SOCIAL DESCRIPTION OF THE HOUSEHOLD LIFE OF THE CITIZENS OF THE FERGHANA VALLEY

MANSUROV ULUGBEK UMAROVICH

Namangan State University, Head of the Department of Archival Studies, PhD, Associate Professor

ABSTRACT

In this article, as a result of the economic crisis in the cities of the Fergana Valley, the spread of various infectious diseases among the population, neglect of sanitary and hygiene rules, healthy living, promotion of medical culture, timely treatment of diseases, insufficient lighting in cities, existing streets, yards, lack of sewage in houses and public places, and a number of problems with the water supply.

Key words: *health, hygiene regulations, health culture, communicable diseases, lighting system, sewage system, drinking water, hotel building, utilities, textile factory, landscaping works, dispensaries, standard of living of the population.*

Introduction

Under conditions of acute military and political struggle in the first years of Soviet power, social problems in the life of the urban population of the Fergana Valley became more acute. As a result of the economic crisis in these processes, various infectious diseases spread among the population and the rules of sanitation and hygiene, healthy lifestyles, the promotion of a medical culture and the timely treatment of diseases were ignored. Due to the lack of medical specialists in the country and the low standard of living of the population, various diseases were widespread among them. According to statistics, in 1917 there were 128 doctors in Uzbekistan and one doctor per 50,000 people in Fergana province. The shortage of doctors and hospitals was inherited from the former dictatorial regime.

For example, at the beginning of the twentieth century there was only one hospital in Namangan with 15 beds, one bed for 2,330 people, employing two doctors, four paramedics and one pharmacist. The rural population had virtually no access to medical care. As a result, the spread of plague, smallpox, malaria and many other infectious diseases in the country had a serious impact on the demography of the population.

Main body

By 1914, the number of beds in the hospital for the general public had increased to 30. However, the number of doctors had been reduced to four. The condition of the hospital was deplorable, it did not meet sanitary and hygienic requirements, there was a lack of medical equipment and the wards were cold. By 1917 number of doctors employed at the hospital had increased to 3, 10 additional places were created: 30 for men and 10 for women. At the city hospital, patients were treated daily by visiting a doctor. Only 10,000 locals were able to use it here during the year. In 1918 in Namangan province also M. Under Ganiev's leadership, a health department was established. The number of hospital beds in Namangan has increased in recent years: 60 beds for men, 30 beds for women and 30 beds for infectious diseases. A men's dispensary has opened in the city [4]. Although treatment facilities have also been opened in the local part of the city, they are not operational due to the unrest in the city. Although the city hospital has an infectious disease ward with 14 beds, it can accommodate 27 people [5]. Due to the number of beds in the hospital and the shortage of medical staff, 12 local residents with infectious diseases have had to be treated at home. It is estimated that 50% of patients died of the plague in the town [6]. Starting in 1919 smallpox vaccination teams were established in Namangan. [7] However, due to a shortage of medical personnel, vaccination work was difficult to carry out.

In 1923 there were fewer hospitals in Namangan and two remained. Both hospitals in the city had 50 beds, with 36 medical staff serving patients [8]. On average, the hospitals treated 944 patients per year. An outpatient clinic in Namangan city consisted of 18 people, 9 of whom were health workers. The outpatient clinic provides medical assistance to an average of 32,156 patients per year.

By the middle of 1923 there were 3 hospitals in Namangan, consisting of therapeutic, surgical and infectious diseases departments [9]. In addition, there were two more outpatient clinics in the city. The first of the city's outpatient clinics was general and the second one served local women. The therapeutic and surgical departments in the hospitals had 50 beds, and the infectious diseases department had 30 beds. In May 1923 the city out-patient department received 920 patients, while the local out-patient department received 428. However, the existing hospitals in Namangan, despite the difficult conditions, provided medical services to the population at the level of capacity

In 1924 in Namangan county there were 6 hospitals, 9 outpatient clinics, 2 women's and 3 children's departments, 12 feldsher stations and 4 anti-malaria stations [10]. And in the city there was a hospital with 60 beds, 2 outpatient clinics employing 4 doctors, 1 dentist and 6 midwives [11]. There was also an infectious disease hospital with 20 beds, a city outpatient clinic, and a dental outpatient clinic. In 1924 the Namangan City Health Department was established. Abdukodirov was appointed as a head of the department[12].

In 1918 there was a women's and children's hospital with 60 beds in Skobelev (Fergana) and a local women's and children's hospital with 10 beds in Old Margilan *(Stariy Margilan)* [13]. In 1920, there was one hospital in the old part of Skobelevo, which was not too large for women. In the same year, there was an attempt to open another maternity hospital and a department for newborn babies called *"Drops of Milk" (Kapli moloka)* [14]. However, due to the fact that no accommodation could be found, such a plan remained unrealised.

In 1918, as in other provinces of Turkestan, a health department was established in Fergana Province [15]. These departments were tasked with establishing a network of local medical services, organising measures to prevent and combat epidemics and carrying out effective work on maternal and child health. The Andijan-Osh District and City Health Department was created in November 1918 [16]. Despite the difficult processes over these years, many doctors from Russia began to arrive in the cities of Fergana Province. For example, the first head of the Andijan-Osh district and city health department V. F. Schmidt, one of the doctors I. B. Novridzhin,V. Yu Voyevodskiy, K. P. Olifin, M. S. Ernst, N. A. Kinze, M. C. Goloshevskaya, N. Y. Vasilevsky, V. V. V. Kashurnikov and others came to Andijan and worked [17]. These doctors worked in various towns and villages of Fergana Valley, providing medical assistance to the population. In 1923 the hospital in Fergana had 40 beds, of which 20 were for patients with infectious diseases and 20 for simple diseases. The city hospital employed 34 people, including 2 doctors, 5 lecturers and 25 auxiliary staff [18]. The hospital treated an average of about 40 patients per day on an inpatient basis. The hospital also had an outpatient clinic and a dentist's office where up to 30-40 patients were treated daily. However, the state of medical services and equipment in the hospital was satisfactory. There was a shortage of beds, medicines required for the patients, and hot meals were cooked in a common boiler. The funds allocated to the hospital by the regional health department were insufficient. The hospital building was also in a state of repair. The heating furnaces were out of order, the electricity and water supplies were in a deplorable state.

In 1923 there were 12 hospitals with 512 beds, 7 district hospitals with 142 beds, 11 outpatient clinics, 1 outpatient clinic, 14 feldsher outpatient stations and 1 emergency station in Fergana oblast [19].

The city hospital in Margilan also had 15 beds [20]. Although the hospital was not divided into separate wards, 5 of them were reserved for local women and children. One doctor served for the residents of the entire town of Margilan.

According to calculations on 1 July 1923 there was one doctor for every 79011 inhabitants in Fergana Province. In old Margilan there was a city hospital with 25 beds, an orphanage with 30 beds and a city ambulatory.

In November 1919, in the new town part of Andijan a doctor N.A.Kinze opened an outpatient clinic, which served mainly Russianspeaking population. The second outpatient clinic was opened by the governor

on 1 January 1920. The outpatient clinic was located in the old part of the town and served mainly members of the local population [21]. In 1920 in Andijan, in addition to 2 city hospitals, the population was served by 3 outpatient clinics and a pharmacy [22]. The first hospital in the city had 120 beds and housed a surgical, therapeutic and obstetric-gynecological departments. The hospital was located in one of the oldest buildings in the city, with 5 separate buildings, a spacious courtyard, kitchen and storeroom [23]. Five electric lanterns and paraffin lamps were used to light the hospital rooms. The food supply consisted only of daily necessities, hot meals were prepared once a day, while poor patients were also given a glass of milk a day on the doctor's recommendation. The hospital had a limited supply of medicines, and many medical items and medicines were missing.

In 1919, doctors Kossovsky and Maschikovich provided dental care to the Andijan city population. The need for medical personnel during this period also increased day by day. On May 20, 1920 in Andijan, with assistance of Russian physicians, 2-year obstetrics-gynecology courses were opened, basically for women of 18-35 years old. Since September of that year a school had also been opened in the city to train nurses for 2.5 years [24].

In 1921 an emergency hospital and a children's hospital with 70 beds were established in Andijan [25]. A number of material difficulties, insufficient material and technical base, shortage of medical equipment and facilities, and lack of qualified specialists seriously hindered the quality of medical services provided to the population by doctors. In addition, dental services were organized only in Kokand, Namangan and Osh, which created difficulties for residents of other regions. And the absence of pharmacies was a serious impediment to the timely treatment of diseases.

In 1923 the hospital in Andijan was transformed into a 75-bed hospital with six wards. But the strained situation of medical facilities in the cities remained unchanged. Because medical services and living standards in the cities were very low. In 1923 in Fergana cities there were 11 outpatient clinics employing 15 doctors [26]. In 1922 there were 12 outpatient clinics and 34 doctors, and by 1923 there were 11 outpatient clinics and 15 doctors.

In 1924 the Andizhan city hospital had a 60-bed therapeutic, surgical, maternity and infectious disease departments [27]. The hospital employed 1 therapist, a surgeon, 5 paramedics, 3 midwives, 2 nurses and 32 medical staff. From 1 April this year, the city hospital was enlarged from 60 to 70 beds with medical treatment funds. In the city hospital, the provision of patients with food and necessary medicines is at a satisfactory level. There are also two outpatient clinics in Andijan, the first of which is located in the new part of the city. The outpatient clinic had three doctor's offices, with an attending physician, a nurse who kept records of patients, a paramedic, a nurse and an interpreter. The outpatient clinic in the old part of the town served a doctor, a paramedic and a midwife. While the food supply of both dispensaries was satisfactory, there was a lack of necessary medical equipment. There were also 2 outpatient clinics in the town, the first of which was organised at the factory, where a doctor and a paramedic served, and the second, where only a paramedic with secondary specialised training served.

At the beginning of XX century in the new part of Kokand there were 2 hospitals and 1 outpatient clinic employing 4 doctors. In 1921 in the old part of the city there were also 2 hospitals and an outpatient clinic employing 2 doctors [28]. In 1924 in Kokand a 90-bed hospital was opened which consisted of departments of surgery, therapy, gynaecology and eye diseases [29].

In 1924 the population of Osh county was 123132 people. There was a hospital with 30 beds, which served surgical, therapeutic, infectious, obstetric and gynaecological departments [30]. Both in the new and old parts of the city there were outpatient clinics, and one doctor worked in both institutions.

The number of medical institutions and doctors in the cities of the Fergana Valley was as follows (1921):

Table 1.1.

