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## **The use of international studies within the framework of the updated content of secondary education of the Republic of Kazakhstan**

The article is about the use of international research in the context of the updated content of secondary education in the Republic of Kazakhstan, as an effective form of assessing the students' knowledge. The authors analyzed the features, key aspects of the standard on the renewed content of education, the main point of which is the system of criterial evaluation. Considered such concepts as TIMSS, PISA, CLIL technology. Analysis of conducted research in 2015 in Kazakhstan was also presented, on the subject of the similarities and differences of secondary education systems of various countries on the issue of the number of hours devoted to the study of the disciplines of science and humanitarian cycles; current state and level of functional, reading, natural science, mathematical literacy of schoolchildren. The authors attempted to substantiate the effectiveness of using CLIL technology in teaching subjects of the natural-science cycle. This led to the conclusion that to bring the structure and content of the Kazakhstan education in line with international standards and in the context of integration into the international educational space, taking into account the European Qualifications Framework, on the improvement of secondary education, the International Standard Classification of Education, the results of international comparative study TIMSS, PISA, CLIL and others, which allow to achieve positive results in training the younger generation.

*Keywords:* integration, international research, concept, TIMSS, PISA, CLIL, competence approach, criterial evaluation, content, communication, cognition, culture.

In modern Kazakhstan a new education system is being developed, oriented towards the world educational space. This process is accompanied by significant changes in pedagogical theory and practice.

In accordance with the State Program for the Development of Education and Science of the Republic of Kazakhstan for 2016-2019, approved by the Decree of the President of the Republic of Kazakhstan of 1 March 2016 No. 205, the main areas of work to improve the quality of education are ensuring equal access of all participants in the educational process to the best educational resources and technologies; meeting the students' needs for education, ensuring success in a rapidly changing world; the formation in general schools of an intellectual, physically and spiritually developed citizen of the Republic of Kazakhstan. Today, education has entered a stage of fundamental reforms, based on a fundamentally new thinking [1].

Hence the question arises: are new educational programs for modern schools needed? How to change to a new wave of ordinary teacher? To date, such issues are of concern not only to teachers with a great pedagogical experience, which causes only respect and appreciation, but also a young teacher, with little experience. Within the framework of Kazakhstan's integration into the global educational space, the development of the competitiveness of the national education, a cardinal renewal of school education is needed, aimed at moving from the concept of «education for life» to understanding the need for «lifelong learning» [2].

The Survey of Secondary Education in Kazakhstan, conducted by the Organization for Economic Cooperation and Development (OECD) in 2014, concluded that our training programs «did not allow students to achieve a minimum level of functional and mathematical literacy, did not contribute to the development of high-level thinking skills» [3].

Academic subjects are taught with an emphasis on theory, not given due attention to their possible practical application, as a result of which students are not able to effectively apply and use the received knowledge in non-standard situations. Attempts to move away from the traditional system of education have been undertaken repeatedly. But the fragmentary introduction of changes was superimposed on the old content of education. This led to congestion in the learning process and the transfer of a large volume of finished information.

If today we do not come to the concept of «lifelong learning», if we do not move from knowledge to competence, from mastering knowledge to initiative and searching, it will be difficult for us to achieve the competitiveness of our education.

Today it is important to create such an educational environment that will be most favorable for the harmonious formation and development of the student's personality. This is the pedagogical aspect of updating

the content of education. Today's schoolchildren are the intellectual potential of the nation, and the future of the country will depend on them.

Global transformations and world trends require accelerated updating of the content of school education. The new standard is based on a competence approach: from the expected results, and not from a certain amount of material that is compulsory to assimilate, as it was in the traditional school. First of all, this means changing the perception of the student, the transition from authoritarianism to teaching, which, unfortunately, still prevails in the modern school, and to cooperating. Learning objectives become common to the student and teacher. The traditional formulation of goals - to teach, to explain, to convey, to learn - to be replaced by must know, understand, be able, etc.

