

## Elementary School children's Speech Skills in Interdisciplinary ICT Communication

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### Abstract

An analysis of the state of pedagogical practice and scientific and methodological literature speaks of shortcomings in solving the problem of the formation of elementary schoolchildren's speech skills. This article is devoted to the formation of elementary schoolchildren's speech skills in interdisciplinary communication. The purpose of our experimental work is to verify the effectiveness of our methodology for the sustainable of speech skills in interdisciplinary communication. In preparation for the experimental work, the following objectives were set; to identify the level of formation of speech skills (motivational, informative, reflective), development of a complex of diagnostic methods: observation, questionnaires, diagnostic methods, assessment, self-esteem, etc., on the basis of the data obtained to determine the level of formation of speech skills in interdisciplinary ICT communication. Therefore, the aim of our study is to analyze the state of formation of elementary schoolchildren's speech skills in interdisciplinary communication. The theoretical significance of the study allows clarifying knowledge on the issue of the formation of speech skills; practical significance lies in the presentation and testing of a set of productive exercises aimed at developing learners' speech skills in interdisciplinary communication. According to the developed diagnostic technique, the formation of speech skills in interdisciplinary communication consists of three components: motivational, substantive and reflective. Based on these components, indicators and levels characterizing the formation of elementary schoolchildren's speech skills in interdisciplinary communication are distinguished. During the study, the results of a verifying, forming and control experiment were presented. According to the study, we can say that it is necessary to pay attention to the development of meaningful speech, because it is for this indicator that most children are at a low level of formation. On the whole, our study proved that systematic work is needed to form elementary schoolchildren's speech skills.

**Keywords:** speech skills, interdisciplinary communication, integration, elementary school, formation, criteria, indicators, levels.

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## 1. Introduction

As part of the updated content of education, the requirements for elementary schoolchildren who are most capable of world competition, who are able to formulate specific goals, prone to self-development of abilities are increased. The argument in this is the words in the Address by the leader of the nation of the Republic of Kazakhstan Zhumabayeva, Uaisova, Zhumabayeva, Uaidullakzy, Karimova, & Hamza, (2019), Nazarbayev (2018) "New development opportunities in the conditions of the fourth industrial revolution": "Human capital is the basis of modernization. New quality of education. The role of the education system must change. Our task is to transform education into the central link of a new model of economic growth. It is necessary to orient the study programs of higher educational institutions towards the development of critical thinking ability and independent search skills".

The need for the comprehensive development of the personality of learners is shown in the first objective of the education system of the Law "On Education" of the Republic of Kazakhstan: "creating the necessary conditions for high-quality education aimed at the formation, development and professional improvement of the personality based on national and universal values, achievements of science and practice (Zakon, 2007; Strategic Plan, 2017). The goal itself of elementary education is the formation of speech skills in interdisciplinary communication, both in everyday life and in the public life of a learner. "The purpose of modern education is not that the learner knows as much as possible, but that he knows how to act and solve problems in any life situations." One of the formed competencies of an elementary schoolchild, allowing solving the task, is speech and communication skills. Accordingly, in elementary school, the need for a systematic approach, namely in interdisciplinary learning, is increasing. Therefore, it is important to create the conditions for applying a systematic approach in interdisciplinary learning of learners. Today, there are problems and difficulties in organizing and implementing a systematic approach to the interdisciplinary integration of elementary school education.

In these conditions, the school faces new challenges - to teach learners to find answers to the questions that life sets themselves; be able to assess the consequences of their actions and be prepared to bear responsibility, which implies the acquisition of skills of self-education and self-development as the basis for the accumulation of knowledge throughout life, the ability to apply this knowledge creatively.

For this, it is necessary to create a systematic approach in interdisciplinary learning, to form speech skills and critical thinking, to create integrated subjects and apply various methods of communication, including language skills, etc.

It is the elementary school that is the period of study during which learners try to master the norms of the oral and written literary language and must learn to use language tools in accordance with the aims and objectives of speech, using them in different conditions of communication. In this process, the leading role is given to the teacher. The teacher helps children learn the requirements for speech activity, build phrases correctly, and in the process of formulating thoughts, they control their correctness, as well as the accuracy, variety and expressiveness of the language (Mendayakhova, 2009; Rodriguez-Arteche, & Martinez-Aznar, 2016).