Location	Hospital	Outpatient	Dentists	Pharmacy

	quantity	place			
Andijan city	2	100	2	-	1
Kokand city	4	170	4	2	2
Old Margilan city	1	15	1	-	-
Fergana city	2	40	3	-	1
Namangan city	3	90	1	1	1
Osh city	1	30	1	1	1
Total	**13**	**445**	**12**	**4**	**6**

The statistics presented in the table show that the health facilities established in the valley cities differed dramatically in quantity and quality. In particular, although the largest number of hospitals was established in Kokand, the Andijan city hospital was large in terms of space allocated to patients [31].

Existing medical facilities in the cities of Fergana Province (as of 1 November 1922) [32]:

Table 1.2.

№	Cities	Places in hospitals
1	Kokand	225
2	Andijan	82
3	Margilan	81
4	Namangan	70
5	Osh	30

According to the statistics given in the table, the city of Kokand ranked first in the number of patients in the hospitals established in the valley cities.

By this time (1922) the state of healthcare in Turkestan was critical. Within a year the Health Commissariat of the Republic had sharply reduced the number of administrative bodies from 726 to 222, the number of large and small hospitals from 188 to 139 and the number of outpatient clinics from 237 to 33 [33]. Due to poor medical services and difficult living and working conditions, cholera, malaria, trachoma, leprosy and many other diseases were widespread among the population, against which the inhabitants of certain regions received no medical care at all.

According to information provided by the head of the health department of Fergana province in 1922, there was an incredible increase in infectious diseases in the province. To stop this, a special commission for the prevention of infectious diseases was established in Skobelev (Fergana), Namangan and Osh. An infectious diseases hospital with 300 beds was established in Kokand, 100 beds in Skobelev, 40 beds in Andijan, 30 beds in Namangan and 25 beds in Osh [34].

In 1922 the number of medical personnel working in the cities of the Fergana Valley was as follows [35]:

Table 1.3.

Field	Kokand	Andijan	Margilan	Namangan	Osh	Total	By region
The doctor	15	5	4	5	2	31	34
Dentist	2	-	1	1	-	4	4
Pharmacist	30	7	5	5	5	50	79
Doyalar	8	1	3	1	2	15	20
Medical nurse	12	5	3	4	3	27	28

Vaccination against smallpox	2	1	1	2	1	7	10
Housekeeper	134	51	43	66	26	380	426

According to the statistics in the table, the city of Kokand ranks high in terms of the number of doctors in the medical institutions established in the valley cities.

In the early years of Soviet rule, work on urban improvement in Fergana Province was relegated to the back burner. In 1916, the budget allocated 15,460 roubles for improvements to Namangan town and 10,000 roubles for street lighting (36).

After liquidation of Turkestan autonomy in 1918, the streets of destroyed Kokand started to be repaired since 1919. Seventy-five crossing bridges were built in the city and several major bridges were repaired [37].

From the 1920s, electric, gas and paraffin lamps began to penetrate into cities. Lighting of city streets, as in other cities of Turkestan, was important in the improvement of cities in the Fergana Valley. For example, while the streets of Andijan were lit with paraffin lamps in the 1920s, later streets were lit with electric lamps. From 1924, attention also began to be paid to illuminating the city streets in Andijan. In 1924-1925, electrical networks were installed in the town, as a result of which a new 60-litre diesel engine was installed in the old part of the town. 900 electric street lamps were used to light the streets.

Although 89 electric lamps were installed in Kokand by the mid-1920s, they failed to light the town [38]. The main reason for this is that the 5 engines that power the city were installed in the early years of the twentieth century, which were rather obsolete when it came to the 1920s. Although there were 7 power plants in Fergana Province during this period, only 3 of them were operational [39].

During this period no serious attention was paid to repairing existing buildings in the cities of the Fergana Valley. From 1921 the renovation of the town's buildings began in Andijan, and by September of that year 12 buildings had been repaired to the sum of 7 million US dollars. The Rossiya Hotel in the town, the building where the citizens' assembly was held, the textile factory and 2 private houses were also repaired. In 1921 alone in Andijan 157 houses were repaired.

In 1921, Kokand municipal department spent 3 million rubles for repair of buildings in the city [40]. However, the sanitary condition of Kokand was not very good, the city streets lacked lighting, and bridges and footpaths were few. Although the municipal utility established in the city collected 3,451,640 rubles from the population, the situation was extremely deplorable [41].

In 1923 the Skobelevskaya (Fergana) city power plant became operational [42]. As of October 1, 1924, there were 292 residential buildings in the city and in 1924-1925 33 of these buildings were repaired [43]. However, many of these buildings were in need of major repairs. At the same time, new residential buildings were being built in Kokand. In 1924-1925 30 new dwellings were built with a total area of 750 m2 [44].

In 1924-1925 four new dwelling houses were built for the population of Andijan. Also construction started in the city: a bacteriological laboratory, 3 city hospital buildings, a new hotel building, the building of the old city outpatient clinic and 2 school buildings. In 1924-1925, 29887 rubles were spent on repairing houses in the city [45]. In 1923-1924, the city streets and bridges were repaired, existing ditches were cleared and trees along the street edges were planted. In 1924, the city of Andijan organised sapling planting weeks in different streets of the city and about 2 thousand saplings were planted [46]. In 1924-1925, the city spent 40101 roubles on construction works in Andijan [47].

In 1924, 9153 buildings in Namangan were owned by the local economic department. There were 12 buildings owned by the local economic department and 68 owned by the local government, 9 buildings were for state

institutions, 2 for public associations, 8 for schools and boarding schools and the rest for flats [48]. In the same year, 22 houses in the city were repaired, for which 5451 roubles were spent and 3401 roubles were spent on lighting buildings in the city. 3 bridges were built at highway crossings in the city and 33 small bridges were repaired using local building materials [49]. However, due to the lack of necessary tools, the city streets and pavements could not be repaired. From 1924, the construction of residential houses, cultural and household institutions and communal facilities for the population began in the town [50].

In Namangan in 1925, 45.6 thousand rubles were allocated for the construction of residential houses in the city, while the local economic departments of the city received 116.7 thousand rubles. In 1921-1926 four new school buildings were constructed in the town, differing in appearance from the others and sycamore trees were planted in the courtyards [51]. As a result of a strong earthquake in Namangan in August 1927, many settlements of the city were destroyed. Many dwellings were built with government support for the residents affected by the earthquake. For example, from 1927 to 1929, 81 apartment houses were built with a total area of 11940 m2 (52). In 1929 the revenues of the local economic department in the city amounted to 660567 thousand rubles. [53].

One of the problems in the life of cities was related to clean drinking water. For a long time the inhabitants of our country had been using for drinking water mostly ditch and well water, but by the beginning of the 20th century the experts had already come to the conclusion that this water was unfit for drinking. The provision of drinking water to the inhabitants of cities in the Fergana Valley such as Andijan, Fergana, Namangan and Margilan was also important. In Uzbekistan, a water pipeline was first put into operation in 1929 in Bukhara. In 1931 it was decided to build a water pipeline in Andijan and in 1932 in Kokand, but these works were not completed (54). In the valley cities, therefore, great attention is paid to the cleaning of ditches and regular khashars are held.

Another major problem in the social infrastructure of the cities manifested itself in the lack of common washbasins - bathhouses - in the cities of the Ferghana Valley. Most of the bathhouses in the cities were rented out to tenants who provided free services to the poor two days a week. For example, in the early 1920s there were 7 bathhouses in Andijan, of which only 3 were in good condition [54].

Conclusion

The conclusion is that during this period the social infrastructure in the cities of the Fergana Valley could not meet the needs of the population and did not meet the requirements of the time. There were not enough hospitals in the cities, and only a few newly opened medical institutions were in poor condition. Because of the lack of space, many hospitals were not located in purpose-built premises, but rather on the premises of commercial or other establishments. Another problem was the lack of medical specialists. The Soviet authorities did not allocate sufficient funds for the prevention and treatment of infectious diseases in the cities. Inadequate lighting systems in the cities of the Ferghana Valley during the study period was due to insufficient funding. Also, very little money has been allocated for urban improvement and cleaning by the public utilities. Sanitary and hygienic conditions in towns were not very good due to the lack of sewage in existing streets, courtyards, houses and public places. There are a number of problems in the supply of drinking water to the population

In conclusion to this article, during this period the social infrastructure and service system of the cities was in a highly unsatisfactory state. The service system was not meeting the demand and needs. Under these conditions, the traditional urban culture was in deep decline and in deep crisis.