Learning objectives are not related to the impact on the student, but to the creation of conditions for studying and learning. Any reform should be systemic in nature and affect all levels of education.

Appropriate training and an educator are required as part of the introduction of the updated content of education. Each teacher must overcome the inertia of pedagogical thinking and learn together with the student. In accordance with the transition to the updated content of education, there is a need for a new, objective system for assessing students' learning achievements. The urgency of the revision of the assessment process today is determined by modern strategic objectives of education, the need to improve the level of education, taking into account international standards and modern requirements for the quality of education, the need to develop unique requirements for marking and evaluating the learning achievements of students in order to ensure the objectivity of learning outcomes and the competitiveness of Kazakh school graduates beyond countries.

One of the important innovations in the education system should be the introduction of a new system for assessing the educational achievements of schoolchildren, which would make the assessment process more humane and personal-oriented. The evaluation system should include a purposeful work of the teacher on the formation and development of an adequate assessment of the child's boundaries of his knowledge and skills himself. Thus, the relevance of the technology of criterial evaluation, the importance of the process of introducing and adapting it to a mass school is determined by the need to align the assessment system with the transition to the updated content of education.

Analysis of Kazakhstan's results in international studies such as TIMSS, PISA, PIRLS has shown the need to improve the national education system, the system of assessment and monitoring of the quality of education as a priority direction of educational policy in the framework of the State Program for the Development of Education of the Republic of Kazakhstan for 2011-2020 [3]. In the educational process of a modern school, the development of a criterial evaluation system in the logic of a competence approach is necessary.

To improve the quality of education, it is necessary to conduct constant monitoring of the state and trends of its development, an objective and adequate assessment of the educational achievements of students. This is especially important at the level of secondary education, laying the foundation for their further personal development and civic development. As is known, in Kazakhstan such procedures of external evaluation of educational achievements of students as Intermediate State Control (ISC) and Unified National Testing (UNT) are intensively developing. The results of UNT and ISC are used to assess the quality of education, to make management decisions for improving the activities of the secondary education system. At the same time, these procedures do not allow for a comparative analysis of the quality of education in our general education schools with other countries. To do this, you need to participate in international comparative studies in the field of education, such as TIMSS, PISA, PIRLS, etc.

The TIMSS study is an assessment of the quality of mathematical and natural-science education in primary, secondary schools (grades 4, 8 and 11).

The TIMSS (Trends in International Mathematics and Science Study) study tracks trends in the mathematics and science education of participating countries by assessing the educational achievements of students in grades 4 and 8 in mathematics and science. The study also studies the features of the content of mathematical and natural science education, the organization of the learning process, as well as factors related to the characteristics of educational organizations, teachers, students and their families. To assess the educational achievements, students are tested, and to obtain information on the factors that affect the learning outcomes - the questioning of students, teachers and school administrators participating in the study [4].

The TIMSS project is implemented by the IEA (International Association for the Evaluation of Educational Achievement of Students). To conduct research and develop its tools, this independent international organization unites the efforts of many research centers and professional organizations of the world, such as:

The Educational Testing Service (ETS, USA), the Canadian Statistics Center (Statistics Canada);

Data Processing Center of the International Association for the Evaluation of Educational Achievement (DPC IEA - Data Processing Center IEA, Germany);

The Secretariat of the International Association for the Evaluation of Educational Achievement (IEA, the Netherlands), and others.

Coordination of the whole study is carried out by the International Study Center - Boston College (ISC - International Study Center, Boston College, USA).

In Kazakhstan, this study was conducted in 2015 by the National Center for the Assessment of the Quality of Education of the Ministry of Education and Science of the Republic of Kazakhstan (NCAQE MES RK) with the active participation of the Education Departments of the regions and cities of Astana and Almaty.

