Достижение личностных образовательных результатов учащихся основной школы в условиях комплексной информатизации обучения китайскому языку как иностранному

Проблема и цель. Одной из проблем современной лингводидактики является формирование и оценка личностных образовательных результатов школьников. Процесс изучения иностранного языка, в том числе и китайского, обладает потенциалом для развития соответствующих характеристик личности. Однако, в условиях глобализации и информатизации общества, появляются особые факторы, которые следует учитывать при разработке и внедрении электронных средств учебного назначения.

Цель статьи – исследовать потенциал образовательных электронных ресурсов комплексной информатизации обучения китайскому языку как иностранному для достижения личностных образовательных результатов учащимися основной школы.


Результаты. Принцип комплексности при информатизации обучения заключается в том, что: реализуется преемственность и системность (иероглиф, слово, словосочетание); учитывается идеографический, корнеизолирующий, тонированный, слоговый характер китайского языка; поддерживаются внутрипредметные (человек, дом, школа, город, страна, мир) и межпредметные связи; сопровождается развитие личности (психические процессы, умения общаться и др.) и виды речевой деятельности (говорение, чтение, аудирование, письмо). В экспериментальной группе учащиеся основной школы применяли средство комплексной информатизации на всех этапах изучения китайского языка как иностранного (говорение, аудирование, чтение, письмо, межкультурная коммуникация и коллаборация). Произведена оценка достижений личностных результатов и выявлены статистически достоверные различия в качественных изменениях, произошедших в педагогической системе, χ²наб. > χ²крит0.05 (9,880 > 9,488).

В заключении формулируются виды деятельности, типы интерактивных упражнений в информационной среде, максимально эффективно работающих на достижение личностных образовательных результатов.

Ключевые слова: электронный образовательный ресурс, ценностные отношения, характеристики личности, китайский язык, процесс обучения

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Achieving personal educational results of secondary school students in the conditions of integrated informatization in teaching Chinese as a foreign language

The problem and the aim. One of the problems of modern linguodidactics is forming and evaluating schoolchildren's personal educational results. The process of learning a foreign language, including Chinese, has a potential to develop corresponding personality characteristics. However, in the context of society globalization and informatization there are special factors that should be taken into account when developing and implementing electronic educational tools.

The purpose of the article is to explore the potential of educational electronic resources of integrated informatization in teaching Chinese as a foreign language to achieve personal educational results by secondary school students.

Research methods. Theoretical analysis and integration of literature are used in describing the conditions for effective teaching the Chinese language, the problems of achieving students' personal educational results. 52 students from the Vyatka Gymnasium of Humanities were involved in the experiment. Learning Chinese as a foreign language was supported by an electronic educational resource developed according to the principles of a web quest. Additionally, the following services were used: Coursera, LearnYu, eChineseLearning, etc. The program was designed taking into account the structure of the teaching materials by M. B. Rukodelnikova, O. A. Salazanova, L. S. Kholkina. At the stage of diagnosis, the method of expert assessment of the formed value attitudes was used (N. A. Alekseeva, E. I. Baranova, E. N. Stepanov). Pearson's criterion $\chi^2$ (chi-squared) was used for statistical data processing.

Results. The principle of the complexity of the means of informatization is that: continuity and consistency (hieroglyph, word, phrase) is realized; the ideographic, root-isolating, tinted, syllabic character of the Chinese language is taken into account; intra-subject (person, house, school, city, country, world) and intersubjective connections are supported; personality development (mental processes, communication skills, etc.) and types of speech activity (speaking, reading, listening, writing) are accompanied.

Secondary school students of the experimental group used a means of integrated informatization at all stages of teaching Chinese as a foreign language (speaking, listening, reading, writing, intercultural communication and collaboration). The assessment of achieving personal results was made and statistically significant differences in the qualitative changes in the pedagogical system were revealed, $\chi^2_{\text{observ}} > \chi^2_{\text{critic0.05}} (9,880 > 9,488)$.

In conclusion formulates the types of activities, types of interactive exercises in the information environment that work most effectively to achieve personal educational results.

Keywords: electronic educational resource, value attitudes, personality characteristics, the Chinese language, teaching process

For Reference:
Introduction

The relevance of the study is determined by the following factors:

1. UNESCO has an important role to play in establishing an international framework concerning policy and practice on key issues in education. One of these issues is the choice of the language of instruction [1]. In the context of the sanctions policy of western states towards our country and Russia's response strategy, relations with China are being improved and expanded. As a result, there is an increasing interest in teaching Chinese as a foreign language in the Russian education system.