Reference

1. Uzbekistan for 15 years. Statistical collection. - Tashkent., 1939. - p. 15. *[Uzbekistan za 15 let. Statisticheskiy sbornik. – Tashkent., 1939. – S. 15.]*
2. Ruziboev T., Hojimirzaev M. Namangan region: Spravochnik. - Tashkent: Uzbekistan, 1981. - B. 92. *[Ro'ziboyev T., Hojimirzayev M. Namangan viloyati: Spravochnik. – Toshkent: O'zbekiston, 1981. – B. 92.]*
3. NRSA, fund 796, list 1, case 49, sheet 2.
4. CSA RUz, fund R.40, list 1, case 137, page 399.
5. NRSA, fund 796, list 1, case 49, sheet 3.
6. NRSA, 13th fund, 4th list, 8th case, 82nd sheet.
7. NRSA, fund 796, list 1, case 48, sheet 5.
8. NRSA, 13th fund, 1st list, 17th case, 30th sheet.
9. FRSA, fund 435, list 1, case 207, sheet 10.
10. Ruziboev T., Hojimirzaev M. Namangan region ... - B. 92. *[Ro'ziboyev T., Hojimirzayev M. Namangan viloyati... – B. 92.]*
11. NRSA, fund 796, list 1, case 48, sheet 2.
12. NRSA, fund 796, list 1, case 48, sheet 5.
13. Nabiev F.X. Problems and contradictory social policies in Turkestan (1917–1924). Diss .... doc. ist. science. - T., 1995. - p. 165. *[Nabiyev F.X. Problemi i protivorechiye sotsialnoy politiki v Turkestane (1917–1924 gg). Diss.... dok. ist. nauk. – T., 1995. – S. 165.]*
14. FRSA, fund 221, list 1, case 277, sheet 22.
15. Mo'minova G. History of the healthcare system in Uzbekistan (1917-1991). - Tashkent: New edition, 2015. - B. 55-56. *[Mo'minova G. O'zbekistonda sog'liqni saqlash tizimi tarixi (1917–1991 yillar). – Toshkent: Yangi-nashr, 2015. – B. 55-56.]*
16. Aliyev M. M. The role of Russian doctors in the development of healthcare in the Ferghana Valley // Soviet healthcare. - M.: type: Medina, 1986. - No. 9. - p. 74. *[Aliev M. M. Rol russkix vrachey v razvitii zdravooxraneniya v Ferganskoy doline // Sovetskoe zdravooxranenie. - M .: Medicine, 1986. - №9. - S. 74.]*
17. Aliyev M. M. The role of Russian doctors in the development of healthcare in the Fergana Valley–... - p. 74. *[Aliev M. M. Rol russkix vrachey v razvitii zdravooxraneniya v Ferganskoy doline .... - C. 74.]*
18. FRSA, fund 435, list 1, case 239, back of page 42.
19. CSA RUz, fund R.40, list 1, case 457, sheet 38.
20. CSA RUz, fund R.17, list 1, case 1130, sheet 380.
21. ARSA, fund 90, list 1, case 69, sheet 43.
22. Mukhitdinov M., Khuzhakov A. Health care of the Andijan region. - Tashkent: Medicine, 1985 .-- P. 17. [*Muxitdinov M., Xujakov A. Zdravooxranenie Andijanskoy oblasti. - Tashkent: Meditsina, 1985. - C. 17.]*
23. CSA RUz, fund R.17, list 1, case 1130, sheet 379.
24. Aliev M.M.The role of Russian doctors in the development of health care in the Fergana Valley .... - P. 74. *[Aliev M. M. Rol russkix vrachey v razvitii zdravooxraneniya v Ferganskoy doline .... - C. 74.]*
25. ARSA, fund 59, list 1, case 49, sheet 305.
26. CSA RUz, fund R.40, list 1, case 457, page 38.
27. CSA RUz, fund R.87, list 1, case 43, sheet 38.
28. CSA RUz, fund R.40, list 1, case 190 a, back of page 1416.
29. CSA RUz, fund 40, list 1, case 457, sheet 5.
30. Central Asian Medical Journal. T. 5. 6. June. - T .: Printing house Vostokazgosizdat, 1924. - P. 283. *[Sredne-Aziatskiy meditsinskiy zhurnal. T. 5. 6. June. - T .: Typography Vostokazgosizdat, 1924. - p. 283.]*
31. Report of the Fergana Regional Economic Conference .... - p. 130. [*Otchyot Ferganskogo Oblastnogo Ekonomicheskogo Soveshchaniya .... - C. 130].*
32. CSA RUz, fund R.25, list 1, case 1391, sheet 203.
33. Report on the activities of the Council of People's Commissars of the Economic

Council of the Turk Republic. October 1. - T., 1922. - S. 170-173. *[Otchyot po deystviyam SNK Ekonomicheskogo Soveta Turk Respubliki. October 1. - T., 1922. - S. 170–173].*
34. CSA RUz, fund R.40, list 1, case 317, sheet 22.
35. CSA RUz, fund R.25, list 1, case 1391, sheet 203.
36. NRSA, fund 796, list 1, case 97, sheet 3.
37. History of Kokand *[Istoriya of Kokanda .... - S. 70].*
38. FRSA, fund 121, list 2, case 447, sheet 16.
39. FRSA, 121st fund, 2nd list, 447th case, 26th sheet.
40. FRSA, fund 435, list 1, case 52, sheet 145.
41. Report on the activities of the Turkestan Economic Council for February-October 1921. - T., Izd-e TES., 1922. - p. 6.
42. History of Fergany. - Tashkent: Fan, 1984. - C. 40. *[Istoriya Fergani – Tashknet: Fan, 1984]*
43. FRSA, fund 121, list 2, case 347, page 17.
44. History of Kokanda .... - S. 89.
45. ARSA, fund 59, list 1, case 496, sheet 165.
46. History of Andijan .... - S. 92.
47. ARSA, fund 145, list 1, case 295, sheet 165.
48. NRSA, 13th fund, 1st list, 17th case, 9th sheet.
49. NRSA, fund 796, list 1, case 97, sheet 5.
50. NRSA, fund 796, list 1, case 97, sheet 5.
51. NRSA, fund 796, list 1, case 97, sheet 4.
52. NRSA, fund 796, list 1, case 97, sheet 6.
53. NRSA, fund 796, list 1, case 97, sheet 6.
54. Shodmonova S. Transformation processes in the cities of Uzbekistan ... - B. 174- 191. *[Shodmonova S. O'zbekiston shaharlarida transformatsiya jarayonlari..... – B.174- 191.]*

Appendix

1. O'zbekiston Respublikasi Markaziy Davlat Arxivi (O'z MDA) – Central State Archive of the Republic of Uzbekistan (CSA RUz)
2. Namangan viloyat davlat arxivi (NVDA) - Namangan Region State Archive (NRSA)
3. Farg'ona viloyat davlat arxivi (FVDA) - Ferghana Region State Archive (FRSA)
4. Andijon viloyat davlat arxivi (AVDA) - Andijan Region State Archive (ARSA)

EXPERIMENTAL STUDIES OF THE IMPULSE COMPONENT OF THE RESISTANCE OF A TRAIN SHUNT

Nazirjon Aripov[1], Azamat Sadikov[2]

[1]Tashkent State Transport University, Tashkent, Uzbekistan, professor of department of "Automation and telemechanics", tel: +99890:933-10-93, aripov1110@gmail.com, Doctor of science (DSc)
[2]Tashkent State Transport University, Tashkent, Uzbekistan, assistant of department of "Automation and telemechanics", tel: +99897:447-17-76, san.pgups@gmail.com

ANNOTATION

The article discusses a statistical model of the impulse component of the train shunt resistance. In this case, it is assumed that the resistance of the shunt is a set of surges random in shape and moment of occurrence, following against the background of the fluctuation component of this resistance. The results of experimental studies of the impulse component of the train shunt resistance in the frequency range from 0 to 1000 Hz are presented. The block diagram of the analyzer of the parameters of the impulse component of the train shunt resistance is shown. The analysis of experimental realizations of the process quantitatively characterizes the stable nature of the statistical properties of the instantaneous values of the impulse component of the resistance of the train shunt of the rolling stock of railways.

Keywords: *monitoring the state of the rail line, train shunt detection methods, statistical model of the impulse component of the train shunt resistance, experimental implementation of a random process of train shunt resistance, analyzer of parameters of impulse component of train shunt resistance, inertia-free method of registration of emissions, calculating estimates of statistical means*

Introduction

From consideration of the models of destabilizing factors affecting the operation of track circuits, it follows that none of them takes into account the effect of the impulse component of the train shunt resistance. In this regard, the data published in [1 ... 9] should be considered preliminary.

The available information is insufficient for a reasonable choice of the optimal, in terms of the reliability of monitoring the state of a rail line (MRL), methods of detecting a train shunt and is unsuitable for a quantitative assessment of the stability of the operation of signal receivers MRL under conditions of destabilizing factors.

The study of the statistical model of the impulse component of the train shunt resistance $R_{sh}(t)$ is carried out [10]. In this case, it is assumed that the resistance of the shunt is a set of surges random in shape and moment of occurrence, following against the background of the fluctuation component $R_{sh}(t)$.

The results of experimental studies of the pulse component of the train shunt resistance in the frequency range from 0 to 1000 Hz are presented.

2. Methods

According to the well-known ideas about the physics of formation, the impulse component of the shunt resistance is formed due to a violation of the contact between the wheel pairs of the rolling stock and the rail heads.

The intensity of the impulse component of the resistance of a train shunt depends on the specific load on the axle of the rolling stock, climatic conditions, the degree of contamination of the rolling surfaces of wheel pairs and rail heads, the load tension of the section and a number of other factors. Analyzing the results of experimental studies, the impulse component of the resistance of a train shunt will be divided into two main classes according to its shape: containing one or two outliers; containing more than two pulse outliers [12].

Results and Discussions

In Fig. 1 shows the experimental samples of records of a pulsed random process of resistance of a train shunt of a biaxial railcar and a diesel locomotive. An analysis of the experimental realizations of the resistance process of a train shunt shows that changes in the resistance of the shunt are of an abrupt nature, and its values are grouped near zero and in the region of 1 Ohm.

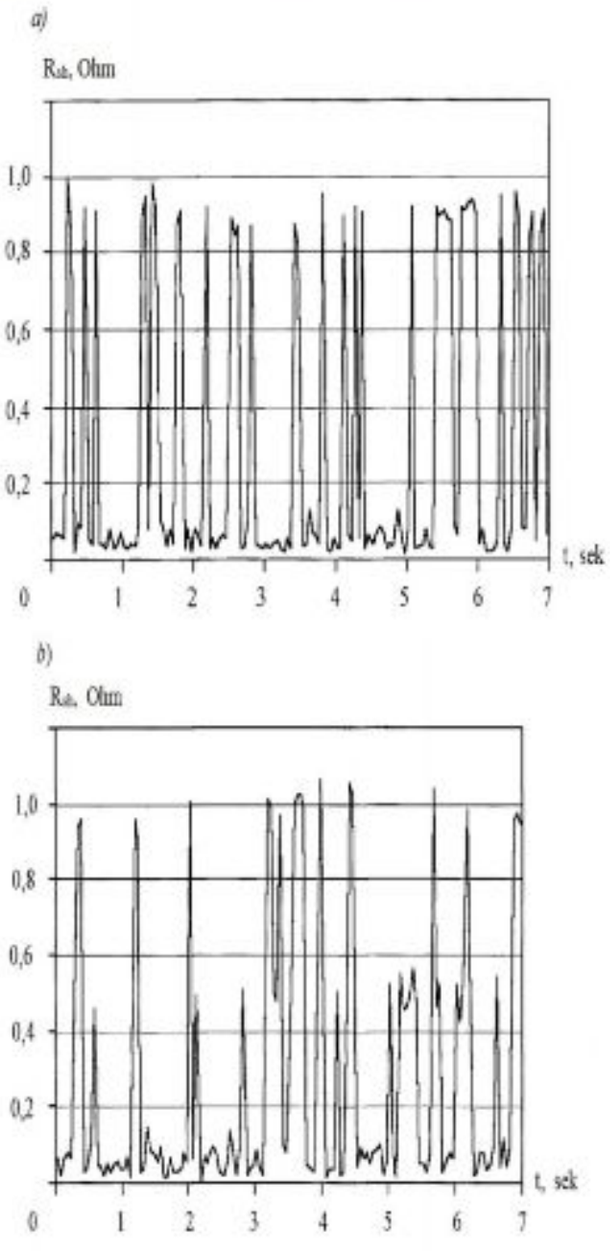


Fig. 1 Experimental samples of records of the resistance of a train shunt of a biaxial railcar – *a* and a diesel locomotive – *b*.