In accordance with the general conceptual approaches adopted in the study, a special framework document TIMSS Assessment Frameworks and Specifications is developed for each cycle, which defines common approaches to the development of tests and test tasks, the definition of the content being checked, as well as the evaluation of educational achievements in mathematics and natural sciences [4].

It also describes the main factors that characterize students, teachers and the organization of education, for the analysis of which information is collected in the process of questioning.

On the basis of this document, a study tool was developed that is uniform for all countries, which is a prerequisite for ensuring comparability of the results obtained by the participating countries. To assess the educational achievements of students used test tasks in mathematics and science.

As a result of the conducted research TIMSS 2015 received a large amount of information that characterizes various aspects and features of the organization and implementation of the educational process in schools of participating countries, as well as programs for teaching mathematics and science. Of particular interest to Kazakhstan are data related to the most pressing issues that are actively discussed in the society in connection with the modernization of school education in recent years and the transition to a 12-year secondary education.

For comparison, in Kazakhstan for studying all subjects in grade 4 according to the State Standard, 20 hours are allocated, 19 % of the time is spent on mathematics, and 8 % on natural science. The weekly load, actually realized in the educational process, is 22 hours, 18 % of the time is devoted to the study of mathematics and 7 % to natural science, while the average weekly load in all subjects in other countries is 23 hours, of which 18 % of the time is spent on the study of mathematics and 9 % on the study of natural science. Planned and implemented in the training process, the load, as an average for all countries, and for each participating country, generally correspond to each other, differing only 1-2 hours.

In Kazakhstan, 133 hours are devoted to the study of mathematics, and 52 hours to study natural science, which is fair below the international average. However, in many countries where students have shown very good results (Chinese Taipei, Kazakhstan, Russia, Lithuania, Latvia), the annual audit load in mathematics was significantly lower than in countries with low results (Algeria, Tunisia, Morocco, El Salvador, Yemen). In all countries, the proportion of study time devoted to the study of mathematics is greater than that of natural science. Consequently, the dependence of the results of countries on the training load in the study of mathematics and natural science is not revealed.

Students of the 4th grade of Kazakhstan demonstrated rather high results in mastering certain issues of mathematics, biology, geography and astronomy. 70 % to 90 % of students coped with tasks presented in the traditional form. They showed a good level of performance of individual tasks that went beyond the curriculum (from 50 % to 80 %), much of which was presented in an unusual text form and was often accompanied by a drawing, diagram, table, in the form of a game with a description of its rules.

This testifies to their high cognitive activity, awareness and considerable intellectual potential. Families of students are not provided with enough books, more than half of students in Kazakhstan indicated that they have less than 25 books in their home libraries. 89 % of students in Kazakhstan have computers at home, and 84 % of them have access to the Internet. 11 % of students who do not have computers at home have shown statistically significantly low results in both mathematics and science, than students who have a computer. The students of Kazakhstan have the highest level of positive attitudes towards mathematics and natural sciences among the participating countries in the TIMSS study (89 % and 90 %, respectively). 66 % of students showed a high level of self-esteem in the study of mathematics, and 71 % in the study of natural science. The same students showed the highest results within the country. In Kazakhstan, as in the overwhelming majority of countries, there is a significant feminization of the composition of teachers, as well as the tendency of aging pedagogical personnel.

Students of the 4th grade of Kazakhstan were the most overloaded homework among all the participating countries. 80 % of Kazakhstani primary school students feel safe in their schools, which undoubtedly affected their results in this study. Students with an average and low values of this index showed much lower results.

Only 39 % of primary school students in Kazakhstan study in schools with a high level of equipment with material and technical resources. This indicator is comparable to the international average (36 %), but much lower than in developed countries (Singapore (84 %), Austria (73 %), Japan (58 %)). Among the CIS countries, only Russia (45 %) has this figure above Kazakhstan. Thus, participation in the international study can be considered successful. The results of this research can be used to further modernize the content of education and methods of teaching mathematics and science in general schools in the country [4].

