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Innovative Aspects of Reforming Higher Education in the New Uzbekistan

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Annotation. The article notes that in the new Uzbekistan, ensuring the effective use of the intellectual and scientific potential of non-state universities is one of the priority, pressing problems in the process of training highly qualified personnel. In the conditions of the new Uzbekistan, large-scale reforms are being carried out in the system of non-state higher education. All this is aimed at solving the strategic task of educating and training competitive personnel, which is closely related to providing ample opportunities for young people to set ambitious goals and achieve them in their lives.

Key words: non-state university, personnel, new Uzbekistan, science, resource center, student, economics.

1 Introduction

In the context of the new phase of societal development and the deepening of reform processes, the role and significance of qualified personnel are becoming increasingly important. Bachelors and Masters with high qualifications are becoming the main support and potential organizers of small businesses, newly established small industrial zones, including joint ventures, the banking system, and the agricultural and social sectors. The preparation of modern, competitive personnel is closely connected with the process of ensuring sustainable development, defense capability, information security, the production of high-quality goods that meet the requirements of the global market, the further development of foreign economic relations, and the enhancement of the country's prestige on the world stage. One of the important tasks of universities is to provide educational institutions – preschools, secondary schools, academic lyceums, professional colleges, and technical schools – with highly qualified teachers, educators, and psychologists. In the context of higher education reform, the country's leadership has paid special attention to the creation of new medical universities, branches of the Tashkent Medical Academy in the regions, and the establishment of joint medical faculties with renowned foreign universities. Therefore, this social and socio-economic issue, which concerns a multimillion-strong youth audience as a potential social link from various layers of society, raises the task of ensuring equal opportunities for them to enter universities in their chosen specialties. Continuing the course of comprehensive support for youth participation in reform processes, the year 2024 has been declared the «Year of Youth and Business Support» in Uzbekistan. The name of the year once again underscores the role of higher education in the strategic development of the new Uzbekistan. It is also necessary to note that state support is an important factor in the further development of the higher education system in the country. In the conditions of the new Uzbekistan, large-scale reforms have been carried out in the education system. Considering that applicants are prepared in schools for university entrance, new teaching methods have been introduced in schools in the new Uzbekistan, taking into account advanced pedagogical technologies from developed countries. In particular, Finland's pedagogical experience is being integrated into schools. All of this is aimed at solving the strategic task of educating and preparing highly qualified personnel, which is closely linked to providing young people with broad opportunities to set ambitious goals and achieve them in their lives.

It should be emphasized that the preparation of talented youth for university admission is connected with the following factors: Firstly, this process urgently necessitates the improvement of educational and career guidance work among graduates of secondary schools, academic lyceums, professional colleges, and technical schools. Comprehensive work is required with the participation of representatives from government and youth

organizations, industrial enterprises, and farming enterprises. Secondly, the systematic work of each university's admissions committee with its future students is crucial. This includes holding regular meetings, utilizing the opportunities provided by mass media, and producing informational materials containing details about the specialties offered at the university. Thirdly, regular work with university alumni is of great importance, as they provide reliable information to secondary school students, graduates of academic lyceums, professional colleges, and technical schools. Fourthly, the influx of talented youth into universities is closely linked to the university's ranking among other higher education institutions in the country and abroad. This task urgently dictates the need to improve the international ranking of higher education institutions and further expand international relations between universities and leading universities in developed countries around the world. As the head of state noted, «Special attention will be paid to increasing access to and the quality of higher education. Starting next year, the number of state grants for higher education will be increased by at least 25 percent. We will double the quota of scholarships for girls from low-income families and raise it to 2,000. For girls who need social support and are excellent students, special scholarships will be introduced.» [1.,2.]

In Uzbekistan, «youth aspire to enroll in the most prestigious universities, but there is no competition among universities to attract educated and talented youth. In this regard, a system will be introduced to provide private universities with government orders for the training of in-demand specialists.» [2.,2].

The reform of the higher education system and the improvement of the preparation of highly qualified personnel for socio-economic sectors are closely linked to the involvement of highly qualified faculty members, as well as the modernization of the educational process aimed at preparing future bachelors and masters. This issue is often related to providing them with adequate social protection, increasing salaries, and offering various incentives. The country has established a system for defending dissertations in various scientific fields, with the first stage being the PhD and the second stage the DSc. It is important to note that universities have created opportunities for extensive experience exchange, participation in international scientific and practical conferences, including trips to foreign universities, and professional development at leading global scientific centers.

During the new stage of the country’s development, a legal, scientific-methodological, and economic foundation has been established to increase the number of non-state higher educational institutions. A key factor in their establishment in the educational services market is the expansion of international relations with foreign universities. The practice of creating branches of leading universities from developed countries is becoming more common. One of the innovative approaches to organizing the training of qualified personnel has been the creation of joint international educational programs. A new method for addressing the social demands of youth has been the increase in the number of places available for university applicants-graduates of secondary schools, academic lyceums, professional colleges, and technical schools-by providing the opportunity to apply to several universities simultaneously and allowing applicants to submit documents for participation in entrance tests electronically. Additionally, applicants have been given the option to participate in testing at their place of residence, with the necessary conditions provided by the Republican Testing Center. Beginning in 2024, a new practice is being introduced whereby applicants can choose their university after the announcement of test results. Another significant development in the country has been the introduction of a system that allows universities to independently determine the number of students admitted to the first year, taking into account the number of faculty members, scientific-methodological resources, information resources, and material and technical capabilities. A notable event in the reform of higher education has been the opening of evening and correspondence faculties, as well as the admission of bachelor’s students for a second specialty. This issue is directly related to the reform processes in society, as universities have increased student intake considering the demands and orders for specialist training from private and joint ventures, with the aim of providing small business entities with highly qualified personnel. Furthermore, social progress, the systematic increase in requirements based on the suggestions of employers, government bodies, private sector representatives, and non-governmental organizations, and the need to ensure competitive personnel for all sectors of the economy and social sector have necessitated the use of innovative methods and the acceleration of deep reform throughout the higher education system. Considering the reform of the economic complex and to meet the needs of technical specialties in production, starting from the current 2024-2025 academic year, a technical university will be established in each region of the country. To further improve working conditions in universities, the teaching load of faculty members will be optimized.

2 Relevance and Research Objectives

An innovative approach to the process of reforming higher education has demonstrated that a crucial method for expanding the admission of creative young people to universities lies in the recognition of the need to fundamentally improve the preparation of bachelors and masters. This is also related to the expansion of the private sector, the extensive attraction of foreign investment, and the opening of numerous joint ventures in the country, all

of which impose new demands on the quality of personnel training. However, during the structural transformations, it became evident that a significant portion of university graduates is not prepared for these challenges. Their theoretical and practical knowledge, qualifications, and skills do not meet modern requirements. A thorough analysis of the personnel training process shows that many graduates are poorly oriented toward practical work in this new stage of development. They have limited understanding of the socio-economic problems occurring within society, especially in the context of deepening market economic relations.

Reforming the workforce training process places a significant emphasis on the need to encourage academic, research, and innovative comprehensive work within universities, as well as the creation of mechanisms to implement their achievements in practice. Uzbekistan has undergone profound legal, socio-economic, and cultural transformations, which require highly qualified personnel. «Speaking of the tasks ahead in the economy, it should be noted that the essence of large-scale economic reforms lies in the preparation of qualified personnel capable of actively participating in the achievement of strategic economic development goals.» [3.2.] However, a scientific analysis conducted by scholars and social science representatives indicates that the current state of higher education in Uzbekistan does not meet the demands of society. This shortfall is primarily due to the fact that during the early stages of independence, the system for training highly qualified personnel did not account for the profound changes in the socio-economic development of the country, particularly concerning the deepening of the market economy and the country's integration into the international community. At this new stage of development, the country's leadership has tasked the higher education system with an innovative challenge: to ensure the training of personnel that aligns with the country's reform processes, meets international standards, achieves a competitive level, and responds to the challenges of globalization. The new stage of development in the country has seen the launch of large-scale liberal reforms, which have significantly adjusted the country's foreign policy. In particular, relations with neighboring countries, including the Kyrgyz Republic, are a priority in the foreign policy of the Republic of Uzbekistan. Foreign investments are a crucial factor in the country's economic growth, making good neighborly relations essential for Uzbekistan to implement its new course. Therefore, active efforts are underway to join the World Trade Organization, engage in extensive cooperation with the European Union, and implement the standards of the Eurasian Economic Union. [4.,2.] At the current stage of societal development, the country's higher education system is intended to prepare personnel for subsequent employment in various sectors of socio-economic activity, as well as in management structures, service, scientific, economic, and technical fields. The higher education system is responsible for providing future specialists with skills and specialized knowledge, guiding young people to explore the theoretical or practical aspects of their chosen profession, and fostering the creative application of the latest scientific and technological achievements.

In the period of deepening market relations, the role and importance of personnel in ensuring the sustainable development of the country, national defense capability, food and public security, moral education of youth, formation of environmental and political culture, and the production of competitive, export-oriented goods is becoming increasingly relevant. This task urgently dictates the need to «raise the prestige of our universities, increase the number of non-state educational institutions, attract qualified personnel to the sector, and intensify competition.» [5.,1.]. The comprehensive conditions created for the development of the private sector and new entrepreneurial structures impose even more innovative requirements on the quality of high professional training, communication skills, and foreign language proficiency among bachelors and masters. However, «during the structural transformations, it became clear that a significant portion of specialists is not prepared for these challenges; their knowledge, qualifications, and skills do not meet modern requirements. For example, at the initial stage, it is necessary to send more than 3,500 specialists abroad for training in master's and doctoral programs, advanced training, and internships. There is a need for over 600 compatriots with international scientific and practical experience. It is necessary to engage about a thousand foreign scientists and experts for cooperation.» [6.,1.].

The Cabinet of Ministers of Uzbekistan has approved the Strategy for the Innovative Development of the Agricultural Education System until 2030. By Government Decree (No. 788, dated December 15, 2020), information technologies, including «Smart Agriculture,» are being introduced in the country's agricultural sector. By 2030, it is planned to increase the number of interactive services provided in the agricultural sector to twenty.

According to the Strategy, the branches of the Tashkent State Agrarian University – Nukus, Termez, and Samarkand – are planned to be transformed into independent higher educational institutions. In all areas of specialist training (bachelors and masters) in the agricultural sector, the gradual implementation of the credit-modular system of organizing the educational process will begin from the 2020-2021 academic year. It is important to note that the credit-modular system is created in accordance with the Bologna Declaration based on the principles of a tiered education system and is developed according to the norms of the European Credit Transfer and Accumulation System (ECTS). According to the European Credit Transfer and Accumulation System, the

assessment of students' knowledge, as well as the comparison of results, is carried out through a unified interstate procedure. [7.,2.]

3 Materials and Methods of Research

The methodological foundation for studying the problem of the reform process in higher education under democratic reforms and the new stage of the country includes the Constitution of the Republic of Uzbekistan and the adoption of the new version of the Law «On Education» (2020), as well as the works of the President of the Republic of Uzbekistan, Sh. M. Mirziyoyev. Valuable sources include individual studies by sociologists, economists, philosophers, and the works of scholars published in scientific collections from scientific-practical conferences. It should be noted that there are some brochures and articles where the issue of higher education reform and international cooperation in personnel training are partially addressed. However, the innovative aspects of higher education reform in the context of the new stage of the country's development are poorly studied, and there are no specific approaches to researching the problem considering the features, ranking, faculty staff, material and technical, and information-resource base of higher educational institutions.

In Uzbekistan, a concept for further improving higher education has been approved. Measures for improving the system related to the organization of the educational process in higher educational institutions were approved by the Cabinet of Ministers of Uzbekistan under number 824 on December 31, 2020. The system for paying faculty members working in technical schools affiliated with universities has been adjusted. Educators will receive hourly pay similar to that of their colleagues teaching university students. Higher educational institutions now decide whether to have a five-day or six-day academic week. One of the measures for the liberalization of higher educational institutions is that now rectors and directors of university branches are empowered to appoint chairpersons of the final state certification commission created in the institution. The educational process will also gradually transition to a credit-modular system. Opportunities for faculty to undergo internships and additional training at foreign institutions of corresponding profiles are expanding, with mandatory subsequent service at their «home» university. [8.,2.]

In the higher education system, considering international practices in personnel training and changes in the socio-economic development of the country, «training is established in over 100 new bachelor’s programs and 94 master's specializations.» [9, p.1] To further improve the educational process, «in 2021, 30 leading universities in the country will gain the right to independently develop curricula, set admission quotas, and manage financial matters.» [10., 2.]

Research into reform processes in society shows that as a result of systematic work aimed at reforming the higher education system, «in 2020, 25 percent of graduates from secondary schools, academic lyceums, and professional colleges entered universities. Over the past four years, 47 new higher educational institutions have been established in the republic.» [11, p.2]

The country has begun the development and phased implementation of new curricula and programs for new specializations. Internships at joint ventures for faculty members of specialized university departments are being introduced, as well as systematic qualification practices for students and practical training in production. Each university is implementing phased instruction in specialty disciplines in English. For promising scientific and pedagogical personnel, internships in developed countries are introduced, and the system of personnel training in master's programs is critically analyzed. An important step is the enhancement of the status of university departments with increased responsibility for ensuring the quality of education. It is planned to approve development concepts for each university associated with a specific industry until 2030 and to ensure that at least one university from each industry is recognized by leading international rating agencies. Basic universities will independently develop curricula and course programs based on the needs of personnel demand. To prevent the wastage of working time on activities unrelated to the educational process, new mechanisms for regulating faculty and teaching staff workload will be introduced. The principle «student performance level - the main criterion for evaluating the activities of professors and teachers» will be implemented, along with modern methods of monitoring and assessing student knowledge.

One of the primary goals of higher education reform is to ensure the real independence of universities in personnel training and scientific research activities. An important criterion to prevent a decline in the quality of higher education will be the presence of faculty members with academic degrees. Measures are being taken to prepare highly qualified personnel for work in university departments. In the 2019-2020 academic year, the country's universities employed 6,401 candidates of sciences, 4,645 associate professors, 1,811 doctors of sciences, and 1,326 professors. [12, p.2]

In the current conditions, issues of stimulating scientific research and innovation activities and creating mechanisms for implementing their achievements into practice have become particularly important for universities.

To achieve these goals, a two-level postgraduate education system has been introduced, including basic doctoral studies (with dissertation defense and awarding the degree of Doctor of Philosophy - PhD in the relevant field of science) and postdoctoral studies (with dissertation defense and awarding the degree of Doctor of Sciences - ScD). To elevate the organization of scientific research activities to a qualitatively new level, measures have been taken to further improve the activities of the Academy of Sciences of the Republic of Uzbekistan, defining the main tasks and priority areas based on modern requirements, with special attention given to stimulating effective scientific activity. The liberalization of dissertation defenses for the PhD degree has continued with the establishment of specialized councils at regional state universities. Work has begun on creating private universities and opening branches of leading universities from developed countries, which will increase opportunities for youth to receive higher education in their chosen fields. As a result, conditions will be created to transform the country into an educational center of Central Asia for training highly qualified specialists within 10 years.

This process presents the task of increasing the number of international students, which is crucial for enhancing the competitiveness of the higher education system and important for popularizing the country's modern intellectual image in the global community. «In the 2020-2021 academic year, 1,500 foreign students from 16 countries studied in 11 medical higher educational institutions in Uzbekistan. In the 2020-2022 academic year, it is expected that 10,000 foreign students from 50 countries will be trained.» [13., p.2.]

Practical measures are being taken, and a program has been approved for sending faculty members abroad for internships and professional development. The higher education system in the Republic of Uzbekistan includes universities specializing in academic and professional programs in accordance with state standards. All of them are not directly dependent on departmental subordination or ownership forms; institutions engaged in scientific, pedagogical, and research activities necessary for the functioning of universities, as well as structures involved in state management of higher education, are part of this system. Branches of several leading universities from Europe, Asia, the United States, the Russian Federation, South Korea, Turkey, Austria, and the United Kingdom have been opened in the country.

Measures are being taken to increase opportunities for studying abroad. «It is necessary to strengthen connections with leading foreign universities, scientific and innovation centers, and expand cooperation with them in the field of personnel training. In this regard, the number of young people sent to study for master's and doctoral degrees at foreign universities through the 'El-Yurt Umidi' Foundation will increase fivefold in 2021. For the first time, we will send 100 of our young men and women to study for bachelor's degrees abroad. In subsequent years, their number will grow 2-3 times.» [14., p.2.]

The country has begun developing and gradually implementing new curricula, programs for new specialties, and introducing internships at joint enterprises for the faculty of specialized departments in universities. Systematic qualification practices for students and practical training at production facilities are being introduced. Each university is implementing phased teaching of specialty disciplines in English, and prospective scientific and pedagogical personnel are being sent for internships in developed countries. The system of graduate education is being critically analyzed. An important element of innovation in the educational process is the enhancement of the status of university departments, with increased responsibility for ensuring the quality of education.

4 Results of the Study and Conclusions

The research on the state of higher education and the study of innovative aspects for its further improvement in the new Uzbekistan lead to the following conclusions:

1.Qualification Levels of Staff: It is necessary to note that the qualification level of certain staff members in the higher education system, particularly at the intermediate level and in information resource centers, does not meet the challenges of globalization. These staff members focus solely on executing directives from higher authorities without contributing to innovative processes.

2.Faculty Staffing: University departments are inadequately staffed with faculty members holding advanced degrees, particularly in private universities. This deficiency significantly affects the quality of training for competitive specialists in the socio-economic sectors within the context of a digital economy.

3.Library Resources: Libraries in new higher education institutions, especially private universities, lack sufficient textbooks, modern educational materials, and specialized literature in Russian and English necessary for preparing specialists of a modern level.

4.Language Proficiency: There remains a problem in providing higher education institutions with faculty members proficient in foreign languages. This issue is particularly acute in filling high-qualified positions in specialized departments and public science fields across Uzbekistan.

5.Material and Technical Support: Further strengthening of the material and technical base of universities is needed. This includes creating sports facilities and opening stadiums for students, master's students, faculty members, and staff to support their physical development and overall well-being.

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Research on the presence of coke oven gas in the chemical composition of Uzgen coal

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Annotation. One of the possible ways to use Kyrgyz coal, which is the subject of research in this work, is thermal processing for the production of coke, chemical coking products, gas and other products. To study KR coal, the process of high-temperature pyrolysis was used. The object of the study was coal from the Changet coal mine in the Uzgen region. The purpose of the research is to create a coke-chemical production; the composition of gaseous substances of high-quality coke gas from the Uzgen coal basin, the largest and most promising coal deposit basin in Kyrgyzstan, has been studied using the electrochemical method using gas analyzers. The result of the study showed that completely groups of chemical reactions occur in parallel; as a result of thermochemical changes, liquid gases and solid products are formed. The result of the research obtained shows that two main issues need to be resolved: assessing the quality of raw materials - providing an effective process for obtaining materials and target products. The peculiarity and scientific value of the results obtained during the study, the diversity of the structure and properties of coal strengthens the task of researchers to find ways to optimally use their energy potential, which in turn clarifies the area of scientific research aimed at coal processing processes for fuel and non-fuel purposes. The practical value of the study is that at 500-550°C the plastic mass of coal decomposes with the formation of primary products of gas and tar, consisting of paraffin and naphthene.

Key words: coke oven gas; gas analyzer; “Signal-4”; carbon monoxide; methane; hydrogen sulfide; nitrogen oxide; total hydrocarbons; indicator tubes; carbon dioxide; microanalysis; hydrogen;titrimetric.

1 Introduction

It is known that promising coal reserves in Kyrgyzstan are estimated at 25 billion tons. We know of 79 coal deposits, as well as areas where coal occurs. Of these, 24 deposits are included in the free balance sheet, 47 are in operation, and the remaining deposits are not being developed [1].

In the southern region of the Kyrgyz Republic, waste from coal deposits, in which up to 60% of pieces accumulate during processing, that is, substandard coal fines (deposits Sulukta, Kyzyl-Kiya, Almalyk, Kok-Zhangak, Tash-Komur, Uzgen, Alai group of deposits).

One of the possible ways to use coal from Kyrgyzstan is thermal processing to produce coke, chemical coking products, gas and other products [2].

For the creation of a coke-chemical industry, the largest and most promising coal deposit basin in Kyrgyzstan is the Uzgen coal basin. Because Uzgen coals are distinguished by their quality characteristics and can be used in the energy sector and metallurgy as raw materials. At the same time, in the chemical industry, a priority

direction for the development of coke chemistry in the Kyrgyz Republic may be the production of coke based on gas and other low-caking and non-caking coals of the Uzgen coal basin [3].

It has been established that coke obtained from a charge containing high-gas coals has a correspondingly increased reactivity, since it contains a small amount of anisotropic carbon, and the reactivity of coke is regulated using additives that increase the degree of softening of the coal mass during the transition to a plastic state [4].

The different structure of coals and different properties pose the task of researchers to find optimal ways to use the energy potential, which in turn determines the range of scientific research aimed at the process of processing coals for fuel and non-fuel purposes. In addition, any process development is based on theoretical knowledge, both about the process itself and about the raw materials undergoing processing, and some transformations that undergo at all stages of the process. Since the main tasks of theoretical research lead to the establishment of a connection between the structure and properties of coals, the identification of patterns of changes in the properties of coals and metamorphism, scientifically based interpretation of the results of physical and chemical studies of molecular and supramolecular structures based on modern ideas about the structure of matter and the formulation of chemical terms, which is decisive significance for the development of coal chemistry in general.

Coal science is intended to provide a scientific basis for coal processing processes to harness its energy and chemical potential, which can only be effectively realized based on a fundamental understanding of the structure and properties of coal. If the question is about what coal to use for a particular process or what products are appropriate to process this or that coal, then science assumes, from the standpoint of fundamental studies of structure and reactivity, the solution of two main problems: assessing the quality of raw materials and ensuring the efficiency and selectivity of the process with obtaining target products [5].

Currently, throughout the world, oil is the main source of organic raw materials, the limitation of its global reserves and the constant increase in the cost of production due to the involvement in the exploitation of hard-to-reach deposits, work on organizing new processes for the chemical processing of alternative organic raw materials. Coal, whose global reserves exceed those of oil and gas, can be considered in the future as one of the main types of raw materials for the production of motor fuels and organic synthesis products.

The increasing demand for fossil coal is accompanied by an increase in the environmental load on the environment, since the combustion and processing of coal produces harmful by-products than the by-products emitted by oil and gas.

The main disadvantages of the known technologies for the chemical processing of coal in comparison with oil refining and petrochemical technologies are the comparatively low productivity and difficult conditions for their implementation. To facilitate work in coal processing, catalysts and new catalytic processes are increasingly being used, which make it possible to obtain various products of fuel and chemical characteristics from coal [6].

Previously, most food products were used by pyrolysis and coking of coal. This process is based on heating coals without air access for the purpose of thermal destruction [7].

Such a process through the passage of all main groups leads to the following result: depolymerization of the organic mass of coal with the formation of detected molecules of molecular weight and ensures the implementation of secondary transformations that form products (condensation, polymerization, aromatization, alkylation, etc.). All two groups proceed in parallel, as a result of thermochemical transformations of liquid, gaseous and solid products [8].

Although it is known that this is one of the promising methods of coal processing, which is semi-coking in high-speed installations, which compare favorably in technical and economic indicators.

The main products of semi-coking of coals, tars and gas are good raw materials for obtaining a wide range of chemical products [9].

It is known that at temperatures from 500 to 600°C the hydrogen content increases and the CO_2 content decreases. The coal high-speed pyrolysis resin is a dark brown liquid.

In connection with the formulation of the problem - revealing the features of high-speed pyrolysis of coal, we examined the entire isolated material. With an increase in the process temperature from 600°C to 700°C, the yield of resin decreases, which significantly affects the yield of components: the content of phenols in the resin decreases, while an increase in the asphaltenes content is observed from 14% to 21% [10].

In laboratory conditions, in a furnace for pyrolysis of coal at a temperature of 500-600°C, processes were carried out with heating of coal without air access (Fig. 1).

By slowly and gradually heating components for physical and chemical transformations:

- up to 250°C, carbon monoxide and carbon dioxide are released and water evaporates;
- at a temperature of 300-350°C, tar vapors are released into the gas phase and pyrogenetic water is formed, and coal passes into a plastic state;

- at 500-550°C, the plastic mass of coal decomposes, forming primary products of gas and tar, which consist of paraffin, naphthenic unsaturated aromatic hydrocarbons, and the mass hardens, forming semi-coke, and such valuable products as volatile gas substances, coal resin, crude benzene, tar water, ammonia, etc.

2 Experimental part

In the study of the coal pyrolysis process in the Kyrgyz Republic, the high-temperature pyrolysis process is used. The object of study was coal from the Changet deposit in the Uzgen basin.

When studying the process of coal pyrolysis, it was necessary to use a special reactor (furnace) with a refrigerator, into which 1 kg of Changent coal was loaded and heated from 950 to 1000 ° C. The schematic diagram of a pyrogenetic installation looks
like in Fig. 1.

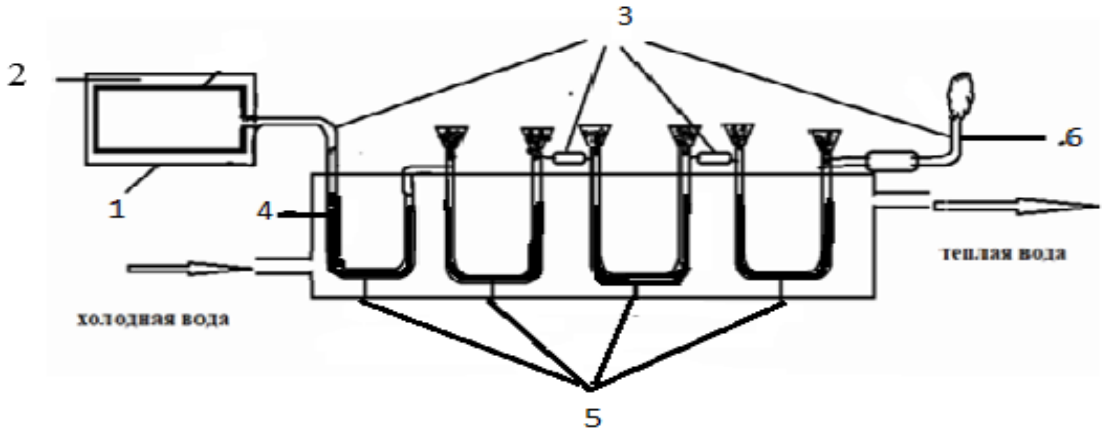

Fig.1. Installation diagram for studying the coal coking process.
1-reactor, 2-thermopore, 3-steam gas line, 4-refrigerator, 5-sulfuric acid solution, pyrogenetic water, resin, 6-coke oven gas.

To study coke oven gas we used [11]:

1. Gas analyzer, "4M-SO_2 signal" for determining SO_2 and the amount of hydrocarbons.

2. Gas analyzer "Signal-4" for determining nitrogen oxide.

3. Gas analyzer "Signal-4" for determining carbon monoxide and methane.

The principle of operation and operation of the electrochemical gas analyzer in measuring the concentration (SO_2, C1-$C1_2$, CO, CH_4, CO) in the air is carried out in the device through the use of a sensor (SO_2, C1-$C1_2$, CO, -CH_4, NO). The conversion of the above substances in the air into an energy signal is carried out by an electrochemical cell of the type (SO_2/H_2O, Sixth sense eco-sune, NO/H_2) and the detected gases are adsorbed on the surface of the semiconductor sensitive element of the microprocessor and gives an intermittent sound signal and the electric display shows the content of the substance mg/ m^3.

1. Hydrogen sulfide content (H_2S)
   X_1=9.8 mg/m3.
   X_2=10.2 mg/m3. X_{av}=10 mg/ m^3.
   X_3=10.0 mg/m3.
2. Total hydrocarbon content (C1-C12)
   X_1=5.2 mg/m^3.
   X_2=4.9 mg/m^3. X_{av}=5.0 mg/ m^3.
   X_3=5.1 mg/ m^3.
3. Carbon monoxide (CO) content
   X_1=5.9 mg/ m^3.
   X_2=5.6 mg/ m^3. X_{av}=2.0 mg/ m^3.
   X_3=5.4 mg/ m^3.
4. Methane content (CH_4)

X_1=25.0 mg/ m^3.
X_2=24.8 mg/ m^3. X_{av}=25 mg/ m^3.
X_3=25.2 mg/ m^3.

5. Nitric oxide (NO) content
X_1=3.6 mg/ m^3.
X_2=3.4 mg/ m^3. X_{av}=3.5 mg/ m^3.
X_3=3.5 mg/ m^3.

6. Ammonia content in the absorption solution 1 mol/dm^3, in a solution of sulfuric acid. The process of dissolving ammonia occurs according to the following reaction.

$$2NH_4OH+H_2SO_4=(NH_4)_2SO_4+H_2O$$

Add 2-3 drops of methyl orange (indicator) to the absorption solution under study. During the experiment, the ammonia yield was determined by the volume of a solution of a single sodium equivalent concentration (mol/dm^3) used for titrating the absorption solution after extracting light, tarry, and oily substances from it.

The yield of ammonia (X1) in percent is calculated by the formula:

$$X_1 = \frac{(V-V_1)\cdot T\cdot 100}{m}; \quad (1)$$

where: V - is the volume of sulfuric acid solution with a concentration equivalent to 0.1 mol/dm3 taken for the experiment, cm^3;

V_1 - volume of alkali solution with a concentration equivalent to 0.1 mol/dm^3, consumed for titration of excess sulfuric acid, which did not react, cm^3;

T - is the titer of a sulfuric acid solution with a concentration equivalent to 0.1 mol/dm^3, expressed as ammonia 2 cm^3;

m - mass of coal sample.

Substituting the obtained data in formula (1), we have:

$$X_1 = \frac{(V-V_1)\cdot T\cdot 100}{m} = \frac{10-9{,}79\cdot 0{,}960\cdot 1000}{20} = 10{,}08\% \quad (2)$$

Determination of coke oven gas content using indicator tubes (express analysis).