2. The current Federal State Educational Standard (FSES), which represents a set of provisions mandatory for implementing the principal educational program, establishes requirements for the results of its mastering: personal, meta-subject and subject ones. The study and analysis of the results of educational activities allow us to obtain important information about the quality of school-leavers’ training. However, the assessment of the achieved personal results is particularly difficult. E. A. Belyaeva notes: "... the most important results of education are not passing the Unified State Exam and State Final Examination, but metasubject and personal results formulated in the new standards" [2].

   The key importance in achieving personal results, which is confirmed by the provisions of the Federal State Educational Standard, is given to the study of a foreign language [3]. It is one of the subjects of the philological cycle, contributing to the formation of communicative culture, speech development, broadening horizons and personal education. Learning a foreign language, as noted by O. A. Obdalova and O. V. Odegova, helps students to get an idea of the world as a multilingual and multicultural community; to become aware of the language as the main means of communication between people [4].

3. In addition, there is an increase of public interest in learning Chinese. This interest is due to the intensive economic, cultural and tourist relations. For many modern schoolchildren, learning Chinese is preparing for choosing a specialty in demand, self-realization in the professional sphere [5].

4. The process of teaching Chinese as a foreign language, as proved by T. L. Guruleva, contains didactic opportunities for: forming communicative competence; developing feelings of national self-awareness and patriotism; forming the foundations of tolerance and multiculturalism of a holistic worldview; learning social norms, rules of conduct taking into account regional, ethno-cultural, economic specificity; preparing students for self-development and self-education, forming a respectful attitude to work; developing moral feelings, conscious and responsible attitude to their actions; understanding the value of a healthy and safe lifestyle; norms and rules of family life; developing aesthetic consciousness; forming the foundations of environmentally sound behavior [6]. All these qualities form the basis of personal educational results.

5. At the same time, according to O. A. Maslovets, studying Chinese as a foreign language has its own peculiarities (reliance on visualization, spelling order, structure, semantic and phonetic aspect of hieroglyphs) [7]. These features create certain difficulties for the methods of teaching.

   In the conditions of society informatization new resources are emerging that can improve the quality of teaching Chinese as a foreign language. For example, N. N. Serostanova, E. I. Choporova convince that foreign language learning environment
most effectively implements possibilities outlined above with the support of multimedia resources [8]. Y. M. Shemchuk, M. D. Guseva summarize the practical experience and conclude that the Chinese Internet services for educational purposes are not developed [9]. The choice of a multimedia software package remains with the language teacher.

Thus, the modern environment for teaching Chinese as a foreign language should:

• be oriented to the new didactic realities, i.e. education turns into a mechanism for personal development;
• provide opportunities for choice, adaptation to specific conditions;
• be instrumental, i.e. it focuses on the planned result, on tracking the dynamics of its achievement;
• support the interconnected communicative and socio-cultural development of schoolchildren;
• encourage teachers to be creative; use information technologies (multimedia, electronic resources, software) at all stages of training.

The last factor is particularly important. Practice proves that the study of hieroglyphics only from paper sources seems uninteresting to students. All these possibilities determine the impact of learning Chinese as a foreign language on the development of personal educational results. At the same time, there are methodological difficulties caused by the problems of choice: which electronic resources to use in the classroom; which means of informatization to offer students for independent work and self-development.

Thus, there is a need for additional research of the conditions for effective teaching Chinese as a foreign language within the framework of globalization and informatization of the society, which takes into account the educational requirements for the quality of personal results of school leavers.

The hypothesis of the study is that the system of integrated informatization of teaching Chinese as a foreign language will provide additional conditions for the formation and evaluation of personal educational results of schoolchildren.

The purpose of the study is to research the potential of electronic resources of integrated informatization of teaching Chinese as a foreign language to achieve personal educational results by secondary school students.

Materials and methods

The following methods were used in the work: theoretical analysis and generalization of literature in describing the conditions for effective teaching Chinese as a foreign language, identifying problems of forming and evaluating personal educational results by secondary school students.

Learning Chinese as a foreign language was supported by an electronic resource designed according to the principles of a web quest. Web quest, as an organizational form of educational and cognitive activity of schoolchildren, makes it profitable to use various means of informatization to provide new theoretical material, intercultural communication, development of responsibility, conscientiousness, tolerance and patriotism. Independent laboratory work, mini-research and creative projects, demonstration, work with traditional teaching materials, audio recordings and handwriting worksheets are used at various stages of information interaction.
To obtain up-to-date information about the level of formed personal educational results of secondary school students, empirical methods were used: monitoring the communication of all participants in interaction; analysis of answers, results of work with the means of complex informatization (virtual texts, the number and quality of handwriting worksheets, hieroglyphs); evaluation of the quantity to find the right solution; time to study theoretical material in publications; assessment of the volume and compliance of the hieroglyphs used for visualization, etc.

