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COMPETENCE APPROACH TO THE WORK AT THE NUMERAL AS A PART OF THE LANGUAGE WITH FUTURE TEACHERS OF THE MOUNTAIN SCHOOL

Abstract. The article deals with the issue of the competence approach in the process of studying the Numeral during preparation of students of the specialty "Primary Education", who will work at primary schools, including those of the Ukrainian Carpathians region. The competence approach is to form a competent person who is able to find the right solutions to specific educational, life and professional situations. While primary school students learn the Numeral from the first days of school, according to the State standard of primary education its study is started from the fourth form, as reflected in textbooks on Ukrainian language. In this connection, we analyzed the didactic content of the textbook, edited by M.S. Vashulenko. The results of the first-year students' questionnaire on acquaintance with the Numeral, its grammatical peculiarities and specifics usage are also presented. The article noted that the Numeral as part of the language is associated with the concepts of "number", which means a certain amount and is the most important mathematical concept, and "number" - ideogram, sign, through which the number is presented in writing. A compilation of information about the development of the Number and the most common systems of numbers, features of lexical, grammatical and syntactic features of this class of words is proposed. The article presents numerical values which are most used in folk forms (in particular, in fairy tales well-known to children) words to identify various specific quantities, such as inch, arshin, copa, etc.

The didactic material given in the article can be used in the process of teaching the Numeral in the system of university training, and for the development of cognitive activity of primary school students at the lessons of Ukrainian, Reading, Maths, etc.

Keywords: competence approach, the Numeral, number, concrete numeration, teacher training.

КОМПЕТЕНТІСНИЙ ПІДХІД В ОПРАЦЮВАННІ ЧИСЛІВНИКА ЯК ЧАСТИНИ МОВИ З МАЙБУТНІМИ ПЕДАГОГАМИ ГІРСЬКОЇ ШКОЛИ

Анотація. У статті розглядається питання компетентнісного підходу в процесі вивчення числівника при підготовці студентів спеціальності «Початкова освіта», які будуть працювати в початкових школах, у тому числі в регіоні Українських Карпат. Компетентнісний підхід полягає у формуванні компетентної особи, яка вміє знаходити правильні рішення в конкретних освітніх, життєвих та професійних ситуаціях. У той час як учні початкової школи ознайомлюються з числівником з перших днів навчання згідно з Державним стандартом початкової освіти, більш детальне його вивчення розпочинається в 4 класі, що відображено в підручниках з української мови. У зв'язку з цим ми проаналізували дидактичний зміст підручника під редакцією М. Вашуленка. Також представлені результати анкетування студентів першого курсу щодо знань про числівник, його граматичні ознаки та особливості. У статті зазначається, що числівник як частина мови пов'язаний з поняттями «число», яке означає певну кількість і є найважливішим математичним поняттям, і «цифра» - ідеограма, знак, через який число представлене на письмі. Запропоновано інформацію про розвиток числівника та найпоширеніших систем числення, лексичні, граматичні та синтаксичні особливості цього класу слів. У статті наведено найбільш використовувані у фольклорних творах (зокрема в казках, добре відомих дітям) слова для позначення різних конкретних величин, таких, як дюйм, аршин, копа тощо.

Дидактичний матеріал, наведений у статті, може бути використаний при вивченні числівника у системі університетської підготовки, а також для розвитку пізнавальної діяльності учнів початкової школи на уроках української мови, читання, математики тощо.

Ключові слова: компетентний підхід, числівник, число, конкретна нумерація, підготовка вчителів.



INTRODUCTION

Before the teacher of the New Ukrainian school, a number of questions arise in connection with the need to implement innovative approaches to teaching children. The main task of the contemporary school is to prepare a competent person who is able to find the right solutions to certain educational, life and professional situations. A teacher working in a mountain school has to deal with a number of special problems related to the frequent absence of children at school because of illnesses or the inability to overcome the way to school due to bad weather conditions, or the need to help parents with seasonal agricultural work, and more. In the end, the teacher of the mountain school also has to overcome the problems associated with the culture of speaking, because a certain territorial separation of children from school and reservation in micro society does not particularly facilitate the acquisition of their literary language: the family speaks a dialect.

