

## Issues of Kazakh language teaching in elementary classes in terms of the meta-subject approach

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### Abstract

It is well-known that in recent years, the attention has been paid to teaching language as a means of communication and learning. In this case, it is important to teach the Kazakh language from the very beginning in close connection with other educational fields, that is to say, teaching the language from the point of view of meta-subject approach. After all, the meta-subject approach to teaching the Kazakh language in different subject areas of primary education opens the way for the schoolchildren to understand the cognitive and communicative functions of the language. Therefore, in our paper, we have analysed the work of scientists who have studied the concept of 'metasubject', 'meta-subject matter or double subject' and studied the problem of meta-subject teaching. As a result, it has been concluded that the selected methodology, training system and task models allow to carry out meta-subject education of primary education subjects in order to achieve the proposed results.

**Keywords:** Meta-subject, meta-subjectivity, meta-subject approach, meta-subject result.

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## 1. Introduction

Today, the main ideas of the global educational paradigm are to train highly qualified professionals who are self-educated and capable of self-improvement throughout the whole life, with the creative needs of the society taking into account the growing needs of the society, and who is ready to develop their personal initiative and self-cognition. A school graduate should master a new set of universal shafts that will allow him to orientate children in the new situation, solve any problems himself and properly evaluate the results of his work (Kelemen, 2018; Turalbayeva, Sultanbek, Utyupova, Aidarov & Uaidullakzy, 2017).

Such results in education will be possible in the educational process when using the meta-subject approach, we move from the subject-learning model of teaching to intellectual-service or mental activity.

Despite the popularity of the terms ‘metasubject’ and ‘meta-subjectivity’ in the education of other countries, their scientific application exists from the time of the ancient Greek philosopher Aristotle. Despite the long history of the concept, there is no single explanation so far, and various scientific schools explain it differently.

At the end of the 20th century, the meta-subject approach gained a special meaning, and now it is based on the Russian Federation (Federal State Educational Standard of Basic General Education, 2011) and the Federal State Educational Standard of Primary, Basic and Secondary (full) General Education of the Republic of Belarus (Educational standard of the academic subject ‘Russian language’ I–XI classes, 2009). Effectiveness of this approach has been experimentally proved by Asmolov, Burmensky and Volodarskaya (2010), Gromyko (2001), Gromyko (Metaprojective approach in education: from theory to practice, 2015), Khutorskiy (2012), Arshansky (2009), Petunin (2012), Kvitova (2010), Kolesin (2011), Leontyeva (2009) and many other Russian scientists.

Scientists not only define the basic concepts of meta-subject teaching in their work, but also describe the basic technologies, methods and techniques of implementing the meta-subject approach in the educational practice. At the same time, it concludes that the meta-subject approach in education has been prepared to address the problem of separation, fragmentation and nonconformity of various scientific disciplines (Mthethwa, 2018).

Gromyko noted that the meta-subject approach in education pays attention to the functional approach of pedagogy and provides a complete picture of the world from the existing practice of knowledge division into disciplines, from narrow subject activity to subject service. It also recognises that meta-subject content does not refer to a subject matter but rather an activity that provides a learning process within any subject matter (Metaprojective approach in education: from theory to practice. Collection of materials, 2015).

When analysing the scientific works of Andrianova (2016), Svitova (2012), Skripkina (2011), Khutorskiy in accordance with their ideas, it is discovered that the meta-subject defines, refines and interprets different sciences (subjects) and the internal relation between knowledge (facts, laws and legitimacy). Khutorskiy describes meta-subjectivity as a way out of the study subjects, rather than leaving them. ‘Meta-subject is the thing that is behind a discipline or multiple subjects, which is based on them and at the same time is inextricably linked to them’—he says (Khutorskiy, 2012).

According to Galyan (2014), the basic methodological principles of the meta-subject lesson are as follows:

- subjectivity (equal rights of all educational process participants);
- metasubjectivity (formation of general outcome methods);
- action approach (autonomy of trainees during search and research activities);

- reflection (where the action is needed to re-examine knowledge);
- improvisation (readiness of the teacher to change and adjust the course during class) (Galyan, 2014).

Why today's educational experience requires a meta-subject approach? This is the answer to this question.