Mastering speech skills is one of the most necessary conditions for the formation of a socially active person. The objectives of learning at school are diverse. The paramount importance is the ability to clearly state one's thoughts in free oral and written form, to speak correctly, to have a well-posed voice, to be able to express one's emotions with the help of appropriate intonation, to observe speech culture and develop the ability to communicate. Accordingly, we consider the formation of speech skills to be one of the main objectives at the present stage of schoolchildren's learning.

Many issues of interdisciplinary communication in the learning process are reflected in the works by Hayes (2010), Zhapbarov (2018), Toibekova (2016), Hodge (2020) and others. Interest in the context of development of elementary schoolchildren's speech is represented by studies of Mendayakhova (2008), Rakhmetkhyzy (2011), Goikhman, et al (2001), Alexander (2008), and others.

An analysis of the state of pedagogical practice and scientific and methodological literature speaks of shortcomings in solving the problem of the formation of elementary schoolchildren's speech skills: existing didactic tools do not allow to fully carry out work on the formation of children's speech skills; pedagogical conditions and their implementation in the formation of elementary schoolchildren's speech skills are not fully developed.

These contradictions indicate the need to solve the problem: what pedagogical conditions must be created for the effective implementation of the process of formation of elementary schoolchildren's speech skills in interdisciplinary communication.

Speech as the highest mental function is the most important component of intellectual activity, and language, as the leading means of implementing speech activity and thought processes, has for a long time been the subject of close attention of specialists studying psychology and linguistics. Theoretical and experimental studies have allowed accumulating and generalizing sufficient material characterizing the general laws of language acquisition and formation of human speech abilities in the process of ontogenesis, features characterizing the processes of speech activity in society (Mendayakhova, 2009).

The life of an elementary schoolchild in society, in essence, consists of a set of situations in which he/she constantly has to solve a complex of communicative, educational and social problems, interacting with other members of society, objects and phenomena of his/her life. Therefore, speech communication is considered as a combination of speech relationships and social contacts that are established in certain situations between communication participants.

As you can see, the reception of speech situations involves tasks that are solved in emotionally rich descriptions, in familiar living conditions close to children - at home, in the family, at school, on the street.

Having realized the conditions for the verbal communication, children are ready to perceive why communication is called speech and what can serve as speech in different communication situations.

The speech behavior of the interlocutors is nothing but a form of speech communication, and its content is speech activity. The inner state of a person is expressed in his/her actions in relation to the world and the people around him/her, through various forms of behavior.

Scientists are talking about two types of behavior: verbal and real. Verbal behavior is understood as a system of statements, opinions, judgments, evidence, etc. Real behavior is a system of interconnected actions carried out by a person with the aim of adapting to the environment (Bazarbekova, 2008).

In addition, speech communication and speech behavior differ significantly in their outcomes. Thought and text are nothing more than the outcome of verbal communication, and the outcome of speech behavior means the relationship between people and emotions that are caused by previous acts of speech behavior of the interlocutors. Speech communication is the ability of the subject of communication to clearly, accurately and expressively convey their thoughts using the means of language. It also lies in the ability to find the most intelligible and most appropriate, suitable for each specific case means for expressing one's thoughts.

The objective of educating the verbal communication is reduced to the formation of "communicative competence" among schoolchildren. This competency not only determines the knowledge of the linguistic system and successful possession of linguistic material (speech), but also implies the process of observing the social norms of verbal communication and the rules of verbal behavior (Hayes, 2010).

It cannot be denied that one of the learning aims is the formation of communicative competence. This aim in modern education can be achieved not only in lessons related to the development of speech, but also in the educational work of the teacher. Priority for solving this pedagogical issue should be considered the lessons of the Kazakh language and literary reading. It is at these lessons that interpersonal communication with native speakers is carried out not only through mastering dialogue (oral) speech, but also through reading literary texts (literary speech). Modern schoolchildren have the opportunity, while learning the Kazakh language, to simultaneously develop their communicative competence (Zhapbarov, 2018).

Most often, the culture of verbal communication is defined as "a combination of pronunciation rules (orthoepy), spelling (spelling) and the rules for the use of words and their grammatical forms adopted in the speech practice of this society and recognized as the basis of a literary language" (Rakhmetkhyzy, 2011).

The language norm arises in certain socio-cultural conditions and throughout the existence of the language does not remain unchanged.

Leont'ev (2001) considers that "In order to fully communicate a person should, in principle, have a number of skills. He/She must, firstly, be able to quickly and correctly navigate in communication. He/She must, secondly, be able to properly plan his/her speech, choose the right content of the act of communication.