The development and implementation of educational electronic resources for the integrated informatization of teaching Chinese as a foreign language to secondary school students (selection of content, pictures, creation of resources) were carried out on the basis of the Vyatka Gymnasium of Humanities. A total of 52 students from the fifth and ninth grades took part in the experiment.

When teaching Chinese, the following services were chosen as methodological support: Coursera, LearnYu, eChineseLearning, Lingust, StudyChinese, Chinese Boost, Stepik, ShiBuShi, Memrise, Yoyo Chinese, Language Heroes, ShinesePod. Teaching materials by M. B. Rukodelnikova, O. A. Salazanova, L. S. Kholkina for 5-9 grades were used as a methodological support.

To diagnose the achievement of personal educational results, the method of expert assessment of the formed value attitudes among fifth- and ninth-grade schoolchildren, developed by N. A. Alekseeva, E. I. Baranova, E. N. Stepanov was used [10]. Teachers working with the group acted as experts in the forming students' value attitudes. Mentors got acquainted with the assessment card. The card was compiled in accordance with the requirements of the standard of general secondary education for the personal results of students. The card included the following attitudes: to cognition; to transformative activity and manifesting creativity in it; to the social and natural environment (based on the norms of law and morality); to Fatherland; to the beautiful; to oneself, to the personal way of life, to the personal development.

Teachers were given an expert assessment form before work. A variant of its filling is a consistent assessment of the formed value attitudes among all students: first the first relation, then the second, etc. After the expert's assessment, the sum of points in each row and each column was calculated. Then the coefficient of formation of a particular attitude among the students of the grade was determined. It is a quotient of dividing the sum of points in a column by the number of grades in it. As a rule, it should correspond to the number of students in the class. A comparative analysis of the coefficients obtained this way suggests which of the six value attitudes are more developed, and which are less. The average score of the assessment of the whole set of value attitudes is considered as an indicator of the effectiveness of teaching activity to the results of students’ personal development.

The average age of respondents was 14 years (78% of girls and 22% of boys). The number and composition of the sample is justified by the specificity of the study. Statistical processing of the results was performed using the Pearson $\chi^2$ (chi-squared) criterion.

**Literature review**

The analysis of the literature was carried out in the following directions:

1) identifying psychological and pedagogical conditions for effective teaching Chinese as a foreign language;
2) didactic possibilities for using electronic resources to achieve personal educational results by secondary school students;

3) the existing experience of using informatization tools in teaching Chinese.

Summarizing the content of the provisions of the current Federal State Educational Standard, T. L. Guruleva concludes that educational results: are the normative basis of the didactic process; serve as a guideline for the development of curricula, teaching materials, the content of the school subject; determine the directions of final certification [6]. It is the focus on achieving educational results that supports teachers when choosing didactic resources (textbooks, information technologies, software, etc.), but not vice versa [11].

Within the framework of the first direction, it was determined that, on the one hand, the methodology of teaching Chinese as a foreign language is an integral system. It includes learning theories, basic principles of linguodidactics. On the other hand, as R. Calafato notes, it is a set of various skills and abilities which help to implement these theories and principles in practice [12].

In international linguodidactics, for example, in the USA, comprehensive studies are emerging that reveal the didactic potential and problems of learning Chinese as a second foreign language. S. Zhang notes that new didactic tools are needed to take into account all the specifics of the Chinese language [13].

E. I. Passov argues that the traditional method of teaching Chinese as a foreign language is reduced to the formation of language competence. This makes it possible to provide schoolleavers with a high level of linguistic training [14]. However, in the new pedagogical conditions, as M. U. Nadeem, R. Mohammed, S. Dalib justify, the priority is given to forming the ability and readiness for communicative and speech activity [15].

Dialogical speech training, according to E. V. Tikhonova, A. S. Potapova, A. V. Kryder [16], should be carried out in compliance with all the principles of communicative learning. At the reproductive stage, students can be asked to reproduce a sample dialogue, complete exercises that prepare for the independent construction of dialogical communication. At the productive stage of forming dialogical speech skills, personality-oriented technologies should be used: they should be offered to solve communicative tasks within educational and speech situations.

As part of the second direction of the literature analysis on the research problem, we note that in the conditions of a dynamically developing information society, the need to establish intercultural interaction with representatives of other countries is increasing [4]. In this context, A. L. Zhuravlev, T.A. Nestik indicate that school leavers are to master not only communication skills, but also various technical means, information resources [17].

O. A. Maslovets determines that electronic resources should be integrated into the traditional process of learning Chinese [7]. For example, according to E. V. Tikhonova, A.S. Potapova, A. V. Kryder, the means of informatization will contribute to active foreign language communication, intensification, individualization and differentiation in learning [16]. The task of the teacher is to integrate them optimally with traditional UMC, to support communication between all users of the resource [18].