The next important international study is PISA, which aims to assess and identify:

- functional literacy of 15-year-old students in mathematics, science and reading;
- attitudes and learning strategies;
- quality and accessibility of education.

The main goal of the PISA study is to evaluate the educational achievements of students of 15 years of age. The study is not aimed at determining the level of school curriculum development, but on assessing students' ability to apply knowledge and skills obtained in school in life situations. The study is conducted by three-year cycles, the last was in 2015. The organizer is an international consortium consisting of leading international scientific organizations with the participation of national centers and the organization of OECD [5].

The main areas for assessing educational achievements were «literacy reading» (a priority area of assessment, which spends two-thirds of the time tested), «natural science literacy» and «mathematical literacy». The PISA study also examines the factors that can explain the differences in the outcomes of students in the program countries. These factors include the characteristics of students and their families, the characteristics of educational institutions and the educational process. The PISA study simultaneously implemented several modern innovative ideas in the dimensions: the evaluation of functional literacy, the study of relationships, interest, motivation and learning strategies.

Natural science literacy in PISA involves three components of competence. This content (concept), research methods and facts used by scientists to substantiate their claims. Thus, the participants in the study should demonstrate an understanding of how the results of scientific research were obtained. It is also important what they can do with what they know and how they can apply this knowledge in real life situations. At the same time, the emotional element of the learner's competence is no less important. The attitude or inclination to science influences the level of motivation to cognition of natural science disciplines.

The international assessment of science literacy of 15-year-old students PISA-2015 identified six key components. The «Competences» block provides for three skills - to explain, evaluate and interpret. For this it is necessary to have three types of knowledge in three subject areas. Competencies are evaluated by different types of tasks, each of which has a certain level of cognitive load. All tasks are distributed in three contexts. Indicators of tier achievements are represented by a corresponding proportion of participants who have not reached a higher level. OECD indicators of participants who did not complete assignments above the 2-level complexity, interprets as results of functionally illiterate. Based on the results of PISA 2015 in OECD countries, the number of such 15-year-olds was 21 % on average. For Kazakhstan, this figure is 28 % [5].

99.8 % of Kazakhstan participants handled the easiest assignments of level 1b. This indicator is identical with the results of Singapore (99.8 %) and Japan (99.8 %). In the final percentage of participants who have reached the level, results of performance of tasks of higher levels are included. For example, in the percentage of Kazakhstan participants who completed the tasks of the 3 level of complexity, those who coped with the issues of more complex levels of the test are included.

Thus, the share of Kazakhstan participants able to perform a simple experiment for a limited range of tasks and distinguish between scientific and unscientific questions was 33.8 %. Twice as high as the performance of such assignments is demonstrated by Singaporean (75.3 %), Japanese (72.2 %) and Estonian (71 %) 15-year-old participants in the international test.

The ability to formulate hypotheses about new scientific phenomena, events and processes was demonstrated only by 0.1 % of Kazakhstan participants. While the tasks of the most difficult 6 level were fulfilled by 5.6 % of Singaporean students. This is the highest rate among all participating countries. Literacy reading is one of the main characteristics necessary for self-development and self-education of students. The structure of evaluating the literacy of 15-year-old students includes three key aspects. This is the ability to under-

stand what is read, to find and extract from the general context the necessary information, to use it, to reflect and reasonably argue its answer. The concept of PISA in determining students' reading competencies goes beyond the traditional meaning of decoding information and interpreting the text. The structure of the assessment of the level of the generated reader competencies is as follows.

The first is text presented in various ways (books, leaflets, online forums and news feeds) and forms (fiction and popular science texts, official documents, information on public events, tables, graphs, charts and maps).

In PISA-2015, four kinds of texts were used. These are «solid texts» from works of art and whole semantic paragraphs. Their share is 39 %. Not continuous information texts in tables, graphs and diagrams (30 % of tasks). The share of mixed texts with verbal and non-verbal elements was 23 % (web pages and magazines).