First, the dynamic development of scientific knowledge has begun; earlier, the education was oriented towards the training of specialists in specific areas of the education. This has led to the disassembly of academic disciplines. Any universality, the integrity of the world acceptance has disappeared. However, the technological process has given the opportunity to learn openness, knowledge and simultaneously (Uzunboylu & Gide, 2017).

Second, the meta-subject approach ensures not only the student's integrity but also the continuity of all stages of the educational process.

Third, the meta-subject approach suggests reorganisation of the content of education, where education is not the information intended for the memory, but rather as the knowledge intended for reasonable use in individual practice.

Fourth, the meta-subjectivity gives an opportunity for the teacher to work with perspective. In this case, the pedagogue gets the role of a partner or a tutor.

What is the result of the educational process organisation using the meta-subject approach?

In the Decree dated December 17, 2010 № 1897 (URL: <http://standard.edu.ru>), approved by the Ministry of Education and Science of the Russian Federation, in the Chapter II of the Federal State Educational Standard Linguistic Development 'Requirements for the results of mastering the basic educational program of basic general education' provides 12 meta-subject outcomes. Four of them are related to language and speech of schoolchildren. They are as follows:

- the basis for definition, generalisation, classification, and self-selection of criteria, establishment of cause-and-effect relationships, logical discussion and conclusions (inductive, deductive and analogy);
- application and transformation of models and drawings, symbols to solve educational and cognitive tasks;
- understanding the determinative role of language in the intellectual and creative abilities' development of the person in the process of education and self-education;
- systematisation and expansion of knowledge about language; mastering the basic concepts of linguistics, main units of language and grammar categories (Federal state educational standard of basic general education, 2011).

Meta-subject results—learning activities in the learning process of the pupil (cognitive, regulatory and communicative). Based on the meta-subject results formation, there is a 'readability' that provides a full understanding of all the components of learning (cognitive and learning motives, learning objectives, learning activities, exercises and operations) (Basoz & Can, 2016).

The results of meta-subject education suggest that the schoolchildren will be able to:

- reliable orientation in different subject areas at the expense of reasonable use of philosophical and general subject disciplines;
- to master the skills and abilities of using information and communication technologies for the collection, storage, transformation and transfer of basic information and logistical skills, the organisation of independent training activities, basic universal information models, information modelling as the basic method of education, basic skills of research, virtual experiments, methods and

techniques for developing new instrumentation, efficient interaction between children's and adult and the fundamentals of the company.

During the study, it was clear that the following requirements of the meta-subject results in the 'State Educational Standard' of the Russian Federation were promoted (on the example of elementary school):

- ability to perceive and preserve the purpose and objectives of the learning task and to independently transform it to practical compulsory cognition;
- planning, monitoring and evaluation of their actions in accordance with the objectives and the requirements of its implementation;
- ability to understand the success/failure of the learning activity;
- mastering of primary forms of cognitive and personal reflection;
- ability to carry out informational, cognitive and practical activities using various means of information and communication;
- use of symbolic means of information presentation, drawings of performance of educational and practical tasks for creation of objects and processes' research models;
- comparison, analysis, generalisation, the simplest classification, identification of analogy and referring to definite concepts;
- development of interdisciplinary concepts.

The most distinctive feature of a meta-subject approach is that it can be implemented in different areas of the education. Research analysis was also carried out on this issue. One of them is considered in the manuals of Lvova and Lvova's 'Let's use the Russian language knowledge in other lessons'. This tool demonstrates how to use the knowledge gained in Russian lessons in different subject areas. Here are some of them.

For example: the discipline 'History', exercise 101. Explain the lexical meaning of 'archaeology', 'chronology' and 'astronomy'. Explain how these terms used in the history of Ancient History (Lvov & Lviv, 2012).

The discipline 'Mathematics', exercise 83. Find five imperative sentences in the tutorial and write them down. Identify their roles in the text of the textbook (Lvov & Lviv, 2012).

Tasks can relate to finding linguistic concepts, additional material that reflects the language phenomenon.

In this regard, in the light of the literature and normative documents' analysis, the issue of meta-subject language teaching is studied in other foreign countries but in domestic research, we find that this issue is not sufficiently studied. In recent years, computer technology has made inroads on foreign language learning and educational programmes have become available to both accelerate and facilitate the vocabulary learning process (Nejati & Jahangiri, 2018; Kovacevic, Spetic & Pleslic, 2018; Celik-Yavas, Yavuz, 2018).