A. A. Margolis et al., believe that the use of game mechanics in teaching Chinese will create additional conditions for the development of social activity, responsibility, planning [19]. E. V. Soboleva et al. consider the possibilities of modern digital technologies for the formation of ecological thinking and lean manufacturing skills [20]. N. A. Bushmeleva et al. describe the types of tasks, directions of applying informatization tools to support transformative activity and creativity [21].
S. S. Kuklina studies in her work the problems of creating a system of interactive exercises from the standpoint of system-structural, personality-oriented activity and communicative-cognitive approaches. Such a system is used in teaching listening as a means of oral foreign language communication and for achieving students’ personal educational results [22]. So, the majority of domestic and foreign researchers are unanimous in their opinion regarding the potential of modern means of informatization for the formation of personal educational results of school leavers.

However, there are a number of objective factors that should be taken into account when including electronic resources in teaching Chinese as a foreign language. The third direction of analytical work with literature was devoted to identifying these factors. Yu. A. Azarenko defines the real need for education as the use of modern technical and software tools for visualizing educational information when learning Chinese as a foreign language [23].

T. E. Mashanlo notes that mastering hieroglyphs is a very subtle and complex process of analytical and synthetic activity that requires conscious perception, memorizing and thinking. Studying writing, hieroglyphic writing with the help of information and communication technologies is one of the most difficult components of teaching Chinese [24]. According to R. Calafato, learning Chinese as a foreign language with the support of e-learning courses should contribute to the formation of the main components of foreign language communicative competence [12]. In training, it is necessary to apply a variety of activity forms.

T. L. Guruleva in her research concludes that a teacher is required to strive, creatively focus on organizing, supporting an informational educational atmosphere that encourages schoolchildren to acquire new hieroglyphic knowledge in the electronic resource environment [6]. Yu. A. Azarenko also comes to the conclusion that the content of many exercises, tasks, reading texts, and illustrative material does not fully satisfy the principles of tolerance and multiculturalism, the development of social norms, rules of behavior, etc. [23].

Thus, the combination of traditional and innovative methods with the support of information technology is an appropriate and necessary condition for improving the quality of teaching Chinese as a foreign language. However, existing educational electronic resources do not always contain tasks that purposefully work on the development of self-awareness, sense of patriotism and citizenship, curiosity, tolerance, multilingualism, multiculturalism.

Thus, there is an objective need to design a system of integrated informatization of teaching Chinese as a foreign language, focused on providing additional conditions for the formation of personal educational results of students.

Research program

The evaluation of the effectiveness of educational electronic resources for teaching Chinese as a foreign language to secondary school students was carried out during a pedagogical experiment. 52 students of the Vyatka Humanities Gymnasium were involved. The average age of respondents was 14 years (78% of girls and 22% of young people).

At the preparatory stage, the requirements of the current standard of secondary general education were analyzed. It was revealed that the personal results are formulated "as reflecting the willingness of students to be guided by values in terms of: civic and patriotic education, spiritual and moral education, aesthetic education, physical education, the
formation of a healthy lifestyle culture, labor education, environmental education, the values of scientific knowledge" [3]. The formation of these value attitudes will be evaluated during diagnosis.

The methods of assessing personal educational results were analyzed: the methodology of "Citizenship" (adaptation of J. Vinnie's methodology), the methodology of "Self-analysis (analysis) of the personality" (prepared by O. I. Motkov, modified by T. A. Mironova); the methodology for identifying students' communicative inclinations (compiled by R. V. Ovcharova); the methodology of "Target of Creativity" (developed by M. A. Alexandrova and E. N. Stepanov); methods for determining the health culture of schoolchildren (developed by N. S. Garkusha); M. R. Ginzburg's methodology "Study of educational motivation"; Dembo-Rubinstein's method of self-assessment and the level of claims, the method of expert assessment of the formed value attitudes (developed by N. A. Alekseeva, E. I. Baranova, E. N. Stepanov). It was the latter that was chosen as the main one for conducting a pedagogical experiment. Reasons for the choice: the structure of the questionnaire, tasks taking into account the provisions of the standard and psychological, age-related characteristics of students of the basic school.

Teachers were trained to fill in the assessment card and work with the expert's form. In the form, opposite the last name of each student, in the column with the name of a particular attitude, the mentor should fit an expert assessment in points, meaning the following:

- "6" - the formed attitude corresponds to the third level;
- "4" - the formed attitude corresponds to the second level;
- "2" - the formed attitude corresponds to the first level.

It is possible to use grades "3" and "5" if the teacher believes that the development of a value attitude should be characterized as intermediate (borderline) between the first and second (a grade of "3" is given) or the second and third levels (a grade of "5" is given).