Associated in meaning, but different in content and format, the texts are compound (8 %).

The second is the situation. Test tasks simulate real conditions that 15-year-old students can face in life. The educator should not retell the read, but demonstrate the skills of searching and interpreting the information of the proposed text.

The third is the format of the tasks. It is necessary to come up with a title to the passage from the text, formulate a thesis expressing the general meaning of the text, compare the main parts of the graph or table, explain the purpose of the map, drawing and others.

The results presented by the international PISA-2015 database showed the following. The most highly competent readers among the participants were only Singaporean students (3.6 %). The percentage of the skills of all participating countries that have reached the highest level does not exceed 1.5 %. Kazakhstani pupils and students did not demonstrate the ability to extract the necessary information from the text to provide a detailed answer.

Indicators of reading literacy of Kazakhstan participants are the weakest in comparison with other areas of the study. More than 40 % of schoolchildren and students are not able to work with the simplest texts. Moreover, all participants are not able to understand complex written texts, extract key information, analyze and substantiate their point of view. This indicates a very low reading competence. The lack of such skills undoubtedly influences other competencies, since the ability to understand what is read is a key factor in the entire educational process. Low results indicate that in the Kazakhstan system of compulsory general secondary education, insufficient attention is paid to the formation of fundamental reader competence.

To improve the level of literacy of Kazakhstan students:

- include in the educational process training in technologies, reading strategies and analysis of written texts, methods of effective reading and the formation of a socially necessary level of reading competence;
- review and include the development of key elements of reading in the curriculum on the subject «literature»;
- development and implementation of a plan to support, promote and develop the reader skills in education organizations;
- familiarize the parents' community with the results of the research, indicating explanations on the need to form a reading culture in the family.

The results of Kazakhstan on natural science have revealed a number of problematic issues. Almost all Kazakhstani participants are not able to perform the most complex tasks of the PISA test. Every third participant is functionally illiterate.

To increase the level of natural science literacy of Kazakhstan students it is recommended:

- to include in the courses for the improvement of the qualification of teachers the methodology for the formation of students' ability to critically think, experiment, substantiate their findings by facts, apply theories in life situations;
- to intensify project and research training activities in education organizations «Main results of the international research PISA-2015»;
- in order to increase interest in the natural sciences, ensure early development of creative activity in the primary school;
- consider the possibility of providing all the needing educational organizations with new modification cabinets.

To increase the level of mathematical literacy of Kazakhstan students it is recommended:

- to emphasize the formation of mathematical abilities of schoolchildren in the application of academic knowledge in real life situations;

- to practice the solution of complex problems with the search for non-ordinary methods instead of using template algorithms;
- along with traditional forms of testing the knowledge and skills of students to include in the measurement system types of PISA test (with the choice of answers, with a short answer, a detailed answer with justification);
- apply the level-based differentiation of education, taking into account the individual abilities of schoolchildren.

The results of the international study PISA-2015 confirm the trend of differentiation of indicators depending on the language of education and the location of the organization of education, identified by results. The lower indicator of students with the Kazakh language of education is interlinked with the low rates of rural students, most of whom are taught in the Kazakh language. These problems require timely careful analysis [4].

Within the framework of the implementation of the comprehensive plan «Development of trilingual education» for 2017-2019; also in order to implement the training program in three languages; the methods of teaching physics, chemistry, biology, informatics in English and effective use of CLIL methods in the educational process of general education institutions are actively introduced [4].

CLIL is a new direction in teaching English, where school subjects are taught in foreign languages. The term stands for «Content and Language Integrated Learning» and translates as «content-language integrated learning» [6].

CLIL pursues two goals, namely, the study of the subject through a foreign language, and a foreign language through the taught subject. Thus, the teaching of students in their native and studied languages is one. Such subjects as mathematics, natural sciences, biology, chemistry, economics, computer science, art history, geography, philosophy, classical literature and a number of other subjects can be taught through English.