Let's open the CO_2 indicator tube from both cones using the hole in the head of the sampling pump/aspirator, observing the direction of air pumping (indicated by the arrow on the surface of the indicator tube). We pump the volume of air required according to the instructions through the indicator tube, making the required number of swings with the sampler pump/aspirator.

Note the change in color and the length of the column of the reacted filler after pumping. We calculate the concentration of carbon dioxide on a scale (C_1% vol) marked on the indicator tube or by attaching it to the corresponding scale inside the package. If the boundary between the colors of the layers of the original and reacted indicator mass is blurred, we take the average value as the measurement result. Let's recalculate the CO_2 concentration from volume % mg/m^3 using the formula: $C_2 = \frac{C_1 * M * 10^4}{22{,}4}$

where: C_1 - gas concentration in volume %;

C_2 – gas concentration in mg/m^3;

M – molar mass of carbon dioxide (M=44);

10^4-conversion factor from volume % to mg/m^3

$$C_2 = \frac{0{,}01\times 44\times 10^4}{22{,}4} = \frac{45{,}76}{22{,}4} = 2\%$$

The principles for the quantitative determination of carbon and hydrogen were developed by Liebig. Such methods have been preserved to this day. However, at the moment, microanalysis based on the same principles,

which was founded by F. Pregl, is more often used. Microanalysis requires 50 times less substance and is performed three times faster.

The device for micro determination of carbon and hydrogen is shown in Fig. 2

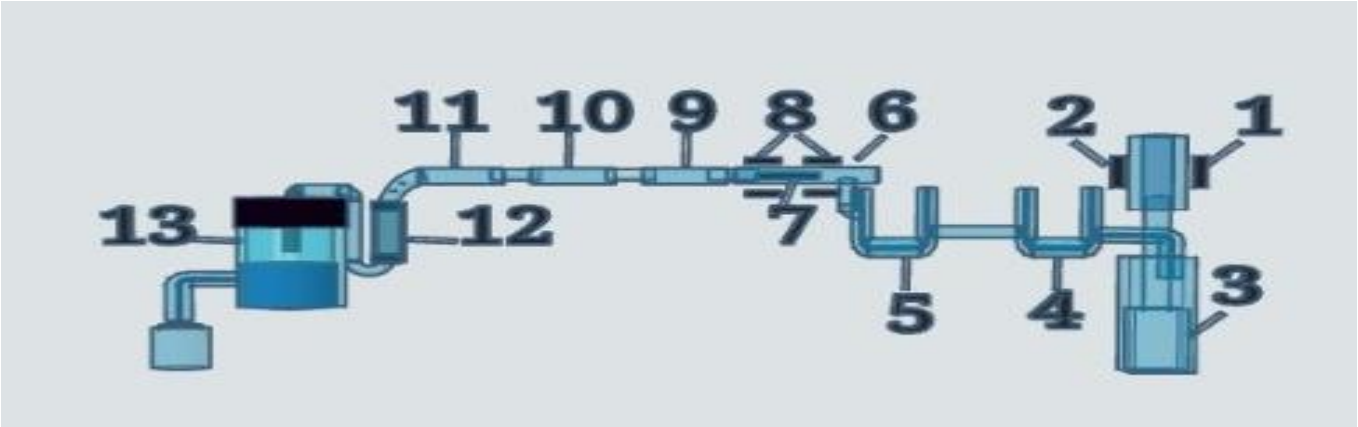

Fig.2 1-nisel contact; 2.8-electric furnace; 3- coil;

4,5-absorbers; 6-tube for burning; 7-cup; 9-absorbent apparatus for water; 10-absorption apparatus for nitrogen oxides; 11-absorption apparatus for CO2; 12-final trumpet; 13-apirator.

After weighing 3-5 mg in a long narrow quartz glass (7) with an accuracy of 0.002 mg, pour it into a quartz tube 6 for combustion and, with the electric furnace 8 turned on (900°C), let it pass slowly for 3 minutes (35-50 ml/ min) pass a flow of oxygen purified from hydrogen, water and CO2. Oxygen is purified from hydrogen and organic impurities by passing through a nickel contact heated to 800°C. Rough separation of the resulting water is carried out by condensation in coil 3, complete purification from water and CO2 absorbers H and S, each of which is filled with anhydrous magnesium perchlorate (anhydrone) and ascarite (asbestos impregnated with molten caustic soda) so that anhydrone is the first and the last filler and the path of gas passage. The combustion tube is connected to two series-connected absorbers, 9 for water and 11 for CO2, weighed on similar scales. The first absorber is filled with anhydrone (anhydrous magnesium perchlorate), and the second with ascarite. These tubes are weighed and attached immediately before burning. To regulate the pressure in the system, a Migunov aspirator is used. The burning process takes 10 minutes. It begins by piercing the open end of the combustion tube, in which a quartz beaker with a hanger is placed. After burning is completed, 2-3 minutes. The absorption apparatus is blown through with air, removed and weighed on analytical materials using the usual precautions. The weight gain of the first absorber corresponds to the amount of water from which the hydrogen content in a sample of the substance is calculated; the weight gain of the second absorber gives the amount of carbon dioxide, from which the carbon content in a sample of the substance is calculated. Calculations are carried out according to the formula:

To calculate we use the conversion factor where

1) $$fc = \frac{c}{CO_2} = \frac{12}{44} = 0{,}2729$$

2) $$\%C = \frac{fc \cdot \text{weight}\, CO_2 \cdot 100}{\text{coal weight}} = \frac{0{,}2729 \cdot 0{,}8 \cdot 10}{10} = 2{,}1\%$$

3) $$f_H = \frac{H_2}{H_2O} = \frac{2}{18} = 0{,}1119$$

4) $$\%H_2 = \frac{fH \cdot \text{weight}\, H_2O \cdot 100}{\text{coal weight}} = \frac{0{,}1119 \cdot 35{,}7 \cdot 100}{10} = 39{,}9\%$$

3 Obtained experimental results

№	Research methods	Name of coke oven gas, % mg/m^3							
		Oxide carbon	Methane	Dioxide carbon	Hydrogen sulfide	Nitric oxide	Total hydrocarbons	Ammonia	Hydrogen
1	Electrochemical	5,6	25	-	10	3,5	5	-	-
2	Titrimetric	-	-	-	-	-	-	10	-
3	Express analysis (with inticator tube)	-	-	2	-	-	-	-	-
4	Microanalysis	-	-	2,1	-	-	-	-	39,9

Table 1. Results of experimental work.

4 Conclusion

1. The chemical composition of coke oven gas has been studied:

a) Electrochemical method, using a gas analyzer “Signal-4”, “Signal-4”, “Signal-4M SO_2 ” the content of gaseous substances was studied: CO-5,6% mg/m^3, CH_4-25% mg/m^3, H_2S-10% mg/m^3, NO-$3{,}5 \cdot 10$ % mg/m^3, C_1-C_{12}-5% mg/m^3;

b) The titrimetic (chemical) method was used to study the ammonia content of 10% in the composition of coke oven gas;

c) Express analysis (with indicator tube) investigated CO_2-2%mg/m^3 in coke oven gas;

d) The contents were studied using the microanalytic method CO_2-2,1%mg/m^3, и H_2-39,9 %mg/m^3.

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Modern science about the phenomenon of consciousness

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Abstract. In this article, the author examines one of the most important issues of existence - the nature of human consciousness. The author strives to approach this problem extremely objectively, considering various, even opposing, concepts of scientists of the past and present. Expresses his position on the issue of the phenomenon of consciousness, leads experiments to identify the nature of distant (telepathic) communication, i.e. transmissions over distances carried out with his participation, and finally, he gives his own hypothesis about the nature of the irrational.
Keywords: phenomenon, intelligence, ideal form, rational, problem, information, evolution

1 Introduction

Modern science, while exploring the problem of consciousness, has not yet come to a consensus about it. This problem is studied by various scientific and philosophical scientists and approaches the consideration of consciousness mainly from two positions:

1) Consciousness, as a result of the development of nature exists forever. It is assumed that processes of self-organization are taking place in this world. In the Universe, at a certain stage of development, matter becomes so complicated that it gives rise to life, and life, fighting for itself, develops consciousness as an organ of adaptation. Darwin's theory of evolution, materialist philosophy and science lead to this idea;

2) Consciousness is the primary basis of reality. It existed from the beginning and helped the physical world come into being. Human consciousness is part of the Universal consciousness. Consciousness is a universal phenomenon and it exists everywhere. All nature has consciousness, not only man, as inveterate materialists think. Consciousness by its nature is both material and ideal. We find about the nature of the phenomenon of consciousness as the root cause of all existence from many researchers of scientific and philosophical thought, as well as representatives of religion.

The second concept sounds attractive and promising, although the first one, associated with the natural scientific explanation of the origin of consciousness, is the most studied. But, nevertheless, the author of this article adheres to a pluralistic position and believes that the second concept may eventually become true.

The development of information, computer and genetic technologies has led to increased interest in elucidating the nature of consciousness. At the moment, consciousness is the most mysterious “thing” in the world, because there is still no answer to many questions related to it.

Why does it exist?

What does it do?

How could it arise based on the biochemical processes of the brain?

Can consciousness exist independently, independently of the body?

What happens to consciousness after a person's death?

These are the questions that arouse the greatest interest among scientists. And, despite the efforts of researchers, the problem of consciousness remains a “thing in itself”, due to its extraordinary complexity. From the

point of view of philosophical idealism (Plato), consciousness is a certain activity inherent in the Universe and is the substance (basis) of all things and processes...

Philosophical materialism (Demacritus) and natural science proceed from the fact that consciousness is not a gift of God.

French materialism of the 18th century proceeded from the fact that consciousness is a special function of the human brain, with the help of which a person reflects the world around him. The death of the body is the death of the soul.

In the second half of the 19th century, a new concept of consciousness appeared - vulgar materialism (German psychiatrists K. Vogt, L. Buchner and the Dutchman J. Moleshott), who believed that consciousness and thought are the movement of brain matter, as a special kind of fluid, the quality of which depends on the composition of food (a person eats what he eats).

At the beginning of the twentieth century, interest in the problem of the irrational increased, that is, in the fact that knowledge is achieved not only through the rational, but enters the subconscious, bypassing the conscious processes of the brain. Among this concept, intuitionism plays a special role (A. Bergson, N. Losskii, S. Frank, etc.).

Let us dwell on the example of A. Bergson's philosophical views. Bergson's philosophy is unique and can be defined as an objection to materialistic mechanism and the positivist direction of philosophy, since he lived at the end of the 19th and beginning of the 20th centuries when the laws of mechanics explained the development of the entire universe.

2 Methodology

Bergson's philosophy, as an intuitionist, was not understood by materialists and caused an extremely negative attitude from Marxist-Leninist philosophy. With the advent of the era of change, the picture of the world acquired a different perspective from many philosophers and previously unrecognized theories became the object of study by modern scientists.

Bergson was born into the family of pianist and composer Michal Bergson, a Jew of Polish descent, and Katherine Lavinson, of Anglo-Irish descent. There is no doubt that Bergson's philosophy of intuitionism was strongly influenced by the profession of his father, a musician and composer. Looking at the work of his father, from childhood he began to think about the origin of musical works. And by adulthood he comes to the idea that music is not born with the help of rational thinking, but is a different way, bypassing thinking. From here they conclude that there is not only a rational form of knowledge, but also an irrational one, through intuition.

Human consciousness, as Bergson notes, is intelligence. The opposite function of intellect is intuition. If intuition moves in the course of life itself, then intellect goes in the opposite direction. According to Bergson, life, cognizable through intuition, is directed “upward,” and matter associated with the intellect is directed “downward.”

In an ideal form of humanity, both of these brain functions would reach full development. In the life of real humanity, intellect prevails over intuition. But intuition still exists. As Bergson said, intuition is almost an extinguished lamp that flares up only occasionally... But it flares up only when vital interest comes into action.

In a conversation between the author of this article and Academician Kaznacheev V.P. from Novosibirsk, we present the academician’s statement about the development of humanity. He said that the emergence of speech (language) led humanity in the direction of the development of intelligence and the degradation of intuition. Intuition has every right to coexist along with intellect.

In the process of a person acquiring new knowledge, an important role belongs to logical thinking, its methods and laws. But life shows that logic in some cases is insufficient. The role of intuition is missing in such cases. Intuition, as a specific cognitive process, is a universal ability characteristic of all people.

History knows many cases when scientists, designers, artists and musicians achieved new discoveries in their field through “insight”. Examples: Socrates mentioned in conversations with Plato about the insights that visited him.

According to Ibn Sina, recalling his youth, he wrote the following: “During this time, I did not sleep completely at night, and during the day I did not do anything other than science. If I lost myself in sleep for a moment, then in a dream I saw these problems, and it often happened that in a dream I removed the veil from difficult issues and I was able to resolve them. So I worked until I became stronger in the foundations of science, and the hidden secrets were revealed to me.”

Let us also remember the chemist Mendeleev and the chemical system of elements that appeared to him in a dream. And composers wrote all their great works thanks to the same “insight.”

Science fiction writer Jules Verne wrote about 70 novels, in which he made 108 predictions and more than half of them came true. And there are many such examples that can be listed.

In the modern period of development of sciences, many scientists adhere to the concept put forward by Bergson. Among them are academicians of the Russian Academy of Sciences V.I. Kaznacheev, F.R. Khantseverov, V.I. Prishchep, B.I. Iskakov. For example, according to Boris Iskakov from the I.M. Plekhanov Moscow Institute, our space consists of microlepton gas, which contains all the information and memory of the past, present and future. He reflected this idea in his works: "Life of Parallel Worlds" in three volumes: "New Paradigm. Lepton-vortex concept." His ideas echo the views of the ancient thinker Plato about the "eidos" filling our space.

The brain not only thinks, generating and issuing new ideas, but also has the ability to be a receiver of ideas from our space. At one time, Ibn Sina expressed the idea that "Great Ideas" do not disappear, but are preserved in some kind of "repository in the heavens." He believed that a creative person draws ideas from this "repository" and, processing them in his brain, creates completely new ideas, thereby enriching this "repository"2 of thoughts and ideas.

In order to scientifically substantiate this ability of the human brain, it is necessary to reveal its secret. Such research is being carried out by Russian scientists at the Brain Institute, but this secret, unfortunately, has not yet been revealed.

The phenomenon of consciousness, the emergence of thought, its transmission over distances are today of interest to scientists in many directions. It should be clarified that the processes of consciousness are closely related to the brain, as an organ for the production of thoughts and ideas. Therefore, the phenomenon of consciousness should be considered in close and inextricable connection with mental processes, because In man, one does not exist without the other. But at the same time, to deny the participation of the Universal Mind in the processes of human consciousness would be a fact of delusion.

Experiments related to the transmission of thoughts over distances were conducted at the Novosibirsk Institute of Clinical and Experimental Medicine by Academician V.P. Kaznacheev.

Together with the Kaznacheev Institute, we conducted experiments on transmitting thoughts over the Tashkent-Novosibirsk distance, and as the academician later told me, the experiments were mostly successful. The Institute conducted similar experiments with Sofia, Moscow and other cities of Russia (the experiments carried out by the author of this article in Novosibirsk are described in his article "On the secrets of the human phenomenon", "Evening Tashkent" dated October 8, 2010). And finally, I would like to briefly outline my scientific hypothesis, based on the ideas of many of the above-mentioned scientists and thinkers. So, in my opinion, the human brain has the ability not only to think and produce ideas, but also the ability to be a receiver of energy information from space. We all know that the human brain consists of two hemispheres - the left, denoted by the sign (+), which is responsible for conscious processes, and the right (-), responsible for the subconscious.

During the intensive work of the brain to solve a problem, a certain bioenergy-informational "magnetic" field gradually forms around the head. As a result, this "magnetic" field begins to "attract" (according to V.I. Vernadsky from "Noosphere", according to G.I. Shipov from "Universal Consciousness", according to Iskakov from microlepton space, etc.) energy - information that a person thinks about intensely. This most often happens to people in creative professions, although it can happen to anyone. Of course, this hypothesis requires serious experimental confirmation from scientists in different fields of science, because modern science is still far from solving the phenomenon of consciousness.

3 Conclusion

On this occasion, I will quote the statement of academician Natalya Bekhtereva: "There are many cases of prophetic dreams and even scientific discoveries in a dream..., today science is not able to explain such phenomena.

It's better not to split hairs and say straight out: since this cannot be explained by any of the modern scientific methods, we will have to assume that the future is given to us in advance, as it exists. And we can, at least in a dream, come into contact, either with a "higher mind", or with God - with Someone who has knowledge about the future."

There are scientific ideas that are perceived as a play of unbridled imagination. But at the same time, it is the "insanity" of an idea, in the words of Niels Bohr, a Danish physicist and Nobel Prize winner in physics (1922), that can sometimes serve as a criterion of truth."

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The history of human organism

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Abstract: This article presents the main ancient doctors in the history of the study of the human body, their research, and the methods used in the treatment of diseases. Their scientific research is highlighted in the article. The study of the human body, the scientific researches of ancient doctors and modern medical scientists in the treatment of diseases and treatment methods are presented.

Key words: organism, body, physiology, anatomy, hygiene, nature of diseases.

1 Introduction

Since ancient times, people have been interested in their own creation, and at the same time, a number of doctors have been interested in and studied the structure and function of the human body, its organs, and used the acquired knowledge in the treatment of some body diseases. The methods they used are being studied by our current scientists and are being improved in modern ways, and scientific research is being carried out by scientists of the world without stopping. In the system of imparting medical knowledge to future educators and forming their clinical reasoning, it is desirable to be aware of the researches of ancient scientists who study the aspects of various diseases and know the mechanisms of the origin of human diseases.

2 Discussion

The most beautiful and at the same time the most mysterious creature of nature is man. The human body is made up of a complex set of various organs and systems. In some cases, the complex physiological and biochemical structures of the organism, which arose during the evolution of many centuries, are finally perfected.
Since ancient times, people have been interested in the creation of themselves in the nature that surrounds them, and at the same time, they have been interested in the structure of their body and the functioning of some of its organs. About the human body, the doctors and philosophers of ancient China, India, Greece and ancient Rome tried to study the structure of the human body and its organs.

First, the philosophers and doctors of the Croton school, the author of works on human anatomy, are connected with Alcmaeon, a scientist of the 5th century BC. In order to study the structure of the human body, they first tried to study the structure of the animal organism, because the study of the human body was prohibited by religion in previous centuries.

In many islands of the ancient Greek state, the medical and philosophical schools established the study of the human body and its bodily functions. Among these was Hippocrates, who founded the ancient Greek medical school on the island of Kos (about 460-377 million years ago). In the researches of Hippocrates that have come down to us, the structure of human bones and animal bones are similar. In those times, theoretical conclusions about the science of physiology were presented for the first time.

Hippocrates and his students studied the different behaviors of patients and based on the "humoral theory" came to the conclusion that living bodies are composed of 4 main fluids: blood (sanguis), bile (chole), black bile

(melanos chole), mucus (phelgma). Based on the "humoral theory", which of these fluids is superior to the others, the temperament of a person is divided into 4: sanguine, choleric, melancholic, phlegmatic.

The ancient Greek philosopher and physician Aristotle (384-322 BC) first introduced the concept of aorta and put forward the idea of the "inorganic world" as the main stages of nature - plants, animals, and humans. He was the first to put forward the idea that man is a social creature, distinguished from animals by reason and perception.

In his study of the human body, the ancient Roman physician Galen (200-129 BC) recorded his research on the functions of human body parts. He showed that the basis of anatomy and physiology, diagnosis, therapy (treatment) and prevention (disease prevention) is treatment. Galen cut the nerves and organs of animals to study the effects of drugs, showing that the body is connected to the brain and sense organs. In experiments, animals proved blood flow in arterial blood vessels.

The great doctor, mathematician, poet and philosopher from Central Asia Abu-Ali ibn Sina (980-1037) is known as "Avicenna" in foreign countries. He included anatomy, physiology, pathology and hygiene, internal medicine, surgery, pharmaceutics and other branches of medicine in his 5-volume Laws of Medicine.

Leonardo da Vinci (1452-1519), an Italian artist, showed the real image of the human body in his paintings, and thus he first laid the foundation for plastic anatomy.

Andreas Vesalius (1515-1564), an Italian scientist, in his lectures at the anatomy department of Panduan University, pointed out the gross mistakes of Galen before him and other doctors after him in the structure of the human body by cutting and dissecting human corpses. Vesalius was the first to write down the first manual of human anatomy.

Physiology as a separate science begins with the name of the English doctor William Harvey (1578-1657), in the field of physiology, blood circulation in the body is his greatest discovery. He demonstrated blood circulation in his experiments on animals, and published his scientific research in 1625 "Anatomical research on the movement of the heart and blood in animals" showed in his work.

René Descartes (1596-1650) was a French scientist who made a great discovery in the science of physiology, explaining the reflexive relationship of the organism and the mechanisms of the reflex act in the external environment. He showed protective reflex reaction mechanisms, such as closing the eye reflex when a finger touches the eyelids, and withdrawing the foot when touching the fire.

The rector of the first university in Russia, M.V. Lomonosov, is a poet, a great Russian scientist in the field of chemistry. The scientific basis of oxidation processes was described long before the French scientist Lavoisier, and later his scientific views and opinion became the main theory in human breathing. In 1757, he presented the theory of three-component color vision and the first classification of human perception from a scientific point of view.

In the 9th century, a great generalization of anatomy, physiology, and other biological sciences was laid, and Charles Darwin (1809-1882) explained the activities of the human organism from a materialistic point of view in his work "Evolutionary theory".

In the 19th and 20th centuries, Claude Bernard, Helm Holtz, Dubois Raymond, Ludvik, Russian scientists especially I.M. Sechenov, I.P. Pavlov, N.E. Vedensky enriched the science of medicine and hygiene with their new scientific works on the science of physiology.

I.P. Pirogov (1810-1881) clearly showed the location of organs in surgical anatomy.

Sechenov Ivan Mikhailovich (1829-1905) was a great Russian natural scientist. Founder of Russian school of physiology. He is the author of the works "Reflexes of the brain", "Physiology of the nervous system", which founded the natural scientific direction in psychology. He discovered the reflective properties of the brain.

Ilya Ilyich Mechnikov (1845-1916) was a Russian scientist who founded the field of microbiology and immunology. He created a theory about the importance and activity of immune phagocytes, which revealed the disease-resistant properties of the body. He emphasized that he deserved the Nobel Prize for his scientific research on gerontology (extending human life).

Ivan Petrovich Pavlov (1849-1936) was a Russian scientist who made a great contribution to the science of physiology, Nobel laureate. He created great works on the physiology of digestion, blood circulation in the body,

and the nervous system of humans and animals. I.M. Sechenov improved the theory of inhibition of conditioned reflexes, his scientific works and created his theory. Contributed to the development of medical sciences

Central Asian scientists Abu Ali ibn Sina, Abu Raikhan Beruni, Abu Bakr Bukhari, Abu Mansur Bukhari, Ismail Jurjani, Sultan Ali Khorasani made a great contribution to the development of medical science.

Abu Raikhan Beruni (973 - 1048) is a great scholar in the field of encyclopedia. "Saydana", who collected major scientific works of that time, collected information about 880 types of plants and discovered 1000 medicinal preparations.

Abu Ali Ibn Sina (980 - 1037) was a great physician, philosopher, poet, musicologist. His 5-volume "Laws of Medicine" contains information on anatomy, hygiene, internal medicine, surgery, pharmacology and other fields of medicine. His work has been the main guide in the field of medicine for several centuries to this day.

Physiology, Biochemistry, Biophysics.

Yunusov Atxam Yunusovich (1940-1971), one of the scientists of our country in the treatment of sick people and transplantation of organs, a physiologist studied the physiological mechanisms of water and salt exchange in the body of humans and animals in hot climate conditions, and at the same time revealed the features of adaptation of animals to high temperatures.

Aripov Uktam Oripovich (1927-2001) treated patients in Uzbekistan by transplanting organs. He scientifically substantiated the transplantation of a part of the kidney and pancreas and used it in medical practice.

Zufarov Komiljon Akhmadjonovich (1925-2002) developed the science of histology in Uzbekistan. Revealed the cellular mechanism of filtration, secretion and absorption processes in the body.

Turakulov Yolkin Kholmatovich (1916-2005) organizer of medical sciences in Uzbekistan. He studied thyroid hormones, cell metabolism and endocrine diseases. He applied new methods of diagnosing patients and treating them in medicine with the help of isotopes in his practice and developed ways of using them.

Vokhidov Vosid Vokhidovich (1917-1994) was the organizer of the school of specialized surgical assistance in Uzbekistan. He studied diseases of the lungs, bile ducts, liver, medulla, heart, blood vessels, locomotor organs, abdomen and chest and introduced treatment methods.

Tashmukhammedov Bekzhan Oybekovich (1935 - 2020), doctor of biological sciences, professor, academician of the RFA, laureate of the Beruni State Prize. In the implementation of the All-Union program "Nerve Impulse" and "Ion Channel" in the fields of physiology, biophysics and biochemistry, modifier - toxins (poisons) and canoloformer - classifications of toxins, affecting the lipid matrix of membranes and identifying toxins affecting sodium and calcium channels of excitable membranes. With the help of these toxins, it was possible to isolate glutamate receptors in synapses and reconstruct them into artificial membranes. Among the toxins of highly pathogenic bacteria such as staphylococci, cholera vibrio, and cereus bacillus, new channel-forming proteins have been identified.

Musaev Utkir Nasirovich (1936-2007) is a leading scientist in the field of chemistry of high molecular compounds of Uzbekistan, doctor of chemical sciences, professor, honored scientist of Uzbekistan, academician of the International Academy of Science and Education.

Modification of physiologically active macromolecular substances and polymers and synthesis of polymer products used in medicine and surgery. He carried out scientific research and applied it in the creation of macromolecular preparations, organic medicinal preparations**.**

3 Results

Anatomy is the science of body structure. Human anatomy studies the human body, its activity and the influence of the external environment. Macroscopic anatomy studies an organism's external shape, dimensions, body proportions, and the structure of internal organs. Microscopic anatomy or histology studies the microscopic structure of cells, tissues, and organs.

Physiology is a science that studies the activity of the organism. He studies the laws of development of individual organs-systems as a whole. Physiology studies the activity of a living organism and the processes that take place in it, as well as its mechanisms. Experimental physiology is the creation and observation of the most

favorable conditions for determining certain processes in the body. Scientific researches of a number of scientists mentioned above can be cited.

Human hygiene. Health is the greatest wealth of a person. Healthy is person's joy of life, ability to drink, and achievement. Based on current scientific research, it can be said that a person can easily live for 120-150 years if he maintains his health and work. The science of hygiene is the conditions for maintaining human health, the proper organization of life, the ways of making food and living comfortable, and medicine is considered a special branch of hygiene, and this branch deals with these issues from a scientific point of view and offers a convenient diet for the treatment of certain diseases.

Practical application of hygiene knowledge, knowledge used in preventing certain diseases and strengthening human health is called sanitation. Hygiene of children and adolescents - studying the living conditions of the organism of children and adolescents, its mental and physical development, high workability, health, resilience, and based on the results, develops sanitary-hygiene requirements and standards.

School hygiene - location, comfort and planning of children's organizations creates sanitary and hygienic requirements. Based on the produced sanitary-hygienic requirements, it is used by architects, in the design of projects, in the construction of schools and children's recreation camps. Lighting of children's organizations is based on sanitary-technical provision. The main requirements of school hygiene: building heating, water supply, sewage, ventilation, room ventilation and artificial lighting. School hygiene equips pedagogy with the standards of hygienic requirements. These requirements ensure the comprehensive normative development of children and adolescents, and at the same time, the effective conduct of educational processes. Children's and adolescents' hygiene issues are the creation of hygienic conditions for raising a young generation who are physically strong and enjoy life. Health is formed from a young age. For this reason, it is necessary for parents, pedagogues, children and teenagers to get acquainted with the basics of anatomy and physiology and hygiene in order to build a proper lifestyle. Physical culture is important in the life of people of different ages. Anatomy and physiology form the scientific basis of physical culture and sports - this is a huge factor in the development of humans' physical and mental strength.

Man's place in nature. Man is the stage of the highest evolution of the organic world with its complex structure, physiological and psychic characteristics. Charles Darwin in his book "The Descent of Man and Sexual Selection" (1871) provided clear scientific evidence that man originated from the development of living nature, and the history of his formation was based on the laws common to all living creatures. He says that man does not occupy a separate place in nature, but is only a highly developed part in the chain of development of all living beings. Man is connected by bonds of kinship with animals, primarily with monkeys. Darwin said that monkeys are the closest relatives of man.

Scientific study of the human embryo shows that it goes through all the stages characteristic of vertebrates. One-month-old human embryos have a smooth surface, and the heart has a flute-like structure. It is of great importance that the structure of the human body corresponds to the structure of the vertebrae.

What is this commonality? The backbone of the vertebrate body is its skeleton. The central nervous system of vertebrates has a tube-like structure, they are: the spinal cord is located inside the spine, the brain is located inside a box of bones. Vertebrate circulatory system is closed and consists of heart, arteries, veins and capillaries. In them, the blood from the portal vein passes through the stomach and intestines to the liver and joins the veins. It starts from the venous system and ends with the posterior opening. Mammals are among the most highly developed vertebrates. Humans are also mammals. Mammals feed their newborn babies with breast milk. A human child is also fed with mother's milk. The biological characteristic of mammals is live birth, and the biological characteristic of humans is live birth. According to systematics, man is assigned a place in the order of primates, under the ape-like order, or pithecoids. The composition of the hominid family (family of people - hominidae) includes modern people and forms one family: conscious man (homo sapiens). Homo species includes modern humans. Man is superior to anthropoids by the advantage of his brain, the perfection of his analyzer, the upright posture of his body, and the freedom of his legs from walking. A human's brain is three times larger than a gorilla's brain, but a gorilla's brain is three times heavier than a human's. The human braincase is large relative to the face, while the gorilla

braincase is small relative to the face. There are also differences in the fingers of the lake. Humans have shorter spines when they walk upright, while apes have longer spines than humans.

Concepts of tissues, organs and organ systems. An organism is a unit of the organic world that lives independently and responds to changes in the external environment as a whole. Each organism has its own structure.