Thus, it was possible to collect data on 52 secondary school students studying Chinese as a foreign language. Experimental and control groups were formed (26 students in each).

The second stage of the study was devoted to clarifying the principles and directions of mentor support for educational, cognitive, communicative, socio-cultural activities of schoolchildren with an educational electronic resource.

The third stage of the study covered the experimental teaching and applying an integrated informatization system in teaching Chinese as a foreign language.

Research results

Under the information educational environment, we will understand a multidimensional holistic socio-psychological reality that provides a set of necessary psychological and pedagogical conditions, modern technologies, software and methodological teaching tools that provide the necessary support for the cognitive activity of the student and access to electronic educational resources.

The electronic educational resource (EER) in the presented study acts as an innovative means of teaching Chinese as a foreign language. EER is focused on performing the following didactic functions: a) implementing new types of educational activities and using traditional types of educational activities at a higher quality level, b) ensuring the possibility of changing the nature of interaction between participants in the educational process, c) individualizing the educational process, d) expanding educational content.
The study developed a system of integrated informatization of teaching Chinese as a foreign language, aimed at achieving students’ personal educational results. It is based on an EER designed according to the principles of a webquest. Webquest, as an organizational form of students’ educational and cognitive activity, makes it profitable to use various means of informatization to provide new theoretical material, intercultural communication, development of responsibility, conscientiousness, tolerance and patriotism. The technology combines the ideas of problem-based and game-based learning. Let’s consider the potential of the developed EER for achieving personal educational results by secondary school students.

So, the participants of the experimental group received new theoretical material, tasks, exercises, project topics for research in the process of working with an EER designed according to the principles of a webquest. The main character of the webquest is a boy Long, who comes to visit relatives in Guansu province. He finds a diary book with a message from his grandfather. Each page of the diary contains the history of the place that his ancestor once visited. The students of the experimental group are invited, together with the main character, to learn the Secret of the diary, to travel to the Truth in the footsteps of Grandpa Long. In total, there are eight chapters in the diary (the number is also an iconic symbol for the culture of the country). In one of the chapters, for example, there is a route for Long through the traditional regions of China: East China, North China, Northeast China, Northwest China, South Central China, South West China.

In each region, students of the experimental group and Long are invited to get acquainted with culture, traditions and customs, with great scientists, musicians and athletes. The main idea of the web quest is that some pages of Grandpa Long’s diary are "damaged" by time. The knowledge of the Truth is complicated by such interactive elements: some of the letters are erased, there are not enough lines, the pages are stained with ink. In order to recover information and learn the Truth, students of the experimental group must complete tasks. To do this, they go on a trip around China. The large list of cities includes Chongqing, Shanghai, Beijing, Tianjin, etc. Let’s consider some cognition trajectories based on the structure of the web quest.

The journey in the web quest begins with Central China. It includes the provinces of Anhui, Guizhou, Sichuan, Fujian, Hubei, Hunan, Jiangxi, Jiangsu, Zhejiang, Yunnan, the cities of central subordination of Chongqing and Shanghai.

The students of the experimental group face the first difficulty when describing a city the name of which was accidentally erased. After studying its history, they must unravel the name of the city. From Grandpa’s note, schoolchildren and Long learn that in 2009 the world’s longest arch bridge was opened here. In ancient times, it was the capital of the Ba Kingdom and was called Jianzhou.

The most vivid memory for grandfather was a trip to Beijing. The traveler did not miss the opportunity and went to the capital during one of the most significant events – the year of the 2008 Olympics. However, there are a lot of illegible words in the grandfather’s story. Long again appeals for help to the students from the experimental group: "For the Olympics in Beijing, the stadium became the main sports facilities "____ ____", and the national swimming center "Water Cube". Some competitions were held in Hong Kong, Tianjin, Qingdao, Qinhuangdao, ____ and Shenyang. The mascot of the games is Children _____. As the host country, China won ______ gold, 22 silver and 30 bronze medals, a total of 100 medals."
Grandpa Long's next big trip was a trip to the reserves: Zhangjiajie, Mount Huashan, Badaling, etc. The story about each of them contains information about the location of the reserve, its unique plants and animals. When reading the story about the Jiuhuashan Center of Chinese Buddhism, Long finds a new assignment from his grandfather. For example, in the story about the temple contains the following task: "Long, in front of you there are details of a postcard depicting the Jiuhuashan landmark described in the story. Assemble the puzzles into a single picture. You will come one step closer to unraveling the Truth." This is an option for aesthetic and spiritual and moral education of students of the experimental group.