He/She must, thirdly, find adequate means to transmit this content. Fourth, he/she must be able to provide feedback. If any of the links in the communication act is violated, it will be ineffective”.

Researchers dealing with speech communication issues divide speech into outer and inner; outer speech is divided into oral (sounding) and written (graphically recorded). They also distinguish dialogical and monologic speech (Goikhman, 2001).

Inner speech can be called a conversation with oneself, since it is a speech that is not pronounced aloud, devoid of distinct external manifestations, although it proceeds on linguistic material, but lacks clear grammatical forms. The process of constructing inner speech can be analyzed by observing own speech, but it is rather difficult to trace the process of inner speech of learners. However, in solving language problems, the teacher can use inner speech. This is expressed in the fact that learners are taught to prepare statements at the level of inner speech. This approach allows you to develop the inner speech of children, to make it more complete and clear. The learner mentally draws up a sentence, then pronounces it, only after that writes down.

Children are given a topic for which they must prepare by writing a task on a given topic. In carrying out this assignment, learners include active mental activity, they should think about what they need to tell, choose words, put them into sentences to get a story. This type of inner, mental preparation has a direct impact on the quality of learners' outer speech, improving their speech skills.

Inner speech has a very important role, which can hardly be overestimated, in the process of preparing for a written essay or presentation. The process of making sentences or phrases by learners occurs first at the level of inner speech. Under this condition, speech synthesis will be a few words ahead of the writing, respectively, the process of preventing errors when building speech will start. It is necessary to focus the attention of learners on the following features of constructing a sentence, namely, when starting to write a sentence, in the mind, the child must prepare it in its entirety and know how it will end.

In the process of developing elementary schoolchildren's oral speech, this type of preparation is temporary, the so-called educational measure. A person who knows how to freely express his/her thoughts, as much as possible reduces the level of inner preparation of the speaking. As for written speech, even experienced people who quite often write a lot, require a process of preliminary reflection of the written, both from the content and from the point of view of the language.

Thus, analyzing studies on the issue of the formation of verbal communication among elementary schoolchildren, we conclude that verbal communication is the ability to correctly, accurately and expressively convey the thoughts using the means of language.

So, to determine the level of formation of elementary schoolchildren's speech skills in interdisciplinary communication, it is necessary to analyze the state of this formation.

The formation of a positive attitude of elementary schoolchildren to interdisciplinary communication, to speech skills proceeds under the influence of social relations in general and the social environment with which their livelihoods are directly related. Part of this environment is the school system and its relationships. The main means of preparation here is an adequate way of organizational educational work.

## **2. Method:**

An analysis of the state of pedagogical practice and scientific and methodological literature speaks of shortcomings in solving the problem of the formation of elementary schoolchildren's speech skills. This article is devoted to the formation of elementary schoolchildren's speech skills in interdisciplinary communication. The purpose of our experimental work is to verify the effectiveness of our methodology for the formation of speech skills in interdisciplinary communication. In preparation for the experimental work, the following objectives were set; to identify the level of formation of speech skills (motivational, informative, reflective), development of a complex of diagnostic methods: observation, questionnaires, diagnostic methods, assessment, self-esteem, etc., on the basis of the data obtained to determine the level of formation of speech skills in interdisciplinary communication. Therefore, the aim of our study is to analyze the state of formation of elementary schoolchildren's speech skills in interdisciplinary communication.

Since the study included the experimental analysis process, power analysis was used to test the significance of the results. Power analysis is done at the end of the study in experimental studies. The aim is to calculate the strength of the study, which will determine whether the results of the study have a significant effect in the determined sample volume (Kul, 2011).

### **2.1. Data Collection Tools**

In our studies, we developed a methodology for diagnosing of formation of speech skills in interdisciplinary communication, defined evaluation criteria, indicators and levels of formation of speech skills.

According to our model of speech skills, it consists of three components: motivational, cognitive and reflective.

**Motivational component.** It is emotions that motivate speech activity in children, we are talking about emotions that are caused by vivid impressions that are related to a particular activity. In the process of speech development, the child constantly needs new impressions, entertaining situations, memorable stories; all this is factual material on which the process of constant speech development is based. The goal is to form a cognitive interest in aspects of the motivational component.