The basis of the CLIL methodology in schools within the framework of the «Development of Trilingual Education» for 2017-2019 is [4]:

- knowledge of the language becomes a means of studying the content of the subject;
- classes are held in an exciting way, students put scientific experiments and conduct various experiments;
- the language is integrated into the general education program;
- increased motivation to learn to use the language so that you can discuss interesting topics;
- classes are based on immersion in the language environment;
- the necessary skill is reading texts in a foreign language.

CLIL is a subject-language integrated teaching of a foreign language. For example, the geography and history of Kazakhstan for all classes are in the Kazakh language, regardless of the language of education, but world history and informatics are in Russian. All natural science subjects, such as mathematics, physics, chemistry and biology, computer science in senior classes are in English.

Also there is another interpretation of the term «CLIL» is a competence approach to learning, which is on the rise in European education systems. The idea is to teach the subject through a foreign language, i.e. teach the subject «using the language». CLIL encourages the use of programs that develop interpersonal, intercultural and language skills that are in demand among today's employers.

The idea of using the principle of language-based integrated learning arose as a result of increased requirements for the level of knowledge of a foreign language with limited time devoted to its study. This problem is faced by teachers in virtually all countries. This approach allows two subjects to be taught simultaneously, although the main focus may be on either language or a non-linguistic subject

The study of a foreign language and a non-linguistic subject is simultaneously an additional means for achieving educational goals and has positive aspects both for studying a foreign language and a non-linguistic subject.

CLIL considers studying a foreign language as a tool for studying other subjects, thus forming a student's need for study, which allows him to rethink and develop his abilities in communication, including in his native language. The most common is the following definition: CLIL is a didactic methodology that allows students to formulate linguistic and communicative competences in a non-native language in the same educational context in which they develop general educational knowledge and skills [6].

To date, many countries have successfully used the CLIL methodology in practice. For example, in Hungary, bilingual schools have existed for a long time already, in which academic subjects are taught in a foreign language. When designing a training course on the basis of this technique, it is necessary to take into

account the 4 «C» of CLIL methods: content, communication, cognition, culture. In addition, in defining the basic principles of CLIL, five aspects are distinguished, each of which is implemented in different ways depending on the age of the students, the socio-linguistic environment and the degree of immersion in the CLIL.

- Cultural aspect;
- Social aspect;
- Language aspect;
- Subject matter;
- Educational aspect.

Learning a language becomes more focused, because the language is used to solve specific communicative tasks. Getting into the situation of communication in a foreign language, students are unable to show their knowledge in specialized fields such as: construction, pedagogy, medicine, culture art, etc. without knowledge of a foreign language. So, they do not have the opportunity to communicate in a professional context.

Thus, the ability to communicate, in a foreign language in a professional context, becomes a priority. In addition, students have the opportunity to better know and understand the culture of the language being studied, which leads to the formation of the sociocultural competence of students. The student passes through a sufficiently large volume of linguistic material, which is a full immersion in the natural language environment. It should also be noted that work on various topics allows you to learn specific terms, certain language constructs, which helps to replenish the vocabulary of the learner with the subject terminology and prepares him for further study and application of the acquired knowledge and skills.

Summarizing the aforesaid, in the modern educational policy of Kazakhstan, the priority is to bring the content of school education in line with the dynamic demands of modern society, to ensure that the content of education meets the new modern requirements for the formation of competencies aimed at fostering the need and ability to independently extract and apply knowledge in practice and to develop the student as a person and subject of activity.

An important goal is to bring the structure and content of Kazakhstan education in line with international requirements and in the context of integration into the international educational space, taking into account the European Qualifications Framework, the Bologna Process, OECD recommendations for improving the secondary education system, the international standard education classification, the results of international comparative studies TIMSS, PISA and others.