In the course of evolution, differentiation of cells occurred for multicellular organisms: cells with different shapes, structures, functions and sizes arose from them. The developmental process is that tissues arise from the same individual differentiated cells, and different tissues are specialized according to their functions. For example: contraction is characteristic of muscle tissue, conduction of excitation is characteristic of nerve tissue, etc.

Several tissues combine into a specific complex to form an organ (kidney, eye, medulla, etc.). An organ is a part of an organism, located in a permanent place in the body, has a certain structure and performs one or more functions. The organ consists of several tissues, one of which is specialized to perform the main activity. For example, the main structure of muscle is muscle tissue. Organs are the working apparatus of the body, and for the body to function as a whole, they are specialized to perform complex activities: the heart acts as a pump, the veins carry blood to the arteries, the kidneys perform the function of removing the last waste products from the metabolism, the bone marrow - the production of blood and others.

There are many organs in the human body, but each of them is a part of the whole system of the organism and serves its requirements.

A number of members together form a system of members performing a certain activity. An organ system is a combination of several organs from anatomic and functional aspects, participating in the performance of some complex activity - it is called an organ system (digestive system, respiratory system, cardiovascular system).

Of all the systems in the body, the nervous system is the most important. It controls all systems of the organism and their activities together and determines its actions in the external environment.

Two and several member systems together define the concept of hardware. For example, the skeleton and muscles together form the musculoskeletal system.

But it is necessary not to forget that a living organism with a complex association is considered as a whole, in which all structural activities: cells, tissues, organs and organ systems are coordinated and subservient to this whole.

4 Conclusion

Every disease is a suffering of a whole organism. In this case, all the organs and systems of the body are involved in suffering. Taking into account the resulting changes, organs and systems in the development of the disease are determined in their interdependence, and it is possible to distinguish certain stages and patterns in the development of various diseases. It is possible to see with the naked eye whether these structural changes are known - unknown (microscopic) or gross and extensive.

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Media literacy of students based on the development trends of modern information and communication technologies improvement

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Abstract: The article discusses the essence of media and information literacy, as well as trends in the development of media literacy of students of higher education institutions in the digital environment. Researches and achievements of scientists of Uzbekistan and foreign countries in this field are analyzed. Specific features of international cooperation on the development of media and information literacy are highlighted.
Keywords: media education, media literacy, information literacy, international cooperation, culture of receiving information, university network, expert.

1 Introduction

Today, the society, the development of science, the increasing influence of advanced technologies, especially the mass media, on the spheres of daily household and professional activity of mankind, require any specialist to create and implement effective methods and technologies for working with the flow of information.

In the national and international educational environment of the world's leading higher education institutions, importance is attached to the development of an active, critical and creative approach to the assimilation of information in the media space, and the formation of media literacy and information culture. Developing the media literacy of students of educational institutions based on the integration of education and media, improving media literacy based on an integrative approach, and developing the media competence of future specialists is of urgent importance.

In the practice of world education, research in this field began in the 60s and 70s of the last century, and a unique direction in the science of pedagogy - media education - appeared. It is expected that the new direction will help pupils and students to adapt to the world of media information, to master the language of mass media, and to be able to analyze media texts.

Currently, it is difficult to control both the content of information and the methods and ways of their distribution through mass media. Especially the popularization of the Internet made this process even more complicated. The influence of information as a commodity began to be seen in the independent thinking of students.

Students with media skills must follow the norms, rules and laws governing the use of the Internet. If the user is not familiar with the privacy standards in the media community, he may unwittingly disclose private information to the public.

Online education has a positive impact on various professional fields and contributes to economic growth. Simplicity of the process of digitization and information storage, as well as access to information through various devices, made it possible to increase information resources available to people on the Internet. As children and students are good at using various applications, they use the Internet for their own benefit and at the same time they are vulnerable to it. Just like in the real world, there are certain risks associated with using the Internet. The best

way to protect yourself from them is to teach young people how to manage such risks that arise in the process of using the Internet.

In this sense, an educational system is emerging in Uzbekistan to create ideological immunity, media and information security skills in students and children. Information-resource centres established in all educational institutions of the country, as well as certain subjects included in the educational process (Medical literacy and information culture, "Information-psychological security", "Basics of information security") provide users with practical communication skills and allows information to be distributed in the media content network.[1]

2 Materials and Methods

The concept of "media" is an English term, which is actively used in language use in Uzbekistan today.

Since the middle of the 20th century, technological factors have played a decisive role in social processes, which served to actively study the media problem by researchers, especially Western scientists. Issues related to the impact of media on individuals and society, the role of the individual in the communication processes were widely discussed in the works of Anglo-Saxon world scientists such as G. Lassuel, U. Schramm, G. Gerbner, G. Innis, M. McLuhan. At the Aunan Anglo-Saxon school, extensive and comprehensive studies were conducted on the phenomenon of "media". In the 60s of the 20th century, on the basis of the University of Toronto, a research and development center was opened, which was devoted to the influence of modern technologies on human consciousness and activity. The first group under the leadership of professor G. Innis studied communication technologies, while professor M. McLuhan studied the phenomena of mass communication and media education. Later, this research was named "Toronto School of Communication Theory".[2]

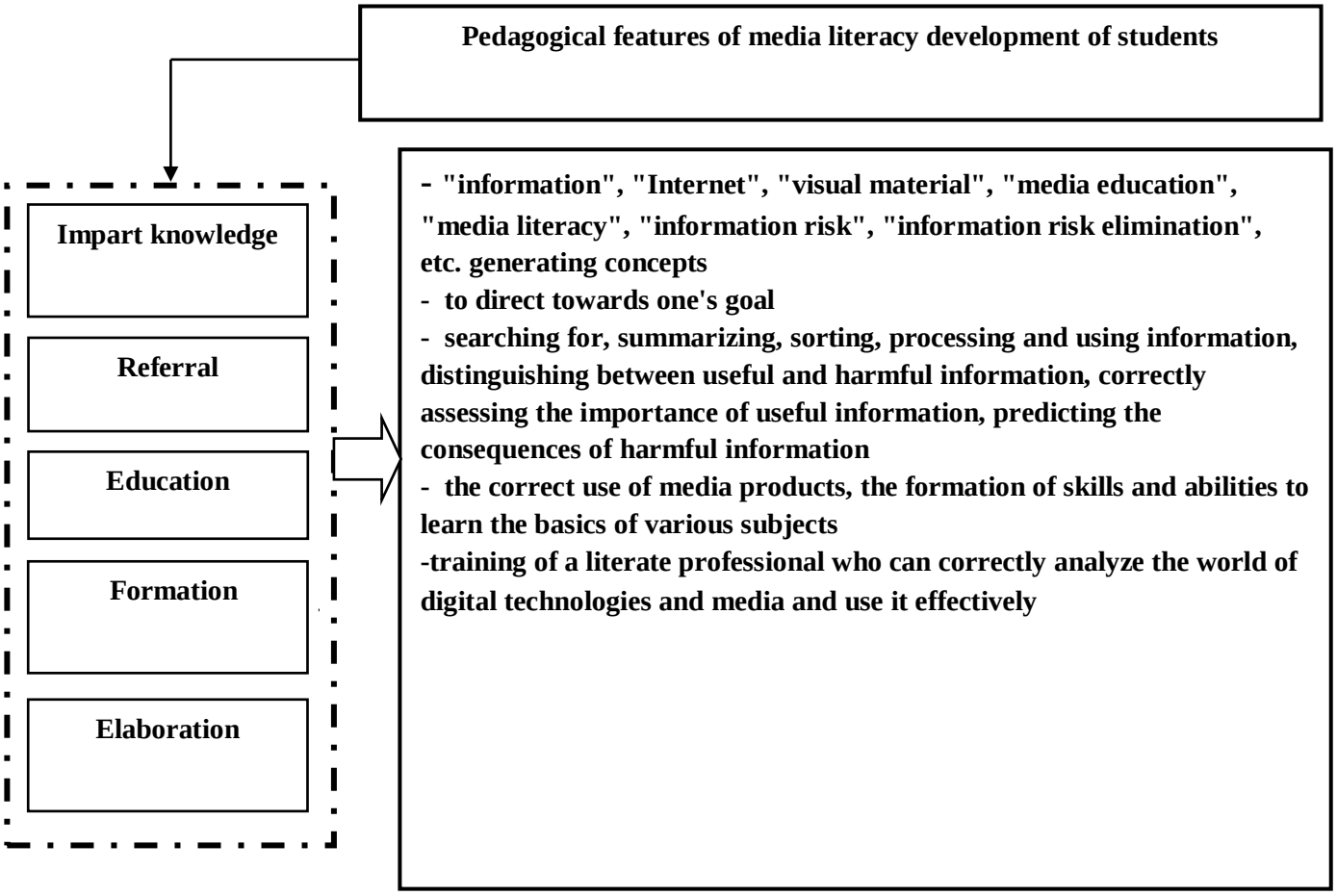
The term "media literacy" also has a strong place in the world of international science. Scientists such as Walter Benomin [3], Lawrence Engel (Germany) [4], Nicholas Negronte [5], Noam Chomsky (USA) [6], Alexander Fedorov (Russia) [7], Stuart Hall (Britain) [8] who thought about this concept in their works.

Khurshid Dostmuhammad calls media literacy "information culture" or "info ethics".[9] Regardless of what we call it, it is true that the skill of avoiding information has appeared in the conditions of globalization. "According to economist Herbert Simon, winner of the Nobel Prize, information is killing and eating its consumers (recipients)".[10] In such conditions, it is an urgent task to study the theoretical and practical foundations of media education, to conduct research on increasing the activity of the population in the formation of civil society. The goal of media education is the formation of media literacy.

If literacy means "possessing sufficient knowledge in a certain field" [11], then the concept of "media literacy" is defined as familiarity with, selection, sorting, and analysis of information distributed through the media based on a person's personal or professional interests, needs, and obligations. and possessing sufficient knowledge on evaluation" can be interpreted as serving to illuminate.

In 2012, "Pedagogical foundations of formation of media and information literacy" were developed by UNESCO and the Institute of Information Technologies in Education of this organization in the Russian Federation. Also, a teaching-methodical manual entitled "Pedagogical aspects of media and information literacy formation" was published. The manual has a unique methodical structure, in which theoretical and practical knowledge on topics is shared among people of different ages, including students, on the basis of the unit "theoretical ideas ↔ practical skills" is provided.

The use of media is an important part of the leisure time of young people, especially students. Therefore, it is natural to integrate media education into the process of working with young people. Specialists in working with young people, as media pedagogues, know their media world and media culture well. Youth media culture can be significantly different from that of adults. For this reason, in order to eliminate the misunderstanding between young people and adults and to ensure high-quality media education, it is necessary to have clear ideas about the essence of media and youth media culture.



3 Result and Discussion

An important factor in ensuring information security in the context of information communication is the human factor. Because today the concept of "information" affects human thinking in various ways and has become a powerful tool that can turn his life and destiny in a certain direction - negative or positive. This, in turn, requires strong sensitivity from each person. The reason is that young people use the media more than the older generation. But in such conditions, restricting the minds of young people from information does not provide the desired result. This situation is contrary to democratic values.

That is why forming a culture of information acquisition among young people is one of the main tasks. Therefore, in the conditions of globalization of the information space, the role of media education is extremely important and acquires social and political significance.

Despite the reforms implemented in our country and the opinions of our scientists regarding the use of media in the educational process, the issue of developing and establishing a mechanism for the development of media education among students remains urgent.

The conclusions obtained from the results of the preliminary experimental tests show that:

- lack of readiness of university graduates to demonstrate their professional potential in the global information space at a time when the labor market's need for professionals with the ability to use modern information technologies and the Internet system in a professional manner is increasing;

- today's students' activeness in watching entertaining, low-level content in the media space, their lack of understanding of such concepts as Internet addiction, ideological threat, cyber-ludomania, and their natural lack of media literacy;

- students' desire to create a media space and critical perception, consumption of mass media, lack of readiness to create media texts, media resources;

4 Conclusion

Many traditional problems of human security have undergone serious changes in the conditions of society's informatization. Events such as the expansion and renewal of the scope of information risk and new sources of risk, risk factors, protection of interests and values are taking place. Computers, various information resources of the Internet, computer games, etc. can be noted as new sources of danger. The risk factors that arise in the use of information include: various failures in computer work, low-quality software products, high electric power, electromagnetic fields, information of a pornographic nature, software games with fantasy sports content, hacker activities and frauds in the information network, etc. [12]

Teaching students to be able to act in the information environment, to find an acceptable path for themselves (that does not lead to disaster) requires a systematic, integrated approach to the process. In our opinion, the most effective way to achieve it is to further develop the media education system and ensure its implementation.

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Issues of interlanguage homonymy (proximates) in the Turkic languages: on the example of the Tatar and Kazakh languages

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Abstract: The article touches upon the topic of interlanguage lexical correspondences of a homonymic nature based on the material of the Kazakh and Tatar languages, which represent lexical problems in the compilation of bilingual dictionaries and in translation practice. The relevance of the presented work is due to the need for a comprehensive study of the processes of interaction and mutual influence of lexical systems of related languages and the need to study and analyze interlanguage lexical deceptive correspondences between the Kazakh and Tatar languages. This is an important topic for linguists and researchers, as understanding such correspondences will help expand our knowledge of the relationships and similarities between these two Turkic languages. This article examines the interlanguage lexical correspondences of a homonymic nature based on the material of the Kazakh and Tatar languages, analyzes the theoretical aspects and practical applications of correspondences, as well as their significance for lexicographers, linguists and translators. The goals and objectives of the study are to conduct an in-depth analysis of the lexical correspondences between the Kazakh and Tatar languages, with an emphasis on deceptive correspondences. The research objectives include: analysis of lexical structures and similarities between the Kazakh and Tatar languages, identification of words that may be perceived as deceptive correspondences due to similarity of sound or spelling, but have different meanings or origins; study of historical context and cultural factors that may influence the appearance of deceptive correspondences between languages; assessment of the influence of interlanguage contacts on the formation of lexical deceptive correspondences and their modern use in both languages; presentation of practical examples and studies demonstrating the prevalence and importance of interlanguage lexical deceptive correspondences for native speakers of the Kazakh and Tatar languages. The obtained results contribute to the study of interlanguage correspondences and contribute to a deeper understanding of the specifics of the interaction of related language systems.
Keywords: Turkology, Kazakh language, Tatar language, interlanguage homonymy, "Ancient Turkic dictionary", proximates, false friends of the translator

1 Introduction

Interlanguage lexical similarities between related languages is one of the most interesting phenomena in linguistics. They are words that have a common origin and form in different languages due to a common ancestor. These similarities can be especially noticeable in related languages such as Slavic languages (e.g. Russian, Polish, Belarusian) or Turkic languages (e.g. Tatar, Kazakh, Yakut). The Turkic languages, which include Kazakh and Tatar, have common roots dating back to the ancient Turkic language. Despite the proximity of these languages, various phonetic, morphological and semantic changes in the native vocabulary took place during their historical development. The study of the causes and nature of these changes is an important task of comparative historical Turkology.

2 Technology for obtaining materials and research method

Comparative analysis, descriptive method and component analysis method were used as a method for the study of proximates. Comparative analysis involves the comparison of lexical units of the Kazakh and Tatar languages, the definition of cases of interlanguage homonymy. The use of the descriptive method makes it possible to comprehensively describe the identified proximates, their semantic, structural and functional characteristics. The use of component analysis makes it possible to identify semantic components in the meaning of proximates, to determine their similarities and differences. The research used materials from bilingual and etymological dictionaries of the Tatar and Kazakh languages, research on other languages and the "Ancient Turkic Dictionary".

3 Experimental results and their discussion

When comparing related and especially closely related languages, attention has long been paid to similar words with different meanings, which may be a consequence of the uneven development of the common origin of the meaning of the word. As a result of such changes in the Turkic languages, there were changes in the meanings of words of the same form, and some of them acquired antonymic meanings. This type of lexical correspondence is common, and is a problem when compiling dictionaries, translating and studying closely related languages. To identify such inconsistencies, it is necessary to study the root and etymology of the proximates in both languages. Kazakh and Tatar languages belonging to the Turkic language family have a number of common features at various language levels, including in the field of vocabulary. The etymology of the interlanguage lexical correspondences of the Kazakh and Tatar languages is an important aspect of the study of these languages, as it can provide an opportunity for a better understanding of their relationship and evolution over the centuries.

For historical comparison of lexical units of two languages, data from etymological dictionaries and reference books on etymology, ancient dictionaries of the original version of lexical units are used. For Turkic languages, such a dictionary is the "Ancient Turkic Dictionary".

The "Ancient Turkic Dictionary" was created on the basis of a collection of material for several decades extracted from ancient Turkic monuments of the VII-XIII centuries. Hundreds of bilingual dictionaries have been created over the previous centuries. They use various systems of construction and interpretation of the material. The "Ancient Turkic Dictionary" is the first attempt to provide complete information about the vocabulary of ancient Turkic languages and dialects preserved in these written monuments.

Many words in modern Turkic languages have been preserved to this day exactly unchanged, apart from minor phonetic differences in the languages. Basically, these are verbs: Jürü – 1) to walk, to move 2) in the meanings of the service verb [5, p. 305], numerals: Jüz – 2) hundred [5, p. 306], pronouns: Men/min – personal pronoun of the 1st l. unit. I [5, p. 362], words denoting kinship: Kelin is a daughter–in-law, a bride [5, p. 315]. In comparison with the Slavic languages, the Turkic languages have retained a large number of correspondences in verbs and numerals. For example, E.V. Fedorchuk in his dissertation, using the example of Russian and Ukrainian languages, considers interlanguage homonymy in close connection with interlanguage paronymy, paying attention to the fact that this phenomenon is expressed by such parts of speech as a noun, adjective, numeral, verb [13, p. 256]. There are many classifications of proximates proposed by linguists. In our article, we will rely on the classification proposed by the French lexicographers M. Kessler, J. Derocquigny, who divide them into partially false interlanguage homonyms and completely false interlanguage homonyms. It was they who first introduced the term "faux amis du traducteur", which is known as "false friends of the translator", which has become common in modern linguistics [6, p. 112]. Partially false proximates include lexemes with similar spelling and common semantics – expressed in words similar in spelling and meaning, but can be used in context in a different, little-known meaning. And complete false proximates can be attributed to those with similar spelling and divergent semantics – words that can be confused due to consonance. Partially false interlanguage homonyms have similar spelling and, as a rule, common semantics - they are expressed in words similar in spelling and meaning, but can be used in context in a different, little-known meaning. Here are some examples in the context, in Kazakh kantar 1) the name of the month "January", 2) the figurative meaning "difficulty", 3) the verb "an action that is performed when tethering a horse so that it cannot eat hay". An example of sentences in Kazakh: Uninde kantarda katkan muzdai bir myzgymas zil zhatyr! (I. Yesenberlin) [7, p.251]. There is a strength in his voice comparable to the frost in January. Salima ak boz atta etekke kantaryp tastap, ozi tastyn basyna shykty (Z. Akyshev, Dostar) [7, p.251]. Salima tied the white horse and climbed onto the stone. And in Tatar, kantar has the meaning of "lump", "lump". Example in sentences: Shartlau bik kochle bula, katy balchyk kantarlary alle ni erak atylmas da, vak kisaklar shybyr-shybyr booth tubalaren koela, alle kailarga ocha ide... (R.Karami) [11, p.103]. The explosion was very strong, and although the heavy clay pieces were not thrown far away, small pieces fell on the roofs of the booth and flew far, far away... Homonyms can also be classified according to various criteria. For example, homographs can be distinguished: words that are the same in spelling, but different in pronunciation, they differ in stress [12, p. 11]. But, the stress in all Turkic languages falls on the last syllable, this is a feature of all Turkic languages. Therefore, this classification is not suitable for our chosen languages. The problem of interlanguage lexical correspondences of a homonymic nature is of interest from the point of view of the current state of the lexical systems of the Kazakh and Tatar languages, as well as from the point of view of their etymology. And the emergence of lexical synchrony and diachrony is inevitable in the evolution of language. Ancient Turkic words are preserved in the language, but their modern usage may be ambiguous due to changes in grammar, vocabulary and phonology. Let's consider the main factors influencing the formation of proximates. One of the main reasons for the emergence of interlanguage lexical differences is the historical events and migrations of peoples that took place on the territory of the ancient

Turkic states. Also, language contacts in the neighborhood with other states and cultures contributed to the formation of different lexical layers. Kazakh and Tatar languages were influenced by languages such as Persian, Arabic, Russian and Mongolian. The problem of multilingualism also has its own characteristics in two languages. The majority of residents of Kazakhstan and Tatarstan are bilinguals who, due to circumstances, are forced to speak any one language, at a subconscious level pronounce their utterance in their native language [9, p. 247]. Thus, the native language remains open for "code switching" [3, p. 514], and some borrowed words can adapt to the native language and contribute to the appearance of proximates. Arabic and Persian loanwords entered the Turkic lexicon during the spread of Islam. Writing, science and state-important correspondence were conducted in Arabic script. Arabisms and Persiisms are still used in Turkic languages without changes in meanings, for example, Tatar adep – decency, politeness, Kazakh adep – decency, politeness, "Ancient Turkic dictionary" ädäb – courtesy, politeness, good manners. It is still unknown how many interlanguage similarities there are in the Kazakh and Tatar languages. Since this problem remains open in Turkology, although questions about interlanguage lexical correspondences in modern Turkic languages have been asked by Turkic scientists and are among the important problems of comparative analysis of Turkic languages. It is worth noting that there is no detailed study of interlanguage homonyms for the vast majority of languages, and bilingual comparative dictionaries with "false translator's friends" exist mainly only in popular world languages such as English, French, Chinese. Also in Russian, bilingual comparative dictionaries have been released relatively recently. Russian Russian, Slovak and Russian languages, in which the term "proximate" is given for interlanguage homonyms, which will later be used in the article to denote interlanguage lexical inconsistencies, can be noted in the scientific works of E. A. Pravda on the lexical parallels of Serbian and Russian, Slovak and Russian languages. A proximate is a fact of a foreign language (word, phrase, morpheme, etc.) that bears an external resemblance to some fact of the native language, but differs from it in semantic, grammatical, stylistic or other properties and therefore is capable of causing an error when used in speech in a given foreign language [10, p. 128]. Also, the dissertation of E. V. Fedorchuk paronyms and homonyms based on the material of the Russian and Ukrainian languages. In Turkology, one can distinguish the works of A. With a detailed analysis of lexical parallels in Uzbek, Turkish and Kazakh languages, the scientist notes that interlanguage parallels differ not only in meaning, but also in positive and negative shades, as well as stylistic aspect [8, p. 52]. Philologists and researchers of the Uzbek language have also made good progress. Scientific works of the Uzbek linguist E. Odilova is devoted to the phenomenon of interlanguage lexical formality in Uzbek and Kazakh languages, examples of more than 50 lexical units are given.

The analysis of the collected material showed that the changes in ancient Turkic words in the Kazakh and Tatar languages may be due to the following main reasons:

1.Phonetic changes. These changes are associated with regular phonetic processes, such as nasalization of vowels, assimilation and palatalization of consonants. Differences in the alphabet contributed to this. For example, the lexeme "it", which can be attributed to comic proximates, means meat in Tatar, and dog in Kazakh. According to the "Ancient Turkic dictionary", the word et is meat [5, p. 199]. Another interesting variant of this correspondence is the words with the meanings "louse" and "face". According to the "Ancient Turkic dictionary", the bit token has two meanings: 1) face, physiognomy; 2) louse. In Tatar bet is a louse, bit is a face, in Kazakh bet is a face, bit is a louse. Thus, correspondences in two languages have an antonymic meaning. We have added such similarities to a number of phonetic changes, even if one of the languages has a similar analogue with some changes, lexemes with a different meaning may occur in the second language, as in the above example, but the affiliation of such correspondences to interlanguage homonyms is controversial. For example, the controversial lexemes include the ancient Turkic pronoun bu – this (used to indicate the object closest in spatial or temporal relations compared to others) [5, p. 127], in Tatar bu – this, although in Kazakh there is an analogue of the pronoun "this" – bul. The main meaning of this lexeme in Kazakh is par, and in Tatar, it is more often used as a pronoun, but also has a second meaning "par". The meaning of the "pairs" of the bu lexeme is also ancient Turkic. The "Ancient Turkic Dictionary" gives three meanings for this lexeme.

2. Semantic changes. The ancient Turkic word "Qïsyan" means to be greedy, to be stingy [5, p. 498]. In modern Tatar, it means kyzganych – pity, in Kazakh, kyzganysh – jealousy. The Kazakh language has retained the closest meaning. These semantic shifts may be due to the influence of other languages, as well as the development of figurative meanings. Some ancient Turkic words were displaced or changed under the influence of borrowings from Arabic, Persian and Russian.

Thus, the changes in the ancient Turkic vocabulary in the Kazakh and Tatar languages are explained by a complex of phonetic, morphological, semantic and contact factors that operated during the historical development of these languages.

4 Conclusion

In the proposed article, we tried to lay the first foundation for compiling a bilingual dictionary of the "false friends of the translator" of the Kazakh and Tatar languages. The study of interlanguage proximates in closely related languages is an interesting and relevant topic for linguistics. Despite the genetic kinship of languages, the geographical proximity of countries and similarities in culture and mentality, there are a significant number of differences in related languages. It is important to understand why semantic divergence occurs in historically related languages and why there is a diachrony in words. In the process of studying interlanguage Tatar-Kazakh homonyms, it turned out that this problem is poorly understood. Russian Russian and Kazakh-Russian bilingual dictionaries were collected, and explanatory and etymological dictionaries of both languages were also used. However, for a competent translation from Tatar into Kazakh or from Kazakh into Tatar, it is necessary to create dictionaries of "false friends of the translator". In theoretical and practical terms, dictionaries of "false friends of the translator" are considered more useful, giving a description of all the meanings inherent in each word and reflecting its stylistic, emotionally expressive, grammatical characteristics, cultural significance and lexical compatibility. As a result of a comparative analysis of the lexical systems of the Kazakh and Tatar languages, a number of interlanguage homonyms characterized by both formal and semantic similarities have been identified. The description of the identified proximates showed that they can differ in terms of speech, sphere of use, stylistic coloring and other characteristics. Thus, the conducted research contributes to the study of interlanguage lexical correspondences, contributes to a deeper understanding of the specifics of interaction and mutual influence of lexical systems of related languages.

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Requirements for future economics in the transition to the digital economy

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Annotation: In this article, in the process of transition to the digital economy, the demands placed on the teachers of "Information and communication technologies and systems in the economy" and students studying in the field of economics, as well as the solutions aimed at solving them, are interpreted.
Key words: globalization, digitization of society, digital technologies, smart city, smart house, information technologies in the economy, presentation, advertising.

1 Introduction

The use of information technologies and communication tools in all spheres of society has become the main priority of the development of this sphere. In particular, the use of information technologies in the field of economy, which is the body and foundation of the society, has taken the main place in the development of the sector.

The word "digitalization" is actually a new term, which refers to the involvement of IT solutions in the process of innovative management and administration, and as a result, the use of information technologies in all systems, from Internet of Things to e-government.

As the importance and impact of digitalization increases, it can be seen that the requirements for future economics students will also change. The reason is that the digitization process is directly implemented by economists and representatives of the IT sector.

2020 was announced as the "Year of Science, Enlightenment and Digital Economy Development" in our country, and the work in this regard has now reached a new level, and the country's "Digital Uzbekistan - 2030" strategy and the "Road Map" for its implementation were approved by presidential decree.

It can be seen from the instructions on the development of digital education within the framework of this strategy that the digitization process is directly entering the education system.

Literature analysis

Starting from January 1, 2021, a system will be introduced to reimburse citizens up to 50% of the costs of obtaining international IT certificates in areas such as system administration, database and cloud platform management, information security, and other areas of high demand;

By January 1, 2021, digital technology training centers will be opened in each district and city based on existing infrastructure facilities for the general population, especially youth and women;

By the end of 2023, more than 200 specialized schools for in-depth teaching of computer science and information technologies will be gradually established in all districts and cities on the basis of existing educational institutions to promote the creative development of students and learn the basics of computer programming.

As it may seem at first glance, blended learning is not a new approach to effective learning. This format has actually been around for over two decades, and many universities are now using this form of education. It is thanks to this method that a student has the opportunity to study individually, in a group, and additionally at home at a time convenient for him.

3 Results and discussions

The sector that starts working with a specialist who does not have the knowledge and skills related to the digitization process will lag behind the development of society.

A specialist who has not mastered the knowledge and skills associated with the digitization process will have problems finding his place in society.

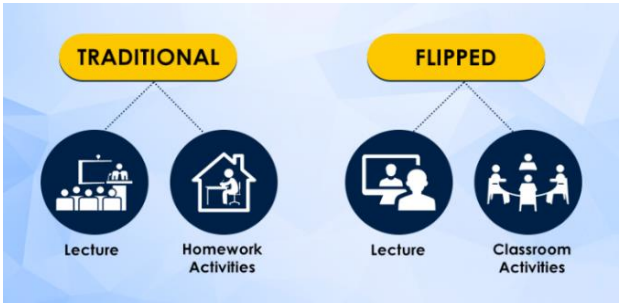
The labor market cannot cope with competition. As a result, the probability of unemployment increases.

In the concept of development of the higher education system of the Republic of Uzbekistan until 2030, special attention is paid to the introduction of digital technologies and modern methods in the educational process. increased:

1. Organization of a system of training highly qualified specialist-technical personnel for the digital economy;
2. Ensuring the solid integration of modern information and communication technologies and educational technologies, creating additional conditions for the continuous development of the professional skills of pedagogues in this regard; To ensure the implementation of the decision of the Cabinet of Ministers dated 23.09.2019 No. 797 on additional measures to further improve the system of improving the qualifications of managers and pedagogues of higher education institutions.
3. In the educational process, individualization based on digital technologies, development of distance education services, wide introduction of webinar, online, "Blended learning", "flepped classroom" technologies into practice;

In this, traditional education and distance education are combined. Depending on the needs and capabilities of the students, they can use the types of education.

In the "Flapped classroom" technology, the teacher places all the information on the platform. Students are preparing at home with information about the lessons. There are no lectures during the lesson, students learn at home and strengthen their practical skills with the help of practical exercises.