When studying the properties of the resistance of a train shunt, the main task is to find the probability distribution of the emission intensity $p\left(\xi\right\rangle R_{sh}\right)$ [13]. The flux intensity of the impulse component of the train shunt resistance $R_{sh}(t)$, measured by the number of emissions per unit time, is

$$\lambda\left(R_{sh}\right)=\frac{n\left(R_{sh}\right)}{T},$$

where $n(R_{sh})$ – is the dependence of the number of emissions exceeding the threshold level R_{sh} on a realization with duration T

Assuming the stationarity of the process under study $R_{sh}(t)$ on the observation interval T, distribution $p\left(\xi\right\rangle R_{sh}\right)$ is described by the formula

$$p\left(\xi\right\rangle R_{sh}\right)=\frac{\lambda\left(R_{sh}\right)}{\lambda\left(R_{shm}\right)}\cong\frac{n\left(R_{sh}\right)}{n\left(R_{shm}\right)},$$

where $\lambda\left(R_{sh}\right)$, $n\left(R_{sh}\right)$ – is the maximum intensity and maximum number of surges of the impulse component at the registration threshold R_{sh} during the time interval T.

Taking into account the presence of the fluctuation component of the train shunt resistance, the minimum registration level R_{shm} will be different from zero [14]. Therefore, when studying the resistance $R_{sh}(t)$, R_{shm} was understood to mean such a minimum permissible level at which the probability of its exceeding by surges of the fluctuation component is negligible.

The value of R_{shm} is a parameter of the random process of train shunt resistance, which determines the separation boundary into fluctuation and impulse components [15]. It depends on the intensity of the fluctuation component. A quantitative estimate of the border R_{shm} can be written as follows

$$R_{shm}=k\times\sqrt{D_{Rsh}} \qquad (1)$$

where k – is the coupling coefficient, which takes into account the quantitative measure of the fact that the fluctuation component emissions do not exceed the R_{sh} level; D_{Rm} – is the variance of the fluctuation component of the train shunt resistance.

The processing of the results of registration of the resistance of the train shunt was carried out using a specialized complex representing a personal microcomputer coupled with a device for analog-to-digital conversion of the signal under study [16]. The block diagram of the analyzer of the parameters of the impulse component of the train shunt resistance is shown in Fig. 2.

The technique for processing the recorded realizations of $R_{sh}(t)$ provided for the study of the properties of the impulse process separately from the fluctuation component. For this, the fluctuation and impulse of the components with the help of a programmed threshold was excluded from consideration by

setting the level of the separation threshold R_{shm}. The R_{shm} value calculated by formula (1) was entered into the microcomputer's RAM.

From the output of the RM magnetograph, the studied process $R_{sh}(t)$ was fed to the input of the analog-to-digital converter ADC. During the processing, the levels of the sensitivity thresholds R_{shi} varied in the range from 0.01 to 0.1 Ohm. The setting of the threshold values R_{shi} was carried out using the $R_{sh}(t)$ calibrator. Electronic counters C_{ch1} ... C_{chn}, included at the output of threshold devices, provided counting of the number of pulses exceeding a given threshold level R_{shi}.

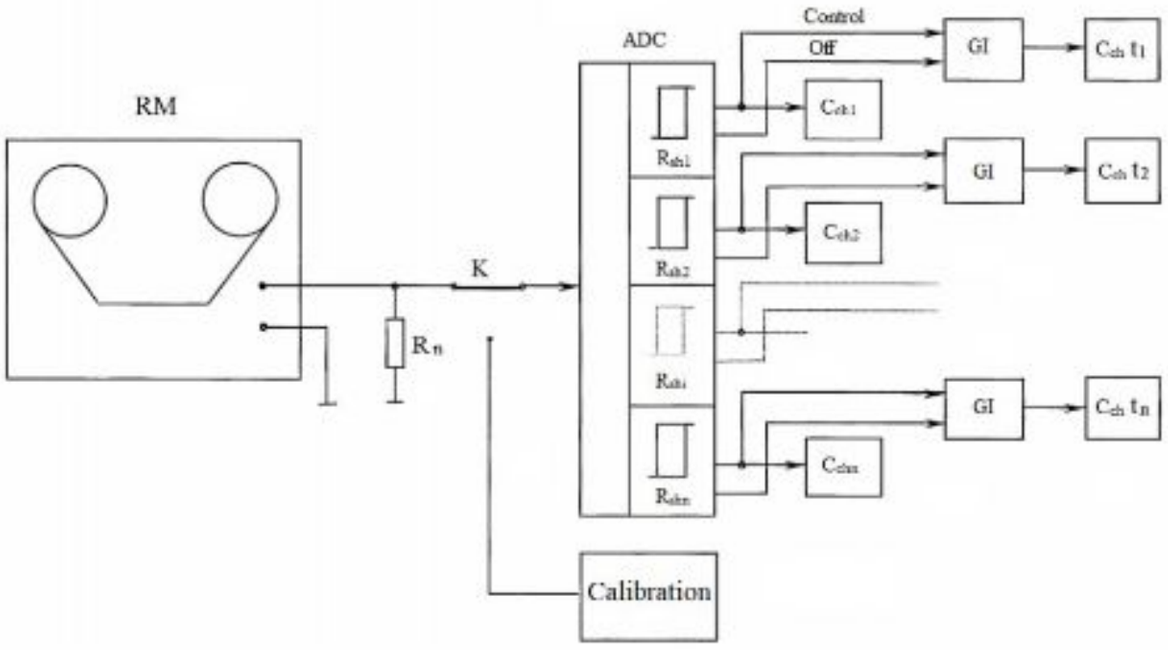


Fig. 2 Block diagram of the analyzer of the parameters of the impulse component of the train shunt resistance

Since at a fixed threshold, the maximum number of surges of the impulse component of the train shunt resistance n_m is recorded at the level R_{shm}, then with an increase in the threshold R_{shi}, the subsequent values of ni decrease monotonically.

For a given time of registration of a random process $R_{sh}(t)$ when n_m is large, the ratios $\frac{n_i}{n_m}=p_i$ are estimates of the relative frequencies of emissions for a fixed threshold R_{shi}.

The obtained values of the relative frequencies of exceeding the threshold were used to construct empirical functions of the probability distribution density of the random process $R_{sh}(t)$ [17]. Measurements of the intensity of the flow of the pulse component of the resistance of the train shunt were carried out at intervals of local stationarity with a duration of T_S.

When processing the data, the inertialess method was used to register emissions of the impulse component of the train shunt resistance. In this case, the crossing by a random process of a given registration level R_{shi} did not depend on the value of the time interval between two successive crossings. This method of analysis made it possible to process impulse processes without taking into account their internal structure.

The analyzer made it possible to estimate the durations and intervals between adjacent impulse influences R_{sh}. For this purpose, the analyzer circuitry included high-frequency pulse generators controlled by external signals and counters of time intervals $C_{ch}\ t_i$. The GI generators were switched on via the Control bus from the leading edge of the surge of the impulse process $R_{sh}(t)$ at the level of the threshold R_{shi} and turned off at the trailing edge $R_{sh}(t)$. The counting device $C_{ch}\ t_i$ counted the number of pulses in the analysis interval and gave the results in time.

In addition, the processing program provided for the construction of experimental distribution functions of the intensity of emissions of the impulse component of the shunt resistance, the calculation of estimates of statistical averages with automatic output of the calculation results for printing in the form of graphs.

Fig. 3 illustrates the empirical (stepped curves) and theoretical (solid smooth curves) distribution laws of the peak values of the resistance emissions of the train shunt of a diesel locomotive – *a* and a two-axle railcar – *b*, registered in the station rail circuit 900 m long.

The ordinate shows the relative frequencies of the impulse random process $R_{sh}(t)$ recorded during the observation session T. The abscissa is the peak resistance values of the train shunt.

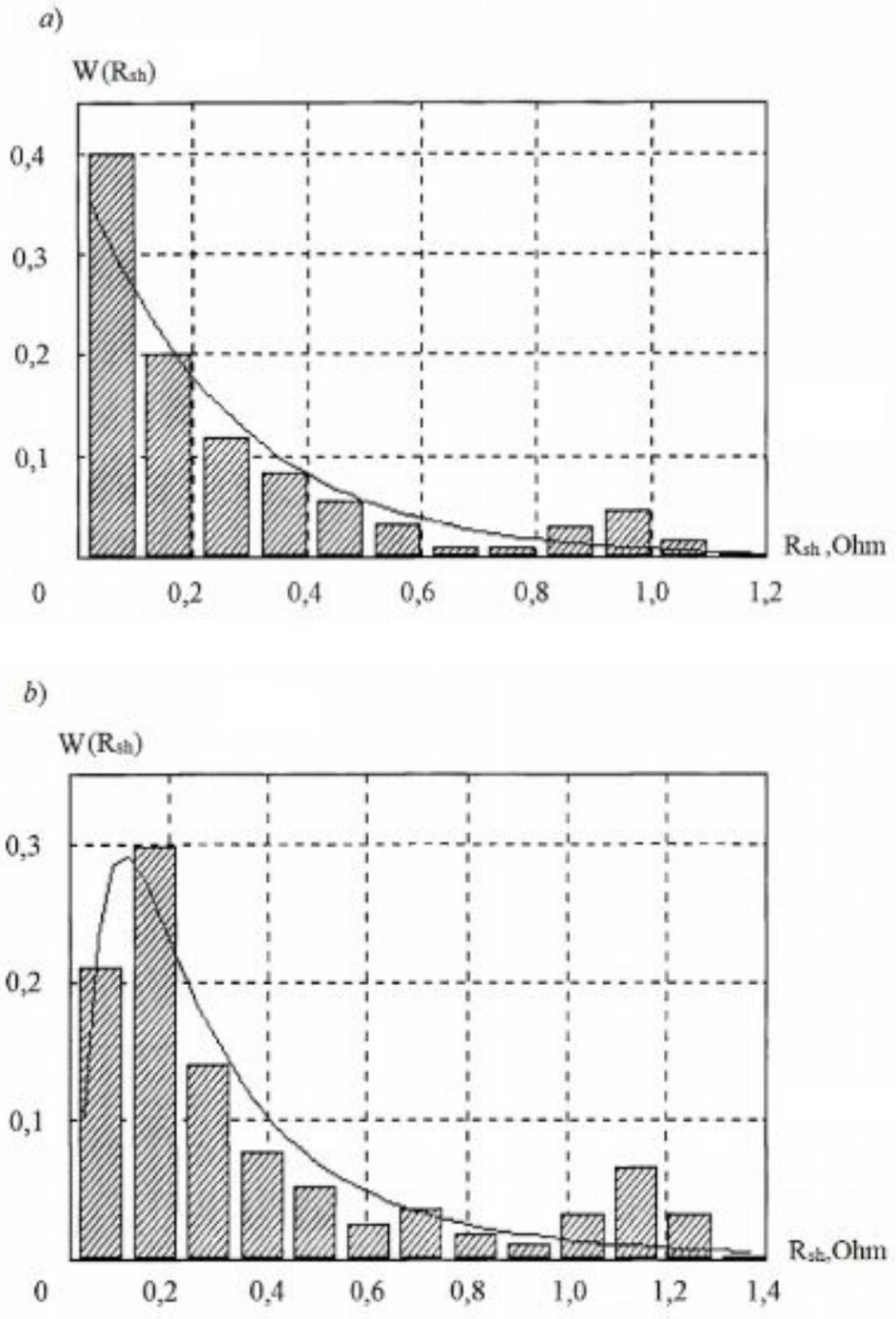


Fig. 3 Empirical and theoretical laws of the distribution of the resistance of the train shunt

of a diesel locomotive – *a* and a two-axle railcar – *b*

The agreement between the experimental data and the theoretical distribution law was tested using the Pearson and Kolmogorov x2 criteria. The hypothesis that the sample distribution corresponded to the theoretical law with a ten percent significance level was not rejected. The numerical values of the Kolmogorov-Smirnov test in all cases did not exceed 0.0045. The qualitative results of processing the experimental data were as follows. The distribution of instantaneous values of shunt resistance surges is fairly well approximated by an exponential law.