Consequently, there is a lack of definition for 'meta-subject approach', 'interdisciplinary communication', 'integration' and a contradiction between the theory and practice in the concept of the meta-subject approach to teaching the Kazakh language.

That is why our aim is to prove the necessity of the meta-subject approach for teaching the Kazakh language based on the scientific-methodological approach in various subject areas of the primary education.

It is assumed that if the methodology of teaching the Kazakh language in different subject areas of elementary education is based on theoretical approach and its methodology is made, then it can be

predicted that these students will be able to develop their own language as a personality and master the language skills.

Today, the need for meta-subject training is clear, because it is creative thinking in school where the child needs to be taught. At school, children will not only learn about news from a teacher or textbook but only readily when they can re-open the news or publish their own news. If the news is discovered in the classroom, such as 'real' truth, they will be re-offered and tested in the class, and the education they receive will never be forgotten. Because 'the conclusions that a person has at his disposal, convinces him more than other person experiences it' (Pascal). Only in this case, children will be able to become a true researcher, the first to become a novice in school.

## 2. Method

Subjects of our research are primary school teachers and junior schoolchildren (28) of the general school-gymnasium № 76 and № 176 in Almaty.

To achieve the goal, we used the following methods: analysis of philosophical, social, psycho-pedagogical and methodological literature from the point of view of the research problem, synthesis, generalisation of pedagogical publications and normative documents, advanced pedagogical experience, study, questioning, comparative analysis, experimentation, practical work, evaluation of its results, generalisation and mathematical processing of results.

During the experiment, we conducted a survey among teachers.

Teachers answered the following questions:

1. How do you understand the term 'approach'?
2. Which approaches do you take as a basis when you organise the learning process?
3. Are you familiar with the term 'Meta-subject approach'? (Yes/No)
4. What do know about 'Meta-subject approach'?
5. How would you rate your knowledge within the concept of 'meta-subject approach'? (Scales 1–10)
6. Are the concepts 'meta-subject approach', 'interdisciplinary communication' 'integration' interconnected? Why?
7. How to teach the Kazakh language in different subject area of elementary school on the basis of 'Meta-subject approach'? Give an example of your experience.
8. How meta-subject tasks are encountered in the textbooks developed within the framework of the updated education program today? Give —one to two examples.

## 3. Results

Based on the results of the survey, 20% of teachers who participated in the questionnaire were aware of the concept of approach. However, we can see that 28% of respondents have found it difficult to ask what approach they use in organising the learning process. Nearly, 42% of teachers are familiar with the meta-subject approach. Only 5% of 42% respondents can see that their opinion to this approach is in the right direction. When evaluating their knowledge of the meta-subject approach on a scale from 1 to 10, we see that 48% of teachers rated —five to seven points. For the question why the terms 'meta-subject approach', 'interdisciplinary communication' and 'integration' are interconnected, they faced some difficulties. And the fact that they cannot answer questions 7 and 8 requires teachers to provide methodical help to this approach.

To change this data, we conducted a lecture on 'Competence of primary school teachers in applying the meta-subject approach' for primary school teachers. The seminar gave full information on the topic, explained the key concepts, organised practical exercises in the form of a debate, mini games, individual and group work using various means of information technology. Particularly important was that the teachers were given a huge amount of new knowledge about the meta-subject approach, which can be used in the Kazakh language teaching in other subject areas. At the end of the lectures, the above terms were understood by all teachers and they had a great desire to use the meta-subject approach in the lesson.

To improve the use of the meta-subject approach by the teachers in the teaching process, we used a specially developed methodology, such as 'Methodology for the implementation of the meta-subject approach to the teaching of the Kazakh language in various fields of education in primary schools'.

The peculiarity of this methodology is that the pupils learn the Kazakh language and at the same time learn to work with different sources of information, learn how to interconnect the information received that can be used in everyday life.

And, it was also determined the number of children interested in learning the Kazakh language. We have conducted a diagnosis comparing the achievements of students before/after organising a lesson based on a meta-subject approach. As a result, the abilities and interests of schoolchildren to work with language materials in various disciplines were defined.

In this regard, we have trained and experienced the following tasks aimed at the metaphysical learning of disciplines: 'Kazakh language', 'Mathematics', 'Natural Science' and 'Knowledge of the world'.