4. Organization of distance education programs based on modern information and communication technologies (8): It is advisable to use the services of Zoom, Microsoft Teams, FreeConference video conference programs.

The process of transition to the digital economy puts the following issues before educational institutions that prepare experts in the field of economics:

• Providing the educational process with complete information technologies. Creation of special laboratory rooms and simulators for practice and laboratory training.

• Involve qualified professors and teachers who are real masters of their work in the educational process. Attracting a narrow range of specialists working with special programs

• Use of modern educational methods and information technologies. In this case, based on the given topic, a different approach to each topic and the use of methods

• Creation and implementation of the opportunity to master the special software used in the fields.

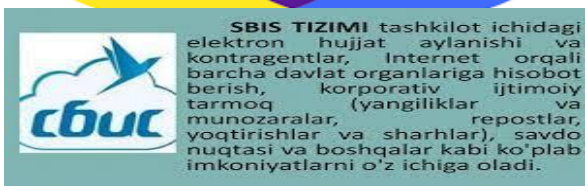
✓ **MICROSOFT EXCEL**- A universal program included in the Microsoft Office suite of programs. An unrivaled program for working with spreadsheets with the ability to store, organize and analyze information. Flexible and easy to use.

✓ **1C: ACCOUNTING** is the most popular accounting program that has taken accounting to a whole new level. The services connected to it work effectively with accounting tasks. The main features of this program are: accounting in accordance with the law, registration of business operations, timely support of users.

✓ **1C: SALARY AND HR MANAGEMENT** this program allows you to automate matters related to the calculation of wages and the implementation of the organization's personnel policy. Widely used in personnel department and accounting department.

✓ **1C: DOCUMENT EXCHANGE** a modern ECM system (Enterprise Content Management), a comprehensive set of tools for business process management and employee performance. It serves to automate work with documents in the organization. Significantly reduces the duration of management decisions.

✓ **SBIS SYSTEM** includes many possibilities, such as electronic document circulation within the organization and counterparties, reporting to all government bodies via the Internet, corporate social network (news and discussions, reposts, likes and comments), point of sale, etc.



✓ **GLONASS/GPS** - is a modern tool that allows you to monitor the real-time movement of the car, the mode of work and rest of the driver, the speed of the car and fuel consumption. An ideal solution for the economist who controls fuel lubricants.

✓ **CLIENT-BANK** is a convenient system, through which the client can perform settlement operations, exchange information and documents with the bank by phone and computer.

4 Conclusion

In conclusion, it can be said that it is necessary to connect the educational process directly with economic spheres, to involve economic experts in the educational process, to familiarize with the legal documents and decisions related to the sphere. It is the responsibility of the educational institution to ensure the direct participation of students in the digitization process, to improve their practical skills by involving them in the processes, to create conditions for digitization and mastering the software used in the economic spheres.

These processes directly require the teaching staff teaching "Information Communication Technologies and Systems in the Economy" to be constantly aware of the innovations and inventions related to IT and Economy.1C accounting, 1C: document exchange, 1C: payroll and personnel management, SBIS SYSTEM, GLONASS/GPS, CLIENT-BANK, PlanFakt, Microsofr Power, used in economic fields in addition to the topics included in the lesson plan from students studying economics Independent study of BI, Qlik Sense, Seneco, Luxms BI, Modus BI, Insight, Business Scanner, Dashboard24, Visiology(10) and other programs is a guarantee of becoming a mature specialist.

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Implicit (hidden) and precise reader

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Abstract: The article presents a detailed analysis of the relationship "writer-text-reader" - this is not a "question-answer" conversation, but introductory chain mechanisms that serve to systematize the entire process. It discusses the vitality of the work, which is relevant today, and what you need to pay attention to in order to achieve a specific target group. This process is a dialogue of meanings and contexts that demonstrates the versatility of a literary work. The reader moves elements of the text, thereby forming separate semantic links and units. Various semantic units arise inside the work, a specific movement arises that strikes the reader's worldview and the world of his thinking, that is, when we talk about the work, we mean directly the text and the reader, which form a single body.

Keywords: Mechanism of reception, art reception, implicit (hidden) and precise reader, three – way mechanism; four – way mechanism; five – way mechanism.

1 Introduction

Writer - literary text - reader. These three are so interconnected that they reveal many aspects of literary studies, psychology, and academic engagement with criticism and aesthetics [3, 97]. Successful communication betweenthis trinity mechanism (WRITER - TEXT - READER) determines the degree of viability of a work. The basis of the above mechanism is the reader. However, the writer should first pay attention when creating his work and think about the audience for which it might be. When the literary work reaches the readers, almost no one is interested in the fate of the work. In both literature and psychology, it is a special question what the reader likes to read and why. The connection between the psychology of the reader and the reception of the literary work is also very important for the author of the work [1, 308 - 310].

In addition to the Trinity mechanism proposed by literary scholar Abdugafur Rasulov, we would like to add the mechanisms of the Quartet (WRITER - TEXT - TRANSLATOR - READER) and the Quintet (WRITER - TEXT - TRANSLATOR - CRITIC - READER). By doing so, we would like to emphasize that research into these mechanisms ends only on the basis of the relationship expressed by the reader.

Research in this area has been largely unplanned and unsystematic. A researcher interested in reader psychology has never studied the reception of a work, art or vice versa. Therefore, literary studies are closely related to psychology here, and a clear result is achieved when both directions are carried out harmoniously [2, 141].

Here we focus on the idea that the problem of reader psychology consists of two main groups/fields:
1. Psychological; 2. Socio-psychological.
A number of questions in general psychology have not been fully studied yet:
a) Peculiarities of the reception of aesthetic literature;

b) Reception mechanism;
c) Reception development regulations.
Socio-psychologically it is important to study the interests of the readership, which can again be divided into different social groups:
1. Motives for reading in different social groups;
2. Social types of readers and types of readers within social groups;
3. Influence of various social ideas when reading aesthetic literature when receiving and evaluating a work.

The problems listed above require the development of a methodology for studying the writer-literary text-reader mechanism.

2 Technology for obtaining materials and research method

General methodological requirements for studying student psychology [2, 142] are:

First, the problem of reader psychology illustrates the harmony of a number of disciplines, primarily literary studies, aesthetics, sociology, psychology, physiology, psycholinguistics and semiotics. Therefore, the study of this problem should be structured comprehensively. This relevant research (complexity) can be carried out by another team of experts as well as by an individual researcher, with the aim of focusing on the common interest and not on the interest of the different disciplines. The expert team should consist of researchers with the same scientific potential and be able to communicate directly with readers, otherwise the research may be ineffective.

Secondly, when studying reader psychology, in addition to the functional analysis of the literary text, the reader's perception is also examined. By functional analysis of a literary text/work we mean an analysis of the work's relationship to the work in terms of structure, elements and the reader. This research is the starting point for the reception of a specific literary genre.

Thirdly, the study of the reader's introspection (state in the reading process) is a specific feature of research in the study of reader psychology. Accordingly, it is also possible to find out how the reader lives with the book and what he or she prefers in literature. It is the readers who can demonstrate the essence of the reception process and the fact that in this process they involuntarily enter a state of introspection (self-observation). After reading a work, readers' opinions about the work are not always correct. The conclusions such as "liked" and "disliked" indicate that the reader is reading without introspection. An experiment with students showed that a real reader can be influenced by a work and involuntarily come to important conclusions. All he has to do is observe his condition during the reading process.

Fourth, each research method has its advantages and disadvantages. The use of a range of complementary methods ensures research efficiency. For example, we use "summary" from the work using the query method. A literary work is divided into two parts and after reading the first part, a survey is conducted about the plot and images of the work. The results of this survey can also be the first step in the reception of the work. If the second part of the work is dedicated to reading, some readers may also change their minds. This is natural. The results of the next survey determine the degree of actual reception of the work.

Fifth, when studying the mechanism of the work, the growing number of readers, i.e. children, should be taken into account. When the author of a work of art has occupied a wide mental space for the full realization of the reader's potential, the ontological foundation of that work (long-lasting mood) is strong [3, 93].

Sixth, attention should be paid to the approach to the special study of the concept of literature from the point of view of data theory and the creation of its mathematical model.

3 Experimental results and their discussion

The methodological requirements are automatically met using the following available methods.

1. The observation method is mainly used as an auxiliary method. When reading a work, the diction of the master of artistic expression or experimenter can also guide the reader to understand and analyze the work. This auxiliary method also allows the researcher to communicate directly with readers.

2. The advantage of the questionnaire method is that you can quickly find out what readers think about a work. However, it should be borne in mind that these ideas are empirical and superficial and are not fully suitable as a basis for any research. It is known that the questionnaire method involves briefly asking and answering a series of questions. This method is carried out in two ways: First, part of the questionnaires are distributed to various organizations or published in newspapers and magazines. This is how readers' opinions are collected. This method is convenient for researching a work and its reception, in which everyone can participate and the researcher can bring the expected result. The second method is to distribute questionnaires to those who have read the book.

3. Interview method. This method is also convenient because here the researcher can talk to each reader individually and come to a specific conclusion.

4. Experimental method/experiment method. In this case, the researcher can give the reader a variety of tasks to determine the reception of a work. The most interesting and impressive passages are taken from the work and edited, the "summary/snippet" method is applied and the mathematical analysis of the work can now be experimented with.

Based on the above considerations, it can be noted that the German scientist Wolfgang Iser emphasizes the disappearance of the “demand” and “need” for the work. This is the case if the work does not irritate the reader's body, regardless of who created it [5, 231]. Unlike Olga Nikiforova, he suggests keeping in mind that the structure of the work plays a key role in the reception of the work, and not the reader.

The text theory of Wolfgang Iser, a prominent figure in the Konstanz reception school, made an important contribution to the history of reception or, as the American German scholar Holub emphasizes, that “his project complements Jauss well” [4, 106].

Iser's text theory largely corresponds to the literary theoretical views of the Polish phenomenologist Roman Ingarden, who worked in the 1930s. At the heart of Ingarden's views is the category of ambiguity. A literary text can have ambiguous points, which are usually filled with definitions. Iser describes this feature of the text as an “influence condition” [6, 21]. In contrast to Iser, Ingarden emphasizes that filling in the gaps or ambiguous points in the reading process serves to increase the relevance of the work and give a lively tone to the literary dialogue with the work.

Another important article by Iser is called “Reading process”, which focuses not on the content of the text, but on the structure that helps clarify the above uncertainties, i.e. on the structure that appeals to the reader [5, 25]. In Iser's view, the reader is not a historically specific person or a specific readership, but rather an influenced structure of the text and at the same time an appropriate reception phenomenon without a clear actor. Iser's views were reflected in the formation of American reader-response criticism [4, 82]. In Iser's theory of the concept of work, which is based on the history of perception and complements the views of Jauss, the level of the work occupies the level of the work only when the structure of the text (artificial character of the object) and its perception by the reader or viewer (aesthetic object as correlate) [7, 3]. According to Iser, a literary work is “a structure that can be understood in any dynamic historical exchange”, i.e. a convergence (similarity) between text and reception [7, 32]. According to Professor Abdugafur Rasulov, a real work of art is a perfect, complex structure [3, 44].

4 Conclusion

As a hypothetical structure, the text requires meaningful precision, and these precisions form the work. That is, it is a substance that is not subject to time, but rather a historically formed whole [7, 46]. The relationship between reception and influence in this operation, i.e. the question of the superiority of the text and the importance of the reader's authority, is clear. Both Iser and Jauss limit the individual reader to the norms for determining text adequacy. It is also important to remember that Jauss places the reader at the forefront of his theory, describing her as a being not subject to the work. The actual reader of the work not only recommends the necessary conclusions in the process of communicating with the work, but also recommends the work to literature lovers with their own opinions and, if necessary, tries to reveal the essence of the work with his analysis and interpretation. During the reading process, an important event occurs that helps to reconstruct the history of reception and exposure. It is

known in the literary world that the great writer Goethe wrote a popular book about Dr. Faust or Thomas Mann read Goethe's plays. It is not known to what extent they drew conclusions from this and whether these materials influenced their works as important literary impulses. Jauss supplements his views with his 1975 remarks and concludes that the reader is the author of the work. “When a work influences the reader, the reader involuntarily begins to express his reaction to the events of the work. He even accuses the real author, who accidentally killed the protagonist, of ignorance” [8, 325].Ultimately, the work's appeal to the reader, the reader's ability to think broadly and enter into a complete "dialogue" with the work lead to acceptance and renewed discussion of the piece of writing.

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Artificial Intelligence and Language Processing:Challenges and Advancements in Machine Translation and Natural Language Processing

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Abstract: This article explores the evolving landscape of machine translation (MT) and natural language processing (NLP), focusing on key challenges and recent advancements. It examines the complexities of linguistic ambiguity, cultural context preservation, and syntactic differences that hinder accurate translations. Additionally, it discusses breakthroughs in neural networks, large language models, and data-driven approaches that enhance translation quality. The study also highlights ethical considerations, such as biases in AI models and the impact of automation on human translators. By analyzing current research and technological trends, the article provides insights into the future of MT and NLP, offering a balanced perspective on their potential and limitations.

Keywords: machine, translation, artificial, intellect, language, technique, knowledge, model, researchers

1 Introduction

Language processing has been transformed by artificial intelligence (AI), which has also changed how people communicate with machines. AI-driven natural language processing (NLP) has greatly enhanced machine translation (MT) and linguistic analysis, from the first rule-based translation systems to contemporary deep learning models. But even with these developments, AI still has trouble with linguistic diversity, cultural quirks, and contextual awareness. The impact and potential of AI-based language processing are examined in this article along with its difficulties and innovations.

2 Methods and materials

History of Machine Translation and NLP

Machine translation dates back to the 1950s when researchers first attempted automated word-for-word translations. Early systems, such as the Georgetown-IBM experiment (1954), relied on bilingual dictionaries and basic grammatical rules. However, these approaches produced inaccurate and rigid translations.

The 1990s saw the rise of statistical machine translation (SMT), which analyzed vast bilingual corpora to predict translations based on probability models. Google Translate initially relied on SMT before transitioning to neural machine translation (NMT) in 2016. NMT, powered by deep learning, drastically improved translation fluency and accuracy by processing entire sentences rather than individual words or phrases.

The Background of NLP and Machine Translation

When researchers first tried automated word-for-word translations in the 1950s, machine translation was born. Early systems, like the Georgetown-IBM experiment (1954), depended on simple grammar rules and bilingual dictionaries. But these methods resulted in translations that were rigid and erroneous. Statistical machine translation (SMT) emerged in the 1990s, using probability models to predict translations by analyzing large bilingual corpora. Prior to switching to neural machine translation (NMT) in 2016, Google Translate used SMT. By processing complete sentences, deep learning-powered NMT significantly increased translation accuracy and fluency.

Beyond translation, contemporary NLP makes speech recognition, sentiment analysis, text generation, and conversational AI possible. Transformer architectures are used by large language models such as Google's BERT and Open AI's GPT to comprehend and produce text that is similar to that of a human. Although these developments have improved AI's comprehension of natural language, problems still exist.

3 Results and discussions

Difficulties in AI-Powered NLP and Machine Translation

AI still faces a number of challenges in language processing, despite tremendous advancements:

Ambiguity and Context

Ambiguity is inherent in human languages. Contextual understanding is necessary because words and phrases frequently have multiple meanings. Sometimes, AI models are unable to understand subtleties, which results in inaccurate translations or responses that are not coherent. For example, the expression "bank on it" (which means to rely on something) could be mistakenly taken to mean a financial institution.

Linguistic and Cultural Variations Languages have historical and cultural value. The accuracy of idioms, humor, and cultural references is frequently compromised by direct translations. Translation is difficult, for instance, because the German word Schadenfreude, which means "pleasure derived from others' misfortune," has no exact English equivalent.

Languages with Limited Resources

The majority of AI models perform best in languages (like English, Spanish, and Chinese) with large amounts of training data. Low-resource languages (like Uzbek, Basque, and Amharic) don't have enough digital text for AI training, though, which leads to subpar translations and constrained NLP capabilities.

Ethical Issues and Bias

Biases in training data are reflected in AI systems, resulting in racial, cultural, and gender biases. For example, gender stereotypes were frequently linked to professions in early NLP models (e.g., "doctor" with "he" and "nurse" with "she"). Although efforts are being made to lessen bias, moral dilemmas still exist.

Processing in Real Time and Scalability

Massive amounts of processing power are needed for AI-based NLP systems. It is difficult to achieve high-quality, real-time translation for international communication, particularly for voice-based applications.

Developments and Contemporary Methods

Notwithstanding these obstacles, recent developments have improved AI's language processing abilities:

Transformer models

Transformers such as Google's BERT (Bidirectional Encoder Representations from Transformers) and OpenAI's GPT (Generative Pre-trained Transformer) have revolutionized natural language processing. These models improve contextual knowledge and translation fluency by examining text both ways. Transformers can evaluate the significance of various words in a sentence, regardless of their placement, according to the self-attention mechanism. This is important while translating since word meanings can be influenced by far-off environmental factors. Furthermore, positional encoding compensates for transformers' lack of intrinsic sequential processing by assisting them in maintaining word order information.

The creation of pre-trained language models like BERT (Bidirectional Encoder Representations from Transformers) and GPT (Generative Pre-trained Transformer) is one of the most noteworthy developments in transformer-based machine translation. However, by utilizing both monolingual and multilingual pre-training, models such as T5 (Text-to-Text Transfer Transformer) and m BART (Multilingual BART) have shown impressive performance for translation tasks in particular.
Transformers encounter difficulties in machine translation despite their achievements, such as:
1. High computational cost: Large-scale transformer models are costly to deploy because they require a lot of hardware resources to train.

2. Managing low-resource languages: Transformers perform well in language pairs with large resources, but they have trouble with languages with insufficient training data.

3. Bias and translation errors: Biases in training data may be passed down to transformers, resulting in translations that are incorrect or culturally unsuitable.

Researchers are looking into efficiency enhancements including knowledge distillation, sparsity approaches, and more potent tokenization procedures in order to get beyond these obstacles. Additionally, to increase translation accuracy for underrepresented languages, hybrid models that combine transformers with symbolic AI or linguistic rules are being researched.
Models may now translate without direct training in a particular language pair thanks to new AI techniques. AI can now infer meanings from related languages thanks to zero-shot learning, which increases the translation capabilities of low-resource languages.

4 Conclusion

AI has significantly advanced machine translation and NLP, making communication across languages more accessible. However, challenges related to context, bias, low-resource languages, and cultural nuances remain. Continued research and technological innovations will refine AI-driven language processing, making it more accurate, ethical, and inclusive.

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Philosophical heritage of Turkestan enlighteners and its importance in the study of social sciences

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Abstract: The article explores the significance of the philosophical ideas and views of Turkestan educators in the teaching of social sciences. The author reveals the scientific and methodological significance of the Jadid heritage. The works of Turkestan enlighteners are considered as an important scientific -philosophical source.
Key words: enlightener, history, philosophy, societies, Jadids, social sciences, heritage, idea, development.

1 Introduction

In the context of the development of new Uzbekistan, an important place in the process of revival and growth of national self-awareness, a sense of national pride for student youth, is occupied by historical memory, deep knowledge of the objective and true history of the native land. spiritual, moral and political culture of student youth. In the conditions of civil society, a spiritually developed specialist is distinguished by conscious service to the Fatherland - the land, on When turning to the history of Uzbekistan, including the content of the philosophical heritage of Turkestan enlighteners, it is necessary to remember that this is the “memory of the people” and therefore requires a careful and respectful attitude. The history of the native land requires a conscious approach, to think about the political and socio-economic motives of what is happening, behind which are the successes and difficulties of building a sovereign, democratic and legal, social, secular state.

2 Materials and methods

Consequently, a look at the continuous chain of formation and development of the new Uzbekistan must remain clear, inquisitive and attentive in order to see the trends of its development. Thus, social sciences shape the worldview, patriotism, improve the intellect and enhance the one with whom he was born and raised. Leaders of Turkestan enlighteners Fayzulla Khojaev, Abdurauf Fitrat, Sadriddin Aini, Mirzo Mukhiddin Mansurov, Majid Kadyri, Mahmudkhoja Behbudi, Abdullah Kadiri, Mirzo Mukhiddin Mansurov, Majid Kadyri, Munavar Kori Abdurashidkhonov, Salokhidin Majidi, Abdulhamid Chulpon, Usmonkhoja Pulathodjaev and others contributed invaluable contribution to development of philosophical thought.

The President of the Republic of Uzbekistan Sh.M. Mirziyoyev noted that it is necessary “to develop the national idea, which is a source of inspiration and strength for us in achieving our high goals. We need to strengthen national self-awareness, study more deeply the ancient and rich history of our Motherland, intensify research work in this direction, and fully support the activities of scientists in the humanities. An assessment of the past must be objective, most importantly, free from any ideological dogma” [1]. The Development Strategy of the New Uzbekistan for 2022 – 2026 defines the goal: “Further development of the study and promotion of the history of Uzbekistan. Implementation of the Concept for the development of history as a science until 2030” [2].

3 Results and discussions

In the conditions of a new stage of development of society, the tasks of the social sciences are the deep and comprehensive assimilation of the rich historical experience of the peoples of Uzbekistan, saturated with complex, dramatic events, based on the principles of science, objectivity, historicism, and creative analysis of the historical process of multi-faceted events[3]. An important scientific source is the philosophical views of Turkestan educators in the process of increasing the moral, spiritual, environmental and political culture of student youth, which is especially important in the conditions of building a democratic, legal, secular, social state and civil society. Social sciences fulfill an important mission in instilling in students a sense of responsibility to society, civic duty, and high patriotism. “The significance of the study increases due to the positive content of the activities of the Jadids, which could serve as a good example for modern times. The Jadid movement played an important role in the formation and development of a modernized system of education, printing, national theater and drama, periodicals and other areas of intellectual life in the region. The most important concepts in their vocabulary were the words “tarakki” (progress), “Vatan” (Motherland), “millat” (nation), “maktab” (school), “Maorif” (enlightenment), “ilm” (science), “matbuot” (press), “theater”, “kitobxona” (library), etc.Therefore, the experience of the Jadids is relevant in many areas of life and existence” [4].

The main goal of teaching social sciences in higher educational institutions at the present stage of the country’s development is, first of all, to help students master the content of the modern history of Uzbekistan, philosophy, religious studies and other disciplines based on modern methods of analyzing the historical past, especially during the period of colonialism.To achieve the goal, the social sciences are given specific tasks. In the process of teaching social sciences, an important scientific source is the philosophical heritage of Turkestan enlighteners [5].

When it comes to conducting lectures and seminars in social disciplines, it is necessary to structure the educational material in a logic that will provide the most productive understanding of the basic patterns and directions of development of society in the conditions of the colonial policy of Russia and the Soviet period in the context of world history. This work requires the teacher to provide students with methodological recommendations for preparing for lectures and seminars, and other forms of independent work on the scientific works of Turkestan educators. It should be noted that “having emerged at the turn of the 19th and 20th centuries, Jadidism remained a relevant phenomenon until the end of the 1920s and to this day continues to attract significant attention from researchers not only in Central Asia, but also beyond, emphasizing its significance and influence on historical and cultural processes in the region” [6].

In the process of monitoring students’ knowledge of activities, the content of the philosophical views of Turkestan educators, teachers should provide the necessary methodological assistance in their students’ assimilation of materials. In the process of studying the scientific heritage of the Jadids, an important role is played by the organization of independent work of students based on new pedagogical technologies.

Taking into account the requirements of the credit-modular training system, training of competitive personnel, it is necessary to promptly provide students with a list of basic and additional literature revealing the scientific significance of the philosophical heritage of Turkestan enlighteners. A valuable scientific source in the study of the ideas of the Jadids are materials obtained from information network resources necessary for the study of social disciplines. This task requires a systematic improvement of the syllabus on the subject, supplementing it with new scientific publications, monographs, textbooks, textbooks in the social sciences, which reveal the reasons for the emergence, socio-political conditions, dissemination, goals, ideas of Turkestan educators in Central Asia[7].

In the preparation of competitive bachelors and masters for the new Uzbekistan, the research and publication of foreign scientists, where the educational activities of the Turkestan Jadids are deeply studied, are of theoretical and methodological importance[8].

It should be noted that the basis of social disciplines is the pluralistic nature of assessments of the most significant historical events during the period of the emergence and dissemination of the educational ideas of the Jadids, which contributes to the development of ideological and political pluralism in students, as well as the ability to conduct polemics and discussions on socio-political problems of social sciences in seminars. Thus, the content of social sciences suggests focusing on key moments in the history of Uzbekistan, when the formation and development of the philosophical views of the Jadids took place, revealing the presence of global trends, national-state and ethnocultural specifics in it [9].

The study of social disciplines is provided in the block of humanities and social sciences, which contributes to the preparation of highly qualified personnel of a new type - with a broad outlook and erudition, creative thinking, highly moral, with a mature civic position. In the process of studying, social sciences contribute to social foresight and forecasting, capable of solving the problems facing society at this stage of its reform and renewal, promoting the progress and prosperity of the Motherland.

Social Sciences contains materials on the activities of Turkestan historical educators, which are designed to promote the development of basic skills and competencies of bachelor's and master's degrees, especially future teachers, philosophers, and historians. They provide an opportunity to master the technologies of acquiring, using, and updating humanitarian knowledge, as well as the leading principles of working with a variety of sources. The acquired skills and competencies can be used in further professional activities.

State standards of higher education are based on a competency-based approach to the results of mastering social disciplines. As a result of mastering social disciplines, students should develop several competencies (knowledge, skills, and abilities).

As a result of mastering social disciplines and in-depth study of the activities of Turkestan Jadids, modern bachelors and masters will learn:

Firstly: the patterns and prerequisites for the emergence of the ideas of Turkestan enlighteners, the transformation of Jadidism into a socio-political movement on the territory of the Bukhara, Khiva and Kokand Khanates. The main stages of development and conditions for the dissemination of the basic democratic views of Turkestan enlighteners in the conditions of colonialism and the Soviet period. A movement of educators whose main goal was to fight against social and economic backwardness, stagnation, illiteracy and other shortcomings of society in the Turkestan region.

Secondly: the historical process occurring during the period of dissemination of the philosophical ideas of the Jadids at the end of the twentieth and early twentieth centuries. Content, purpose, essence of the main ideas of Turkestan enlighteners about the need to form the spiritual, moral and political culture of the individual, achieve independence in our country, their contribution to the formation of the foundation of the Third Renaissance. Important information for students is the activities of the Jadids to expose the essence of the colonial policy of the tsarist regime, which led to the socio-economic stagnation of the Turkestan region, and the shortcomings of the old educational system.

Thirdly: modern future cadres have knowledge about the activities of the leaders of Turkestan educators, their courage and heroism in disseminating new ideas in the field of education, culture, art, and the liberation of the homeland from the colonialists. In the study of the content of the philosophical ideas of the Jadids, the publication of newspapers and the publication of books, including their own works, play an important role.

Fourthly: the philosophical heritage of Turkestan enlighteners is an important factor in the formation of a high spiritual culture of thinking, which contributes to a generalized analysis and perception of historical reality. Having studied the scientific heritage, works, and works of Turkestan enlighteners, a modern student can explain the role and place of Uzbekistan in the development of world civilization;

Fifthly: independent analysis of the content of the educational ideas of the Jadids allows the student to possess scientific information in the interrelation of historical processes and the new stage of development of society, to identify problems of a social nature in the analysis of specific historical situations, possible socio-economic consequences at the present stage;

Sixth: to form, based on the study of the philosophical views of Turkestan enlighteners, scientifically substantiated theoretical conclusions, analysis using the methodology of historical research. He is proficient in methods and techniques for analyzing historical processes in the history of Uzbekistan, which had a priority influence on the formation of the philosophical heritage of Turkestan enlighteners. Also, an in-depth study of the creativity of Turkestan enlighteners helps the student in organizing independent work on primary sources about the activities of the Jadids and their contribution to the development of the spiritual culture of the people of our country.

Thus, an important element of the teacher’s task in studying the heritage of Turkestan enlighteners is to use the possibilities of new pedagogical technologies and creatively connect it with the main material of the topic. It is necessary to improve methodological recommendations and assignments for independent work, topics for essays, scientific reports, essays, information about the educational teaching technologies used.

Current testing of the quality of mastery of the academic discipline during seminars and express tests. The plans of the seminars, methodological instructions for them, practical assignments, as well as a list of basic and additional literature on each topic are designed to help students organize conditions for self-preparation, master the skills of extracting, comprehending, and mastering scientific information, awaken attention to the underlying causes of the historical process, the desire to discover their roots and logic.

In conclusion, it is necessary to emphasize that the complex of recommended teaching methods in lectures and practical classes is based on innovative pedagogical technology of problem-based learning. The research atmosphere involves students in an active cognitive process through the analysis of specially selected primary sources concerning the activities of educators in Turkestan. The key conditions for the effectiveness of seminars should be reliance on creating a situation of dialogue. At the beginning of the lesson, it is important to diagnose students’ readiness for dialogue. To do this, it is necessary to test the basic knowledge of the philosophical heritage

of Turkestan enlighteners, which they mastered at the previous lecture on the topic under study using a written express survey. Then, together with the students, you should find those exciting problems through which the meaning of the material being studied is revealed to them. Raising questions for discussion should take place in a system of problematic and controversial tasks.

4 Conclusion

It should be noted that the methodology for preparing for seminar classes should be based on the actual and potential level of development of students' knowledge, so the choice of methods can always vary. To optimize problem-based learning, variability is necessary, i.e., choosing a variant of the problem-based approach to studying educational material that best suits the level of a given academic group. The block of questions for each topic does not pretend to develop professional historian skills in students, but focuses on developing the ability to update primary knowledge about the most important events in the history of their native land, establish, systematize historical facts, as well as compare, generalize, contrast events, give them own assessment and draw appropriate conclusions.

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The Importance of Software in Foreign Language Teaching

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Abstract : Increasing globalization has created a large need for people in the workforce who can communicate in multiple languages. Language acquisition is being researched as a broad, global process in addition to a narrow field due to the growing demand for language skills. The use of software in foreign language teaching has become increasingly prevalent in recent years. This article explores the importance of software in this context, highlighting its potential to enhance the learning experience and improve students' outcomes.
Keywords : software, foreign language, complex, collaborative, authentic materials, method, program, indispensable, intellectual, monitoring, project.