In the curricula for pupils of 1-4 forms of comprehensive schools, the focus is on studying the course of the Ukrainian language, which the compilers of the program quite rightly consider not only the educational subject, but also the means of mastering other disciplines. The State standard of primary general education emphasizes the need to study the Ukrainian language in several content lines, among which the first are identified speech and language.

Among the system of lexical-grammatical classes of words, which traditional linguistics calls parts of the language, a separate place is for the Numeral.

AIM AND TASKS RESEARCH

Introduction to the Numeral as part of the language is one of the tasks of the initial part of teaching the native language at school.

The State standard of primary general education states that primary school students should know that in each language the objects, signs, actions, numerals are called by specific words; and they should know these words of the language; within the framework of the defined topics of communication, be able to use words and verbal formulas appropriately [3; 8].

The general idea of the words, meaning the number, of the numeral, becomes familiar to the child at the stage of primary learning of the language as a system and gets clearer since the pre-school period of studying elements of grammar. Already from the first days of schooling, small kids are more closely acquainted with the numeral first of all at the lessons of Mathematics.

Since the Numeral as a class of words is studied in primary school, we have attempted to offer a didactic material that will serve the implementation of a competence approach in the process of familiarizing with the Numeral in primary school. To do this, we analyzed one of the textbooks in the Ukrainian language for Grade 4 and found out the state of familiarity with the peculiarities of the use of this part of the language among students - future teachers.

RESEARCH METHODS

In the course of preparation of our article, we turned to the analysis of scientific and educational-methodical literature, questionnaires and pedagogical experiment.

RESEARCH RESULTS

The State standard of primary general education offers a more in-depth acquaintance with the Numerals in the fourth form. Accordingly, it is also reflected in the current textbooks for the 4th form of the comprehensive school. Today we have several created textbooks in the Ukrainian language for the 4th form. We have attempted to analyze the didactic content of only one Ukrainian language textbook for the 4th form in terms of the Numerals.

The textbook for the Ukrainian language for the 4th form for the scientific editorship of the academician NAPS M.S. Vashulenko [2] immediately targets children on the peculiarities of the functioning of the Numerals in modern Ukrainian language. The textbook methodically correctly and carefully selected the content and scope of exercises and tasks, their alternation on the principle of gradual complication. Many creative exercises are available. We appreciate that in the texts for reading, the numerals are not only given in the nominal case. Thus, in Exercise 223 we found the interesting text about whales for schoolchildren of this age, where numerals are used in the nominative, genitive and accusative cases. The compilers also took care of the acquaintance of junior pupils with digits. Thus, in Exercise 224, the task is to create ordinal numerals from quantitative ones. By performing such exercises and tasks, students pay attention to the fact that without knowledge of this class of words, no Mathematics lesson will be enough. Exercise 225 contains the task of writing mathematical expressions like $50 + 45 = 95$ in words. It is noteworthy that the most frequently used mathematics classes in the design of numerals with prepositions *from*, *to*. This contributes to solving the competence problems in the formation of both literate written and oral communication. The textbook attracts attention to the peculiarities of the use of numerals from *fifty* to *eighty* in the indirect cases. However, all the didactic material to the topic «Numeral» is not entirely focused on the development of search skills of schoolchildren.

As we can see, the material on the topic «Numerals» is diverse, which will provide the junior students with versatile acquaintance with this lexical-grammatical class of words of the Ukrainian language, and this will promote the implementation of a competence approach to teaching the Ukrainian language of the fourth-formers.

The analysis of other textbooks on the Ukrainian language for primary school has shown that familiarity with the Numeral in the fourth form is aimed at the use of numerals in the oral and written language of junior pupils. Therefore, it involves quite diverse exercises and tasks that will require from a teacher-in service strong knowledge of this lexical and grammatical class of words and the ability to grammatically correctly construct numerical constructions not only



in the lessons of the Ukrainian language or literary reading, but also in all other lessons, and first of all in the lesson Mathematics. At the same time, all the textbooks contain not so much material that would direct the children to their own quest for curiosity about this part of the language.

For students of the specialty «Primary education» in the course «Modern Ukrainian language at the lessons of practical Mathematics» the study of Numerals is provided by the State standard of education. Traditionally, its processing is reduced to the consideration of the lexical, grammatical features of this class of words, the system of word changes and spelling.