Qualitative changes in the content of secondary education entail changes in the assessment system. Competence approach, personality-oriented, developmental education contributed to the emergence of a variety of approaches to assessing students' learning achievements. These processes predetermined the current trends in the development of the evaluation system and caused the need for the emergence of a technology of criterial evaluation, which consists in comparing individual student achievements with certain criteria based on competency approach and having an interdisciplinary character.

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## Қазақстан Республикасының жаңартылған орта білім мазмұны шеңберінде халықаралық зерттеулерді пайдалану

Мақала Қазақстан Республикасындағы орта білімнің жаңартылған мазмұны контекстінде халықаралық зерттеулерді оқушылардың білімін бағалаудың тиімді формасы ретінде пайдалану мәселесіне арналған. Авторлар критерийлік бағалау жүйесінің негізгі болып табылатын білім берудің жаңартылған мазмұны бойынша стандартты негізгі аспектілерінің ерекшеліктерін талдады. TIMSS, PISA, CLIL технологиясы сияқты ұғымдар қарастырылды. Сондай-ақ 2015 жылы Қазақстанда өткізілген зерттеулерінің негізінде мектеп оқушыларының функционалдық, оқу, жаратылыстану-ғылыми, математикалық сауаттылығының қазіргі жағдайы мен деңгейі, жаратылыстану-ғылыми және гуманитарлық циклдар пәндерін оқуға арналған сағаттар бойынша ұқсастықтар мен айырмашылықтар туралы зерттеулер бойынша талдау жасалды. Авторлар жаратылыстану-ғылыми цикл пәндерін оқытуда CLIL технологиясын қолданудың тиімділігін негіздеуге тырысты. Бұл, орта білім жетілдіру бойынша, халықаралық стандарттарға және Еуропалық біліктілік шеңберіне сәйкес халықаралық білім беру кеңістігіне интеграция контекстінде, орта білім беру жүйесін жетілдірілуін, білім берудің халықаралық стандартты классификациясын, TIMSS, PISA, CLIL және т.б. халықаралық салыстырмалы зерттеулердің нәтижелерін ескере отырып, жас ұрпақты оқытуда оң нәтижелерге қолжеткізуге зор үлесін қосады деген қорытынды жасауға мүмкіндік берді.

*Кілт сөздер:* интеграция, халықаралық зерттеу, тұжырымдама, TIMSS, PISA, CLIL, құзыреттілік көзқарасы, критериалды бағалау, мазмұн, қарым-қатынас, таным, мәдениет.

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## Использование международных исследований в рамках обновленного содержания среднего образования Республики Казахстан

Статья посвящена вопросу использования международных исследований в условиях обновленного содержания среднего образования Республики Казахстан как эффективной формы оценки полученных знаний обучающихся. Авторами проанализированы особенности, ключевые аспекты стандарта по обновленному содержанию образования, основным пунктом которого является система критериального оценивания. Рассмотрены такие понятия, как TIMSS, PISA, технология CLIL. Также представлен анализ проведенных исследований в Казахстане 2015 г. на предмет сходства и различия систем среднего образования различных стран в вопросе количества часов, отводимых на изучение дисциплин естественнонаучного и гуманитарного циклов; текущего состояния и уровня функциональной, читательской, естественнонаучной, математической грамотности учащихся школ. Авторами предпринята попытка обосновать эффективность использования технологии CLIL при обучении предметам естественнонаучного цикла. Это помогло сделать вывод о том, что приведение структуры и содержания казахстанского образования в соответствие с международными требованиями и в контексте интеграции в международное образовательное пространство, с учетом Европейской рамки квалификаций по совершенствованию системы среднего образования, международной стандартной классификации образования, результатов международных сравнительных исследований TIMSS, PISA, CLIL и др., позволит достичь положительных результатов в обучении подрастающего молодого поколения.

*Ключевые слова:* интеграция, международное исследование, концепция, TIMSS, PISA, CLIL, компетентностный подход, критериальное оценивание, содержание, коммуникация, познание, культура.

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