When describing his fellow travelers, other travelers, Grandpa Long used various phraseological units, outdated words. And the students of the experimental group were offered, for example, the following tasks: "Listen to sentences containing synonyms / homonyms, determine their meanings." These types of interactive exercises are aimed at mastering listening.

Let's describe an example of a task to support labor education and awareness of the value of scientific knowledge. In the stories about the famous discoveries of China, grandfather describes the stages of Cai Lun's technology for paper production. Long needs to arrange the processes and stages of production properly. This is important in order to pass on the traditional technology to the descendants.

After a virtual trip to China, Long comes to the main gift from his grandfather - the Truth. The Truth is a message consisting of encrypted words received when completing tasks on the diary page.

The web quest contains visual learning tools, flash cards, handwriting worksheets, sound support, work with traditional UMK. In particular, Long's grandfather attaches audio and video files from his travels around China to the diary. They are presented as videos about cities, podcasts. There are also encrypted phrases in some media files. For example, a reversed audio track, which can be understood only when the sound is "reversed".

The level of formed personality characteristics was assessed according to the following principles. For a value-based attitude to cognitive activity:

1. The "first" level is determined if: the student does not show a constant and steady interest to knowledge; it is not valuable. In the classroom, he is mostly passive. There may be manifestations of a sharp rejection of the educational process. Extracurricular activities of a cognitive nature are limited to homework

2. The "second" level is determined if: the cognitive interest of the student is mainly limited by the framework of the educational program. The student shows interest to certain academic subjects. Knowledge does not belong to the most significant values of the individual. With the support of a teacher, he demonstrates good learning abilities, avoids tasks related to the need for an independent additional search for educational information, participates in extracurricular activities as a spectator or a performer.

3. The "third" level is determined if: the student shows a high degree of interest to knowledge. In the process of acquiring knowledge, he is active and organized. The priority role is played by internal motives, but not external requirements. Participates in intellectual competitions not only on the teacher’s insistence, but also on his own initiative.

For a value-based attitude to creativity and transformation:

1. The "first" level is determined if: the student is passive, tries to avoid participation in transformative activities, participates in it only at the request of others. He is indifferent to the events taking place in the classroom, school, country, world.
2. The "second" level is determined if: the student takes the position of an initiative performer, has a little organizational experience related to planning and organizing a joint business in a small group. He needs external control in the process of transformational activity, may respond to a request to participate in socially significant actions.

3. The "third" level is determined if: the student in most cases is an organizer or an active, responsible performer in socially significant actions, strives to be creative. The priority role is played by internal motives, not external requirements. Emotional responsiveness is characteristic.

For the attitude to the social and natural environment:

1. The "first" level is determined if: the student's ideas about the principles and norms of morality are violated. In public activities, he maintains a detached position, avoids communication and interaction, demonstrates independence from the opinions of others, does not seek to establish constructive relationships, shows a fragmentary interest in nature, does not think about the need to preserve it.

2. The "second" level is determined if: the student realizes and accepts the values of the state, team, family, personality and individuality of another person, understands the need to observe the norms of morality and law in life, shows interest in public life. Sometimes he has difficulties in establishing contacts and cooperation relationships, understands the need for a careful attitude to nature, but does not show his own activity in environmental actions.

3. The "third" level is determined if: the student respects and accepts the values of the state and society, the group, another person. He is guided in life by moral norms and laws, takes a socially active position, has a high level of motivation for communication and cooperation, shows emotional and active responsiveness to social problems, appreciates the beauty of nature and strives to make efforts to preserve it.

For "attitude to the Motherland":

1. The "first" level is determined if: the student's image of the Motherland, values and ideals are blurred. The desire to comprehend the past and present of the Motherland, civic position and responsibility are weak or absent. He is indifferent to socially useful activities.

2. The "second" level is determined if the student tries to master the meaning and image of the Motherland, basic national values, his place and role in the life of society. Interest in the events of the past and present of his homeland is situational, selectively expresses his opinion in relation to them, does not always show a civic position and responsibility, usually takes part in socially useful affairs, but often for reasons that are beneficial to himself.

3. The "third" level is determined if: the student fully understands the meaning of the concept of "Motherland", his place and role in the life of society, strives to comprehend the past and present of his Motherland, reasonably expresses his point of view on this matter. The ideals are basic national values, outstanding figures of the Motherland, human virtues. He is proud of his success and lives through failures in the development of his country, voluntarily and unselfishly participates in activities for the benefit of the Motherland.

For the attitude to the beautiful:

1. The "first" level is determined if: the student has no idea of aesthetic values and ideals. The desire to preserve and create beauty is weakly manifested. The appearance does not correspond to generally accepted norms, often violates the rules of behavior.