We conducted a survey of students of the first year of the specialty «Primary Education», which aimed to find out the status of acquaintance with this part of the language from the school graduates and find out the ability to correctly use the numeric forms in oral and written speech. 45 people participated in the survey, of which - mostly (80%) students - graduates of the mountain regions of the Ukrainian Carpathians. As shown by the results of the survey, only one fifth of graduates are able to freely use numeric forms in indirect cases. The rest tries to avoid constructions with indirect numerals, creating phrases or sentences so that numerals with nouns have only a nominative meaning. 80% of the respondents allowed spelling and orthoepic mistakes in numerical constructs. Somewhat unexpected was the fact that those questioned in the overwhelming majority (67%) did not always consistently distinguish numerals and other words (nouns, adjectives, verbs, adverbs) with the meaning of the number.

All this has led to the search for new ways of working at the Numeral with future teachers of primary school, since the teacher of primary school with the knowledge of the Numeral to operate firmly and perfectly, not only at the lessons of the Ukrainian language, but also Mathematics and others. In addition, the teacher must remember that primary school students predominate so-called concrete thinking, which creates some difficulties in mastering the Number represented in the language system of numerals. This also is important for schoolchildren studying in mountain schools, where schoolchildren often miss school due to distance and weather conditions, while attempting to independently master the educational material, and sometimes even ordinary homework has a weak effect due to the usual lack of time: children of junior school age are attracted by parents to farm and seasonal agricultural work and household duties.

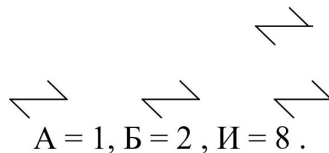
Proceeding from the above mentioned, we offer some additional information about the Numerals and words with the meaning of the number. This material can be used by teachers of both primary and secondary levels of schools during the educational process or extracurricular activities as contributing to the implementation of a competence approach in the process of studying the modern Ukrainian language. While selecting this material, we used the works of Ukrainian scholars of previous years [1; 5].

The Numeral as a part of the language is associated with the concepts of number and figure. A number is a certain quantity. The number is the most important mathematical notion. A figure is an ideogram, a sign by which the number is transmitted in a letter in writing: 2, 159, 17, 0, 25.

At different times, peoples used a variety of numerical systems and chose separate, special labels for it. Thus, in ancient Egypt only the decimal system of numeration was used. Vertical sticks were used to designate numbers from 1 to 9.

In ancient Babylon, they wrote with a sharp stick on soft clay tablets, which were then burned in ovens or in the sun. This material has become the most durable and beautifully preserved for history. The calculation system in Mesopotamia was presented by sixty units. Scientists at one time put forward the hypothesis that arose in connection with the fact that then they believed there were 360 days in the year. It is believed that the number 60 formed the basis of the numerical system of the Babylonians because it had many divisors. For numbers 1-9, ancient Sumerians used vertical risks: 1 - one risk, 2 - two risks, etc., followed by special signs.

In ancient Greece, two systems of calculation were used: attic and ionic. The attic system was used by the Greeks in the 5th century BC. This was a decimal system, which used number 5 as auxiliary. The line, repeating the required number of times, denoted the number from 1 to 4. The symbol Γ marked the number 5, the number 10 - the letter Δ , the letter H - 100 (hectonus), the X - 1000 (chilion). The Ionic number system in Greece was also decimal. Letters were used to denote numbers. Such an alphabetic system of symbols of numbers came with Cyril and Methodius and Christianity into the Slavic world.



From the year 500 BC, the Roman numbers began to be used. They were introduced by the Etruscans, the inhabitants of the Pennine Peninsula. The system of the Romans was a decimal. To record large numbers, repeating symbols were used, and therefore the entries were rather complex. In general, the Romans avoided writing large numbers, since they were particularly prone neither Mathematics, nor were they particularly interested in fractures, and therefore writing of fractional numbers was also used not very often. Today, the use Roman numerals is limited, they were too complicated, so uncomfortable in use.

Modern 1, 2, 3, etc. are Arabic numerals. They arose in India in the 5th century AD and got to us through Arabia hence the name came.