1 Introduction

Foreign language learning is a complex and multifaceted process that requires a combination of traditional classroom instruction and innovative technological tools. Software can play a vital role in supporting and enriching this process by providing interactive and engaging learning experiences, personalized learning paths, access to authentic materials, and opportunities for collaborative learning. In order to improve the system of teaching foreign languages to the younger generation and to train professionals who can speak these languages freely, advanced methods of instruction using modern pedagogic and information and communication technologies have been introduced. As a result, our nation has adopted a number of laws and decrees that aim to foster international cooperation, the widespread use of global information resources, and the advancement of world civilization.

The Cabinet of Ministers of the Republic of Uzbekistan has decided to create all the necessary conditions for the popularization of foreign language learning in our country by taking it to a new level. This includes developing and implementing information and communication technologies, software projects for the popularization of foreign language learning, and producing educational content such as games, films, entertainment programs, and video clips for the formation of basic language skills and thorough mastery of foreign languages.

Computer programs and language learning software have grown in popularity in recent years because they offer practical and efficient methods for learning a new language. Numerous advantages come with these programs, such as the flexibility to learn on your own time and at your own speed as well as the incorporation of interactive exercises and real-world simulations that enhance the learning process. Furthermore, speech recognition technology and personalized learning algorithms are frequently used in language learning software and computer programs. These features enable students to receive immediate feedback and customize their coursework to meet their individual needs. These resources, which often include a wealth of information including grammatical explanations, vocabulary lists, and cultural insights, make these tools thorough and beneficial for language learners at all skill levels. Language learning computer programs and software offer a practical and efficient solution to meet your language learning objectives, whether you want to learn a new language for personal enrichment, professional travel, or both.

Learning Objectives

Software for foreign language learning aims to achieve various pedagogical objectives, including:

- Language Proficiency: develop fluency in speaking, listening, reading, and writing in the target language; improve pronunciation and intonation; expand vocabulary and enhance grammatical accuracy.

- Cultural Awareness: foster an understanding of the target language's culture and customs; provide insights into the perspectives and values of native speakers; develop intercultural communication skills.

- Cognitive Skills: enhance memory and recall of language material; develop critical thinking and problem-solving abilities; improve concentration and attention span.

- Motivation and Engagement: make learning enjoyable and interactive; maintain student motivation through gamification and rewards; foster a sense of accomplishment and progress.

- Learner Autonomy: empower learners to take ownership of their learning; allow students to set their own learning pace and goals; provide opportunities for self-assessment and reflection.

- Collaboration and Communication: facilitate communication with native speakers and other learners; promote collaborative learning through online forums and video conferencing; develop intercultural communication skills.

Software effectively addresses these learning objectives by providing personalized learning experiences, engaging exercises, authentic language materials, and opportunities for feedback and collaboration

Software utilization for foreign language instruction in the educational system: software can communicate with students in ways that audio and books cannot:

• Some programs record the student, examine their pronunciation, and provide comments.

• Software can offer more practice in areas where a certain student struggles, up until the concepts are understood.

• Software has the ability to pronounce words in the target language and illustrate their meaning through images rather than spoken explanations.

2 Research methodology

Various research methodologies can be employed to investigate the impact and effectiveness of software in foreign language learning:

• Quantitative research: (surveys) collect data from language learners to gauge their attitudes, experiences, and perceived benefits of using software. Experiments: compare the learning outcomes of students using software against those learning without it, controlling for other variables.

• Qualitative research: (interviews) conduct in-depth interviews with language learners to gather detailed insights into their experiences and perspectives on software use. Case studies: examine the impact of software on individual learners or in specific learning contexts.

• Mixed methods research: combine quantitative and qualitative methods to provide a more comprehensive understanding of the role of software in language learning.

Key Research Questions:

How does software impact language proficiency in terms of speaking, listening, reading, and writing?

To what extent does software enhance cultural awareness and intercultural communication skills?

How does software contribute to cognitive development, motivation, and learner autonomy?

What are the most effective features and design principles of language learning software?

How can software be integrated into language curricula to maximize its impact?

3 Expected results

Enhanced Language Proficiency: improved speaking fluency and pronunciation; increased vocabulary and grammatical accuracy; enhanced listening comprehension; improved reading speed and comprehension.
Increased Cultural Awareness: exposure to authentic language and culture; development of intercultural communication skills; understanding of cultural perspectives and norms.

- Cognitive Development: memory enhancement; improved attention span and focus strengthened analytical and critical thinking skills.
- Increased Motivation and Engagement: personalized learning experiences.
- Enhanced Learner Autonomy: self-paced learning; access to learning resources anytime,

anywhere; opportunity to monitor progress and set goals. These benefits can lead to overall improved language skills, greater cultural understanding, and increased confidence in communication.

Software has been shown to improve language proficiency, cultural awareness, cognitive skills, motivation, and learner autonomy. Effective software incorporates features such as personalized learning, engaging activities, authentic language materials, and opportunities for feedback and interaction. Software can provide automated assessment tools that track student progress and identify areas where additional support is needed. This feedback helps students monitor their own learning and make necessary adjustments to their study strategies.

Software offers a variety of interactive learning experiences that traditional classroom instruction may not be able to provide. Through games, simulations, and multimedia content, software can engage learners and make the learning process more enjoyable. Interactive exercises allow students to practice their language skills in a fun and motivating way, fostering deeper comprehension and retention.

4 Conclusion

Software has emerged as an indispensable tool for foreign language teaching. By providing interactive learning experiences, personalized learning paths, access to authentic materials, opportunities for collaborative learning, and assessment and feedback, software complements traditional classroom instruction and empowers learners to achieve their language learning goals more effectively. As technology continues to evolve, the role of software in foreign language teaching is likely to become even more significant in the years to come. Software plays a significant role in revolutionizing language learning by providing engaging and effective learning experiences. It empowers learners to improve their proficiency, save time, and access language instruction at their convenience.

By incorporating software into their learning journey, learners can:

* Enhance vocabulary, grammar, pronunciation, and comprehension

* Personalize learning paths and cater to individual needs

* Stay motivated through interactive exercises and gamification

* Immerse themselves in authentic language and cultural content

* Supplement traditional instruction and reinforce learning

While software has limitations, careful selection and integration can maximize its benefits. With its proven effectiveness and accessibility, software is an invaluable tool for language learners seeking to achieve their language goals.

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Philosophical interpretation of enlightenment in the development of the social state system

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Abstract : The experience of developed social states shows that it is no secret that the educational factor has played an important role in their progress today. In order to ensure the development of the social state system, special attention was paid to the education system in New Uzbekistan, and its institutional foundations were improved. This process continues without stop and appropriate conclusions are made. In order to ensure academic mobility in the education system, the article discusses the issues of attracting qualified teaching staff, the issue of establishing cooperation with customers and developing classifiers at the request of the customer, the issues of forming the material and technical base of an educational institution in a modern way, the issue of studying the provision of an educational institution with information resources , various theoretical approaches to optimizing the system of admitting students to an educational institution and forming the image of an educational institution. The article functionally examines the Enlightenment, taking into account the fact that it serves to ensure the dynamics of development in all spheres of society; the Tashkent University of Applied Sciences is working in this direction, in particular, the formation of important professional qualities in personnel training, real problems in the field of scientific research, such as scientific research. It was argued that the problem of education, including private education, in the past (in the century) was to ensure universality of education (for everyone), and the problem of today's education is to ensure the quality of education for all and to form professional knowledge, skills and qualifications based on the requirements and practice needs. Based on theoretical approaches, important concepts for ensuring the development of a social state are analyzed, and the concept of sustainability belongs to the ecosphere, and in this case, maintaining and protecting the cleanliness of the environment in order to ensure public health, protecting humanity from various environmental risks and constantly monitoring it, as well as an important attribute of social state to further strengthen the activities of recognized public associations, non-governmental non-profit organizations, to ensure the constitutional rights and freedoms of citizens are guaranteed by the state and transfer the part of the powers of public authorities to self-government bodies of citizens, establish norms that ensure a balance of regional, ethnic, religious and national interests, promote the activity of the population, approaches to improvement; a system of relations such as “Authority↔Citizen”, “Authority↔Non-governmental and non-profit organizations” is described.

Key words : development, education, social state, conceptual, structural-functional, social institution, sustainability, model, cognitive, individual, group.

1 Introduction

A social state is a state model aimed at the fair distribution of materials in accordance with the principles of social justice in order to achieve a decent quality of life and level of every citizen, reduce social differences and help those in need Towards a welfare state and a just society. This shows that there is a need to further deepen scientific research of collective measures for the development of a social state in our country. For this reason, special attention is paid to the issue of education, and the result of the reforms carried out in our country is the expansion of the tasks of social institutions in the process of forming civil society and the institutionalization of their activities to various layers of society. Along with these factors, education also has a positive impact on the formation and development of a social state. Education as a social institution is considered as an important factor preserving the development of society, and society is institutionalized by its sectoral, historical and other aspects in ensuring the development and implementation of reforms. Education, according to the tasks of each sector of society, must act systematically and serve to ensure the dynamics of development, the creation and implementation of new technologies, their improvement, their diagnostics, forecasting, modern identification of industry problems, the use of methods and means of eliminating them. This situation, in turn, requires setting a number of new tasks

for education as a social order. Objectives must be determined taking into account the satisfaction of national interests and needs, and at the Tashkent University of Applied Sciences this issue is expressed in the formation of important professional qualities in the personnel training, the scientific study of real problems in the field of scientific research. Since the problem of education, including private education, in the past was to ensure universal education (for everyone), the problem of today's education is to ensure the quality of education for all and the formation of professional knowledge, skills and qualifications based on the requirements and needs of the practice.

2 Research methodology

Content analysis, contextual analysis and structural-functional analysis were used in reporting this article. The institutional framework influencing this process was also examined.

Therefore, in the future, the private education system will face the problem of ensuring the quality of (individual) education for each student (by type and area):

a) attracting qualified teaching staff, i.e. ensuring academic mobility;

b) establishing cooperation with customers and developing classifiers at the customer's request;

c) modern construction of the material-technical base of an educational institution (creation of laboratories);

g) providing the educational institution with information resources (new educational literature, computer technologies, etc.);

d) it is necessary to optimize the system of admitting students to an educational institution and create the image of the educational institution.

These conceptual issues in their own way require an approach to the issue of knowledge, educational information, education and the threat to the individual, manifested in the social, cultural and educational spheres, which require constant improvement and basic monitoring of the global situation on the regional market. Figure 1 clearly shows that the basis of development is education, and it is also shown that the development of the social, economic, political and cultural sphere of society depends on education, exactly its quality.

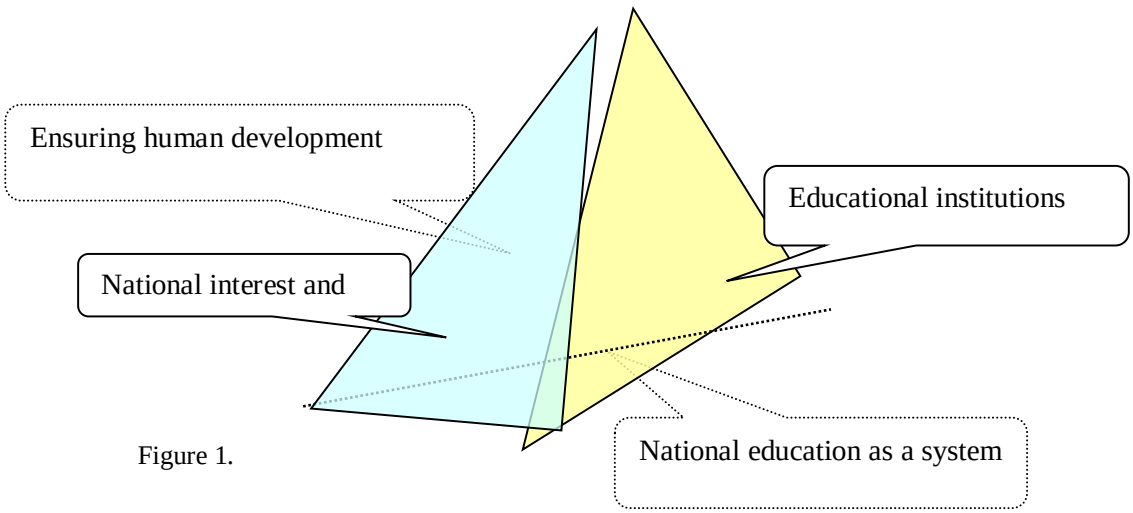


Figure 1.

Education in ensuring development (structural and functional structure).

Education as a social institution is considered on the basis of various doctrines, one of which is the concept of "Education for Sustainable Development". Before analyzing the level of social significance of this concept, it is logically appropriate to express the attitude towards the concept of sustainability. Because education serves to improve the quality, quantity and content of a social unit, which, in turn, creates the basis for improving the life of society and reaching the next stage of development. There are different approaches to when and to what the concept of sustainability is applied. In general, views on the concept of sustainability can be divided into the following groups, taking into account the content of the ideas put forward through a comparative review:

According to the approach of the first group, the concept of sustainability belongs to the ecosphere, to maintain and protect the purity of the environment in order to ensure public health, protect humanity from various environmental hazards and constantly monitor it, to develop and implement important measures aimed at promoting environmental culture, characterized by that it is promoted taking into account the educational level; According to the approach of the second group, the concept of stability refers to the economic sphere that forms a market economy, encouraging entrepreneurship, small and medium-sized businesses, protecting the rights of owners, private property, ensuring the stability of the macroeconomic, financial Russia and monetary systems, carrying out fundamental reforms in the agricultural sector, regional and related to the development of competitive products based on the needs of the global market. This approach represents a point of view put forward taking into account the establishment of educational work and increasing its effectiveness in order to develop the economic consciousness of citizens; according to the approach of the third group, stability refers to the political sphere that determines the national development strategy, develops important measures for its implementation, establishing political cooperation, ensuring security at various levels, as well as the spread of aggressive ideas of fundamentalism, nationalism, the emergence of various destructive groups preventing extremism, providing access to the world of modern information technologies, active participation in the work of the UN and OSCE (Organization for Security and Cooperation in Europe) and other international organizations, improving the activities of political parties - this is the advanced point of view; according to the approach of the fourth group, stability belongs to the life of various layers of society, strengthening the activities of public associations and non-governmental non-profit organizations, ensuring the state guarantees of the constitutional rights and freedoms of citizens, transferring part of the powers of state power to self-government bodies of citizens, regional, ethnic and non-profit organizations" in order to establish norms providing a balance of religious and national interests, the effectiveness of social, economic and political institutions' activity, and increasing the activity of the population.

The views belonging to the group after the above mentioned differ in their completeness and degree of classification.

As a retrospective analysis and comparative overview of the concepts, it should be noted that the concept of resilience is applied to man in the 10th verse of the Quran, Surah Araf [1]. Therefore, the concept of stability is functionally defined as human maturity at the micro level (from a socio-psychological point of view, the main indicator of human maturity is expressed in quantitative, qualitative and structural changes in the human psyche and behavior.

The concept of stability acquires a social meaning, and the social meaning is expressed in the form of a unique complex and is embodied in a way of ensuring calm in order to achieve maturity, maintaining peace in order to achieve well-being, and maintaining harmony at various levels. For this reason, "sustainable development is considered as an entire scientific: philosophical, economic, psychological, sociological, legal, medical, biological, technical category, and each science can define and interpret it in its own field. However, the only and important property (element) that unites them is the preservation of the functional state (operability) of the system, demonstrating the possibility of its restoration" [2]. It can be seen that the strategic issue of ensuring sustainable development is connected, first of all, with education, or more precisely, with its mission. For this reason, a special attention is paid to the education in ensuring the development of society. As a result, various educational theories have been created, including traditional behaviorist and modern cognitive theories (Table 1). At first glance, there is a difference in the names of these teachings, but the following can be indicated as their commonality:

firstly, the idea of education institutionalization is clearly expressed in both doctrines;

second, both teachings focus on the transfer of knowledge and information to the learner (that is, on the existence of differences between information and knowledge);

thirdly, it is based on the importance of educational methods in the organization and management of the educational process.

1 – table. Comparative structure of related studies to the organization of education

T /P.	**Traditional Behavioural theory**	**Contemporary Cognitive theory**
1.	Education isthe accumulation of information and the acquisition of skills.	Education is a holistic process that is much broader than the accumulation of information.
2.	The teacher can teach directly to the students.	Students actively plan for learning and gain perspective
3.	Education is created through the collaboration of teacher and student.	Education is a social process that requires cooperation.
4.	Particular attention is paid to education.	Emphasis is placed on ensuring the educational process (learning and teaching).

To understand the nature of traditional behaviorist and modern cognitive theories, we thought it appropriate to quote Paul Ramsden's model of university education. Since this model reflects the content of traditional behaviorist and modern cognitive theories, particularly:

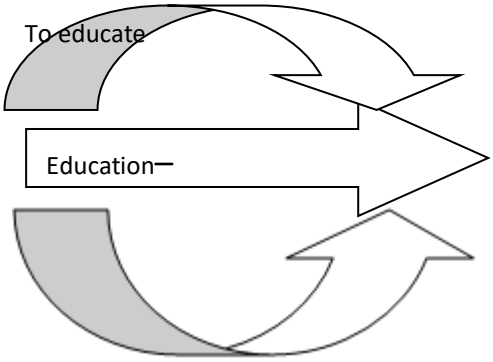
1.Training in the form of information transfer;

2.Training the method of organizing (designing) educational activities for students;

3.Training in the form of individual and group training [3].

Regardless of the reliance on any pedagogical theory, educational information participates (stands apart) as a multifunctional factor that ensures the activities of the teacher and student. To understand its essence, let us look through the actuality of education from the point of view of tasks. The system focuses on output, i.e. result (Fig. 2), acquisition of professional knowledge, professional information and methods of converting it into the form of knowledge, mastery the method of solving life-professional problems, acquisition of professional skills and abilities, qualifications, while creating processes, you can notice that special attention is paid to functional content, for example, understanding the cause-and-effect relationship of arrival and departure.

2 – drawing. Relevance of education in terms of objectives



This, in turn, shows the importance of teacher-student collaboration [4]. In some sources, the student's personality is approached as a participant of the educational process, focusing on the teaching method, the use of new technologies in education, the acquisition of teaching skills, control of teaching activities, and the use of computer technologies in the educational process. However, the role of students is the main source of interest in the teacher's performance of his functions. In this case, their personal characteristics, such as educational motivation, expectations from the educational process as an institution, values, basic culture, correctly formed goals, level of spirituality, ensure a stable (purposeful) process of education and training. As can be seen from the diagram, the educational process takes place in the form of a social system. To show that the influence of such factors as cooperation between faculty and students, the abilities (competence) of those participating in the organization of education, the manifestation of the need for education in society, the speed of introducing results. The introduction of scientific research into practice, the connection of production with science and technology are considered important. A set of measures aimed at improving the quality of training of qualified specialists consists of scientific, methodological, technical, legal, medical, environmental, etc., their expectations from education should also be taken into account. This, in turn, is one of the conditions for improving the activities of an educational institution (including a private educational institution).

Knowledge;

Information;

Methodology for bringing professional information into the form of knowledge;

Problem solving method;

Skill;

Qualification;

Understanding cause and effect;

Skill…

3 Conclusion

1. Stability has acquired social significance, it means ensuring peace for human achievement and improvement, maintaining peace to achieve well-being, achieving progress by maintaining harmony at different levels, and the reforms implemented in the education system are directly involved as a factor.

2. The problem of education, including private education, in the past was to ensure universality of education (for everyone), and the problem of today's education is to ensure the quality of education for all and the formation of professional knowledge, skills and abilities among students, taking into account the requirements and needs practices.

3. When transferring knowledge and educational information to students, as well as in the learning process, it is advisable to approach it taking into account the nature of the threats observed in the social, cultural and educational spheres. Therefore, it is necessary to constantly improve the higher education system based on monitoring the global and regional labor market.

4. According to the current modern cognitive theory, education is considered as a holistic process, which is much broader than the collection of information, and, focusing on the activities of students, is designed to focus on aspects of knowledge, skills, and competencies. and competence in them, to strengthen social cooperation, improve quality requires education and the provision of quality education..

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Determination of unauthorized modification of multimedia data based on fourier transform and statistical models

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Abstract : This article will look at the available tools and their problems in determining the unauthorized modification of multimedia data. The article analyzes Fourier transform and statistical models as one of the most used techniques for detecting manipulation in multimedia documents. Using the Fourier transform, the process of determining the frequency spectrum of data and its variations is shown, as well as analyzing images and videos using statistical methods. The article also addresses the major challenges faced in multimedia data analysis, including tool analysis regarding large data volumes and improved analysis performance. To ensure the effectiveness of the analysis, innovative approaches and methods are considered, which makes it possible to develop more effective and quick methods for determining unauthorized modification of multimedia materials.

Key words : Cybersecurity, multimedia data, digital forensics, network tools, innovative solutions, unauthorized change, signal analysis, Fourier transform transform, frequency spectrum, identify and manipulate deepfake technologies, kiberfiribgarlik, pdf documents, to the exchange network, to ensure the security analysis of the algorithm, Forensik analysis, digital documents, statistical analysis, probability distribution, the colors spread Fourier transform, digital forensika.

1 Introduction

Today there's high security, multimedia data stored in the original form of carrying various hardware-and software and the use of a local network, or other network servers equipped with glabal kiberxavsizlik kriminalist is one of the main goals of development of tools and digital. The field of multimedia and digital forensic Kiberxavsizlik the exchange of information in the network accepted without change in the process provide taalofatlarsiz national safe to be delivered, to identify unauthorized changes to the implementation of strives. Countries and glabal in order to ensure the security of multimedia data multimedia data in a local network of the implementation of projects to identify unauthorized change has developed innovative solutions that enable.

In the world of technical systems, software and computer efficient using of multimedia data from the device to create a system that allows you to analyze and detect unauthorized changes to the enforcement conducts research focused. Using this unconventional method of multimedia information identify unauthorized change and new approaches and algorithms associated with development of measures to see the reason. Of the country and prevent unauthorized changes to ensure the enforcement of the security of multimedia information to a secure network to create a network which does not allow the change of information in the open while the method of enforcement of the unauthorized change detection algorithm and tools for multimedia data to the creation as one of the important issues is being looked at.

According to the analysis on social networks as of 2020, there has been an increase in crimes using video editing and deepfake technologies, unauthorized image editing and cybercrime as a result of the rise of deepfake technologies during 2021, and crimes on PDF document manipulation and image editing in 2022 have increased(figure 1).

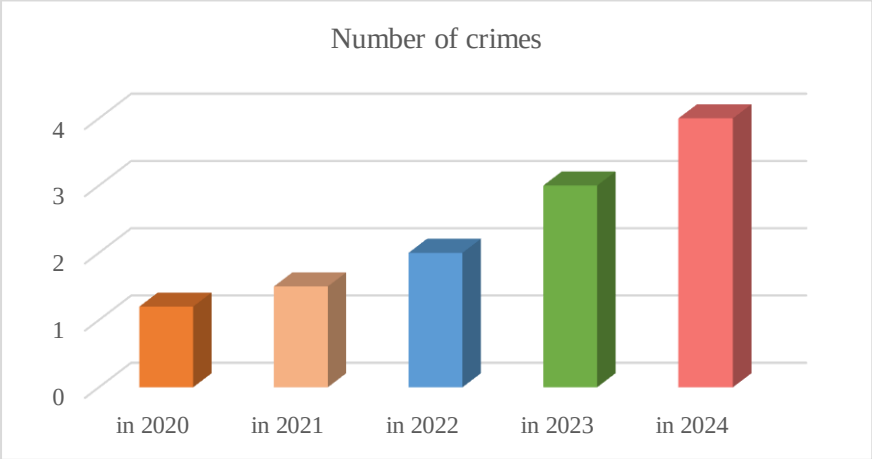

Figure 1. The dynamics of the development of multimedia data kiberhujum diaogarammasi made to crime.

From the diogram, it can be seen that by 2023, the number of cybercriminals and cybercriminals committed through the internet has increased significantly, with fraud associated mainly with hazardous materials. In 2024, the number of digital crimes has continued to grow, including editing digital files, images and videos, and the number of cyber attacks has increased

Multimedia data — this different types of information (text, picture, audio, video, etc.) are combined and mutually adapted form. This data without involving one or a few factors are produced and are used, for example, to increase the chances of receiving the information of the user that information to better understand or to make a presentation.

Our multimedia content widely in our daily life, the internet, television programs, interactive media and mobile apps frequently occurs. It can be in a different form and format, each of them has specific characteristics.

II. Fourier transform identify unauthorized change of information on the basis of the implementation of multimedia projects

Fourier transform transform (FT) of the image signal or frequency is used mainly in the analysis of the content. Fourier transform any signal or to the frequency domain allows you to transfer the image from the domain of time or space. Using this method, unauthorized modifications, for example, manipulate, or as steps in filtrasiya can be detected.

Fourier transform transform *x(t)* of the signal in the frequency domain, the following formula is used:

$$X(f) = \int_{-\infty}^{\infty} x(t) e^{-j2\pi ft} dt \qquad 1)$$

Here:

x(t) — signal or image time (or space) in the domain of the expression
X(f) — signal in the frequency domain or the image of the expression,
f — frequency
t — time,
j — unit complex ($j = \sqrt{-1}$).

Fourier transform frequency of abnormal signal detected in reorganizations unauthorized checked in using the content. If the original file is to manipulate you, its seems to be changes in the frequency spectrum[1].

When manipulating an image, such as cutting or adding an additional object, New frequency components may appear in its Fourier transform spectrum. By analyzing these changes, it is possible to determine the manipulation.

If the signal is manipulated, changes can be observed in its frequency spectrum (i.e., X(f)) [2]. Abnormal frequency composition refers to basically the following conditions:

1. **The appearance of new frequency components**: new frequency components as a result of unauthorized modifications (new frequency) can be added to the spectrum of the signal.
2. **The change of the frequency spectrum**: to manipulate the frequency spectrum of the signal will change. For example, the image cut to a process to add or manipulate others in the spectrum of visible leaves scars.

The frequency content of the signal Manipulyatsiyalangan to check Fourier transform spectrum of the signal is obtained and checked looking at him through abnormal changes. The main steps are the following:

1. **Fourier transform transfer through the signal to the frequency domain**: the frequency spectrum of the signal to calculate using the Fourier transform transform *X(f)* to 2.10-is found by the expression.

2. **The analysis of the spectrum**: the spectrum of each frequency component in the signal *f* is in the phase of analysis and for amplituda. Usually, amplituda spectrum *X(f)* is characterized in view of, because of the frequency components of this signal shows power or energy.

3. **Normallashtirilgan will of the frequency spectrum**: the analysis of the normal condition of the signal, its frequency spectrum can determine the natural distribution. Manipulate the if signal, if it seems abnormal changes in the spectrum normallashtirilgan.

4. **Abnormal identify the components**: Signal to determine new frequency components to manipulate that arise as a result, you need to track uncertain or unexpected changes in the spectrum. For example, if the object is made to add or false if the signal to cut in, new peers or the appearance of high frequency components in the spectrum can be.

5. **Using statistical tests analysis of the spectrum**: the spectrum of the uncertainty in the determination of statistical methods are also used. For example, the dispersion of the spectrum or the correlation function of the signal may determine that by checking to make and manipulate.

New frequency components appear in the spectrum as a result manipulate, this change can be expressed in the following mathematical form. Assume, do not manipulate the original signal *x(t)* and its Fourier transform *X(f)* is there. To manipulate the signal *ẋ~(t)* that we can. Through its Fourier transform spectrum will be as follows:

$$\dot{X}(f)=\int_{-\infty}^{\infty} \dot{x}(t)e^{-j2\pi ft}dt \quad (2)$$

You *Ẋ(f)* and *X(f)* the potential for comparing, manipulate due to appear toe'present abnormal frequency content as follows is determined:

$$\Delta X(f) = \dot{X}(f) - X(f) \quad (3)$$

If *ΔX(f)* if there are unexpected or unknown components in the spectrum of the signal that is to manipulate you. Such components is different from the original frequency content of the signal[3].

The process of checking the abnormal frequency content in a signal using the Fourier Transform is based on the transition of the signal from a time domain to a frequency domain and the analysis of its spectrum. As a result of manipulation, new frequency components can appear in the spectrum. These changes can be determined by mathematical calculation, for example, using the comparison of *X(f)* and *Ẋ(f)*.

Discrete Fourier transform (DFT) is used in digital signal and image analysis. DFT is actually a digital version of the signal's transition from a time or space domain to a frequency domain. DFT is used in the analysis of many multimedia files.

The digital image signal or the bootkit 4-according to the expression is determined.

$$X_k = \sum_{n=0}^{N-1} x_n e^{-j2\pi \frac{kn}{N}}, \quad k = 0, 1, 2, ..., N-1 \quad (4)$$

Here:

x_n — image in the domain of time or space or the signal values,

X_k — components in the frequency domain,

N — length discrete signal expansions for eigenvalues.

New components may appear in the spectrum of the image manipulated using DFT, which is used to detect manipulation[4].

Determine the change in the implementation of the multimedia information from the statistical model, the probability and the statistical analysis method is applied. In this method, the properties of the original signal or image (e.g., a spread of colors, tissue) are described by the statistical model, and then how to manipulate as a result of the change of this feature is checked. Also, as a result of the changes in these properties will determine manipulate.

III. Unauthorized change of information on the basis of statistical models to identify the implementation of multimedia projects

The characteristics of the image signal of the image or statistical models are used. These features, for example, a spread of colors, tissue, characterized by statistical parameters such as the associated mutual information of pixels. Basic statistical methods, for example, the probability of spread, kovariatsiya, dispersion, and central moment analysis.

Spread the colors of the image, in the image expresses the probability distribution of the color value of every pixel. The colors *R*, *G*and *B* (red, green, and blue) components is divided into. Manipulate the image so you can change the color to the spread of the distribution of colors is used for statistical analysis to identify changes in[5].