$$W(R_{sh})=\lambda_{Rsh}\times\exp(-R_{sh}\lambda_{Rsh}),$$

where λ_{Rsh} – is the determining parameter of the distribution

In some cases, empirical distributions $W(R_{sh})$ were approximated by truncated normal and lognormal laws:

$$W(R_{sh})=\frac{b}{\sigma_{Rsh}\sqrt{2\pi}}\exp\left\{-\frac{(R_{sh}-m_{Rsh})^2}{2\sigma_{Rsh}^2}\right\},$$

$$W(R_{sh})=\frac{1}{R_{sh}\sigma_{Rsh}\sqrt{2\pi}}\exp\left\{-\frac{(\ln R_{sh}-m_{Rsh})^2}{2\sigma_{Rsh}^2}\right\},$$

where

$$b=\frac{1}{\frac{1}{2\pi}\left[\int_0^{\frac{R_{shmax}-m_{Rsh}}{\sigma_{Rsh}}}\exp\left\{-\frac{u^2}{2}\right\}du-\int_0^{\frac{R_{shmin}-m_{Rsh}}{\sigma_{Rsh}}}\exp\left\{-\frac{u^2}{2}\right\}du\right]},\ R_{shmax},$$

R_{shmin} – boundary values of train shunt resistance, m_{Rsh}, σ_{Rsh} – defining parameters of distributions.

The numerical values of the sample means and defining parameters of the theoretical distribution laws are given in table. 1.

Table 1

Statistical characteristics of maximum values of train shunt resistance emissions

Type of rolling stock / Implemen-	Theoretical law distribution	Selective average		Determining parameters of the theoretical law		Note
		m_{Rsh}	σ_{Rsh}			
1	2	3		4		5
Two-axle railcar						
1	Exponential	0,170	0,029	5,880		
2	Exponential	0,106	0,011	9,434		Clean rolling surfaces
3	Lognormal	0,080	0,075	-2,520	0,570	
1	2	3	4	5	1	2
4	Exponential	0,172	0,029	5,810		
5	Lognormal	0,307	0,224	-1,180	0,540	
6	Exponential	0,560	0,320	1,780		The rail heads are dirty
7	Truncated normal	0,887	0,341	0,887	0,116	
8	Truncated normal	0,783	0,392	0,783	0,154	

9	Truncated normal	0,759	0,396	0,759	0,157	
10	Lognormal	0,234	0,374	-1,460	3,450	The rail heads are dirty
11	Lognormal	0,110	0,270	-2,200	2,360	
12	Lognormal	0,048	0,150	-3,070	1,096	
13	Truncated normal	0,698	0,256	0,698	0,066	
14	Truncated normal	0,686	0,311	0,686	0,097	
Diesel locomotive TEM2						
15	Lognormal	0,124	0,190	-2,084	0,986	The rail heads are dirty
16	Lognormal	0,101	0,209	-2,296	0,758	
17	Truncated normal	0,670	0,420	0,670	0,178	
18	Truncated normal	0,656	0,434	0,656	0,189	
19	Lognormal	0,484	0,464	-0,726	2,918	
20	Exponential	0,259	0,067	3,851		
21	Truncated normal	0,769	0,402	0,769	0,169	
22	Lognormal	0,350	0,340	-1,049	2,459	
23	Exponential	0,064	0,052	15,480		Clean rolling surfaces
24	Lognormal	0,010	0,008	-4,605	0,513	
25	Lognormal	0,074	0,005	-2,608	0,418	
Biaxial railcar						
26	Truncated normal	0,554	0,360	0,554	0,130	The rail heads are dirty
27	Lognormal	0,371	0,352	-9,991	0,820	
28	Exponential	0,656	0,430	1,525		

Conclusions

A comparative assessment of the data obtained shows that the numerical values of the emissions of the shunt resistance of a biaxial railcar are greater than that of a diesel locomotive. This is explained by the greater axle load of the diesel locomotive, which coincides with the data of [9].

The results obtained in this paragraph quantitatively characterize the stable nature of the statistical properties of the instantaneous values of the impulse component of the resistance of the train shunt of the rolling stock of the railways of Uzbekistan.

References

1. Bryleev A.M., Kravtsov Y.A., Shishlyakov A.V. Theory, device and work of rail circuits. 2nd ed., Rev. and add. -M .: Transport, 1978.- 344 p.
2. Kravtsov Y.A., Arkatov V.S., Stepensky B.M. Rail chains. Analysis of work and maintenance.-M .: Trasport, -1990.- 295 p.
3. Lisenkov V.M. Theory of automatic systems of interval regulation. -M. Transport, 1987.- 150 p.
4. Barannikov V.M., Kravtsov Y.A., Stepensky B.M. The choice of signs of recognition of a train shunt // Microprocessors in the systems of technical diagnostics of railway automatics and telemechanics: Interuniversity. Sat. scientific. tr. / UrEIT.-1988.-Vsh. 72.-S. 130-138.
5. Arkatov V.S., Bazhenov A.I., Kotlyarenko N.F. Rail chains of main roads. Directory. 2nd ed. Moscow: Transport, 1992.384 p.
6. Dmitriev V.S., Minin V.A. Improvement of auto-locking systems. - M.: Transport, 1987. - 143 p.
7. Colon Gonzalez Jose de Jesus. Microprocessor rail circuits with a relative assessment of the state of the line. Dissertation of the Candidate of Technical Sciences: 05.22.08. - M., 1988. -136 p.
8. Le Thi Van An. Microprocessor-based stage control system for sections with semi-automatic locking. Dissertation of the Candidate of Technical Sciences: 05.22.08. - M., 1996. - 151 p.
9. Pinchuk A.I. Investigation of mechanical factors affecting the resistance of a train shunt when moving rolling stock. Diss... Candidate of Technical Sciences: 05.22.07. - Rostov n/A, 1974. - 170 p.
10. Aripov N., Aliyev R, Baratov D., Ametova E. Features of construction of systems of railway automatics and telemechanics at the organization of high-speed traffic in the republic of Uzbekistan / 9th International Scientific Conference "TRANSBALTICA 2015". 7-8.05.2015, Vilnius GTU, Lithuania. 175-180 p
11. Aripov N.M., Rikhsiev D.H. Analysis of station rail circuits in railway automation and telemechanics systems / VESTNIK TASHIIT. No. 1, 2016. pp. 79-83
12. Aripov N.M., Rikhsiev D.Kh. Features of the phase characteristics of the digital track receiver of railway automation and telemechanics systems / VESTNIK TASHSTU. No. 3, 2018. pp. 27-37.
13. Aripov N.M., Rikhsiev D.H. Analysis of frequency characteristics of a digital track receiver of station rail circuits / Problems of informatics and power engineering. Vol. 2018. No. 5. pp. 71-77.
14. Aripov N.M., Shakirova F.F. Railway automation and telemechanics development and modern status of code generator / Academic Research In Educational Sciences. (ARES) Vol. 2|Issue 1|2021. ISSN: 2181-1385. Scientific Journal Impact Factor (SJIF) 2021: 5.723. p.750-755
15. Aripov N.M.,Shakirova F.F.Development of a work algorithm for an integrated microelectronic pulse generator/International Journal of Advanced Research in Science Engineering and Technology (IJARSET) Vol. 8, Issue 2 , February 2021. p. 16618-16623. ISSN: 2350-0328.
16. Aripov N.M., Sadikov A.N. Synthesis of resistant to changes in operating modes algorithms for processing information in the systems of monitoring the state of rail lines/ Technical science and innovation. TSTU. №2 2021. p. 152-161.
17. Aripov N., Sadikov A., Ubaydullayev S. Intelligent signal detectors with random moment of appearance in rail lines monitoring systems. // E3S Web of Conferences 264, 05039 (2021). CONMECHYDRO - 2021

A STUDY TO ASSESS THE PREVALENCE AND ASSOCIATED RISK FACTORS OF ANEMIA AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC IN SGT HOSPITAL, GURUGRAM, HARYANA, WITH A VIEW TO DEVELOP AN INFORMATIONAL BOOKLET

Ankita Rawat[1], Deepak[2*], Akoijam Mamata Devi[3], Pragati Das[4]

[1]Ankita Rawat, PG Students, Department of Obstetrics and Gynecological Nursing, Faculty of Nursing, SGT University, Gurugram

[2*]Deepak, Associate Professor, Department of Obstetrics and Gynecological Nursing, Faculty of Nursing, SGT University, Gurugram

Deepak_nursing@sgtuniversity.org

[3]Akoijam Mamata Devi, Professor, Department of Obstetrics and Gynecological Nursing, Faculty of Nursing, SGT University, Gurugram

[4]Pragati Das, Assistant Professor, Department of Obstetrics and Gynecological Nursing, Faculty of Nursing, SGT University, Gurugram