Ancient Maya who inhabited around Central America, placed the number 20 in the basis of the number, while using the symbol zero. According to their system, the number was recorded in the column, with the upper character signifying the higher number. The twenty-unit system was also considered by the ancient Aztecs.

In each language there is a specific class of words with the meaning of the quantity.

In the Ukrainian language, the category of words meaning a number is called the Numerals (*Числівники*). The terms as a separate part of the language have the common lexical and grammatical characteristics that were formed in the process of historical development.

Numerals emerged from the needs of society and developed together with society.

A person had learned to count long before he/she learned to write, therefore, no written evidence of words, which in the old days denoted a number, did not survive. The Nomadic tribes had only the verbal names of numbers, and the need to write the number appeared only when people moved to sedentary lifestyle and began to process the land. The necessity of writing numbers has also generated the development of Mathematics.

The idea of a number, probably, is as ancient as humanity itself, although today it is impossible to trace all early stages of its development. Before a person learned to count or invent words to denote numbers, man had possessed a clear, intuitive notion of a number. This made it possible to distinguish between one and many people, two, and many people.

At first, people knew only numbers *one*, *two*, and *many*. The proof of this may be that in some languages there are three grammatical forms of the number. So, in Greek there is a singular form, dichotomy and plural. The same grammatical forms had a category of numbers and in the Old Slavonic language. The modern Ukrainian language has preserved the remains of the former dichotomy. This is observed, for example, in the combination of numerals *two*, *three*, *four* with nouns. Together with numerals, *two*, *three*, *four* nouns appear in a nominative case of plurality. The nouns, in which singular and plural stress is changed, in combination with numerals, *two*, *three*, *four* are in the form of a nominative case, and the stress is of genitive singular: *two sisters*, *three oaks*, *four sheep* (*дві сестри**, *три дуби*, *чотири вівці*). In indirect cases, they are consistent with the forms of nouns: *two students*, *three tasks* (*двома студентами*, *трьом завданням*). Of course, these examples can't be explained in English but Ukrainian.

Later, people learned to distinguish two and three subjects, three and four subjects. At the very beginning, the number was associated with specific subjects.

When a person appeared to need to read, she did this by comparing objects with others, which she chose as the standard for establishing the identity between the objects and standard objects. The role of such standards performed small objects that were easy to move or have at hand - sticks, pebbles, turtles, and the like. Most often they were part of the body of a person, among parts of the body - fingers. The use of fingers as standard items for the number proved to be the most convenient: they need not be particularly looked for, they were always at hand.

At the initial stage of the development of the number of a certain set of objects there was a concrete representation. The concreteness of the number was that the counting was carried out according to the classes of objects, and for each class of objects there was a separate numerator.

The precision of the Number is explained by the fact that human thinking at the initial stage of development was not yet able to abstract from a particular subject to an abstract number.

The subject matter was the oldest system of accounts. For example, in Sanskrit, and later in ancient Greek, Germanic, and Slavic languages, words were used to indicate the completion of an account. Thus, the Slavs added the word self to the last object being subjected to the account, as the sign that on this object the numeration was completed: *чотири брати, сам п'ятий* (five totally).

The remains of a particular numeration system we can see in the modern Ukrainian language. So, the numeral one, two have form of gender: two oaks, two girls (*два дуби*, *дві дівчини*). The so-called numerical words have been preserved: ten children's souls, ten apples, ten students, ten livestock (*десять душ дітей*, *десять штук яблук*, *десять осіб студентів*, *десять голів худоби*).

The modern system of numeration, called decimal, was the most convenient, so it survived all other systems. At the heart of it lies counting on the fingers, and its origin reaches the Indo-European period.

There is language evidence that the Slavs used other systems for counting. For example, the numeral *forty*, according to scientists, comes from the name of the sack (related to the forty - shirt - *сорока* - *сорочка*), which contained four dozen sable skins and became a measure for substances. Accordingly, the *ninety* - from the name of the bag, which included nine dozen sable skins. In the samples of oral folk art, especially in fairy tales, the remains of the nine-system of counting were preserved. The Ukrainian word-combinations can serve good samples: *тридев'ять земель, у тридев'ятому царстві*.