As a criterion, we highlighted the presence for learners of "needs to master speech skills based on interdisciplinary communication." The indicators of this criterion are:

- awareness of the importance of interdisciplinary communication in the teaching of academic subjects;
- manifestation of interest and desire to master the rules of reading and writing, which are based on the language system, on the knowledge of its phonetics, graphics, vocabulary, grammar, spelling;
- desire to develop speech skills.

**Substantive component.** Full knowledge of speech culture, mastery of the rules of reading and writing, application of interdisciplinary scientific knowledge, if necessary. As a criterion, we single out "the presence of knowledge about speech skills and its use in learning educational subjects", which is expressed in the following indicators:

- full knowledge of speech culture, description of the content of learning materials;
- to know and read the content of interdisciplinary learning materials, have in-depth knowledge;
- acquisition of theoretical knowledge about the concept of text;
- ability to apply professional knowledge in their practice;
- improvement of speech skills, increasing all expressive capabilities, ability to conduct dialogue, ability to defend own point of view.

The reflective component provides an analysis of creative work, be able to determine the reasons for success and shortcomings, and develop a reflective orientation. It is characterized by the development of reflective and evaluative criteria in the formation of speech skills. Therefore, we have identified the reflexive component as one of the most important components of the self-organization of educational activity.

Criteria for reflective evaluation:

- independence in the choice of means for solving the learning problem;
- ability to be aware of their lack of knowledge, to find the cause of the error, to compare the outcomes of their activities;
- ability to find and correct speech errors, that is, to work with negative speech material

Thus, the formation of elementary schoolchildren's speech skills in interdisciplinary communication is represented by the following criteria and indicators (see table 1).

Reflex - (from the late Lat. *reflexio*) is the paying attention of the subject for him/herself and, in particular, to the products of his/her own activity, with the aim of rethinking them. In philosophy, reflection is usually interpreted as:

1. Ability of the mind and thinking to turn to him/herself.
2. Analysis of knowledge in order to obtain new knowledge.

3. Self-observation of the state of mind and soul. In pedagogy, reflection is considered as a stage of a lesson at which the knowledge acquired during the lesson is subjected to critical analysis, compared with existing knowledge, and constructed into one's own understanding (Alexander, 2008).

The analysis of the indicators of formation of elementary schoolchildren's speech skills in interdisciplinary communication, included in each of the criteria, led to the identification of three levels: low, medium and high. The basis of this gradation is a certain amount of indicators available for learners: the fewer indicators are found, the lower the level of formation of speech skills.

Low level. Learners have an interest in developing speech skills and determining their outcomes. However, this interest is not constant, learners' knowledge about the work of learning text, composition and coherent speech in the learning process is acquired only in the form of definitions of terms and concepts. The work on the development of speech is carried out only in accordance with the plan presented by the teacher. Learners have not fully mastered the ways of forming speech skills and can perform only certain parts of assignments. Learners make mistakes when completing assignments and correct errors by the instructor, spending a lot of time.

Medium level. Learners understand the need and importance of the formation of speech skills, theoretically possess knowledge of working with text, essays, phrases and sentences in the learning process, but this knowledge is not fully and systematized at the proper level, if there is interest, they make mistakes in writing text, writing essays, they will not prove their differences from each other. They can apply knowledge of texts only in familiar conditions, but find it difficult to use in new conditions. Accomplishment of assignments on learning text, collocation and coherent speech with the support of the teacher. Nevertheless, a low desire to independently seek and present the results of initiative, creative research in the formation of speech skills.

High level. Learners can constantly, systematically apply speech skills, show interest. The elementary schoolchild fully understands the importance, the need for the formation of speech skills and independently performs without any influence. Assignments represent the desire for a high degree of activity and initiative in the performance of work. Knowledge of working with text, phrases and learning coherent speech can be full, constant and effectively use this knowledge in new conditions. This level allows elementary schoolchildren to correctly use theoretical knowledge in carrying out practical assignments. A learner has the skills to work with text in any situation in the lesson. For a given assignment, a specific goal can be set and a decision is made.

