriptive, while maintaining the same meaning, so their scope coincides with the scope of closed-end jobs, they are also used to assess the level of development of the components of key competences.

Matters requiring semi — deployed structured response can be used to answer the test questions in which the student, in accordance with the requirements to them, writes the causes of certain events, the criteria for comparing objects or animals, makes a brief conclusion on the results of processing the presented information. In this type of job sources, and wording of the question asked structure response. The greatest difficulty for the students, but at the same time and the greatest value for the formation of informational competence are open with a detailed response or unstructured allows multiple solution of the problem. In response, the disciple must tell or write a coherent text, fixing the results of processing the information against him, or perform a very detailed drawing or calculation, each of which can be considered as a whole. These questions imply unstructured response, allow you to check, as a student selects and organizes ideas, whether his chosen style of presentation and speech content design issue.

7.2. Activities of students to process information (destination, treatment information): - The pupil plays and presents information in accordance with the job (reproductive reproduction type underline, write, find and read, circle, redraw, etc.)

– Pupil reproduces information and attempts to explain the cause-effect relationship, the order of reason, — Pupil reproduces information will allocate the basis for comparison or classification and justifies his proposed base

– The pupil presents information in a coherent oral or written text, explaining the logic of selection and ranking of the grounds

– The pupil is informativ a coherent oral or written text, pointing to their own contradictions are found,

– The pupil is in the form of a coherent oral or written text information containing findings, based on a critical analysis of the different points of view or comparing their own experience and the information received. This level of activity suggests as a result of the formulation of their own well-reasoned position with an illustration of their own experience or that of their comrades,

– The students in the form of a coherent oral or written information, with the conclusions based on the information confirmed by his own arguments or data obtained as a result of information processing, and the claimed role of the other positions. The complexity of the level and type of activities related to the fact that the student has to go beyond the present situation, go to supra situational position and formulate conclusions and recommendations, for example, from the perspective of parents, professionals in any matter, the future inhabitant of the Earth, etc. In fact, these conclusions and recommendations of the student formulates for himself, so that the teacher has a real tool for the formation of a reflective position. That is why the highest level in the handling of information, we believe the new generation of its own information, but is intended for use by others.

In the works of colleagues [2], for which we rely, offered tier structure that, in our opinion, makes it possible to identify stages and sequence of technological steps for the formation of information competence.

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Несиелік оқыту жүйесі жағдайындағы жоғары оқу орны студенттерінің ақпараттық құзырын қалыптастыру

Мақалада авторлардың несиелік оқыту жүйесінде студенттердің ақпараттық біліктілігінің қалыптасу үдерісінің ұйымдастырылуына деген көзқарасы көрсетілген. Зерттеу жұмысында студенттердің ақпараттық біліктілігінің даму үдерісінің болмысы, құрылымы және қызметі жайында сөз қозғалған және жобалаудың әдіс-айлалары мен педагогикалық шарттары ұсынылған. Несиелік оқыту жүйесі әлемде білім берудің өндіріспен біріктірілуінің маңызды бағыттарының бірі, толассыз білім беру жүйесіндегі басты құрастырушы болып саналады. Сондықтан жаңа ақпараттық технологиялардың элементтерінің қалыптасуы қажеттілігі туындап отыр.

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Формирование информационной компетентности студентов вуза в условиях кредитной системы обучения

В статье раскрывается авторский подход к организации процесса формирования информационной компетентности студентов вуза в условиях кредитной системы обучения. В исследовании раскрыты сущность, структура, функции процесса развития информационной компетентности и представлены способы проектирования и педагогические условия. Обосновано содержание технологического обеспечения этого процесса, включающего модель и педагогическую технологию. Отмечается, что кредитная система обучения, получившая признание в мире как одно из важнейших направлений интеграции образования с производством, является важнейшим компонентом системы непрерывного образования. Авторы утверждают, что необходимо формирование элементов новых информационных технологий.

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