ABSTRACT

Background: *Anemia in pregnancy is one among the main causes of maternal morbidity and mortality in India and worldwide. According to CDC, WHO If a hemoglobin level were found below 11g/dl is considered to be anemic. In India prevalence of anemia during pregnancy has been reported to be within the range of 33% - 89%. About 80% of women in India die due to anemia. Pregnant women are the foremost vulnerable groups to anemia because of various factors includes not taking iron, folic acid and vitamin B9, B12 tablets, poverty, deficit knowledge, spacing between child less than 2 years as well intestinal diseases, including malaria and Helminthes infection. During pregnancy Anemia is related to increased risk of Premature birth, Low birth weight, increased risk of heart diseases, Abortions and post-partum hemorrhage.*

Methods: *In present study cross- sectional study was adopted to assess prevalence of anemia among pregnant women attending antenatal clinic in SGT Hospital Gurugram, Haryana in the month of April. Total 300 pregnant women were enrolled in study using convenience sampling technique. Informed consent was taken from the participants. Structured interview schedule was used to collect demographic data and associated risk factors of anemia and Hemoglobin level was taken from their recent (1 week) Blood report. WHO and CDC guidelines were used to determine the prevalence of anemia Mild anemia (10.0–10.9g/dl), Moderate anemia (7–9.9g/dl), Severe anemia (< 7g/dl). Statistical analysis of data was done using Microsoft excel and SPSS version 20.*

Result: *Results of the study revealed that 42.7% of the subjects had moderate anemia, 20.3% subjects had mild anemia, 14.3% of them had severe anemia and 22.7% of the subjects were found not anemic. Significant association was seen in Residence, Type of family, History of blood transfusion, Weight, and smoking with hemoglobin level as p value was <0.05 level of significance. The chi square test was used to determine statistical significance.*

Conclusion: *The Findings of the study concluded that the Anemia in pregnancy is a moderate public health problem in SGT Hospital of Gurugram, Haryana.*

Keywords: *Anemia, Antenatal clinic, Risk factors, pregnant women, prevalence.*

Introduction

Anemia is a global health issue which can affect a lot of peoples of all ages but and burden of anemia is higher on pregnant women. In pregnant women hemoglobin level below 11g/dl is considered as anemic. Normal value of hemoglobin level during pregnancy is 12 to 16g/dl. According to (WHO,1993: CDC,1990) Anemia is divided into 3 categories. If a HB level is found **in** the range of **(10.0–10.9g/dl)** its mild anemia, If it is found in between **(7–9.9g/dl)** its moderate anemia and if it is found to be **(less than 7g/dl)** then its considered in severe anemia. The plasma volume starts to extend at about 6 weeks of pregnancy. The increase in plasma volume is about 1,250 ml at term, about 48% above the non-pregnant state. During pregnancy the plasma volume extension results in hemoglobin dilution. HB level at or below 9g\dl required complete investigation and proper treatment.

The occurrence of anemia in pregnancy has increased from 40% to 80% within the developing countries and 10% to 20% within the developed countries. In India prevalence of anemia during pregnancy has been reported to be within the range of 33% - 89%. About 80% of women in India die due to anemia. Globally, it has been declared that 510,000 women die every year at the time of childbearing

Kumari P, Rani M, Saini N et. al. (2017) conducted a study in civil hospital Ambala, Haryana. On 286 subjects. Overall percentage of anemia were found 75% at the time of delivery. According to WHO classification. Majority 51.7% of the sample were mild anemic, 29% were moderate anemic, 4.5% were severe anemic and 2.1% were extremely severe anemic.

Several research studies have confirmed that anemia has become one of the biggest unsolved health problem in today's time and it has been found that the main cause of anemia is iron deficiency in diet. The percentage of anemia is elevated in India because women consume less iron diet, vitamin B9 and vitamin B12 tablets and consume diet which cause hindrance in iron absorption (such as tea, coffee), cultural problems such as uneducated, poverty, lack of knowledge, as well intestinal diseases, including malaria and helminthes infection was highly significant with anemia.

Other reasons are also responsible for anemia during pregnancy such as: History of excessive menstrual bleeding, period of gestation, parity, deficient iron store since childhood, iron loss from PPH. Iron requirements increased during pregnancy because increasing iron demand from fetus and placental side. Teenage pregnancies, spacing between child less than 2 years, poor unhygienic environment, harmful beverages and poor personal cleanliness are also some of the factors causing anemia.

A recent study conducted by **Bathija GV, Bant DD, Kumar S. (2020)** at KIMS OPD Karnataka among 200 pregnant women. Revealed majority 81% of the pregnant women had moderate anemia. Short inter-pregnancy interval and no intake of iron and vitamin B9 tablets were found highly significant associated factors of anemia.

Anemia has been considered as an indicator for malnutrition and bad health. It can increase chances of maternal and infant mortality. The negative impact of anemia on mother health include fatigue, Fainting, palpitations, puerperal infection, Thrombo embolic problems, increased risk of heart diseases, pain in bones, chest, belly, joints, pitting edema. Some studies result revealed that in developing countries during pregnancy anemia contributes to 23% of secondary cause for maternal mortality.

During pregnancy Anemia is related to increased risk of preterm birth, Low birth weight which are still the most common causes of neonatal mortality in developing countries. it's also been related to increased risk of intrauterine fetal demise (IUFD), and SGA fetuses.

Various government program has been commenced across India to prevent iron deficiency anemia. In 1970, India became the first country to be required to have a National nutritional anemia prophylaxis program to prevent anemia in pregnant women. The govt. of India prescribed iron and vitamin B9 tablets during pregnancy and sulfadoxine pyrimethamine has been recommended for the prevention of malaria in pregnancy for 14 weeks and also provided mosquito nets, health education regarding the dietary pattern in pregnancy to prevent anemia.

Material and Methods

The present study was conducted to assess the prevalence of anemia among pregnant women attending antenatal clinic in SGT Hospital Gurugram, Haryana. A cross sectional design was adopted for the study. Total 300 pregnant women enrolled in study using convenience sampling technique. Women with Gestation age 12 to 40 weeks and who are willing to take part in the study and who have their HB testing done within last 1 week were included. Women with POG less than 12 weeks and seriously ill women were excluded from the study. Data was collected during month of April 2021. Tools were developed after extensive review of literature and were validated by experts in field of Obstetrics and Gynecological Nursing. Ethical permission for the study was taken from institutional ethical committee of SGT University and from concerned authorities of SGT Hospital Gurugram, Haryana. Structured interview schedule was used to collect demographic data and associated risk factors of anemia after obtaining consent from participants and

Hemoglobin level was taken from their recent (1 week) Blood report. WHO and CDC guidelines were used to determine the prevalence of anemia Mild anemia (10.0–10.9g/dl), Moderate anemia (7–9.9g/dl), Severe anemia (< 7g/dl).

Analysis

Subject's responses and Hemoglobin level were coded and entered into SPSS (statistical package for social science program) version 20. Descriptive statistics was used to calculate the frequency and percentage distribution of subjects according to demographic variables, prevalence of anemia and associated risk factors of anemia. Chi square test was used to calculate the association between hemoglobin level with demographic variables and with associated risk factors of anemia.

Results

Results of the study revealed that, 46.7% of the subject belongs to 19-24 years of age, and 50.3% of the subject belongs to 25-30 years of age only 3% belongs to 31-35 years of age. As per education 14.3% subjects were illiterate, 41.7% had secondary education, 30% had primary education, 9.7% done their graduation and 4.3% done post-graduation or >. According to occupation 49.0% subjects were housewife, 21.3% were government employee, 11.7% subject were private employee, 12% were unemployed and only 6% of the subject were self-employed. 34.7% of the subjects had their monthly family income in between 10,000-15,000, 32% were in between 15001-20,000, 19.3% were in between 20,001-25000, 14% were in between 25000 or more. According to Religion 65.3% were Hindu, 33.3% were Muslim, 0.7% were Sikh, 0.3% were Christian, 0.3% were belongs to other religion. According to Residence 23.3% were belongs to urban area 76.7% were belongs to Rural area. 30% of the subject belonged to nuclear family, 50% subject belonged to joint family and 20% belonged to extended family.

Figure 1: Distribution of subject according to Prevalence of anemia among pregnant women.
n=300

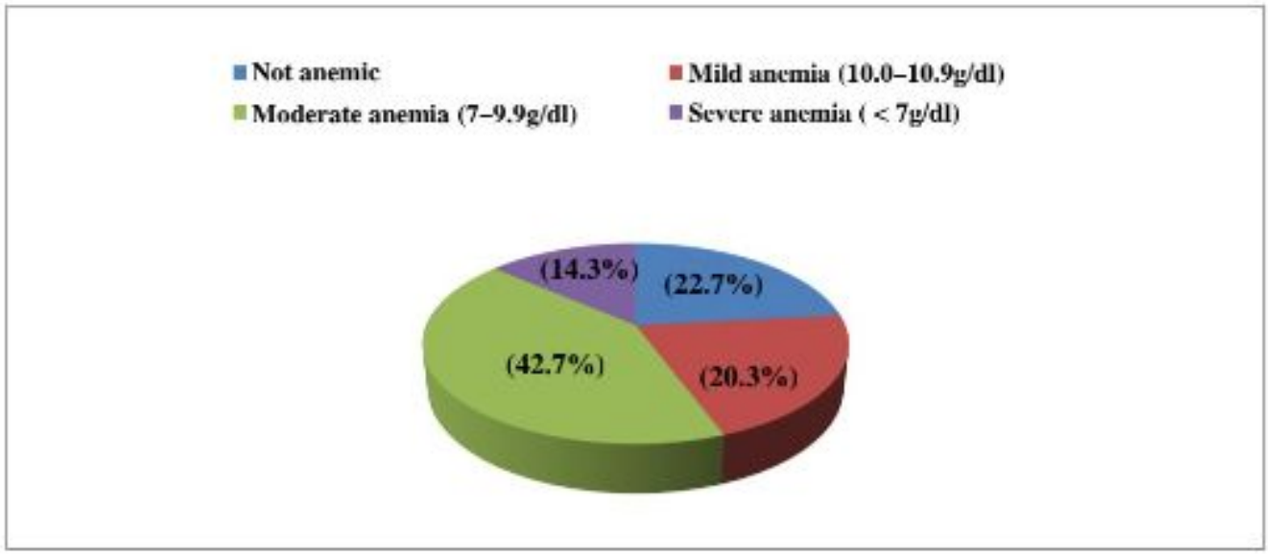


Figure 1: Data revealed that majority **128 (42.7%)** of the sample had moderate anemia, **61 (20.3%)** subjects had mild anemia, **43 (14.3%)** of them had severe anemia, and **68 (22.7%)** of the sample were found not anemic.