**Table 1. Criteria and indicators the formation of speech skills in interdisciplinary communication**

Components	Criteria	Indicators
Motivational component	Needs for mastering speech skills in interdisciplinary communication	<ul style="list-style-type: none"> <li>- manifestation of interest and desire to master the rules of reading and writing;</li> <li>- awareness of the importance of interdisciplinary communication in the learning of academic subjects;</li> <li>- desire to develop speech skills.</li> </ul>
Substantive component	Presence of knowledge of speech skills and its use in learning academic subjects.	<ul style="list-style-type: none"> <li>- full knowledge of speech culture, description of the content of learning materials;</li> <li>- recognition of the content of multidisciplinary learning materials;</li> <li>- acquisition of theoretical knowledge about the concept of text.</li> </ul>

Reflective component	The formation of reflexes, self-determination, self-knowledge and self-realization.	<ul style="list-style-type: none"> <li>- independence in the choice of means for solving the learning problem;</li> <li>- ability to be aware of their lack of knowledge, to find the cause of the error, to compare the outcomes of their activities;</li> <li>- ability to find and correct speech errors, that is, to work with negative speech material</li> </ul>
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The purpose of our experimental work is to verify the effectiveness of our methodology for the formation of speech skills in interdisciplinary communication.

In preparation for the experimental work, the following objectives were set; to identify the level of formation of speech skills (motivational, informative, reflective), development of a complex of diagnostic methods: observation, questionnaires, diagnostic methods, assessment, self-esteem, etc., on the basis of the data obtained to determine the level of formation of speech skills in interdisciplinary communication

When studying the state of the formation of speech skills in interdisciplinary communication, a set of diagnostic methods and techniques was used: studying and analyzing school planning documentation, questionnaires, pedagogical observations, talking with teachers and learners, analyzing the results of testing, studying written work of learners (mini-essays, creative assignments).

The study consisted of three stages:

Stage 1 - verifying experiment - primary diagnosis of the level of formation of third-grade schoolchildren's speech skills;

Stage 2 - forming experiment - application of techniques for the formation of elementary schoolchildren's verbal communication;

Stage 3 - control experiment - re-diagnosis of the level of formation of elementary schoolchildren's speech skills in the experimental and control groups, analysis of the results.

The experimental study involved 113 third-grade schoolchildren. The experimental group - 3-A, B grades (57 people), the control group - 3-C, D grades (56 people) from School-Lyceum №24 named after Sattar Yerubaev in Shymkent city.

### 3. Results and Discussion

A verifying experiment made it possible to collect primary material characterizing the initial state of the object under study.

Analysis of the initial state of the formation of speech skills in interdisciplinary communication according to the three identified criteria served as the basis for determining the possible levels of formation of the studied professionally significant quality in elementary schoolchildren. Using the effective component of the developed model, the possible levels of the formation of elementary schoolchildren's speech skills (low, medium and high levels) are determined.

The results of the analysis of the state of the formation of speech skills in interdisciplinary communication in the experimental group are shown in table 2.

**Table 2. Levels of elementary schoolchildren's speech skills in interdisciplinary communication in the experimental group (at the beginning of the experiment)**

Grade	High Level	Medium Level	Low Level
EG (57)	3.5% (2 people)	40.4% (23 people)	56.1% (32 people)

As can be seen from table 2, a high level of formation of schoolchildren's speech skills in interdisciplinary communication in the experimental groups is almost absent. Most learners have low, medium levels of the formation of speech skills (40.7%, 35.9%, and 55.6%, respectively).

**Table 3. The levels of elementary schoolchildren's speech skills in interdisciplinary communication in the control group (at the beginning of the experiment)**

Grade	High Level	Medium Level	Low Level
CG (56)	3.6% (2 people)	41% (23 people)	55.4% (31 people)

As can be seen from table 3, in the control groups, 2 learners has a high level of formation of elementary schoolchildren's speech skills in interdisciplinary communication, which is 3.6%.