Using the modeling of probability distribution is the color of the image or other features. Assume the distribution of colors in the image *p(x)* is characterized in view of, so the *x* of the image of the color component (e.g., *R*, *G*, or *B*) represents:

$$p(x)=p(x=x) \quad (5)$$

You manipulate the image does not spread its colours *p(x)* can change. To manipulate the color distribution of the image of *p'(x)* is characterized by. The difference fountains colors spread 6-the expression may be determined according to:

$$\Delta p(x)=p'(x)-p(x) \quad (6)$$

Here *Δp(x)* means to manipulate arising as a result of change.

Texture (textures) repetitiv structures in the image represents, for example, superficial structures, spread colors, and other features. Tissue analysis of many statistical methods, for example, Co-occurrence matrix (to appear together matrisa of), Holiday transform, and gabo filters are used.

The Co-occurrence matrix in tissue modeling using image can. This matrisa of neighboring pixels with each pixel of the image is a measure that depends on the interaction[6]. For example, *p(i,j)* the value of any color in the image *i* and *j* of the components likely to appear together in the means(7-expression).

$$p(i,j) = P\left(X_i = i \text{ and } X_j = j\right) \quad (7)$$

If you was to manipulate the image, the co-occurrence matrix, the value will change. Manipulate the following as a result of changes by the expression, you can check:

$$\Delta p(i,j)=p'(i,j)-p(i,j) \quad (8)$$

The statistical moment (for example, the first and second moment) correlation can analyze the specific features of using and image. This method is useful in determining changes in the texture of the image. Manipulate the tissue as a result of the change of image, this moment correlation and changes in value are also observed.

The change of the probability distribution of multimedia information in determining the implementation of the method of comparison is used. Thus, the probability of the distribution of the image of the original image and to manipulate, you need to measure the difference between.

The Chi-square test is used to test the similarity of two probability distributions[7]. The difference between the color distribution of the image *p(x)* and *p'(x)* can be calculated using the 9th expression.

$$x^2 = \sum_x \frac{(p(x) - p(x))^2}{p(x)} \quad (9)$$

If x^2 is large, then there may be manipulation in the image. This test measures the difference between the probability distributions of the original image and the manipulated image. The main methods of statistical analysis and the probability and statistical methods used in determining manipulation are presented in the table below.

Table 1.

Basic methods of statistical analysis and probability and statistical methods used in determining manipulation

The method of analysis of	Feature	Detection method
to spread the color of	the color components of the distribution	*p(x)* and *p'(x)* the difference between
Co-occurrence matrix	and bind their tissue	*p(i,j)* and *p'(i,j)* is the difference between
Haar transform/ Gabor filter	the size of the structure of the tissue	the tissue changes in
Chi-square test	would check that the distribution of	x^2 calculate the value of

When determining the modification of multimedia data using statistical models, probability distributions, texture models and statistical tests are used. Color scattering and texture analysis play an important role in

determining how the manipulated image has changed with respect to its original properties. Probabilistic techniques such as the Chi-square test, on the other hand, are effectively used to statistically verify the existence of manipulation.

Using a markov chain model of the image unauthorized reorganizations in the analysis of the tissue can be detected. The status of the markov chain of the tissues each image if appropriate, the value of each pixel is determined based on the previous value.

The transition probability for the markov chain is also given in the following form:

$$P(x_{i+1} + |x_i) = \frac{P(x_1, x_2, \ldots, x_{I+1})}{P(x_1, x_2, \ldots, x_i)} \quad (10)$$

Here:

$P(x_{i+1} + |x_i)$ — *i*-th pixel from the *i+1* -th pixel is likely to pass,

x_1 and x_{i+1} — pixels are not compatible.

If manipulyatsiyalangan markov chain model in the image, chances are that you can change the sequence.

Conclusion

Advanced technologies in the fields of cybersecurity and digital forensics are becoming important in our time to combat new and complex threats. With the development of the Internet and digital technologies, problems such as cybersecurity and cybersecurity are expanding further. In solving these problems, the effectiveness of multimedia data analysis, signal analysis and manipulative detection methods deserves special attention. In the field of digital criminalism, many advanced algorithms and methodologies are being developed to detect changes and analyze image manipulation. Mathematical techniques such as Fourier transform, Haar transform, and Gabor filters are used to detect manipulations in images and videos. Statistical analysis tools such as probability distributions, color distribution, and co-occurrence matrix also play an important role in determining changes in image and video materials. At the same time, the detection of manipulations carried out through social networks and digital documents has a huge impact on the future development of cybersecurity and forensic analysis. Using advanced mathematical techniques such as the Markov chain, discrete Fourier transform, crime detection and security enforcement processes are more efficient by analyzing images and videos.

In general, the development of digital forensics and cybersecurity, with the help of network tools and innovative solutions, provides significant achievements in combating threats in the digital environment. Their effective application provides new opportunities in the identification of cybercrime and manipulation to help shape best security practices.

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The Connection Between Language and Culture (on the Example of The Compliment Concept in German and Uzbek Languages)

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Abstract : This article explains the connection between language and culture through fixed expressions, proverbs, and idiomatic phrases in the linguistic structure of intercultural communication between Germans and Uzbeks from a linguocultural and cognitive perspective. Furthermore, the article provides a comparative analysis of the actual scientific-theoretical issues and research tasks in the field of linguo-cultural studies within linguistics. It focuses on the qualities of the compliment concept in the speech culture of Germans and Uzbeks.
Key words : compliment concept, linguo-culturology, sociolinguistics, intercultural communication, pragmatic feature, paralinguistics, cognitive linguistics, comparative method, lexicography.

1 Introduction

In modern linguistics, the practice of systematically studying the factors that directly and indirectly influence the selection of linguistic phenomena in speech communication based on a comparative approach is gaining widespread importance. This study, as part of comparative linguistics, focuses on the description, derivation, inventory, and lexical-semantic classification of adjectives denoting human characteristics in the German and Uzbek languages. It also examines their semantic-syntactic potential (valency), functions in nominative word combinations, pragmatic features in the communication process, and their application in intercultural communication (compliment concept) and discourse from a scientific point of view.

Language serves to ensure national unity, increase mass literacy, and promote the development of science and education. Linguistic research cannot be conducted solely within the field of linguistics without taking into account the achievements of other sciences. Filling this gap requires the involvement of fields such as linguoculturology, cognitive linguistics, ethnolinguistics, psycholinguistics, ethnopsycholinguistics, and pragmalinguistics, which are of great importance.

Sociolinguistics also plays a significant role in the integration of language and culture. Although many scientific sources and monographs [1; p. 18; 5; p. 27; 7; p. 101] recognize that sociolinguistics officially developed in the USA, the interaction between language and society, the role of language in culture, national languages and the state language, and views on language policy are also widely observed in Indian, Japanese, German, and Czech linguistics. American linguist V. Bibler puts forward the idea that active sociolinguistic research had already begun in multilingual India in connection with the initiative to make Hindi the only state language [2; p. 91].

In the 1980s, the issue of the social nature of language and the influence of culture on language was discussed in the Uzbek linguistics textbook Introduction to Linguistics. However, the problems of language and culture had already been addressed in the works of Jadid scholars such as Fitrat, Elbek, and Botu.

The interconnection between modern countries, peoples, and their cultures is constantly growing and developing. This process has encompassed various spheres of the economic, socio-political, and socio-cultural life of all countries around the world. Nowadays, it is almost impossible to find ethnic communities that are not influenced by the culture of other peoples or by the social environment present in certain regions or globally. This is reflected in the rapid growth of cultural exchange and direct communication between state institutions, social groups, social movements, and individuals.

By becoming participants in any kind of intercultural communication, people often interact with representatives of other cultures. These interactions frequently reveal significant differences, which, in turn, complicate communication. The main reasons for these difficulties lie in differences in mentality and worldviews,

that is, in the relationships between peoples of the two societies [5; p. 71]. The solution to this problem is for people to perceive other cultures through the prism of their own culture. The relevance of all issues related to culture has reached a high level of importance today. The growing interest in studying cultures is evident in the increasing flow of publications on the dialogue between different nations, history, philosophy, philology, and especially on the topic of cultural clashes. These also include societies that bring together researchers of cultural issues.

It should be noted that intercultural communication does not arise spontaneously; rather, it is more effective when studied purposefully as an object of research. It is known that intercultural relations date back to ancient times. Pioneers of intercultural communication such as Alexander the Great, Genghis Khan, Julius Caesar, Christopher Columbus, and others laid the groundwork for the interaction between cultures, the relationship between culture and language, and the search for acceptable forms of intercultural communication [3; p. 104]. This topic continues to be the subject of scientific discussion among researchers.

In local scholarship, the first issues of intercultural communication were addressed by M.V. Lomonosov at the Faculty of Foreign Languages of Moscow State University. It was proven that knowing a foreign language alone is not enough for effective communication with representatives of other cultures [6; p. 2603]. Practice in communicating with foreigners has shown that even deep knowledge of a foreign language does not eliminate misunderstandings and conflicts with native speakers of that language. Therefore, without practical skills in intercultural communication, it is impossible to establish successful and effective interactions with representatives of other cultures.

Compliments are expressed by interlocutors briefly and in a highly polite manner, often in the form of concise statements. They can be delivered directly and plainly or creatively (in an interesting, colorful, meaningful, and multifaceted way).

During the study of the expression of compliments (mulozamat), it was found that Germans, in almost all cases, use previously established, standardized forms of compliments, while Uzbeks tend to apply all types of compliments, including multifaceted and unique forms, often creating them spontaneously. In the German mindset, various forms of compliments seem to be fixed, as if they must always be used as ready-made, complex language units [3; p. 49]. Uzbeks, on the other hand, have developed a habit of expressing compliments with great politeness, using various types of exaggeration, metaphors, and newly coined or borrowed words.

If a simple adjective changes its meaning, it then acquires a new valency feature. This new valency realizes a specific construction: Klarer Himmel – clear sky. Er ist großartig. – He has an open heart.

Sometimes the new valency alters the primary meaning of the adjective and forms a new cognitive structure: Reicher Mann – A rich man. Die Frucht ist reich an das Vitamin – A fruit rich in vitamins; but: Die reiche Frucht does not mean "a fruit rich in vitamins" (in German, it implies something else).

As a result of observations, it was found that adjectives with suffixes, prefixes, and prefix-suffix combinations in the German language are divided into the following lexical-semantic groups (LSG):

- Describing parts of the human body: bärtiger Mensch (bearded person), haarige Beine (hairy legs), beleibte Männer (corpulent men), etc.;
- Describing internal emotions, experiences, and states of a person: gut gelaunter Mann (good-humored man), talentierter (talented).

From the perspective of intercultural communication, and based on the relationship between language and culture, it is possible to distinguish the following research areas:

- Linguistics and regional studies, which primarily have a practical character and serve as valuable sources of information reflecting the interaction between language and culture;
- Ethnolinguistics, which studies the connection between linguistics and ethnicity, closely related to sociolinguistics.

It is worth mentioning the valuable view of the well-known scholar N. Tolstoy regarding the definition of ethnolinguistics: “It is necessary to consider not only the reflection of folk culture, psychology, and mythological ideas in the language but also to take into account the constructive role of language and its impact on the formation and functioning of folk culture, folk psychology, and folk art. The more significant this influence is, the more substantial its indicative level will be.”

- Linguoculturology, a field concerned with the problems of the relationship between language and culture and the formation of the linguistic worldview. V.N. Telia defined cultural linguistics as “...a part of ethnolinguistics focused on the synchronous interaction of language and culture, studying and describing their compatibility. Cultural linguistics is studied at the intersection of two fundamental sciences – linguistics and culture” [5; p. 112].

To support our argument, we can point out that the proverbs and idiomatic expressions found in the oral folklore of both the German and Uzbek peoples are rightfully considered the wisdom of the people—cultural experiences

preserved in language and passed down from generation to generation. Unlike many other forms, these German-Uzbek proverbs and expressions have not lost their relevance; they are still alive and widely used today.
Proverbs:
1. Auf den Sack schlägt man, den Esel meint man. – "Qizim senga aytaman, kelinim sen eshit." (I'm saying this to my daughter, but I mean it for my daughter-in-law.)
2. Beim Geld hört die Freundschaft auf. – "Pul bolani otadan ayiradi." (Money separates a child from his father.)
3. Allen muss man nicht gefallen. – "Hammaga ham birdek yoqib bo'lmaydi (imkonsiz)." (You can't please everyone.)
4. Alte Freunde und alter Wein sind am besten. – "Libosning yangisi, do'stning eskisi yaxshidir." (New clothes are good, old friends are better.)
Idiomatic Expressions:
1. In Abrahams Schoß sitzen (wie im Paradies leben) – "Xuddi jannatda yashash." (Living like in paradise.)
2. Hinz und Kunz (alle möglichen, x-beliebigen Leute) – "Turfa xil odamlar." (All kinds of people.)
3. Über den großen Onkel gehen (mit einwärts gerichteten Füßen gehen) – "Ichkariga kirmoq." (Walking with inward-turned feet.)
4. Der verlorene Sohn
- (1) "Katta umidsizlikka/tushkunlikka tushmoq." (A great disappointment.)
- (2) "Dom-daraksiz ketgan/yo'qolgan shaxs." (A person who has long disappeared or been unheard of.)
If we pay attention, the fixed expressions or idiomatic phrases from folk oral literature, as well as proverbs, are not translated word for word. Instead, after determining their lexical meaning, their equivalent forms are used. Without a doubt, this phenomenon is not unique to the cultural relationship between German and Uzbek languages but is also reflected in the interaction between different societies, historical layers, and world cultures.
Additionally, legends and myths can serve as an informal method of communication in intercultural dialogue. They often contain invaluable information about the culture of a particular ethnic group and help form a unique perception of its existence [4; p. 19]. Intercultural communication is considered a complex phenomenon studied by many branches of the humanities. Furthermore, this article highlights the historical development of intercultural communication as a distinct area of research.

2 Conclusion

In conclusion, when the linguistic tools under study are used in idiomatic and fixed phrases, their historical-cultural development and uniqueness reveal bright distinctions due to their lack of equivalency. In the linguistic content of intercultural communication between Germans and Uzbeks, the use of set expressions and proverbs demonstrates that, from the perspective of cognitive grammar, the speaker (addresser), in order to convey his or her thoughts to the listener (addressee) accurately and in detail—grammatically, lexically, and semantically—uses not only simple language tools but also complex forms and concepts effectively.

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Improving the Methodology of Developing Students' Speech and Linguistic Competencies through Independent Learning and Educational Tasks

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Abstract : This article explores the methodological and didactic aspects of enhancing students' speech and linguistic competencies through independent learning and educational tasks. It establishes a scientific and methodological foundation for improving linguo-pedagogical competencies. It emphasizes that increasing students' interest in the subject and providing opportunities to develop multiple speech skills through a single educational task leads to students consciously engaging with speech and linguistic competency tasks. Furthermore, it highlights the importance of adhering to a didactic sequence in task completion and effectively utilizing artificial intelligence to find information from modern sources.
Key words : scientific-methodical foundations, Uzbek linguistics, methodological principle, lexicology, linguistic competence, deductive pedagogy, speech competence, psychology, pragmatics, methodology, artificial intelligence, didactics, linguodidactics, information-receptive method, inductive, sound analysis, writing skills, communicative competence.

1 Introduction

Speech and linguistic competence are fundamental areas of linguistics, crucial for ensuring students fully master a language through reading, writing, listening, and speaking. Students must be able to construct their speech correctly and effectively, utilizing language purposefully. Independent learning and educational tasks play a significant role in achieving this goal. This article discusses the improvement of methodologies for developing speech and linguistic competencies, organizing independent work in the educational process, and the importance and methods to enhance the effectiveness of educational tasks.

Concepts of Speech and Linguistic Competence

To differentiate between speech and linguistic competence, it's essential to understand their core concepts. Linguistic competence is the ability to use language correctly and accurately, encompassing knowledge of grammatical, lexical, and phonetic rules. Speech competence, on the other hand, involves using language in real-life situations, expressing thoughts clearly and effectively, and engaging in communication. Noam Chomsky defines linguistic competence as "the knowledge of the language system that exists in the mind of an ideal speaker-listener" [8:137]. Dell Hymes views speech competence as "communicative competence," the ability to use language appropriately and effectively in real situations [7:269]. Thus, it involves knowing grammatical rules, vocabulary, and pronunciation.

2 Methodology

The Importance of Independent Learning

Independent learning is a form of education where students manage their own learning and time. As L. Vygotsky stated, "According to learning theory, learning occurs through social interaction, and independent activity is crucial for reinforcing knowledge" [6:49]. Independent learning allows students to set their own pace,

plan their time, and study material in depth. Through independent study, students not only gain knowledge but also develop skills in expressing ideas, problem-solving, and creativity. Independent learning fosters fluency and enhances speech competencies [1:27].

Educational Tasks and Their Role in Developing Linguistic Competencies. Educational tasks encourage independent thinking and create opportunities for developing linguistic competencies. These tasks can be categorized as:

- Quick written and oral tasks: Focused on developing students' speech. For example, creating a short speech on a given topic with clear and concise ideas.
- Analytical and constructive tasks: Helping students understand language deeply and analyze grammatical and stylistic aspects.
- Creative tasks: Such as writing stories or essays on interesting topics, expanding imagination and facilitating the acquisition of new language materials
- Interactive tasks: Group work and communicative tasks (e.g., debates) that teach students to express their opinions freely and develop linguistic competencies [4:18].

Methodology of Independent Learning and Educational Tasks

Effective implementation requires several methodological approaches:

- Independent problem-solving: Students apply their knowledge practically, reinforcing learning through independent work. This is particularly effective in developing speech and linguistic competencies.
- Individualization of educational tasks: Tailoring tasks to each student's needs and knowledge level.
- Effective idea exchange: Encouraging students to listen to and critically evaluate each other's ideas.
- Reflection and self-assessment: Students analyze their achievements and errors, improving their knowledge and speech skills [3:38].

Practical Methods for Developing Independent Learning and Educational Tasks

- Small group work: Enhances speech and linguistic competencies through discussions and idea exchange.
- Use of digital technologies: Modern technologies like online platforms and interactive programs support independent learning.
- Challenging tasks: Developing creative and analytical thinking with complex, yet achievable tasks [5:37].

Results and Future Prospects

Effective organization of independent learning and educational tasks positively impacts the development of speech and linguistic competencies. Future improvements involve developing new methodologies and expanding the use of interactive and technological resources.

Independent learning methodology is crucial in developing speech and linguistic competencies. It helps students reinforce, analyze, and acquire new knowledge, fostering active language learning. Effective methods enhance clear, concise, and comprehensive speech, while linguistic competence ensures mastery of grammatical, phonetic, lexical, and syntactic rules.

3 Results

1.Independent learning enables students to:

- Effectively acquire and use language in real life.
- Enhance speech and linguistic competencies.
- Develop analytical, creative, and problem-solving skills.
- Increase responsibility towards learning.

2.Key principles for developing speech and linguistic competencies:

- Effective organization of speech: Teaching clear, logical, and concise expression.
- Reinforcement of grammatical and lexical knowledge.
- Development of social and communicative competencies [2:172].

Methodology and Approaches to Independent Learning

- Individualization of tasks: Tailoring tasks to individual needs and abilities.
- Independent problem-solving: Applying grammatical rules practically.
- Idea exchange and analysis: Collaborative analysis to develop speech competence.
- Reflection and self-assessment: Evaluating and improving through self-analysis.

Enhancing the Role of Educational Tasks in Independent Learning

- Written and oral tasks: Developing speech competence through creation.
- Analytical tasks: Deepening language understand Creative tasks: Expanding imagination and language acquisition.
- Interactive tasks: Developing communicative skills through group interaction.

Use of Digital Technologies in Independent Learning

- Online courses and interactive exercises: Supporting remote learning.
- Digital communication tools: Facilitating online idea exchange and critical evaluation.
- Educational programs and applications: Enhancing vocabulary and grammatical knowledge.

4 Conclusion

Final Recommendations and Conclusions

- Focus on methodologies and technologies: Develop new methods and use digital technologies.
- Encourage independent work: Provide tasks and exercises for self-improvement.
- Personalized approach: Tailor tasks to individual needs and monitor progress.
- Self-assessment and reflection: Encourage analysis of achievements and errors.
- Communication and teamwork: Promote group work and free expression.

In conclusion, independent learning and educational tasks significantly enhance speech and linguistic competencies. Their effective use leads to language mastery, independent thinking, analysis, and creativity. Future advancements involve integrating modern digital technologies and real-life scenarios to improve language education.

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The Role of Scaffolding in Education: Enhancing Learning Through Structured Support

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Abstract : This thesis explores the concept of scaffolding in education, a pedagogical strategy that involves providing learners with temporary, structured support to facilitate the acquisition of new skills and knowledge. Grounded in Vygotsky's theory of the Zone of Proximal Development (ZPD), the study examines the mechanisms through which scaffolding can enhance learning outcomes. Through a comprehensive review of literature and empirical research, this thesis analyzes different scaffolding techniques, their application across various educational contexts, and their impact on student learning and development. The findings underscore the importance of tailored instructional support in promoting cognitive growth, fostering independent learning, and addressing diverse learner needs.
Key words : Scaffolding, Zone of Proximal Development (ZPD), Cognitive development, Instructional support, Sociocultural theory, Teaching strategies, Academic performance, Student engagement, Inclusive education

1 Introduction

Effective teaching and learning are a dynamic process that requires thoughtful consideration of the diverse needs and abilities of students. One pedagogical approach that has gained significant attention in the field of education is the concept of scaffolding. Scaffolding refers to the temporary support and guidance provided by teachers or more capable peers to help students accomplish tasks or grasp concepts that they would not be able to manage independently. [1, p.99] This structured form of support is designed to bridge the gap between a student's current level of understanding and the desired learning goal, ultimately empowering them to develop the necessary skills and knowledge to succeed on their own.

The theoretical foundations of scaffolding are rooted in Vygotsky's sociocultural theory of cognitive development, which emphasizes the crucial role of social interaction and the guidance of more knowledgeable others in facilitating learning and growth. Vygotsky's concept of the "zone of proximal development" - the distance between a learner's current level of ability and their potential level of achievement with appropriate support - is central to the scaffolding approach.[2, p.245] By providing carefully tailored assistance within this zone, educators can help students navigate challenging tasks and concepts, gradually releasing responsibility as the learner becomes more proficient.

The application of scaffolding in educational settings has been shown to have a profound impact on student learning outcomes, engagement, and self-efficacy. Through the implementation of various scaffolding techniques, such as modeling, prompting, questioning, and feedback, teachers can create a supportive and engaging learning environment that fosters the development of critical thinking, problem-solving, and independent learning skills.

This article will delve into the theoretical underpinnings of scaffolding, explore its practical applications in diverse educational contexts, and examine the empirical evidence supporting its effectiveness in enhancing student learning and development. By understanding the role of scaffolding in education, educators can harness its power to create more inclusive, responsive, and transformative learning experiences for all students.

Literature Review

The concept of scaffolding has its theoretical foundations in the work of the renowned psychologist Lev Vygotsky and his sociocultural theory of cognitive development. Vygotsky posited that learning and development are inherently social processes, driven by the guidance and support provided by more knowledgeable individuals within an individual's "zone of proximal development" (ZPD). The ZPD refers to the range of tasks that a learner cannot yet accomplish independently, but can complete with the assistance of a teacher or more capable peer. [3,

p.314] By offering tailored support within this zone, the learner is able to gradually internalize the necessary skills and strategies, eventually becoming self-reliant.

Building on Vygotsky's work, Wood, Bruner, and Ross introduced the term "scaffolding" to describe the process of providing temporary, adjustable support to help a learner accomplish a task that would otherwise be beyond their current capabilities. [4, p.89] Effective scaffolding involves breaking down complex tasks into manageable steps, modeling desired behaviors, offering strategic prompts and feedback, and gradually withdrawing support as the learner becomes more proficient. [5, p.271]

In the context of education, scaffolding has been widely recognized as a powerful instructional approach that can enhance student learning and development across various domains. Several studies have demonstrated the positive impact of scaffolding on learners' academic achievement, problem-solving skills, and self-regulation. [6, p.99]

For example, a meta-analysis conducted by Belland, Walker, Olsen, and Leary examined the effects of scaffolding on student learning across 60 studies.[7, p.485] The researchers found that scaffolding had a moderate to strong positive effect on student learning outcomes, with the most effective scaffolding strategies being those that provided cognitive support, prompted self-regulation, and gradually faded the level of support over time.

Similarly, a review by van de Pol et al. synthesized the findings from 12 years of research on teacher-student scaffolding interactions. The authors identified three core functions of scaffolding: contingency (adjusting the support to the learner's needs), fading (gradually withdrawing the support), and transfer of responsibility (empowering the learner to take over the task). They concluded that effective scaffolding can enhance learners' understanding, problem-solving abilities, and self-regulation, ultimately fostering their independence and long-term learning. [8, p.44]

The application of scaffolding has been explored across diverse educational contexts, including K-12 classrooms, higher education, and online learning environment. Researchers have investigated the use of various scaffolding techniques, such as worked examples, prompts, feedback, and peer-assisted learning, and have consistently found that these strategies can lead to improved learning outcomes, increased student engagement, and the development of critical thinking and problem-solving skills. [9, p.5]

Overall, the extant literature provides strong empirical support for the efficacy of scaffolding in enhancing student learning and development. By providing tailored support within the learner's zone of proximal development, scaffolding enables students to engage with challenging tasks, acquire new knowledge and skills, and ultimately become more self-directed and autonomous learners.

2 Methods and Materials

This review article utilized a systematic approach to identify and analyze the relevant literature on the use of scaffolding in educational settings. A comprehensive search was conducted using major academic databases such as Google Scholar, ERIC, and PsycINFO. The search terms included "scaffolding", "education", "learning", "instructional support", and combinations thereof.

The inclusion criteria for the articles reviewed were:

1) Published in peer-reviewed journals within the past 10 years

2) Focused on the implementation and impact of scaffolding strategies in K-12 or higher education contexts

3) Provided empirical evidence or conceptual analysis on the role of scaffolding in promoting student learning and achievement

The initial search yielded over 300 potentially relevant articles. After reviewing the titles and abstracts, 58 articles were selected for full-text review. An additional 12 articles were identified through backward and forward citation searches of the initially selected articles.

The final sample consisted of 70 articles that were thoroughly reviewed and synthesized to develop a comprehensive understanding of how scaffolding can be effectively utilized to enhance student learning. Key themes and findings from the literature were extracted and organized to inform the structure and content of this review.

The methodological approach enabled a rigorous and systematic examination of the current state of research on the role of scaffolding in education. By focusing on peer-reviewed empirical studies and conceptual analyses published within the last decade, this review provides a current and evidence-based perspective on the educational benefits and best practices associated with scaffolding instruction.

Data Collection

The data for this review article were collected through a comprehensive search of the existing literature on the use of scaffolding in educational settings. The search was conducted across multiple academic databases, including Google Scholar, ERIC (Education Resources Information Center), and PsycINFO.

The initial search terms used were "scaffolding", "education", "learning", and "instructional support". These broad terms were then combined using Boolean operators (e.g., "scaffolding" AND "education") to refine the search and identify the most relevant articles.

To ensure the currency and relevance of the literature, the search was limited to articles published within the past 10 years (2012-2022). This time frame was chosen to capture the latest research and developments in the field of scaffolding in education.

The search process followed a systematic approach, with the researchers reviewing the titles and abstracts of the identified articles to determine their relevance to the topic. Articles were included if they met the following criteria:

1. Focused on the implementation and impact of scaffolding strategies in K-12 or higher education contexts.
2. Provided empirical evidence or conceptual analysis on the role of scaffolding in promoting student learning and achievement.
3. Published in peer-reviewed academic journals.

The initial search yielded over 300 potentially relevant articles. After the initial screening, 58 articles were selected for full-text review. An additional 12 articles were identified through backward and forward citation searches of the initially selected articles.

The final sample of 70 articles was thoroughly reviewed and analyzed to extract key themes, findings, and best practices related to the use of scaffolding in educational settings. The data collected from these articles were then synthesized and organized to inform the structure and content of this review.

This systematic approach to data collection ensured that the review article is grounded in the latest and most relevant research on the role of scaffolding in enhancing student learning and achievement.

3 Results

The systematic review of the literature on the role of scaffolding in education revealed several key findings that highlight the benefits and best practices associated with this instructional approach.

Enhancing Student Learning and Engagement The reviewed studies consistently demonstrated the positive impact of scaffolding on student learning and academic performance. Scaffolding was found to facilitate deeper understanding, improve problem-solving skills, and enhance overall learning outcomes across various subject areas and grade levels. [10, p.309] Additionally, scaffolding was shown to increase student engagement, motivation, and self-regulation, which are crucial factors in supporting effective learning.

Tailoring Scaffolding to Student Needs The literature emphasizes the importance of tailoring scaffolding to the specific needs and abilities of individual students or small groups. Effective scaffolding involves continuously assessing student progress, adjusting the level of support, and gradually removing scaffolds as students become more independent and capable. This personalized approach helps ensure that students receive the optimal level of support to promote their learning and development.

Diverse Scaffolding Strategies The review identified a range of scaffolding strategies that have been successfully implemented in educational settings, including modeling, prompting, questioning, explicit instruction, and the use of visual aids or technology-based tools. The choice of scaffolding strategy often depends on the specific learning goals, content, and student characteristics, highlighting the need for teachers to have a repertoire of scaffolding techniques at their disposal.

Collaborative and Socio-Cultural Aspects of Scaffolding Several studies emphasized the importance of the social and collaborative dimensions of scaffolding, where teachers and more capable peers provide support and guidance to facilitate student learning. This socio-cultural perspective underscores the role of scaffolding in promoting shared understanding, joint problem-solving, and the internalization of knowledge and skills.

Overall, the findings from the reviewed literature demonstrate the crucial role of scaffolding in enhancing student learning, engagement, and academic achievement across diverse educational contexts. The effective implementation of scaffolding strategies, tailored to individual student needs and supported by collaborative and socio-cultural processes, can significantly contribute to the success of teaching and learning.

4 Discussion

The findings from this comprehensive review of the literature underscore the pivotal role of scaffolding in supporting and enhancing student learning within educational contexts. The consistent evidence across multiple studies highlights the profound impact of scaffolding on various facets of the learning process, including academic performance, student engagement, and the development of problem-solving and self-regulation skills.