Table 1: Distribution of subject according to the associated risk factors of anemia among pregnant women. **n=300**

Variables	*f* (Frequency)	% (Percentage)

Gravida		
(a) Primigravida	23	7.7
(b) Multigravida	277	92.3
Parity		
(a) 0	23	7.7
(b) 1	111	37.0
(c) 2	93	31.0
(d) 3	64	21.3
(e) 4	9	3.0
Period of gestation in weeks		
(a) 13-21	24	8.0
(b) 22-30	142	47.3
(c) 31-38	134	44.7
If multigravida spacing between the current pregnancy and last child?		
(a) Not Applicable	23	7.7
(b) 1	124	41.3
(c) 2	122	40.7
(d) 3	15	5.0
(e) 4	12	4.0
(f) 5	4	1.3
Age at first pregnancy (in years)	162	54.0
(a) 19-24	129	43.0
(b) 25-30	9	3.0
(c) 31-35		
Last delivery	23	7.7
(a) Not Applicable	253	84.3
(b) Institutional	24	8.0
(c) Home		
Antenatal clinic visits	32	10.7
(a) 1st	131	43.7
(b) 2nd	88	29.3
(c) 3rd	49	16.3
(d) >4th		
History of blood transfusion		
(a) No	200	66.7
(b) Yes	100	33.3
Had excessive menstrual bleeding		
(a) No	155	51.7
(b) Yes	145	48.3
Use of contraception		
(a) No	148	49.3
(b) Yes	152	50.7

History of abortions		
(a) No	153	51.0
(b) Yes	147	49.0
Weight in kg		
(a) <51	3	1.0
(b) 51-60	123	41.0
(c) 61-70	136	45.3
(d) 71-80	34	11.3
(e) >80	4	1.3
Height in cm		
(a) <151	9	3.0
(b) 151-160	131	43.7
(c) 161-170	152	50.7
(d) >170	8	2.7
BMI	10	15.7
(a) <18.5 underweight	134	36.7
(b) 18.5-24.9 normal	115	34.0
(c) 25-29.9 overweight	41	13.7
(d) 30-34.9 obese		
Did you take iron/folic acid supplements in early pregnancy (first 12 weeks)		
(a) No	17	5.7
(b) Yes	283	94.3
when do you take iron/folic acid supplements?	17	5.7
(a) Not taken	43	14.3
(b) After food	240	80.0
(c) Before food		
Did you take any other drug at the same time with iron?	17	5.7
	170	56.7
(a) Not Applicable	113	37.7
(b) Yes		
(c) No		
Do you eat fruits and vegetables regularly?	53	17.7
(a) No	247	82.3
(b) Yes		
Do you consume dairy products (such as milk, cheese, yougurt, curd) every day?	33	11.0
	267	89.0
(a) No		
(b) Yes		
Do you consume wheat, carbohydrate foods, brown bread, brown rice) once in a day?	53	17.7
	247	82.3
(a) No		
(b) Yes		
Do you consume packaged snacks, cupcakes, pastries, or sweets every day?		
(a) No	144	48.0
(b) Yes	156	52.0
Do you smoke?		
(a) No	211	70.3
(b) Yes	89	29.7

Numbers of meals taken per day?		
(a) 1Meal/day	23	7.7
(b) 2 meal/day	134	44.7
(c) 3 meal/day	143	47.7
Chronic illness in previous pregnancy		
(a) Not Applicable	23	7.7
(b) Yes	110	36.7
(c) No	167	55.7
Any medical condition in current pregnancy		
(a) No	130	43.3
(b) Yes	170	56.7
History of malaria disease		
(a) No	267	89.0
(b) Yes	33	11.0
History of worm infestation		
(a) No	293	97.7
(b) Yes	7	2.3
HIV SERO STATUS		
(a) Negative	300	100.0

Table 2: Association between Hemoglobin level with selected demographic variables.

n=300

Variables	Not anemic f (%)	Mild anemia f (%)	Moderate anemia f (%)	Severe anemia f (%)	Chi value	df	P value
Age in years							
(a) 19-24	30(21.4)	30(21.4)	55(39.3)	25(17.9)	6.374	**6**	.383 NS
(b) 25-30	34(22.5)	29(19.2)	71(47.0)	17(11.3)			
(c) 31-35	4(44.4)	2(22.2)	2(22.2)	1(11.1)			
Education							
(a) Illiterate	13(30.2)	5(11.6)	19(44.2)	6(14.0)			.815 NS
(b) Secondary education	29(23.2)	28(22.4)	53(42.4)	15(12.0)			
(c) Primary education	20(22.2)	19(21.1)	38(42.2)	13(14.4)	7.603	1	
(d) Graduation	5(17.2)	5(17.2)	13(44.8)	6(20.7)		2	
(e) Post graduation or >	1(7.7)	4(30.8)	5(38.5)	3(23.1)			
Occupation							
(a) Housewife	32(21.8)	37(25.2)	51(34.7)	27(18.4)	17.081	1	.145 NS
(b) Government employee	15(23.4)	7(10.9)	35(54.7)	7(10.9)		2	
(c) Private employee	9(25.7)	4(11.4)	19(54.3)	3(8.6)			
(d) Unemployed	8(22.2)	7(19.4)	16(44.4)	5(13.9)			
(e) Self employee	4(22.2)	6(333.3)	7(38.9)	1(5.6)			

Income of the family per month in rupees					11.119	9	.268 NS
(a) 10,000-15,000	20(19.2)	20(19.2)	50(48.1)	14(13.5)			
(b) 15001-20,000	19(19.8)	24(25.0)	44(45.8)	9(9.4)			
(c) 20,001-25,000	16(27.6)	10(17.2)	20(34.5)	12(20.7)			
(d) 25000 or >	13(31.0)	7(16.7)	14(33.3)	8(19.0)			
Religion					19.196	1 2	.84 NS
(a) Hindu	43(21.9)	42(21.4)	83(42.3)	28(14.3)			
(b) Muslim	25(25.0)	16(16.0)	45(45)	14(14)			
(c) Sikh	0(0.0)	2(100)	0(0.0)	0(0.0)			
(d) Christian	0(0.0)	0(0.0)	0(0.0)	1(100)			
(e) Others	0(0.0)	1(100)	0(0.0)	0(0.0)			
Residence					32.352	3	**.000** **
(a) Urban	9(12.9)	27(38.6)	17(24.3)	17(24.3)			
(b) Rural	59(25.7)	34(14.8)	111(48)	26(11.3)			
Type of family					16.761	6	**.010** **
(a) Nuclear family	23(25.6)	17(18.9)	44(48.9)	6(6.7)			
(b) Joint family	33(22)	30(20)	67(44.7)	20(13.3)			
(c) Extended family	12(20)	14(23.3)	17928.3)	17(28.3)			

**** = Highly significant at<0.05 level** **NS= Not significant**

Table 2: The data presented in table revealed the association between hemoglobin level with selected demographic variables. Chi square test was used to test association at 0.05 level of significance. Significant association was seen with Residence (p=.000**) and with Type of family (p=.010**). No significant association was seen between Age, Education, Occupation, Family monthly income and Religion.

Table 3: Association between Hemoglobin level with associated risk factors of anemia.

n=300

Variables	Not Anemic f (%)	Mild Anemia f (%)	Moderate Anemia f (%)	Severe Anemia f (%)	Chi value	df	P value
Gravida					6.595	3	.086 NS
(a) Primigravida	9(39.1)	4(17.4)	5(21.7)	5(21.7)			
(b) Multigravida	59(21.3)	57(20.6)	123(44)	38(13.7)			
Parity					11.393	1 2	.496 NS
(a) Not applicable	9(39.1)	4(17.4)	5(21.7)	5(21.7)			
(b) 1	26(23.4)	23(20)	46(41.4)	16(14.4)			
(c) 2	18(19.4)	16(17.2)	44(47.3)	15(16.1)			
(d) 3	14(21.9)	16(25)	29(45.3)	5(7.8)			
(e) 4	1(11.1)	2(22.2)	4(44)	2(22.2)			

Period of gestation in weeks (a) 13-21 (b) 22-30 (c) 31-38	 9(37.5) 29(20.4) 30(22.4)	 4(16.7) 32(22) 25(18.7)	 8(33.3) 60(42.3) 60(44.8)	 3(12.5) 21(14.8) 19(14.2)	4.047	6	.670 NS
If multigravida spacing between the current pregnancy and last child? (a) Not applicable (b) 1 (c) 2 (d) 3 (e) 4 (f) 5	 9(39.1) 30(24.2) 21(17.2) 3(20) 4(33) 1(25)	 4(17) 25(20.2) 26(21.3) 2(13.3) 1(8.3) 3(75)	 5(21.7) 53(42.7) 58(47.5) 7(46.7) 5(41.7) 0(0.0)	 5(21.7) 16(12.9) 17(13.9) 3(20) 2(16) 0(16.7)	19.217	15	.204 NS
Age at first pregnancy (in yrs) (a) 19-24 (b) 25-30 (c) 31-35	 39(24.1) 26(20.2) 3(33.3)	 40(24.7) 21(16.3) 0(0.0)	 60(37) 64(49.6) 4(44.4)	 23(14) 18(14) 2(22.2)	8.413	6	.209 NS
Last delivery (a) Not applicable (b) Institutional (c) Home	9(39.1) 53(20.9) 6(25)	4(17.4) 49(19.4) 8(33.3)	5(21.7) 115(45) 8(33.3)	5(21.7) 36(4.2) 2(8.3)	10.143	6	.119 NS
History of blood transfusion (a) No (b) Yes	 46(23) 22(22)	 38(19) 23(23)	 94(47) 34(34)	 22(11) 21(21)	7.846	3	**.049***
Had excessive menstrual bleeding (a) No (b) Yes	 39(25.2) 29(20)	 31(20) 30(20)	 69(44.5) 59(40)	 16(10.3) 27(18.6)	4.754	3	.191 NS
History of abortions (a) No (b) Yes	 38(24.8) 30(20.4)	 27(17.6) 34(23.1)	 66(43.1) 62(42.2)	 22(14.4) 21(14.3)	1.773	3	.621 NS
Weight in kg (a) <51 (b) 51-60 (c) 61-70 (d) 71-80	 0(0.0) 28(22.8) 	 0(0.0) 23(18.7) 	 2(66.7) 58(47.2) 55(40) 13(38.2)	 1(33.3) 14(11) 23(16) 5(14.7)	22.672	12	**.031***