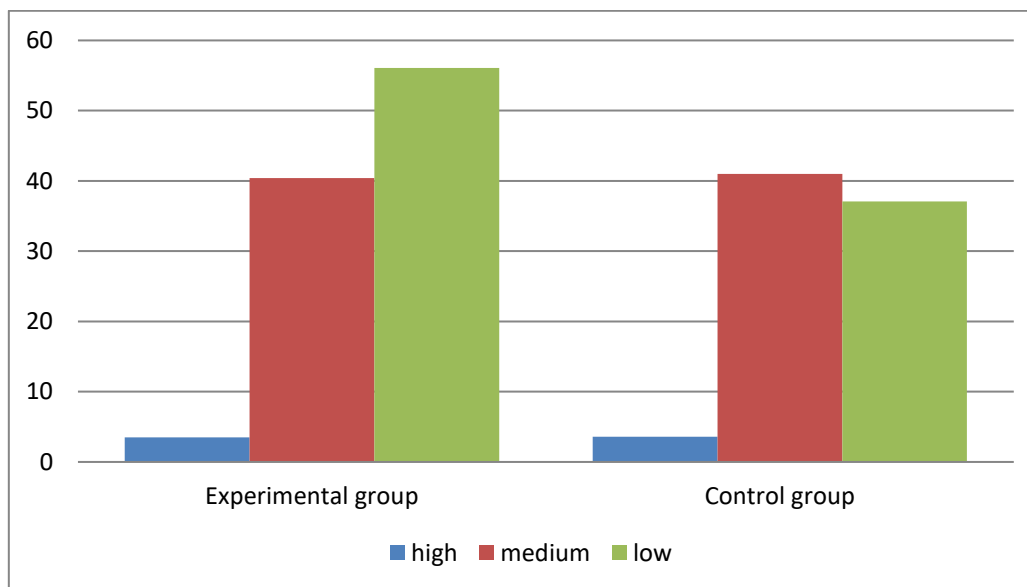
The results of the comparative analysis of the data of the verifying experiment are presented in table 4.

**Table 4. Comparative data of the initial levels of learners' speech skills in interdisciplinary communication (at the beginning of the experiment, in%)**

Grade	High Level	Medium Level	Low Level
EG (57)	3.5% (2 people)	40.4% (23 people)	56.1% (32 people)
CG (56)	3.6% (2 people)	41% (23 people)	55.4% (31 people)

As can be seen from table 4, in the experimental groups at a ascertaining stage of the pedagogical experiment, 56.1% of the learners showed a low level, and in the control groups the percentage of learners with this level of the studied quality was approximately the same (55.4%). As for learners with a medium level in the experimental groups, they make up 40.4%, while in the control groups this indicator is 41%. Meanwhile, in the experimental samples, there are very few learners who showed a high level of speech skill formation in interdisciplinary communication (3.5 in the experimental groups and 3.6% in the control groups).

Initial levels of the formation of learners' speech skills in interdisciplinary communication (at the beginning of the experiment) are graphically presented in accordance with Figure 1.



**Fig. 1 Levels of formation of elementary schoolchildren's speech skills in interdisciplinary communication at the stage of a verifying experiment**

An analysis of the findings of the ascertaining experiment allowed us to draw the following conclusions. The level of formation of speech culture at a verifying stage of the study showed that medium and low speech skills prevail in both groups. This means that communicative expediency, clarity can be traced in the child's speech, but there is no coherence, cohesion, consistency, and in his/her speech the child uses simple, not complex sentences. As for the content of speech, a low level prevails in the experimental 3-B grade. This means that children find it difficult to retell the text, and also have difficulties in writing from memory.



Based on the data obtained during the study, a set of exercises of the forming experiment was developed, consisting of several types aimed at the formation of elementary schoolchildren's speech skills.

The forming experiment was carried out in 3-B grade which is aimed at the formation of learners' speech skills. Verbal communication is possible only in the collective where cooperation relationships are established that require the presence of at least three components: awareness of common goals, positive attitude towards each other and the subjective position of the learner and teacher in relation to each other. The purpose of the forming experiment is the selection of a set of exercises and the development of lessons aimed at the formation of elementary schoolchildren's speech skills of communication.

Methods of teaching elementary schoolchildren are an essential component of the entire methodological system. The ideas of developing education require the improvement of methods of teaching Kazakh language at elementary school. The system of teaching mother tongue has a number of classifications. The didactic classification by Lerner (1981) is recognized as the optimal classification in relation to the teaching of speech as an activity.

The classification of learners' speech development methods is presented in the following form:

1. The prescription method (do as I do) is used in the formation of concepts, knowledge of speech, and methods of speech activity. It includes the following techniques: teacher's stories, conversations, reading the rules and memos, observing the language and speech (showing texts - samples).

2. Reproductive (imitation) method is aimed at mastering the algorithms of production and perception of speech, it is used in the formation of speech skills. It includes the following techniques: presentation and retelling of texts; making up phrases and sentences; work with a deformed sentence or text; selection and insertion of words within the meaning; the interpretation of words in the dictionary; analyzes of words and texts according to an algorithm (memo);

3. Productive (creative) method provides the formation of skills in speech activity and creative speech abilities of learners: an essay on a given topic and a plan; selection of texts on one topic, but of different styles and types, composition of fairy tales, riddles; composition of the continuation of a famous fairy tale, source text (Faktorovich, 2017).