The complex work model for the formation of schoolchildren meta-subject skills was presented the following way:

1. Read and understand the text.

A stadium is a sports construction for sports competitions. As a rule, there is a big field in the stadium. It is a racecourse around the pitch and a race for a variety of sports competitions. There is a football field in the middle of the race. Here are competitions for spears, discs and throwing. For the spectators will be arranged a benches around the square.

The first stadium was built in Ancient Greece for the Olympic Games. This stadium is located in Olympia. Its length is about 192-feet in one direction. Where did the size of the race come from? According to the legends, the Olympic torch was measured by legendary hero Heracles of Greece. He went through this race. The distance was 600 times in its length. The word 'stadium' comes from the word 'stadium (stage)'.

Today stadiums are available in all the cities. The main sports ground of Almaty is 'Central Stadium'—one of the largest complexes in the country. It was launched in August 1958. It's size is 22 hectares. It can have 23,804 spectators. Volleyball, boxing, football, track-and-field athletics, skating, field hockey and ice hockey and international competitions in all sports can be held in the stadium.

'Astana Arena' stadium is located in Astana, the capital of Kazakhstan. This stadium has 30,000 spectators. The stadium was put into operation in July 2009. 'Astana Arena' is a part of six stadiums with a moving roof in the world. The rolling tent opens and closes in 20 minutes. The stadium is primarily focused on football, as well as fighting, judo and boxing and other sports events.

Modern stadiums have changed in appearance from the stadiums of ancient Greece but remain a place to show their agility, courage and strength.

2. What is this text about? Circle the number of an answer.

- a) About Heracles, who invented the first stadium?

- b) About Olympic Games
- c) Appearance of stadiums and their task
- d) History of the word 'stadium'

3. Which judgment can be regarded as valid where the length dimension is? Check in the text.

- a) About Heracles, who invented the first stadium?
- b) The track passes through the middle of the stadium
- c) According to legend, Heracles used his paw as a measuring tool
- d) Today stadiums are the same as in Ancient Greece

4. What is the stadium? Write down the answer.

5. According to the legend, how many meters is the sole of Heracles? Use the information in the text and report it.

6. Complete the table. Stadiums are arranged according to their capacity.

7. In which part of the text is the final? Write the result.

8. Compose and write a text plan to convey the text.

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

9. He started to run on track and field athletics. He did the following list of exercises for strengthening a leg muscle. Are all exercises consistent with this list? (cross out the odd one)

- a) sit down and stand up
- b) turn hands to the left and right
- c) jump in one place
- d) rotate your hands around
- e) acceleration of the motion
- f) through the moving hands

10. What qualities of Heracles made his name a legend?

- a) 'Myths of Ancient Greece'
- b) 'The Biggest Stadiums of the World'
- c) 'If you want to be healthy'
- d) 'I want to know everything'

11. What legends do you know about heroes? Write down the content.

With the help of this similar text, we have learned about children's ability in language skills, knowledge and skills from different disciplines.

Children were presented with other tasks:

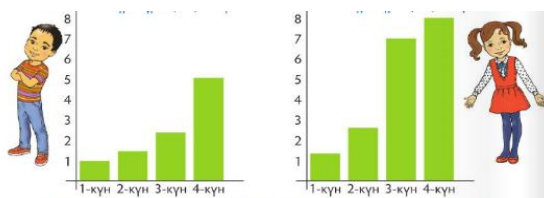
1. Using the information in this table, make a conclusion.

**Table 1. Meta-subject task**

Plant parts	Dog rose	Spruce
Root	+	+
Stem	+	+
Petal	+	?
Flower	?	?
Seed	?	?

2. Give examples of plants in your own country.
3. Characterise the plant parts by looking at the sample in the table.
4. To which stage belongs the plant?
5. Write down the text of the idea of the dog rose and the fir tree.
6. Analyse the parts of the speech in the text.

II.1. During the week, Ali and Merrey watched the growth of their beans. They measured its roots and showed the result in a diagram. Compare diagrams and define the differences. Explain the reason for the different growths of beans.



**Figure 1. Bean growth during the week**

2. At what stage of the development your bean is?
3. Tell us about your choice of ways to conduct an experiment.
4. Prove the advantages of your chosen method.
5. How do you think ways to improve the experiment?
6. Write down your thoughts on healthy growth of your beans.

III.1. Remind your knowledge of the formation of Kazakh khanate and tell about how it affected the unification of Kazakh tribes.