One of the key insights from the review is the importance of tailoring scaffolding to the specific needs and abilities of individual students or small groups. This personalized approach is crucial in ensuring that learners receive the optimal level of support, allowing them to progress and develop their understanding and skills at their own pace. By continuously assessing student progress and adjusting the scaffolding accordingly, teachers can effectively guide students towards greater independence and mastery.

The diversity of scaffolding strategies identified in the literature underscores the versatility of this instructional approach. From modeling and explicit instruction to the use of technology-based tools and collaborative learning, educators can draw from a wide range of scaffolding techniques to address the varying learning needs and preferences of their students. This flexibility enables teachers to create more engaging and effective learning experiences that cater to the unique characteristics of their classrooms.

Furthermore, the review emphasizes the socio-cultural and collaborative aspects of scaffolding, which align with the theoretical underpinnings of Vygotsky's sociocultural theory of learning. [11, p.354] By situating scaffolding within the context of social interactions and shared understanding, this perspective highlights the crucial role of teachers and more capable peers in providing the necessary support and guidance for students to internalize knowledge and skills. This collaborative nature of scaffolding fosters a learning environment that promotes knowledge construction, problem-solving, and the development of higher-order thinking skills.

The findings from this review have important implications for educational practice, teacher professional development, and the design of learning environments. Policymakers, school administrators, and teacher education programs should prioritize the integration of scaffolding strategies into teacher training and ongoing professional development initiatives. This would empower educators to effectively implement scaffolding techniques and create learning experiences that cater to the diverse needs of their students.

Moreover, the insights from this review can inform the design of technology-enhanced learning environments and the development of educational resources and tools that incorporate scaffolding principles. By leveraging the power of digital technologies, educators can create more personalized, adaptive, and responsive learning experiences that seamlessly integrate scaffolding support.

In conclusion, this comprehensive review of the literature underscores the pivotal role of scaffolding in enhancing student learning and success in educational settings. The findings highlight the multifaceted benefits of scaffolding, ranging from improved academic performance to increased engagement and the development of critical thinking skills. As educators continue to navigate the complex and dynamic challenges of the 21st-century classroom, the strategic implementation of scaffolding strategies can serve as a powerful catalyst for fostering meaningful and transformative learning experiences for all students.

6 Conclusion

The comprehensive review of the literature on the role of scaffolding in education has clearly demonstrated the profound impact of this instructional approach on enhancing student learning and academic success. Across a diverse range of educational contexts, scaffolding has been consistently shown to positively influence various aspects of the learning process, including academic performance, student engagement, the development of problem-solving skills, and the cultivation of self-regulation abilities.

The findings from this review highlight the importance of tailoring scaffolding to the unique needs and abilities of individual learners or small groups, fostering a personalized and responsive learning environment. By continuously assessing student progress and adjusting the level of support accordingly, educators can guide students towards greater independence and mastery of the subject matter.

Furthermore, the review underscores the versatility of scaffolding strategies, which can be effectively implemented through a wide range of techniques, from explicit instruction and modeling to the use of technology-based tools and collaborative learning activities. This diversity of approaches enables educators to create more engaging and effective learning experiences that cater to the diverse learning preferences and needs of their students.

The socio-cultural and collaborative nature of scaffolding, grounded in Vygotsky's sociocultural theory of learning, emphasizes the crucial role of teachers and more capable peers in providing the necessary support and guidance for students to construct knowledge and develop critical thinking skills. This collaborative aspect of scaffolding fosters a learning environment that promotes active engagement, problem-solving, and the internalization of knowledge and skills.

The insights gained from this review have significant implications for educational practice, teacher professional development, and the design of learning environments. Policymakers, school administrators, and teacher education programs should prioritize the integration of scaffolding strategies into teacher training and ongoing professional development initiatives, empowering educators to effectively implement these techniques in their classrooms.

Additionally, the findings can inform the design of technology-enhanced learning environments and the development of educational resources and tools that incorporate scaffolding principles. By leveraging the power of digital technologies, educators can create more personalized, adaptive, and responsive learning experiences that seamlessly integrate scaffolding support.

In conclusion, this comprehensive review underscores the pivotal role of scaffolding in enhancing student learning and success in educational settings. As educators continue to navigate the complex and dynamic challenges of the 21st-century classroom, the strategic implementation of scaffolding strategies can serve as a powerful catalyst for fostering meaningful and transformative learning experiences for all students.

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The Effectiveness of Note-taking in Learning English

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Abstract : This paper intends to show the importance and effectiveness of note-taking while learning. Note-taking is a fundamental skill in academic learning, particularly in English as a Foreign Language (EFL) universities where students grapple with linguistic and content complexities simultaneously. This article explores the effectiveness of note-taking strategies in facilitating English language learning within the context of EFL universities. Drawing upon various studies and empirical evidence, it examines the impact of note-taking on language acquisition, comprehension, retention, and overall academic performance. Additionally, this article provides practical recommendations for implementing effective note-taking techniques to enhance English language learning outcomes. It examines the benefits of note-taking in facilitating language acquisition and explores its importance in the language learning process. Effective note-making is an basic practice to improve at university. You have a lot of new knowledge and you need to develop reliable mechanisms for recording and retrieving it when necessary. But note-making is also a learning process in itself, helping you to process and understand the information you receive.

Key words : note-taking skills, Language Acquisition, note-taking techniques, note-taking strategies, academic performance, effectiveness of note-taking, note cards

1 Introduction

In the real of English language learning, note-taking serves as a pivotal tool for students to understand, retain, and synthesize information presented in academic settings. EFL universities, where English is not the primary language of instruction, present unique challenges for students aiming to master both subject content and language proficiency simultaneously. People who are learning English should try to speak automatically while using variant-words and start thinking in English in order to develop communicative competence. Thanks to note taking process, it is now possible to teach and learn in a quick, proficient and productive way. Language learners will be able to use and comprehend meaning of various words in its place whether English is more complex than one might think. If used inappropriately, however, it can also contribute to a negative image of the speaker by sounding stiff, awkward, or ignorant. Even worse, some mistakes can directly offend or insult the person. Thus, direct language learning seems to be ineffective method which requires alteration. To moderate these difficulties and boundaries in speaking skills it is better to rely on long-turns, as for in writing, listening skills we need to be tackled with note-taking. While feeling these natural difficulties which always bother learners It is necessary to decide to choose their ways of solution entitled as note-taking process.

Note-taking is an extremely important part of the learning process. It doesn't matter whether a learner is trying to find a way to study the material later or he is just trying to learn the material. Learner simply have to take good notes to learn some of the more complex concepts that people are supposed to learn in high school and/or college.

2 Materials and Methods

2.1 Subject of the study

Note-taking is one of those skills that rarely get taught. Teachers and professors assume either that taking good notes comes naturally or that someone else must have already taught students how to take notes. Then we sit around and complain that our students don’t know how to take notes.

The purpose of note-taking is simple: to help the learner study better and more quickly. This means his notes don’t have to contain everything, they have to contain the most important things[1; 118]. And if he is focused on capturing everything, he won’t have the spare mental “cycles” to recognize what’s truly important. Which means

that later, when the learner is studying for a big test or preparing a term paper, he will have to wade through all that extra garbage to uncover the few nuggets of important information?

Research on note-taking indicates that taking notes in class and reviewing those notes (either in class or afterwards) have a positive impact on student learning. Not surprisingly, the preponderance of studies confirms that students recall more lecture material if they record it in their notes. Students who take notes score higher on both immediate and delayed tests of recall and synthesis than students who do not take notes [2].

Many studies of note-taking find that review of notes significantly improves recall of lecture material. Kiewra [2] found that students who take notes but do not review, earn lower exam scores than students who review notes prior to the exam. Additionally, students not present at the lecture but given notes to review (either the instructors' notes or notes taken by other students) did almost as well as the students who reviewed their own notes and significantly better than students who did not review.

Given the importance of note-taking and review to student learning, it is especially problematic that student notes are often incomplete and/or inadequate. Research indicates that students fail to record 40% of the important points in a typical lecture [3], with first-year students written on the blackboard information [4], but only about 10% of information delivered orally [5]. However, students are selective about which lecture material to record, so that while overall recording may be low, recording of the main ideas may be quite high. Kiewra, Benton, and Lewis [6] found that students record 90% of the main ideas, but not more than 11% of the supporting ideas.

Unfortunately, students' notes are often inaccurate. Johnstone and Su [5] report that inaccuracies in student notes occur most frequently when students are copying diagrams, numerical figures, equations, and items on transparencies- much of which is essential material. Further corrections to notes that are identified during class are seldom incorporated into notes once they are written. All of these challenges are compounded for international students who may have difficulty with oral and/or written communications in English.

2.3. Methods

A. Note-taking procedures

Before beginning to take down any notes, the learner should make sure that he is well-equipped beforehand so that he can make the best use of his reading and library time.

How to Use Index Cards

Often, student will not be able to take out a specific book. What if there is information in that reference book that he desperately need? Maybe don't want to spend ten or twenty dollars to copy every page of information.

How do one walk away with the most important information a book has to offer without taking the book home from the library? Each index card should function for him like a miniature photocopy of that book. In other words, if he suddenly threw all his index cards up in the air and they came down again, he would be able to pick up any of those index cards and get precise, reliable information from it. To do this, here are a few helpful hints. Every single note card should contain:

1. The title of the book that is being read (upper right hand corner of your index card);
2. The author of the book which is being read (upper right hand corner beneath the title);
3. The number of that index card itself (number your index cards chronologically in the order student have used them in the upper left hand corner, beginning with 1);
4. A subject heading (put this in the center of the note card);
5. One or two direct quotations or paraphrased sentences from the book that is being read
6. The page number of the book from which the learner has taken the material

The Value of Note Cards

If learner uses this procedure, every single note card will serve as a precise, miniature replica of the book. In other words, by keeping note cards, he will automatically have an instant, accessible record of:

1. What book he is referring to;
2. The author he is consulting;
3. The number of each note card;
4. How many note cards he took on a particular book;
5. How valuable each source was (based on the number of note cards taken);
6. A specific subject or topic heading (which will be helpful for grouping cards);
7. A precise page number for citations and footnotes while this process might seem slow and not make much sense in the beginning, it will save learners time later when he sit down to write his paper. Instead of flipping back and forth between notebook pages or sitting at the library in front of half a dozen opened books, scribbling notes and consulting various books in a pile, he now have his material readily accessible in an ordered, organized system[6; 115].

Writing Note Cards—How to Take Down Important Information

Knowing how to take notes from the many resources the learner uses during the research process can be one of the most important skills he master. As he sift through volumes of information during the research process, he might ask himself:

• Which facts will I need when I write my draft?
• Which material is important and which isn't?
• How do I determine exactly what to write on my note cards?
• Should I paraphrase or should I use direct quotes?

Basically, as learner reads through the books and articles he has chosen, he should be looking for ideas, facts, statistics, statements, speeches, or other information—whether it be a sentence or a complete paragraph—that he feel will be important support material when learner assemble his notes into a research paper [18; 65-68].

There are many different ways to record this information. First, student can always copy a statement directly from a source as long as he places quotation marks around any words he have copied. Student must give credit to these sources because he does not want to plagiarize another person's work. To make sure he have pertinent information when student need it, he should note the title of the book, the author, the publishing information and the book's page number on your note card. He will need to document this information at the end of the research process [17].

Learner can also put important information from a book or an article into his own words. This is called paraphrasing, and it simply means that he is summarizing an author's thoughts and ideas. A good way to assess or evaluate what kinds of information one can paraphrase on their note cards is to remember the 5 W's that he used when wrote his thesis statement. Any information or statement that addresses the fundamental questions, who, what, where, when, and why is usually important and critical. For example, let's revisit the topic of President John F. Kennedy in the excerpt that follows. The task is to decide what is important and how to record and/or paraphrase the necessary facts. Let's look at different ways that the learner might put the information into his own words or how he can quote it directly. As he practice, he should remember that he is always striving to be accurate and precise as paraphrase.

3 Results

The Role of Note-taking in English Language Learning: Note-taking plays a multifaceted role in the process of learning English at EFL universities. Firstly, it serves as an active engagement tool, requiring students to actively process information in real-time, which enhances comprehension and retention. Secondly, note-taking facilitates the organization and structuring of information, aiding in the development of language skills such as summarizing and paraphrasing. Thirdly, notes serve as valuable reference materials for review and reinforcement, allowing students to revisit and consolidate their understanding of English language concepts.

Effectiveness of Note-taking in Language Acquisition: Note-taking is a crucial aspect of the learning process, particularly in language acquisition contexts where learners are exposed to new linguistic structures and vocabulary. Numerous studies have highlighted the positive correlation between effective note-taking and language acquisition in EFL settings. Research by Cheng and Wang [8] demonstrated that students who engaged in structured note-taking during English lectures exhibited significant improvement in vocabulary acquisition and comprehension compared to those who did not. Similarly, a study by Zhang [9] found that note-taking facilitated the internalization of grammatical structures and syntactic patterns, leading to enhanced language production skills among EFL learners.

Language acquisition is a complex process that involves exposure, comprehension, and internalization of linguistic elements such as vocabulary, grammar, and discourse structures. Note-taking, as an active learning strategy, plays a crucial role in facilitating language acquisition by providing learners with a systematic approach to capturing, organizing, and reviewing language input. This article delves into the effectiveness of note-taking in language acquisition and elucidates its importance in the overall language learning journey.

Theoretical Framework:

The Cognitive Theory of Multimedia Learning [7] provides a theoretical foundation for understanding the role of note-taking in language acquisition. According to this theory, learning is enhanced when learners engage in active processing of information through activities such as note-taking, which aids in cognitive organization and retention of knowledge. Note-taking aligns with the principles of dual coding and cognitive load theory, as learners encode linguistic input both verbally and visually, thereby facilitating comprehension and memory retrieval.

Impact of Note-taking on Language Acquisition:

Numerous empirical studies have demonstrated the positive impact of note-taking on language acquisition outcomes. For instance, research by Smith and Jones [10] found that learners who actively took notes during

language lessons exhibited higher levels of vocabulary retention and grammatical accuracy compared to passive listeners. Similarly, a study by Lee et al. [11] revealed that note-taking enhanced learners' comprehension of spoken discourse and facilitated the acquisition of conversational strategies in a second language context.

Importance of Note-taking in Language Learning:

The importance of note-taking in language learning extends beyond mere transcription of language input; it serves as a cognitive and metacognitive tool for learners to actively engage with linguistic content. Firstly, note-taking promotes selective attention and critical thinking by requiring learners to discern essential information from linguistic input and paraphrase it in their own words. Secondly, note-taking fosters metacognitive awareness as learners reflect on their understanding of language structures and monitor their learning progress through self-generated notes.

Effective Note-taking Strategies:

Several effective note-taking strategies can enhance language acquisition outcomes:

Structured Note-taking: Utilizing structured formats such as Cornell Note-taking System or mind maps to organize linguistic input systematically.

Selective Note-taking: Focusing on key vocabulary, grammar structures, and discourse markers to prioritize essential information.

Visual Note-taking: Incorporating visual elements such as diagrams, charts, and illustrations to represent linguistic concepts visually.

Collaborative Note-taking: Engaging in collaborative note-taking activities to promote peer learning and exchange of language ideas.

Reflective Note-taking: Reflecting on note-taking practices and revisiting notes to consolidate understanding and identify areas for improvement.

Note-taking is a valuable pedagogical tool for enhancing language acquisition outcomes in language learning contexts. Learner may keep all his note cards in their index card container and use the alphabetical tabs to keep them arranged by subject heading. In this way, he can leave the library and the actual books behind and travel instead with your note card holder—your own personal, moving library.

In fact, when he is ready to sit down and write the paper, he can write it from his note cards only—without having to go to the trouble of locating the original book again. Note cards are easy to arrange in stacks, unlike books, and are particularly easy to flip through and consult. In fact, if the learner takes his notes carefully, most of his information will have already been organized and arranged beforehand, making the first draft easy to write.

Note-taking and note cards are a handy, foolproof way for the learner to record important information in a format that he can easily accesses.

Better to keep all of note cards in one place, and organize them according to subject heading. Learner should make sure that all relevant information is contained on those cards so that he does not have to duplicate any of his work or hunt down sources after he has consulted them. Having neat and detailed note cards makes writing the paper easier.

Note-taking techniques

Learner doesn't have to be super-fancy in his note-taking to be effective, but there are a few techniques that seem to work best for most people.

• Outlining: Whether he uses Roman numerals or bullet points, outlining is an effective way to capture the hierarchical relationships between ideas and data. In a history class, he might write the name of an important leader and under it the key events that he or she was involved in. Under each of them, a short description. And so on. Outlining is a great way to take notes from books, because the author has usually organized the material in a fairly effective way, and the learner can go from start to end of a chapter and simply reproduce that structure in his notes [16; 320].

For lectures, however, outlining has limitations. The relationship between ideas isn't always hierarchical, and the instructor might jump around a lot. A point later in the lecture might relate better to information earlier in the lecture, leaving him to either a) flip back and forth to find where the information goes best (and hope there's still room to write it in) or b) risk losing the relationship between what the professor just said and what she said before.

• Mind-mapping: For lectures, a mind-map might be a more appropriate way of keeping track of the relationships between ideas. Here's the idea: in the center of a blank sheet of paper, learner writes the lecture's main topic. As new sub-topics are introduced (the kind of thing he'd create a new heading for in an outline), he draws a branch outward from the center and writes the sub-topic along the branch. Then each point under that heading gets its own, smaller branch off the main one. When another new sub-topic is mentioned, he draws a new main branch from the center. And so on. The thing is, if a point should go under the first heading but the learner is on the fourth heading, he can easily just draws it in on the first branch. Likewise, if a point connects to two

different ideas, he can connect it to two different branches. If he wants to neaten things up later, he can re-draw the map or type it up using a program like Free Mind, a free mind-mapping program[15; 21-28].

Moreover, by actively engaging learners in the process of capturing, organizing, and reviewing linguistic input, effective note-taking strategies facilitate comprehension, retention, and application of language structures and vocabulary. Incorporating structured note-taking practices and providing guidance on effective strategies can optimize language learning experiences and empower learners to become autonomous language users[14; 22-28].

Impact on Comprehension and Retention: Effective note-taking strategies have been shown to improve comprehension and retention of English language content among EFL students. Research conducted by Li and Liu [12] revealed that students who employed comprehensive note-taking techniques, such as Cornell Note-taking System, demonstrated higher levels of comprehension and retention of English academic texts compared to passive listeners.

Furthermore, note-taking aids in the cognitive processes of encoding and retrieval, thereby strengthening long-term memory storage of language-related information.

Enhancing Academic Performance: The utilization of note-taking strategies has been linked to improved academic performance in English language courses at EFL universities. Studies by Yang and Zhang [13] demonstrated a positive correlation between the quality of students' notes and their performance in English language assessments, including reading comprehension, writing proficiency, and speaking fluency. Effective note-taking not only facilitates understanding of course content but also equips students with essential language skills necessary for academic success.

Practical Recommendations for Effective Note-taking: To optimize the effectiveness of note-taking in English language learning at EFL universities, several practical recommendations can be implemented:

- Encourage active listening and selective noting of key concepts and language structures.
- Provide guidance on note-taking strategies, such as the use of abbreviations, symbols, and visual aids.
- Incorporate collaborative note-taking activities to promote peer learning and exchange of language ideas.
- Integrate technology-enhanced note-taking tools, such as digital platforms and audio recordings, to accommodate diverse learning preferences.
- Offer regular feedback and reflection opportunities on note-taking skills to enhance metacognitive awareness and self-regulation.

4 Conclusion

In conclusion, note-taking serves as a valuable pedagogical tool for facilitating English language learning at EFL universities. By actively engaging students in the process of information processing, organization, and retention, effective note-taking strategies contribute significantly to language acquisition, comprehension, retention, and academic performance. Implementing structured note-taking practices and providing ongoing support and guidance can enhance the overall learning experience and proficiency levels of EFL students in English language courses.

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Challenges in EFL Learning

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Abstract : This article defines the rapid growth of English as a Foreign Language (EFL) education and the common challenges faced by students nationwide. Despite the increasing emphasis on EFL instruction, many learners struggle to achieve fluency and proficiency due to psychological barriers, over-reliance on teacher support, a narrow focus on specific outcomes, and fear of making mistakes. The article underscores the importance of a comprehensive and dedicated approach to language learning, highlighting strategies such as consistent practice, self-study, and engaging with native media. It also discusses the role of effective time management and psychological resilience in overcoming these challenges. By addressing these issues and implementing the recommended strategies, students can enhance their language learning process and achieve higher levels of English proficiency.
Key words : EFL learning, language acquisition, language proficiency, psychological resilience, speech production, learning strategies, time management, language errors, student motivation.

1 Introduction

Learning foreign languages is becoming increasingly common these days, and EFL (English as a Foreign Language) instruction is growing rapidly in our nation. Many students and learners are acquiring knowledge and skills in various courses at lyceums and universities, learning centers where subjects are often taught in a foreign language. EFL learning has become a significant focus in our country. However, many young people approach language learning with a narrow focus on specific outcomes, such as performing well in entrance exams, obtaining language certificates, or developing basic conversational skills. EFL In order to increase their proficiency in the English language, learners make every effort to read, write, listen, speak, and acquire vocabulary. They also make an effort to understand spoken and written language rather than just utterances. The latter typically relate to spoken output in general. They've all necessary skills to accomplish their goals, but a lot of them still fail or fail badly! It appears that they face obstacles that keep them from succeeding, and these obstacles need to be looked into and researched.

Based on my teaching experience, It is believed that without the assistance of the students, it is challenging to recognize these issues and make the necessary discoveries. To guarantee that our students are in appropriate teaching-learning environments and that their actual learning is supported, we must first identify. Since students are the center of both the learning process and the problem, they should be involved in its solution. Therefore, in order to ensure that our students are in appropriate teaching-learning situations and support their real learning, we must first identify these difficulties and then work with them to find solutions.

2 Methods

This limited approach results in a superficial attitude towards the language, hindering their ability to fully grasp its unique expressions and complexities. Consequently, they often fall short of their expectations in mastering the language. This failure can negatively impact their motivation to learn foreign languages, leading them to believe that complete proficiency is unnecessary because it is not their native language. However, this perspective on language learning is fundamentally flawed.

Some other Factors that Affect Language Learning

Unqualified teachers

This factor is the primary one that affects language learning. The difficulty in determining whether an English teacher is qualified to teach is caused by the fact that many communities are English language learners, and anything a teacher says, produces, pronounces, writes, etc. will be taken as true even if it isn't. Because each teacher is teaching them something different from the other, students begin to mix things up as a result. The primary cause of this issue is the inaccurate translations produced by educators from their original tongues.

Unappropriate environment

The environment has an impact on language learning as well. The location of the school, the furnishings, the lighting, and the air conditioning are not relevant issues at this moment, even though they all have an impact on language acquisition. However, the idea here is about the constrained environment, which indicates that students only take care and pay attention to use the language correctly inside the classroom to satisfy their teacher, rather than practicing the language outside of it because it is not necessary.

Lack of Students responsibilities

Students often do not take studying English seriously, believing that they can use incorrect grammar and pronunciation outside the classroom just as they would on exams. They think that casual conversation in daily life does not require perfect grammar to be understood, so they neglect proper language usage, which ultimately hampers their learning. Additionally, EFL learners tend to limit their English study to classroom time and rarely dedicate extra time to it. After class, they often ignore the importance of practicing pronunciation, essay writing, and expanding their vocabulary.

2.1 Overcoming Challenges in Achieving English Language Fluency

Speaking may be the hardest ability for students to master, according to Tom et al.; this is especially likely to be the case for students who don't have a strong foundation in the English language [1]. Furthermore, speaking is the most difficult of the four English language skills to learn [2]. Speaking abilities are extremely difficult to master for a few reasons. For instance, students' fear of making mistakes and receiving negative feedback from their EFL classmates might cause anxiety and low self-esteem [3]. Students' decreased propensity to freely participate in oral activities is another aspect .

Achieving fluency and a deep understanding of a foreign language requires a serious, comprehensive approach. Only through such dedication can learners fully appreciate the language's intricacies and communicate effectively in the future.

Speaking skills, as well as any other skills, do not form by themselves: for their formation, it is necessary to apply special strategies and activities that are eventually designed to form and develop the learners' ability to navigate in the natural communicative situations. They are considered as an important component of teaching and learning process. It should be noted that designing effective speaking activities is rather challenging in comparison with activities for listening, reading or writing. First of all, we need to define what is "effective speaking activity." The main features of successful speaking activities are the followings:

- ✓ Students speak a lot. Students spend the most of the time allocated for the activity being engaged in speaking;
- ✓ Equal participation. Each student has an opportunity to take part in the discussion. All students speak in relatively equal degree which means not enabling several student to dominate;
- ✓ High motivation. Students want to talk, because they are interested in the topic of discussion, and they have something to say;
- ✓ Available language level. The students' level of language enable them take part in the speaking activity. Students express their ideas, thoughts in a clear language, at an affordable level .

However, another challenge faced by young learners beginning to study languages is their fear of making mistakes while learning and using the language. While striving to avoid errors can foster a sense of responsibility towards the language, it also slows down the learning process and can hinder the student's ability to fully develop their speaking skills. Language learners often try to avoid grammatical mistakes during conversations, which can distract them and cause confusion about the content of their thoughts. This confusion can prevent listeners from

fully understanding the intended message. It is important to remember that mistakes and shortcomings are natural in any new endeavor. Pronunciation issues and grammatical errors can be resolved through consistent practice and continuous self-improvement.

Common mistake made by new foreign language learners is becoming overly reliant on their teacher's support and neglecting self-study. While it's beneficial to rely on the teacher's explanations and assistance, avoiding independent work or not putting in enough effort to solve minor language learning challenges can gradually slow down the learning process and reduce overall progress. It's important to remember that foreign language skills cannot be built solely on the speech of one person, as teachers' speech in a foreign language often differs significantly from that of native speakers. To mitigate these issues, learners should engage with movies, podcasts, and radio broadcasts in the target language. Additionally, many new learners struggle with the overwhelming abundance of foreign language programs and often fail to select the most suitable ones for their needs, which hampers their training effectiveness.

Choosing the Appropriate Materials

The multitude of language learning programs available to them overwhelms many beginning students, making it difficult for them to select the ones that best meet their needs. Appropriate resource selection is essential for training that works. To stay interested and motivated, learners should look for programs that fit their interests, learning style, and competency level.

Techniques for Enhancement

Take into account the following techniques to improve language learning:

Frequent Practice: It's all about consistency. Participate in speaking, listening, reading, and writing exercises on a regular basis.

Diverse Exposure: To comprehend distinct accents, settings, and cultural quirks, listen to a variety of media in the target language.

Peer Interaction: To get practice conversing with peers, take part in conversation groups or language exchange programs.

Goal-setting: To keep motivated and focused, set clear, attainable goals.

Feedback and Reflection: To pinpoint areas for growth, consider your learning path and ask teachers and peers for constructive criticism.

Fluency in any foreign language, even English, demands commitment, practice, and a calculated approach. Students can greatly enhance their language proficiency by overcoming their fear of making mistakes, studying independently, and choosing the right learning materials. A good language learning journey requires varied exposure, consistent practice, and effective speaking exercises. By using these techniques, students can gain the competence and self-assurance necessary to speak clearly in every situation.

3 Result

In our nation, many learners converse in English, yet despite being proficient in reading, writing, vocabulary, and grammar, some struggle with speaking as well. Even after several years of EFL study, they may not achieve high levels of spoken proficiency. This raises the question: why do language learners face difficulties in speaking English despite having a good vocabulary and understanding of grammar? There are several reasons for this.

- ✓ Firstly, students often fear speaking.
- ✓ Secondly, they may feel awkward talking to peers in class.
- ✓ Thirdly, despite having a solid vocabulary and grammar foundation, learners may struggle to articulate their ideas clearly and quickly.
- ✓ Finally, fear of making mistakes can prevent them from speaking. Overcoming these barriers is crucial for improving spoken language skills.

Psychology can assist in overcoming these obstacles. Numerous scholars assert that success is largely dependent on psychological factors. Firstly, learners should believe in themselves and not pay attention to negative opinions from others. Without self-belief, learning or starting something new is incredibly challenging. Secondly,

learners must develop a success-oriented mindset. Managing emotional states is vital, as poor emotional states can lead to failure, while positive ones can lead to achieving goals. For instance, consistent feelings of tiredness, boredom, or depression can hinder the ability to study English effectively, affecting concentration and memory, and leading to unstructured or lazy study habits. Learners must master their emotions, staying active, excited, and passionate about speaking English.

Additionally, learners should find ways to make language learning enjoyable. This includes imagining, smiling, and laughing while studying or speaking English, and listening to English podcasts and native speakers with enthusiasm. Maintaining a positive state can significantly enhance their speaking abilities. Furthermore, listening to energetic and exciting music before or during English classes can reduce anxiety and foster a more optimistic outlook towards language learning challenges.

Finally, students should read and listen to a lot of stories in English, as stories often contain useful vocabulary and structures. Revisiting and reviewing stories can help students speak more fluently and confidently. Engaging in conversations with teachers, friends, and others using newly acquired vocabulary is also crucial.

Despite of counting several issues, it is vital to remember that language is dynamic and ever-changing. Natural speech often includes discrepancies between intention and output. Slips of the tongue, which are mistakes involving the sounds or words of a language, provide insights into the speech production process. These errors can be categorized based on the units of speech they affect (such as phonemes, words, or phrases) and the mechanisms causing them (such as exchanges, substitutions, anticipations, or perseverations). Analyzing speech errors reveals that speech production occurs in stages, where content words and function words are accessed at different points, with some interaction occurring between these levels of processing. It is important to note that the occurrence of slips of the tongue is not random. In particular, some sorts of errors that could occur do not (e.g., we do not observe function words exchanging with content words). This order is the basis for explaining how and why errors arise in terms of a model of speech production. The basic idea is that for an error to occur, the two elements of the error (intended and actual outcome) must be simultaneously active at the same level of processing. For example, words exchange with words, but content words only exchange with other content words, and function words with other function words; content words do not exchange with function words, or vice versa. This finding is extraordinarily robust: in my corpus of several thousand speech errors, there is not a single instance of a content word exchanging with a function word.