A set of exercises aimed at the development of speech is selected:

- division of the text into logically complete parts in accordance with the models;
- drawing up a plan of the finished text, based on keywords or staged sentences of the text, as well as planning your own speech utterances;
- definition and establishment of basic lexical and syntactic tools in a particular text;
- reconstructing the text in accordance with the speech task.
- comprehension of the topic of the text and determining its boundaries;
- comprehension of the main idea of the text and its use in their own speech utterance;
- comprehension of the title of the text and predicting the content based on it, as well as the table of contents of the text in accordance with the topic or main idea of the speech utterance;
- selection in the text of keywords, phrases and sentences and the definition with their help the main content of the text.

These exercises and techniques, if they are performed systematically, help elementary schoolchildren better navigate their speech activity, which in turn form communicative skills. Communication cannot exist without speech activity. Good communication requires a high level of speech proficiency. The exercises we have proposed will be effective only if they are conducted in every Kazakh language lesson, as well as in literary reading, if in other lessons the teacher monitors the learners' correct speech, correcting their speech errors during the answers.

At the end of the forming stage of the experiment, a control experiment was conducted, with the help of which we determined the influence of a set of exercises and techniques on the formation of elementary schoolchildren's speech skills of the control and experimental groups.

Many issues of interdisciplinary communication in the learning process are reflected in the works by Hayes (2010), Zhapbarov (2018), Toibekova (2016), Hodge (2020) and others. Interest in the context of development of elementary schoolchildren's speech is represented by studies of Mendayakhova (2008), Rakhmetkhyzy (2011), Goikhman, et al (2001), Alexander (2008), and others.

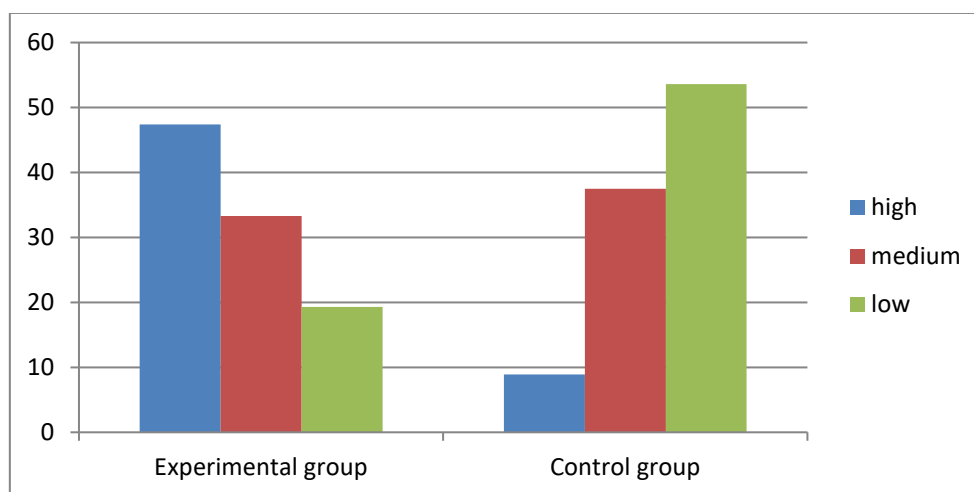
The purpose of the experimental learning based on the use of additional materials was the formation of elementary schoolchildren's speech skills using a specially selected set of exercises. Exercises were

included in the structure of a lesson in the Kazakh language, literature, and natural sciences. After a set of specially selected exercises, the control stage of the experiment took place. This stage of the experiment was carried out in December 2019 (Table 5).

**Table 5. The levels of formation of the main criteria for the formation of elementary schoolchildren’s speech skills in interdisciplinary communication at the stage of the control experiment**