2. The "second" level is determined if: the student is able to see the beauty in the surrounding world and people's behavior. Striving for the beautiful is situational, there is no sustained interest in art and artistic activity. Aesthetics of appearance and behavior sometimes require control from the outside.
3. The "third" level is determined if: the student has a deep and distinct idea of culture and aesthetics, follows their norms, understands the ideals of national and world culture. He cares about his appearance and the beauty of the surrounding reality, vividly and figuratively expresses his attitude to the beautiful and ugly.

*For the attitude to oneself, personal lifestyle, personal development:*

1. The "first" level is determined if: the student has insufficient ideas about his individual and personal characteristics, has difficulty expressing himself, does not want to think about his future and prospects of life. He is undemanding to himself, indifferent to his own development, has vague ideas about the need to lead a healthy lifestyle.

2. The "second" level is determined if: the student is not fully aware of his personal characteristics and abilities. He often feels insecure about himself, his abilities, shows interest in self-knowledge and self-development, thinks about the need to preserve health, but does not always follow the principles of a healthy lifestyle.

3. The "third" level is determined if: the student is aware of his personal characteristics, his "self". He has a high level of motivation to know himself and his abilities, strives for self-improvement, makes high demands on himself, adheres to the principles of a healthy lifestyle.

The levels "borderline I→II" and "borderline II→III" are determined if the values for each criterion fall into the intermediate zone.

The students in the control group studied topics according to the work program of the discipline in the traditional way through a cycle of classes on the selected materials by M. B. Rukodelnikova, O. A. Salazanova, L. S. Khokhina. Informatization of learning was implemented using resources Coursera, LearnYu, eChineseLearning, Lingust, StudyChinese, Chinese Boost, Stepik, etc. In the classroom, the teacher used test tasks, multimedia presentations, cloud services, etc.

After applying the system of integrated informatization of teaching Chinese as a foreign language, aimed at achieving personal educational results of secondary school students, another measurement was carried out according to the methodology indicated earlier. Information about the evaluation results before and after the experiment is presented in Table 1.

<table>
<thead>
<tr>
<th>Level</th>
<th>Groups</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental (26 schoolchildren)</td>
<td>Control (26 schoolchildren)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Before the experiment</td>
<td>After the experiment</td>
<td>Before the experiment</td>
</tr>
<tr>
<td>First</td>
<td>6</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Borderline I→II</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Second</td>
<td>14</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Borderline II→III</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Third</td>
<td>3</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>

The following hypotheses were accepted: H0: the level of formed value attitudes of students in the experimental group is statistically equal to the level of students in the control group; H1: the level in the experimental group is higher than the level of the control group. In an online resource [http://medstatistic.ru/calculators/calchit.html](http://medstatistic.ru/calculators/calchit.html) the values of the criterion
before ($\chi^2_{\text{observ.1}}$) and after ($\chi^2_{\text{observ.2}}$) the experiment were calculated. For $\alpha = 0.05$ according to the distribution tables, the $\chi^2_{\text{crit}}$ is 9.488. Thus, we get: $\chi^2_{\text{observ.1}} < \chi^2_{\text{crit}}$ (0.667 < 9.488), and $\chi^2_{\text{observ.2}} > \chi^2_{\text{crit}}$ (9.880 > 9.488). Consequently, the shift towards an increase in the level of formed value attitudes of secondary school students can be considered non-accidental.

**Discussion**

Performing a quantitative analysis of the data obtained, it can be concluded that after completing the experiment, 35% of schoolchildren in the experimental group had a "high" level of formed personal educational results (9 students out of 26). While initially this percentage equaled to 12% (3 students out of 26). The number of students with the "first" level has significantly decreased from 23% to 4%. For the control group, the following was recorded: there is no dynamics at levels "first", "second", "borderline II→III"; After the experiment, 19% (5 out of 26 schoolchildren) had the "third" level (with initial 6 out of 26 respondents); the indicator for the level of formed "borderline I→II" changed from 4% to 8%.

In the environment of the developed web quest, personal educational results are formed as follows:
1. studying the materials of the web quest about the Olympic Games, records and athletes contributes to immersion in the history of the country and sports, the formation of a positive attitude to a healthy lifestyle;
2. manipulating images, audio and video materials from the sphere of art; acquaintance with biographies of scientific figures contributes to aesthetic and spiritual and moral education;
3. when studying new theory, pronunciation and spelling of complex hieroglyphs, students show perseverance, determination, diligence, etc.;
4. patriotic education is supported by interactive web quest tasks, during which students work with information on the history, traditions, customs of China;
5. virtual travel through nature reserves, national parks contributes to the formation of ecological culture. Computer simulations orient students to preserve the natural resources of the planet;
6. the problematic approach to learning Chinese in the web quest environment is aimed at developing a value attitude to scientific knowledge, creativity and transformative activity (working with puzzles, studying paper production technology, etc.).