4 Discussion

According to psychologists, effective time management is important for language learning. Expert time management, according to psychologists, is crucial because it keeps students from being manipulated by time limits. Learning a language improves one's capacity for interaction with a wider variety of people in addition to making communication easier.

Many scholars agree that learning a language is a first step in learning more about the outside world. By using psychological concepts to overcome learning challenges, one can improve knowledge and communication abilities and ultimately have a richer life. Furthermore, three main elements are necessary for kids to enhance their written and spoken communication skills: reading a lot, paying attention to language, and being exposed to appropriate and expressive speech. The standard of the speaking environments and the structure. The quality of speaking conditions, along with the organization of children's speech experiences, significantly influences language acquisition and proficiency. Teachers play a crucial role in this process by providing exemplary speech models, guiding students in error correction, and fostering improvement in both oral and written communication abilities.

Additionally, the discussion underscores the importance of students managing their time effectively. Failure to do so may result in time managing the individual, hampering language learning progress. Considering time management as a fundamental aspect of language acquisition is paramount, as language skills serve as a conduit for meaningful interaction and understanding in a globalized world. Recognizing the symbiotic relationship between language knowledge and broader world knowledge, individuals can leverage psychological insights to overcome learning challenges and lead a more fulfilling life enriched with knowledge and communication proficiency.

In developing students' oral and written speech skills relies on three key factors:

- ✓ Attention to vocabulary, extensive reading by students, and the correct and expressive speech of those around them, i.e., speaking conditions.
- ✓ The organization of children's speech experiences.

The principles of correct writing do not develop automatically. Teachers must exhibit perfect speech, guide students in correcting their mistakes, and encourage the improvement of both their oral and written communication skills.Furthermore, students should always manage their time. Time will manage you if you don't manage it.

Additionally, as everything has to do with time, learners should consider time management. Acquiring language skills is a great way to communicate with a wide range of people. "Language knowledge is a sign of world knowledge," according to many scientists. People should use psychology to find solutions to their issues. We are aware that a life with greater knowledge is preferable.

5 Conclusion

In summary, while there are common obstacles to learning foreign languages, such as fear of mistakes and over-reliance on teachers, a serious and comprehensive approach, along with effective psychological strategies, can lead to successful language acquisition and fluency, Learning foreign languages presents several challenges, such as fear of mistakes, over-reliance on teachers, and superficial approaches to learning. These obstacles can impede language acquisition and fluency. However, by adopting a serious and comprehensive approach, learners can overcome these barriers. Effective strategies include managing psychological factors, engaging in independent study, and immersing oneself in the target language through various media. Understanding that language is dynamic and prone to errors can also help in the learning process. By maintaining a positive mindset and consistent practice, learners can achieve their language goals and enjoy enriched communication with a broader range of people. Embracing these methods can transform language learning into a rewarding and successful endeavor, fostering a deeper appreciation and mastery of foreign languages.

In conclusion, learning English as a foreign language might be difficult, but EFL students can overcome these challenges and succeed in their language learning objectives with persistence and the appropriate techniques. Students can improve their English language proficiency and self-assurance by concentrating on vocabulary, pronunciation, grammar, speaking fluency, listening comprehension, and writing. It's critical for EFL teachers to be aware of these difficulties and assist their pupils in overcoming them**.**

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Activities of teachers and students in English lessons

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Abstract : The article presents an activities for students which can be used during English lessons. Within this article reveals the features of the activities of teachers and students in the English lesson with a personality-oriented orientation, as well as the main aspects of their own research on improving the educational process and the effectiveness of teaching within the framework of the State Educational System. New requirements in the study and teaching of the English language imply a different interpretation of the educational material in the teacher's activity, in other words, an approach that will be effective in mastering all types of speech activity: reading, speaking, listening and writing.
Key words : Personality-oriented orientation, effectiveness of training, approach to training, individual and group work, new forms of training, approach, teaching materials.

1 Introduction

The fast pace of the modern world, affecting not only our daily lives, but also all work processes, affects and requires constant changes and adjustments also in norms, systems for studying, and teaching English.

Currently, more and more attention is being paid to subjective relationships, in which the formation of a comprehensively developed student's personality is becoming more and more effective, and traditional teaching methods are fading into the background, having proven their ineffective use in modern society.

It should be noted that the activities of teachers and students are clearly regulated by the state standard, which is educational programs containing the norms and regulations for education required by the state. The development of state educational standards is carried out according to the current needs of students, based on the current and future needs of both the individual and society as a whole. The lesson is no longer a teacher's monologue with a clear explanation of the task, but rather has a creative focus, setting students a series of tasks that they must complete independently, only sometimes relying on the teacher's clear recommendations.

A number of changes taking place in our New requirements in the study and teaching of English require a different interpretation of educational material in the teacher's activities, in other words, an approach that will be effective in mastering all types of speech activities: reading, speaking, listening and writing.

The approach, as a basic category in the methodology, is an important component of the English language teaching system, acts as the most general lingo didactic basis and gives an idea of the chosen teaching strategy, which serves as the basis for the choice of teaching methods and techniques. Currently, a student-oriented approach, aimed at developing the personal potential of each student, at the full development of all aspects of his personality and subjectivity in the process of socialization, is becoming increasingly popular and important in teaching foreign languages, in particular English.

2 Technology for obtaining materials and research method

The result of the educational process with this approach is an all-round developed personality, ready for constant improvement of their skills and abilities, self-education and self-development, as well as successful socialization in general. The success of applying methods based on student-centered learning, as well as the entire educational process as a whole, depends on:

1. Fully equipping the office with the necessary digital tools and services for work;
2. Information received about the knowledge, skills and abilities that the student possesses based on mandatory testing as part of the interview;
3. A detailed study of the psychological portrait of the individual and his social environment.

1. Conduct an interview in the form of a private conversation and testing to determine the level of proficiency in basic types of speech activity,
2. Compile a psychological portrait of the student based on data obtained from communicating with the student's relatives, as well as from studying a personal profile card.
3. Determine the program for the student based on the level of English language proficiency, as well as individual personality characteristics.
4. During the learning process, create a favorable, friendly atmosphere, adjust the course of the educational process, as well as the form of presentation of educational material, if necessary. In turn, students must clearly understand the need and significance of their participation in the educational process, set themselves tasks to achieve a common goal, namely:

- Attend all classes fixed by the curriculum,
- Follow the teacher's recommendations in class and at home,
- Actively participate in the work process. A competently created psychological portrait of a student and determination of the level of English language proficiency make it possible to determine the most effective forms of training, individual or group. In order to dwell on this important aspect in more detail, it is necessary to divide students into groups:

In the process of teaching this group of students, it is necessary to use visual aids, audio and video materials in order to arouse interest in the language being studied and simplify the process of complex learning material as much as possible. The constant use of problematic creative tasks in the form of completing projects and completing quests is the key to successful completion of the educational process for this group of students.

It is important to pay attention to the psychological aspect in each lesson, feel the mood of the students, and quickly rearrange the work process if necessary.

In the process of research in these groups of students, the possibility of a sudden transfer during the student's learning process from a group form of education to an individual one was identified. This was due to individual personality characteristics, a reluctance to learn and perceive material in a group form, which had not previously been identified.

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On the contrary, it includes the maximum creative work of the teacher associated with the use of additional materials from other sources and aimed at increasing interest in the language being studied, as well as the successful consolidation of lexical and grammatical materials. The constant use of video materials at the beginning of the lesson, and a game form at the end, makes the lesson more interesting, and the assimilation of the studied educational material is simple and unnoticeable for students.

3 Experimental results and their discussion

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Students in this group, throughout the entire educational process, are gradually involved in other forms of monitoring the level of mastery of educational material, such as participation in international competitions and Olympiads. These types of educational work allow you to increase the level of knowledge, abilities and skills, identify weaknesses, as well as increase students' self-esteem and feel their social significance.

4 Conclusion

In conclusion, research aimed at improving the educational process within the framework of a student-oriented approach has once again proven that the successful acquisition by students of the level of mastery of the English language directly depends on the competently structured activity of the teacher and, conversely, the teacher's activity is constantly adjusted by individual behavior and psychological characteristics as the group as a whole and each individual in particular. Only the coordinated work of the two systems is the key to the success of the entire learning process.

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Formal features of detached construction in English and Uzbek languages

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Abstract : This article examines the detached construction as a linguistic phenomenon in linguistics, which is one of the topical issues for the stylistics direction of linguistics. Language phenomena in English and Uzbek are directly related to language and speech issues. It is in this respect that the phenomenon of the detached construction has its own characteristics in language matters. A detachment is a linguistic phenomenon, a speaker's unintended but additionally stated afterthought. It expands, realizes, completes and clarifies the content of the main expression of the previous sentence. By means of this phenomenon, in the course of the conversation, an explanation that is left incomplete in the main sentence and is considered extremely necessary to be said can be filled. In the process of studying the detached construction, it became clear that its relationship with a number of similar phenomena in linguistics, the similarities and differences between them, are the cause of certain discussions. This article discusses some of the new features of the detached construction. The formal features of detachments are different from each language. We identify all of the detachment in the literary texts.
Key words : Detached constructions, formal feature, semantic feature, typology.

1 Introduction

In world linguistics, attention has been paid to the practice of systematically researching the main factors that ensure the mutual selection of linguistic phenomena in the context of speech communication based on a comparative approach. In this regard, this phenomenon has been studied in a number of languages for years in the form of experimental studies. It can be seen that this problem has not been studied enough in the example of the languages of the European nations. The problem of studying the application phenomenon and related issues were put forward in Russian linguistics in the late 19th and early 20th centuries. As noted, this phenomenon has hardly been studied in the languages of European nations. Nevertheless, in the 19th century, when comparative typological linguistics prevailed, the issue of comparative study of languages was in the center of attention of linguistics. In the 20th century, the development of the phenomenon of application in linguistics and the movement towards its formal and semantic study in language increased attention to its application in several languages, together with the features of comparative study. In our study, we tried to scientifically research aspects such as the typology of detached construction in English and Uzbek languages, their formal and semantic features, and their rendering in mutual translations.

A number of changes taking place in our country will not fail to have an impact on linguistics. It should be said with satisfaction that the results of the reforms carried out today in Uzbek linguistics are the cause of their qualitative rise to a new level. The entry of this phenomenon into Uzbek linguistics dates back to the 60s of the 20th century. It is important to study it under the name of "detached constructions" and compare it with other language units. However, the study of the features of the application in languages with different constructions remains one of the issues that have not yet been fully resolved in linguistics. Already, although there are works done in this regard, its essence has not been fully studied. This situation motivates him to open new layers. When studying the phenomenon of the detached construction, comparing it with other languages, conducting research on the deep understanding of their relationship, it can be considered one of the most important issues in linguistics, which most likely causes many questions.

2 Technology for obtaining materials and research method

During the conversation, the listener's and the speaker's thoughts have relative completeness. The additional explanation of the speaker's speech by adding some thought that has not been thought of in advance is manifested

in the form of additional devices. And the phenomenon of detached construction is reflected in different forms and by means of different parts of speech.

Detached construction can formally consist of a single word, a phrase, a simple sentence: 1. *Qizlar majlisi — gullar, lolalar, to‘tilar, qumrilar majlisi* (A.Qodiriy. 2019: 53-b). 2. *Kimdir, oradan bittasi «kelishdi!» deb yubordi* (A.Qodiriy 2019: 54-b). 3. *Ikkinchi o‘lturish Ziyo akanikidan ikki kun so‘ng qutidornikida bo‘ldi. Bu majlisda ham o‘sha birinchidagi kishilar edilar. Yolg‘iz Homid yo‘q edi* (A.Qodiriy 2019: 89-b).

According to Y.A.Referovskaya, the detached construction is a complex syntactic combination, and at the same time, such devices give an additional explanation to the main sentence or a part of it. The main clause and the detached construction are separated from each other by a period. According to the author, it is appropriate to study the detached construction into two large groups:

1) detachment that can be an alternative to a part of the main sentence, that is, in the form of a part of a sentence;
2) detachment that begin with a conjunction and require the form of connected or followed conjunctions.

In both of these groups, the detached construction is separated from the main clause by a period. In addition, the detached construction included in these groups, in turn, can be divided into other types. For example, types that are given by lexical repetition, non-repetitive, etc.

G. Y. Solganik's views on the formal nature of the detached construction are different. According to him, the application can come not only as a part of the main sentence, but also as an independent sentence. But in both cases, the application will have expressive and emotional features. Detachments are an extremely important syntactic and stylistic factor in connecting separate topics in the clauses of a prose work, especially in connecting the last sentences of these clauses with the next clause. Because in such cases, the sentence at the end of the previous paragraph is repeated once again at the beginning of the next paragraph in the form of an appendix. But now it comes in a relatively different semantic function.

The generality of Y.A.Referovskaya and G.Y.Solganik's opinions is as follows, the detached construction is built in such a way that they come in addition to the main and leading clause at the border of a simple sentence and are lexically and grammatically connected with it. In fact, it is part of the main sentence. Detached construction together with the main sentence form a complex whole. The adjunct expands, realizes, and clarifies the content of the main expression of the previous sentence by means of the following expression, which is not preconceived, but additionally stated: Come, my child, I will show you the wolf. Very naughty. Very wild.

The detached construction is not in an equal and subordinate connection with the main clause, but has a syntactic relationship with a relative connection. They can join the main clause with or without a conjunction. The case of joining without a conjunction is often found in the Uzbek language. *In my youth, there were no such weddings, everything was simple and peaceful.*

- Example - *my wedding.*

3 Experimental results and their discussion

While we are studying detached construction and their use in artistic texts, we have taken Uzbek works of art as a source in order to cover our work more fully. Appendices are formed as parts of a sentence, because it is not at first thought to express an idea expressed by such parts of a sentence. In the process of speech, there is a need to say them additionally. As a result of this need, words and phrases with the function of primary and secondary clauses are given.

1) The detachments in the form of sentences. *“Otchopar” bozorida qadrdon do‘stimni uchratib qoldim. Matematik... olim ... sigaret sotib o‘tirgan ekan.... Meni ko‘rib ko‘zini yashirdi. Men ham burilib ketdim... ikkalamiz bir-birimizdan nega uyalganimizni bilmayman. Negadir... yig‘lagim keldi...* (O‘.Hoshimov. 30-b).
2) If there is detachments are formed as a subject, it serves to complete the content of the sentence: -*Menga qarang, mullo! dedim mulzam qotib, bundan chiqdi, otangiz elektr toki, onangiz inkubator ekanda! Unda siz tuxum bo‘lasizmi? Albatta, hammaniyam Xudo yaratgan. Gullarniyam, tikanlarniyam, odamniyam, eshakniyam... Olloh sizni eshak emas, odam qilib yaratganiga shukrona qilmaysizmi? Tangri sizga aql-zakovat, til-zabon berganiga xursand bo‘lmaysizmi?* (O‘.H. 128-b)
3) It is more common for the cut to come as a detachment than for the predicate. The form and structure of the main sentence with a participle is different .*“Yuk ko‘targan odam yuzaga chiqadi”, deydilar... chiqadi. Albatta, chiqadi! Faqat yuk ko‘targanni suyab yuboradigan qo‘l bo‘lsa bas.!* (O‘.H.15-b)
4) Detached construction are formed as an adverbial modifier. - *Daryoning naryog‘ida. Bekatda* («Sharq yulduzi»).
5) The detachment is formed as an object *Ko‘ngli – paxtasidek oppoq. Fe’li paxtasidek yumshoq. Mehri paxtasidek qaynoq... Faqatgina bir aybi bor: “paxta qo‘yish” ni bilmaydi!* (O‘.H. 57-b).

6) The detachment is formed as an attribute *Quyosh botishi bilan qorong'ilik tushadi. Olisdan dara tomondan soy shovullaydi. Qayerdadir haqqush tinimsiz nola chekadi. Yeyildi. Ichildi. Xushchaqchaq suhbatlar bo'ldi...* (O'.H.183-b)

4 Conclusion

In conclusion, the formal features of the detached construction in English are mainly used by conjunctions and prepositions. Non-conjunctive detachments are not unique to modern English fiction, unless in formal grammar it is possible to connect an adjunct through some other semantic relationship. A conjunction case is characterized by the use of commas, semicolons, periods, and the non-conjunction case is characterized by the use of periods and semicolons. In English, the application is given in four types, depending on the devices in question. All of them are additional messages for the attached part and each has its own characteristics. The analysis shows that in modern English, adjuncts can be complete or incomplete, the adjunct part of the sentence can be parallel to the main part, and the attached adjuncts can be in the form of a rhetorical question. They are rare. Detached construction are also characterized by the use of repeated words and phrases, the author separates them from the main sentence and shows their semantic importance.

So, although detached construction is a phenomenon specific to many languages, based on the rules of each language, it can be said that in each language, detached construction is approached according to the semantic and formal features of that language. An adverbial device is mainly a small syntactic phenomenon, which serves to express our speech fluently and clearly.

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Theory and practice of modern linguistic and methodological approaches to teaching English in digital education

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Abstract : Educational technologies mean the effective use of modern information technologies in the educational process. It also involves improving the quality and efficiency of education by introducing modern innovative technologies into the educational process. In particular, there are several advantages of using such information and communication technologies in learning a foreign language. Currently, the role of a modern approach in language learning and teaching is incomparable.
Key words : computer technology, skills, interactive method, educational material, lesson, didactics, interactive method.

1 Introduction

Nowadays, great importance is attached to the study and teaching of foreign languages in our country. The Presidential Decree "On measures to further improve the system of teaching "Foreign Languages", adopted on December 10, 2012, expanded the opportunities for studying foreign languages. In our republic, new methods and requirements for teaching a foreign language and assessing the knowledge and skills of foreign language teachers have been developed in accordance with the recommendations of European countries (CEFR, IELTS, PIRLS, PISA). According to it, textbooks and educational materials are being created for students of secondary schools and vocational colleges. The demand for learning a foreign language is also increasing day by day. The subject of a foreign language is divided into four aspects (reading, listening, comprehension and speaking), and a separate concept, qualification and skills are given for each of them. The use of technological tools is increasingly useful in every aspect of foreign language learning (reading, writing, listening comprehension and speaking) with interactive, non-traditional tasks. For example, for listening comprehension, this process is of course impossible without a computer, player, CDs. Listening comprehension is one of the most important parts of language learning. It requires the learner to simultaneously pay attention to the speaker's pronunciation, grammatical rules, vocabulary, and meaning.

2 Methods

In the use of modern technologies in the educational process, it is also an important factor that students know and can use information and communication technologies well. Teaching and learning a foreign language using modern technologies is one of the most effective methods, and it is also advisable to use it in a combination of a communicative approach and interactive tasks. In this process, including:

− When using computers, students have the opportunity to watch and listen to foreign language videos, demonstrations, dialogues, movies, or cartoons, and at the same time learn by imitating them;

− the opportunity to listen to and watch foreign language radio broadcasts and television programs;

− to have a large language learning base through the use of smartphones and social networks, which are considered non-traditional methods;

− CD players can be used. The use of these technical means ensures that the process of learning a foreign language for students is more interesting and effective, in addition, through active games, students' attention is concentrated in one place during the lesson.

It is known that the use of various games in the lesson expands the capabilities of students, helps them to demonstrate their hidden abilities, concentrate, improve their knowledge and skills, and become stronger. The teaching method, which is a combination of role-playing games and exercises aimed at finding solutions to problem

situations, prevents students from being distracted during the lesson, and develops their skills in finding solutions to problems and conducting independent research. Psychologists emphasize that the psychological mechanisms of action games are based on the fundamental needs of a person to express himself, find a stable place in life, self-control, and realize his potential. Any game should be based on generally accepted educational principles and tactics. Educational games should be based on educational subjects. During the game process, the student approaches this activity with interest and acts freely, unlike in a regular lesson.

Today, we cannot imagine learning and teaching a language without computer technology. At the same time, the teacher no longer organizes a lesson in the traditional way by explaining all the information, but only by giving instructions and explanations, allowing students to independently search for information. This, in turn, requires an unusual system of innovative interactive tasks and lesson organization in the educational process. When interactive tasks are used, the spirit of competition, rivalry, and argumentation of students has a strong impact on their intellectual activity. This is manifested when people are looking for a solution to a problem in an organized way. In addition, such psychological factors influence and encourage them to express their own similar, close, or, conversely, completely opposite opinion to any opinion expressed by others. Below, we will separately consider the differences and effectiveness of interactive methods and tasks from the traditional educational process.

The potential of interactive methods and tasks in the educational process

Interactive method - serves to activate the assimilation of knowledge by students and the teacher in the educational process, to develop their personal qualities. The use of interactive methods helps to increase the effectiveness of the lesson. The main criteria of interactive education are: informal discussions, the ability to freely present and express educational material, a small number of lectures, but a large number of seminars, creating opportunities for students to take the initiative, giving assignments to work in small groups, large groups, class teams, performing written work and other methods, which are of particular importance in increasing the effectiveness of educational work.

3 Results and discussion

Reasons for the effectiveness of interactive lessons

Currently, one of the main directions in the field of improving teaching methods is the introduction of interactive teaching and learning methods. Teachers of all subjects are increasingly using interactive methods in the process of lessons. As a result of the use of interactive methods, students' skills of independent thinking, analysis, drawing conclusions, expressing their opinion, defending it with justification, healthy communication, discussion, and debate are formed and developed. In this regard, the American psychologist and educator B. Bloom created a taxonomy of pedagogical goals in the cognitive and emotional spheres. B. Bloom's taxonomy is called. (Taxonomy is a theory of classification and systematization of complex structured areas of existence). He divided thinking into six levels in accordance with the development of cognitive abilities. According to him, the development of thinking occurs at the levels of knowing, understanding, applying, analyzing, generalizing, evaluating. Each of these levels is also represented by the following symbols and examples of verbs corresponding to each level, including: Knowing is the initial level of thinking, in which the student can name terms, knows specific rules, concepts, facts, and so on. Examples of verbs according to this level of thinking: to be able to repeat, to consolidate, to convey information, to tell, to write, to express, to distinguish, to recognize, to tell, to repeat. When having thinking at the level of understanding, the student understands facts, rules, schemes, tables. Based on the available information, he can roughly describe future consequences. Examples of verbs according to this level of thinking: to justify, to substitute, to clarify, to define, to explain, to translate, to rearrange, to illuminate, to interpret, to clarify.

In thinking at the level of application, the student can use the knowledge gained not only in traditional, but also in unconventional situations and apply them correctly. Examples of verbs at this level of thinking include: introduce, calculate, demonstrate, use, teach, determine, implement, calculate, apply, solve. At the analytical level of thinking, the student can distinguish parts of a whole and the relationships between them, see errors in the logic of thinking, distinguish between facts and consequences, and evaluate the significance of information. Examples of verbs at this level of thinking include: cause, separate, stratify, classify, guess, predict, distribute, distribute, verify, group.

At the level of generalization, students perform creative work, plan an experiment, use knowledge from several fields. Creatively process information to create something new. Examples of verbs corresponding to this level of thinking: create something new, generalize, combine, plan, develop, systematize, combine, create, construct, design. At the level of evaluation, students' language skills distinguish criteria, adhere to them, see the diversity of criteria, evaluate the correspondence of conclusions to available information, distinguish between facts and evaluative opinions. Examples of verbs corresponding to this level of thinking are: diagnose, prove, measure, control, justify, approve, evaluate, verify, compare, compare. Interactive methods are very diverse, and all of them,

like any progressive methods, first of all require the teacher to make extensive preparation before the lesson. When organizing these lessons, the main features of an interactive lesson can be more clearly perceived by considering some of its differences from a traditional lesson. For this purpose, we present the following table:

Differences between traditional and interactive lessons

№	Basic concepts	Traditional lesson	Interactive lesson
1	Application level	It is used in the form of lesson types that are convenient for them on all subjects.	For some topics, interactive lessons are used in the form of convenient types of lessons. For other topics, traditional lessons are used.
2	Lesson objective	Formation and consolidation of knowledge, skills, and competencies on the topic of the lesson.	To teach independent thinking, drawing conclusions, presenting them, and defending them on the topic of the lesson.
3	Teacher's duties and work methods	Explaining a new topic, reinforcing it, controlling it, giving assignments.	Organizing, managing, supervising students' independent work and presentations, and justifying final conclusions.
4	Requirements for lesson preparation	Preparation of lesson plans, syllabi and didactic tools.	Development of interactive lessons, tasks for independent work, handouts, and other necessary tools.
5	Requirements for student preparation	Complete the tasks for the lesson..	Knowledge of basic concepts and initial information on the topic of the new lesson.
6	Student tasks and methods	Listening to and mastering the teacher, completing the assigned tasks.	Independent thinking on completing assignments given by the teacher, comparing one's own thoughts and conclusions with others, and coming to a final conclusion
7	Time allocation	Most of the lesson time is spent on the teacher explaining and analyzing a new topic, explaining assignments, and monitoring mastery.	Most of the lesson time is spent on students completing independent assignments, exchanging ideas, observing, and presenting and defending their conclusions.
8	Modules and algorithms of the lesson	Each teacher uses the lesson modules and algorithms according to their own method.	Each lesson is conducted according to pre-prepared modules, algorithms, and projects.
9	Level of activity required from students	The teacher is active in all aspects, actively involved in students' concentration, understanding, thinking, and completing tasks. Communication forms: teacher-group; teacher-student student-student; student-teacher; group-teacher;	Both the teacher and the students are actively involved. Forms of cooperation and co-creation: Students - small group; teacher - small group - teacher; group - teacher.

10	The main methods of acquiring knowledge	Communication, discussion, negotiation, debate, debate, reflection, analysis, observation, reading, etc.	Communication, reading, observation, discussion, negotiation, debate, debate, reflection, analysis, etc.
11	Forms of training	Lecture, seminar, practical training, laboratory training, round table discussion, debate, discussion, consultancy, etc.	Lecture, group or pair work, presentations, debate, discussion, roundtable discussion, practical work, etc.
12	Expected result	Students' acquisition of knowledge, skills, and competencies on the topic.	To help students form their own opinions and conclusions on the topic, and to teach them to acquire knowledge independently.

This table summarizes the idea very briefly. The differences in the table clearly show the advantages and disadvantages of these two types of lessons compared to each other.

Based on the analysis of some aspects of interactive training shown in this table, the following conclusions can be drawn:

1. When teaching subjects in the curriculum, it is necessary to consider which topics it is appropriate to organize interactive lessons on. This involves using interactive or traditional types of training that ensure the full achievement of the goal of the training on each topic.

2. For an interactive training to be effective, it is necessary to ensure that students know the basic concepts and initial information on the topic before a new training.

3. It is necessary to take into account that in an interactive training, more time is spent on independent work by students than in a traditional training.

About the impact of such differences in social life, A. Navoi wrote several centuries ago in the preface to his famous work "Mahbub ul-qulub": "I hope that readers will look at it with attention and attention, and each will benefit according to his own understanding and perception...". This shows that everyone can understand, assimilate, benefit from and apply this work in different ways, that is, only at the level of their own understanding and perception, and from this we can summarize our conclusions about the main differences between interactive teaching methods and traditional methods, and express it as the development of students' understanding and perception.

It should be noted that interactive teaching methods have been used in Uzbekistan since ancient times in the educational process in the form of discussions, debates, negotiations, observations, analysis, consultations, poetry readings, and readings in the communication between teachers and students and between students. These methods helped students develop their speech, thinking, reasoning, intellect, talent, and intelligence, helping them become independent-thinking, well-rounded individuals.

Currently, interactive methods are mainly used in conducting interactive training. In the future, these methods will be combined with interactive technology to some extent. In our opinion, the difference between the concepts of interactive methods and technology can be described as follows.

Interactive teaching method - implemented by each teacher at the level of available tools and their own capabilities. In this case, each student learns at a different rate, depending on their motivation and intellectual level. Interactive teaching technology - ensures that each teacher conducts a lesson that is understood by all students as if it were a lesson.

Within the framework of pedagogical technology, the following levels of mastering new educational material are identified: elementary, algorithmic, creative, and heuristic:

1). The initial level represents the student's ability to complete tasks based on what he has heard, examples given to him, and the presented algorithmic and instructional instructions. At this level of mastering the educational material, the teacher's activity and skill are more important. The teacher's ability to present the educational material in an interesting and coherent manner, to create problem situations, and to correctly determine the stages of the educational process constantly direct the student's activity.

2). Algorithmic level. It represents the ability of students to apply the knowledge and skills they have acquired in practice, as well as the ability to organize the activity of solving, recording and memorizing certain types of problems. At this level, the systematic nature of the educational material, the complexity of its content from easy to

difficult, ensuring intersubject and interdisciplinary connections, repetitions and demonstrativeness are of particular importance.

3). Creative level. This level represents the ability to apply educational material, as well as previously acquired knowledge and skills, in various situations. In this, encouraging research in the mastery of educational materials, creating problem situations, paying attention to the development of creative abilities, and expanding the possibilities of applying knowledge in practice play an important role.

4). Heuristic level. It is characterized by the ability to independently search for solutions to the presented educational problems and find new information to solve them. At this level, it is important to organize the student's independent activities, direct them to self-control, and stimulate talent.

Based on the above considerations, the pedagogical technology-based approach to the didactic design of educational materials is distinguished by the following aspects:

-educational materials are designed to consistently organize the educational process based on pedagogical technology and are used to implement the specified educational activities;

-the lesson determines the specific goal of mastering educational materials in accordance with the requirements of pedagogical technology;

-the process of pedagogical processing of the content of the textbook materials is carried out;

-the didactic function of the educational material is determined;

-the form, methods and means of presenting educational materials are determined;

-the level of mastering the content of educational materials and the guaranteed final result are developed.

4 Conclusion

Therefore, in order to improve the design of educational materials didactically and methodologically, and to implement them in the educational process, the teacher performs secondary processing of them, that is, the educational process is designed. When designing educational materials, special attention should be paid to increasing student activity. It is advisable to implement this task using interactive methods that are currently widely used in educational practice. The joint activities of the teacher and the student (under the influence of all didactic factors) are provided only within a fixed and conscious time frame. Educational texts occupy the main place as educational tools. Educational texts are currently being represented in new educational tools (electronic textbooks, videos, audio lessons, audio and video cassettes, video disks and other information technologies).

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