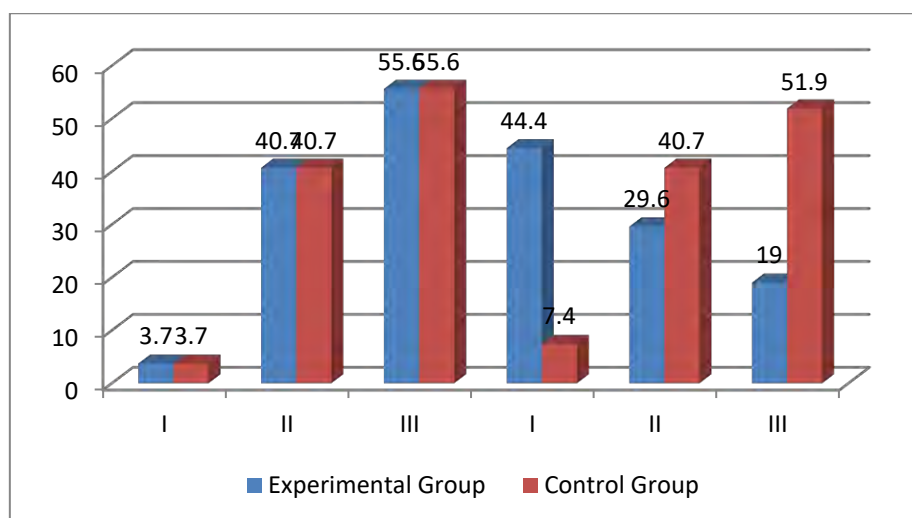
Grade	High Level	Medium Level	Low Level
EG (57)	47.4% (27 people)	33.3% (19 people)	19.3% (11 people)
CG (56)	8.9% (5 people)	37% (21 people)	53.6% (30 people)

The outcomes of the control experiment are presented in the graph (fig.2)



**Figure 2. The levels of formation of the main criteria for the formation of elementary schoolchildren’s speech skills in interdisciplinary communication at the control stage**

The data given in table 5 and figure 2 indicate that the percentage of learners in the experimental and control groups whose formation of speech skills corresponds to a low level was the same by the beginning of the experiment (55,6% and 55,6%). However, by the end of the experiment, in both groups, it decreases. Moreover, in the experimental group more significantly (up to 36.6%). The same pattern is seen in learners of the experimental and control groups, the formation of speech skills which corresponds to the medium (second) level. If in the control groups the percentage of this level decreased from 44.4% to 40.7% (that is, by 3.7%), then in the experimental groups there was a noticeable decrease in the percentage of students of the second level (from 40.7% to 29.6% ) This means that the percentage of students whose speech skills at low and medium levels have decreased significantly only in the experimental groups.



**Figure 3. Distribution of students by levels of formation of elementary schoolchildren's speech skills in interdisciplinary communication at the beginning and at the end of the formative experiment**

Detailed comparative levels of the formation of elementary schoolchildren's speech skills in interdisciplinary communication at the beginning and at the end of the forming experiment are presented in the diagram (Fig. 3).

#### 4. Conclusion

According to the outcomes of the control experiment in the EG and CG, the levels of formation of elementary schoolchildren's speech development were revealed.

A study of the formation of third-grade pupils' speech skills allows us to conclude that the elementary schoolchildren's speech skills are at the stage of formation. At the beginning of the study, learners' speech skills in all indicators of speech skills were almost at the same level. The main part of elementary schoolchildren acquires speech at a medium level. In the experimental group, many children are at a low level of speech development. In the control group, half of the grade acquires speech at a medium level.

In a verifying experiment, the level of formation of elementary schoolchildren's speech skills was identified and the following criteria for speech skills were considered: speech content; logical speech;

At the forming stage of the experiment, the conditions necessary for the formation of speech skills were tested. It is necessary to organize effective learning, as a result of which children really comprehend the studied phenomena of the language, and speech at a level accessible to their age, will be able to consciously use the knowledge gained in their speech practice and thereby improve their speech. If we will be able to organize language learning on the basis of the analysis of speech, speech activity, then we will create conditions for learners to comprehend the speech itself, containing language elements. This will bridge the artificial gap between language work and speech.

During the exercises that form the speech skills, we can say that the systematic conduct of these exercises significantly improves not only speech, but also the communicative abilities of children. These exercises allow children to learn to communicate with each other: the ability to listen to the point of view of the opponent, the ability to discuss, the ability to properly form their thoughts, the ability to properly conduct dialogue.

The outcomes of the control experiment showed the appropriateness of the systematic implementation of exercises to form speech skills. If at the beginning of the experiment the indicators of the level of speech activity in the experimental group were much lower, then after the proposed exercises, they significantly increased. The positive dynamics of the level of speech can be discussed in the experimental groups. According to the study, we can say that it is necessary to pay attention to the development of meaningful speech, because it is for this indicator that most children are at a low level of

formation. On the whole, our study proved that systematic work is needed to form elementary schoolchildren's speech skills.

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