In the Old Ukrainian language there were words for the definition of various specific quantities. They came to the modern language, in particular, in examples of folklore: *копа* - six dozen; *око* is a measure of the volume of hop beverages, equal to 1-1.5 liters, or a unit of weight equal to 1.2 kg; *гарнець* is a measure of something that can be poured and that is 3.28 liters or a vessel containing 3.28 liters of matter; *лікоть* - an ancient measure of length, which is approximately 0.5 m; *вершок* is a measure of length, about 4.4 cm (according to Fasmer, means the same length as the phalanx of the index finger) [5; 362]; *аршин* is an ancient measure of length borrowed from Turkic languages (15-16 *вершкіе*), or 66-70.4 cm in length *inch* (from the thumb) - a measure of 2.54 cm in length and so on.



The process of abstracting the number from an object in human consciousness was long and lasted for many centuries. With the development of the notion of numbers formed a separate category of words in the language.

In Slavic languages, the formation of the Number falls on the 12th-17th centuries. At the beginning of the 19th century its formation is over. Once the Numerals belonged to the class of names, in the Slavs they were declined as nouns. Numerals of the Ukrainian language were formed on the basis of the former nouns (five to ten, forty, one hundred), adjectives (two, three, four, collective numerals) and pronouns (one). Ukrainian numerals are predominantly of common Slavic origin. Numerals *one*, *two*, *three* are of Pre-Indo European period, *forty*, *ninety* - of East-Slavic origin, *million*, *billion* are borrowed.

The Ukrainian language has a lot of words with the meaning of the quantity, but not all of them belong to the Numerals. Thus, the words *nine*, *five*, *hundred* belong to the nouns; *decimal*, *double* are verbs, *two times*, *tenth* – adverbs, etc. To denote an undifferentiated quantity such nouns as *сила*, *тьма*, *море*, *маса*, *хмара* are used. New numerals in the modern Ukrainian language are not formed.

From a semantic point of view, the Numeral denotes the number that can have three forms of expression: the specified number: *fifty*, *one third*, *seven*; insignificant amount - inaccurate expressed amount. It is transmitted by indeterminate numerical numerals: *кільканадцять*, *стонадцять*, *кількасот*; approximate number: years from fifteen, two or three, more than five years.

From a grammatical point of view, the Numeral is a very peculiar part of the language. Numbers mostly lost the category of the gender and number. Only some numerals today have the forms of the gender *один* (*одна*, *одне*), *два* (*дві*), *мільйон*, *мільярд*, *тисяча*. The form of number today only is preserved by *один* (*одні*), *тисяча*, *мільйон*, *мільярд*. The absence of a category of number in the Numeral is due to its lexical meaning: numerals mean exactly defined numbers, whereas the form of a plural in other parts of the language means «more than one.»

In a very peculiar way the Numerals are also manifested from the syntactic point of view. They duplicate their syntactic functions and act in the sentence as part of the complex substitutions, sentences, secondary members of the sentence: *За одного битоного двох небитих дають. Семеро хитрих одного мудрого не переважають* (from the Ukrainian Folk art).

CONCLUSIONS

Knowledge of the Numeral, the ability to freely operate numerical and noun constructions is not only a system of certain professional competences and expertise of a specialist, but also a vivid testimony of the general human culture of the native speaker. However, as the results of the survey of freshmen students have shown, their basic school knowledge of the Numeral in a large part of the responses is not sufficiently systematic and deep. According to the requirements of the modern school, the study of the Numeral as a part of the language is foreseen in the fourth form. The analysis of the Ukrainian language textbook for the 4th form, edited by M.S. Vashulenko, showed that the didactic material contained therein was systematically selected, but was more aimed at fulfilling somewhat similar tasks.

In our opinion, the material that we offer for the Numeral processing by children will serve to find new ways of working out this part of the language with future teachers, as well as in the process of Ukrainian language lessons and other lessons in primary school. Modern realities of education renewal are encouraging the implementation of new approaches and in the selection of materials for the studying numerals and other parts of the language - both with junior students at school and with university students - future teachers. This experience might be the key to the formation of the New Ukrainian School, which is designed to implement a competence approach to languageteaching/learning.

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