2. What do you know about the word 'Kazakh'? Look up the source for this story.
3. Write down your information and discuss it in the group.



4. Find synonyms in the text.

Tasks of the above sample are oriented to the following meta-subject results. Around 28 schoolchildren of the 3 'A' class took part in the experiment.

**Table 2. Scoring process**

Scheduled metadata results	Number of metasubject task	Scores
Total number of tasks—26		
Max score is 28 points		
Time to complete the task—40 minutes		
To understand the main idea of the text	2	1
Find information that is clearly outlined in the text	3	1
Find information that is not clearly in the text.	7	1
Identifying important information		
Understanding information in different forms (text, drawing, graphic and image), moving it from one form to another	6	1
Simplifying, comparing, interplaying, grouping and grouping of logical conclusions	5	2
Try an activity	6	1
Writing, checking text and making corrections	7	1
Evaluation of the accuracy of the statement by text	3	1
Explaining the meaning of the text by focusing on the text	4	1
Setting sequence during text translation. Designing a text plan.	8	2

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Give your own opinion, formulate your own thoughts	11	1
and write small texts		
Describe the personal qualities of a person (the character of the text) and give examples of these qualities	10	1
Implementation of control and correction using subject knowledge, logical conclusions	9	1
Substances, phenomena, etc. classify according to the signs.	I.4	1
Describe what is presented on the sample.	I.3	1
Analysis of phrases in the text into parts of speech	I.6	2
Writing text (description, commentary)	I.5	2
Charts, tables, pictures, etc. compare and differentiate.	II.1	1
Explain the reasons for plant growth.	II.1	1
Write your own thoughts about something.	II.6	2
Searching for sources for the story's origin.	III. 2	2
Finding synonyms, antonyms and homonyms in the text.	III.4	1

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The results of pupils' work were calculated on the following scale:

- From 0 to 6 points—high level;
- from 7 to 12 points higher than the average;
- from 13 to 18 points—average level;
- from 19 to 25 degrees below average;
- from 26 to 28—lower degrees

The above tasks have shown that pupils are inclined to social and communicative activities, and that they have the ability to apply their potential abilities.

If we combine with the experimental stages together with the conclusions, we have gained following data:

Table 3. Data on the development of younger students' ability to work with language materials based on a meta-subject approach. As a result of our research, we came to the following conclusion.

Classes	Total students	The level of development of the skill to work with meta-subject tasks				
		Lower degrees 26–28 point	Degrees below average 19–25 point	Average level 13–18 point	Higher than the average 7–12 point	High level 0–6 point
3 «A»	28	1	6	4	14	3
		4%	21%	14%	50%	11%

#### 4. Discussion, conclusion

In accordance with the purpose and objectives of our study, the meanings of such concepts as 'meta-subject', 'meta-subjectivity', 'meta-subject approach' and 'meta-subject result' were defined. Having studied and analysed the works of scientists, we can draw the following conclusion:

To conclude, the meta-subject approach's value in education is evident in its ability to preserve and promote the culture of thinking in the society and the culture of formation of the whole world outlook. That is why, using this approach, propagating a meta-subject approach in education, we consider meta-subject approach as one of the trends in the development of domestic pedagogy. The meta-subject approach can demonstrate advanced didactic-methodological models for the development of the subject matter of knowledge, at the same time allowing for the development of new perspectives for educational objects, such as subject matter and study lesson.

As a result of our research, we came to the following conclusion:

1. It is important for teachers of the elementary grade to have a scientific understanding of meta-subject learning and to teach them how to implement them.

2. In order to apply the basic classes of the teachers in the process to a meta-subject approach, it is necessary to develop a special methodology.

3. The following shortcomings have been identified for the pupils to accomplish the task of achieving meta-subject result:

- Simplify logical conclusions, comparison, interconnection and grouping;
- Writing, checking text and making corrections;
- Set sequences during textual expression. Drawing up a text plan;
- Implement control and correction using subject knowledge, logical conclusions.

4. It is necessary to create a system of training samples and exercises for the teaching of the Kazakh language in the field of primary education. Only then will conclusions be achieved.

## 5. Recommendations

In short, it is necessary to create a specially selected methodology, training system and task models for the organisation of meta-subject learning of primary education disciplines and achievement of the proposed meta-subject outcomes. In turn, a meta-subject approach promotes the formation of a whole-grown individual.

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