The following directions were proposed as options for improving the proposed EER by the participants of the pedagogical experiment: to include more tasks for working with hieroglyphics; to add to memory cards a tool for listening to new words; to connect a database to save answers. Let's explain the latter. For example, when performing an exercise, a student wrote an answer in a pre-allocated text window. At the next stage of the web quest, the system may suggest using this answer (a hieroglyph, an erm) to gain new knowledge. The results obtained expand and complement the conclusions of T. L. Guruleva [6] on the potential of new information educational tools for teaching Chinese as a foreign language. In addition, it was possible to confirm the position of Yu. A. Azarenko regarding the influence of learning Chinese as a foreign language on the development of personal educational results [23].
Conclusion

Thus, the following conditions were determined for the effective study of Chinese as a foreign language:

1. The study of pronunciation rules and the production of sounds should be preceded by an introductory phonetic course. During the entire period of interaction in the web quest environment, auditory-pronouncing skills should be systematically trained. They should be implemented in various interactive situations.

2. After setting a new sound, it is advisable to use the tools of the web quest to carry out the primary consolidation of the skill in syllabic exercises. At the initial stage of training, the key attention is paid to the phonetic mastering of Chinese lexical units, working with transcription systems of Chinese hieroglyphs. The practice of constant phonetic training exercises is effective. For example, aimed at practicing articulation – learning Russian and Chinese tongue twisters. This will also serve as a psychological relief at the lesson.

3. At the stage of mastering writing of the Chinese language, it is necessary to use visual means (images, diagrams, puzzles, etc.).

4. One of the most important components of correct translation in the Chinese language, and, consequently, correct understanding of the text, is knowledge of grammar. Special attention in the web quest environment should be paid to spelling of hieroglyphs, study of graphemes.

5. Cognitive-communicative nature of interaction in the web quest environment. The priority should be given to exercises and tasks of a cognitive nature, the study of linguistic phenomena, information.

6. Tasks of the following types are designed to initiate students' speech activity in the web quest: answer problematic questions; formulate and argue an opinion; solve a problematic situation; retell with modification; participate in group discussions; propose the development of an idea, situation (make up, change the end the story, give a similar example), etc.

7. Teaching dialogic speech in a web quest environment should be carried out in compliance with all the principles of communicative learning. At the reproductive stage, students can be asked to reproduce a sample dialogue, do exercises that prepare for the independent construction of dialogic communication. At the productive stage of forming dialogue speech skills, personality-oriented technologies should be used: they should be offered to solve communicative tasks within the framework of educational and speech situations.

An important result of the study is the definition of exercises groups for EER that work as efficiently as possible to achieve the required personal characteristics:

Group 1. Exercises forming skills (conditional speech exercises). According to the method of doing, they are divided into:

a) imitative, for example, "Confirm if this is the case";

b) substituitional. There is a substitution of lexical units in the structure of this grammatical form, for example: "Object if it's not";

c) transformational. They are expressed in changing the order of words, the person and tense of the verb, etc., for example: "If you agree, confirm, but say otherwise";

d) reproductive. Assume playback, for example, "Guess!".
Group 2. Exercises for the development of skills (speech exercises): to retell what you have heard or read; to express your own attitude to a fact, an event.

The study revealed that the process of teaching Chinese as a foreign language in the context of integrated informatization of education involves:

a) the allocation of goals determined by the level of society development, the requirements of the Federal State Educational Standard and the needs of the schoolchildren personality in mastering foreign language communicative competence;

b) the principles of training that ensure achieving the goal: multicultural interaction, balanced development of types of speech activity, creative independence;

c) the content and methodology of teaching Chinese as a foreign language in new psychological and pedagogical conditions;

d) organizational forms of training ensuring the achievement of the goal;

e) diagnostic apparatus for assessing the levels of the result formation.

So, the system of complex informatization of teaching Chinese as a foreign language should focus on implementing system-activity, personality-oriented, communicative-cognitive, socio-cultural approaches.

The principle of the complexity of the means of informatization is that: continuity and consistency (hieroglyph, word, phrase) is realized; the ideographic, root-isolating, tinted, syllabic character of the Chinese language is taken into account; intra-subject (person, house, school, city, country, world) and intersubjective connections are supported; personality development (mental processes, communication skills, etc.) and types of speech activity (speaking, reading, listening, writing) are accompanied.

As an important methodological recommendation, we note the need to take into account the specifics of teaching Chinese, the importance of using various types of information (audio and video information for listening and speaking; graphic, numerical and textual for reading and writing). The pedagogical experiment proved that the most significant progress in forming personal educational results is achieved through the use of multimedia content, interactive elements, convenient navigation and channels of operational interaction.

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