(e) >80	29(21.3) 11(32.4) 0(0.0)	29(21.3) 5(14.7) 4(100)	0(0.0)	0(0.0)			
Height in cm (a) <151 (b) 151-160 (c) 161-170 (d) >170	1(11.1) 35(26.7) 31(20.4) 1(12.5)	1(11.1) 20(15.3) 36(23) 4(50)	4(44) 58(44.3) 65(42) 1(12.5)	3(33.3) 18(13.7) 20(13.2) 2(25)	13.395	9	.146 NS
BMI (a) <18.5 underweight (b) 18.5-24.9 normal (c) 25-29.9 overweight (d) 30-34.9 obese	3(30) 31(23.1) 27(23.5) 7(17.1)	0(0.0) 26(19.4) 30(26.1) 5(12.2)	4(40) 55(41) 44(38.3) 25(61)	3(30) 22(16.4) 14(12.2) 4(9.8)	13.083	9	.159 NS
Did you take iron/folic acid supplements in early pregnancy(first 12 weeks) (a) No (b) Yes	5(29.4) 63(22.3)	3(17.6) 58(20.5)	7(41.2) 121(42.8)	2(11.8) 41(14.5)	.518	3	.915 NS
Did you take any other drug at the same time with iron? (a) Not applicable (b) Yes (c) No	5(29.4) 33(19.4) 30(26.5)	3(17.6) 37(21.8) 21(18.6)	7(41.2) 74(43.5) 47(41.6)	2(11.8) 26(15.3) 15(13.3)	2.634	6	.853 NS
Do you have pica habits? (a) No (b) Yes	40(22.6) 28(22.8)	35(19.8) 26(21.1)	76(42.9) 52(42.3)	26(14.7) 17(13.8)	.113	3	.990 NS
Do you eat meat and animal products regularly? (a) No (b) Yes	41(27.2) 27(18)	29(19.2) 32(21.5)	57(37.7) 71(47.7)	24(15.9) 19(12.8)	5.129	3	.163 NS
Do you eat fruits and vegetables regularly? (a) No (b) Yes	10(18.9) 58(23.5)	10(18.9) 51(20.6)	25(47.2) 103(41.7)	8(151.1) 35(14.2)	.810	3	.847 NS

***= significant at<0.05 level** **NS= Not significant**

Table 3: The data presented in table revealed the association between hemoglobin level with associated risk factors of anemia. Chi square test was used to test association at 0.05 level of significance. Significant association was seen between History of blood transfusion (p= .049*) , Weight in Kg (p= .031*) and with Smoke (p= .025*). And no significant association was seen with other associated risk factors of anemia.

Discussion

In present study conducted at SGT hospital, Gurugram, Haryana among 300 subjects it was observed that anemia is one of the major health issues found in women during pregnancy considering, 42.7% had moderate anemia, 14.3% had severe anemia, 20.3% had mild anemia and 22.7% of the subjects were found not anemic. The findings are similar to the study conducted by **Yadav U, Singh TB, Chaubey L (2020)** with 631 antenatal women in Uttar Pradesh. Shows that 28.5% had mild anemia, 63.2%, Had moderate anemia, 8.3% had severe anemia and 7.9% had no anemia.

In present study association was assessed between hemoglobin level with selected demographic variables. It was observed that no significant association was found between Age, Education, Occupation, Family monthly income, Religion as the P value was <0.05. significant association was seen in Residence and Type of family with hemoglobin level as P value was <0.05 level of significance. The findings were contrary to the study conducted by **Kansal R, Bansal I, Singla D, et. al. (2017)** in rural area of Haryana. Among 538 pregnant women the result revealed that Mother age, Education, socio-economic status, Residence was found to be highly significant factors related to maternal anemia.

In present study association was calculated between hemoglobin level with associated risk factors of anemia. The result revealed that significance association was found in History of blood transfusion, Weight and smoking as P value was <0.05 level of significance. And there is no significant association was seen with other associated risk factors of anemia. The results were contrary to the findings of study conducted by **GS Nyasiro, NF Agatha, et. al. (2021)**. Among 338 participants. which shows significant association were found with multigravida mothers, drinking tea with a meal, consuming <3 meals/day, birth spacing between child <2 years.

Conclusion

Based on the findings of the present study the following conclusions were drawn:

The Findings of the study concluded that the Anemia in pregnancy was a moderate public health problem in SGT Hospital of Gurugram, Haryana. And it seems to be significant association of Hemoglobin level with Residence, Type of family, History of blood transfusion, weight, Smoking were the associated factors of anemia among pregnant women. The findings suggest the need for the implementing effective preventive strategies.

References

1. Zekarias B, Meleko A, Hayder A, Nigatu A, Yetagessu T. Prevalence of Anemia and its Associated Factors among Pregnant women attending antenatal Care in Mizan-Tepi University Teaching Hospital, South West Ethiopia. Health Sci J. October2017;11(5): 529
2. Madendag IC, Sahin ME, Madendag Y, Sahin E, Demir MB, et. al. BioMed Research International Volume 2019, Article ID 7613868, 4 pages https://doi.org/10.1155/2019/7613868
3. Osman MO, Nour TY, Bashir HM, Roble AK, Nur AM, Abdilahi AO. Risk Factors for Anemia Among Pregnant Women Attending the Antenatal Care Unit in Selected Jigjiga Public Health Facilities, Somali Region, East Ethiopia 2019: Unmatched Case–Control Study. *J Multidiscip Healthc*.2020;13:769-777

https://doi.org/10.2147/JMDH.S260398.

4. Kumari P, Rani M, Saini N, Aparna. Int. J. Pharm. Sci. Rev. Res., 47(1), November December 2017; Article No. 04, Pages: 27-30
5. Zekarias B, Melcko A, Hayder A, Nigatu A, Yetagessu T. Prevalence of Anemia and its Associated Factors among Pregnant women attending antenatal Care in Mizan-Tepi University Teaching Hospital, South West Ethiopia. Health Sci J. October2017;11(5): 529
6. Norohna JA, Al Khasawneh E, Seshan V, Ramasubramaniam S, Raman S. Anemia in Pregnancy- Consequences and challenges: A Review of literature. J South Asian Feder Obst Gynae 2012;4(1):64-70.
7. Norohna JA, Al Khasawneh E, Seshan V, Ramasubramaniam S, Raman S. Anemia in Pregnancy- Consequences and challenges: A Review of literature. J South Asian Feder Obst Gynae 2012;4(1):64-70.
8. Bathija GV, Bant DD, Kumar S. Assessment of prevalence and risk factors for anaemia in pregnant women attending Karnataka institute of medical sciences, outpatient department, Hubballi, Karnataka, India. Int J Community Med Public Health 2020; 7:1916-20.
9. Morrison, J, Parrish, M, Glob. Libr. Women's med., (IISN: 1756-2228) 2016; DOI 10.3843/GLOWM.10164
10. Grace Stephen, Melina Mgongo, Tamara Hussein Hashim, Johnson Katanga, Babill Stray-Pedersen, Sia Emmanueli Msuya, "Anaemia in Pregnancy: Prevalence, Risk Factors, and Adverse Perinatal Outcomes in Northern Tanzania", Anemia, vol. 2018, Article ID 1846280, 9 pages, 2018. https://doi.org/10.1155/2018/1846280
11. Kumar A. National Nutritional Anemia Control Programme in India. Indian J Public Health.1999 Jan-Mar;43(1):3-5, 16. PMID: 11243085

THE USE OF MODERN EDUCATIONAL TECHNOLOGIES IN THE PREPARATION OF FUTURE TEACHERS FOR CLASSES IN THE METHODOLOGY OF TEACHING FINE ARTS.

Nafisa Muzafarovna Avliyakulova

Bukhara State University, Teacher of the Department of Fine Arts and Engineering Graphics

SUMMARY

This article clearly highlights the ways and forms of using modern educational technologies in the preparation of future teachers for classes in the methodology of teaching fine arts. Thanks to this proverb, future teachers are motivated to develop the skills of independent thinking, creative search and initiative.

The article preserves the form of the lesson, enriching it with a variety of methods that activate the activity of students, which leads to an increase in the level of assimilation by students. This, in turn, will pave the way for becoming a mature specialist.

Keywords: *efficiency, innovation, flow, interactive methods, Zig-Zag, case stage, organizers, Ven diagram.*

Until that time, traditional education taught students only to acquire ready-made knowledge. Such a method would stifle independent thinking, creative search, and initiative in the students.

Currently, interest and attention to improving the effectiveness of teaching using interactive methods (modern innovative pedagogical and information technologies)in the educational process is increasing every day.

The classes on the methodology of teaching fine arts use modern technologies, classes are aimed at ensuring that students independently search for the acquired knowledge, independently study and analyze them, even draw conclusions themselves. The teacher creates conditions for the development, formation, acquisition of knowledge and education of the individual and the team in this process, while acting as a guide, a reference point.

The widespread use of the modern approach aimed at the development and formation of students ' visual and creative abilities, which are manifested in the skills of actions implemented in a specific product of activity, which is of a creative nature, is an important factor in the long-term development of society and the state, the country's conquest of leading world positions, which is also shown by the example of developed countries.

The introduction into practice of advanced pedagogical experience and achievements of the theory of education in this direction in our country today increases every year. There is and accumulates such a great experience as the involvement of future teachers in visual and creative activities. Since time immemorial, the question of the development of a person's creative abilities, which are the beginning of creativity, has been of interest to both future teachers and scientific researchers directly involved in the education of children. The formation of personality, the development of abilities is still the most relevant issue of modern pedagogy.

In the context of the rapid entry of the process of globalization into our lives and activities, the rise to the level of state policy of the issue of training specialists based on their own knowledge, strength, capabilities, building the interests of the people, the country in harmony with their own interests, in the context of further deepening of democratic transformations in the country and the implementation of the concept of the foundations of civil society, an independent, creative person, who is fluent in science, technology and technology of its functioning, training of business specialists is one of the most important tasks, the challenges facing higher education institutions today.

Since the first years of independence of the Republic of Uzbekistan, the main focus has been on reforming the education system, forming it on the basis of national and spiritual values, and educating physically healthy, spiritually mature, and mentally literate people.The role of the sphere and history of fine arts in educational institutions in the education of the younger generation of a spiritually harmonious personality with the formation of a scientific worldview is extremely great.

Visual art in all historical epochs has occupied an important place in the process of spiritual improvement of a person. Art is one of the miracles created by human labor, the mind, and the pride of the soul. Art testifies to the creative activity of human activity. In a work of fine art, a special talent of the individual is manifested.

Man is an artist by nature. He always strives to make his life beautiful. P. Benkov also believed that art - the aesthetic education of the younger generation, a person-is necessary not only for the perception of art, but also for the development of a common culture, a culture of work, a culture of life, a culture of feelings. Therefore, future teachers should develop their visual and creative activities and have the following concepts and information when studying art:

1. Know the masters of fine art of ancient and modern times, their names and surnames;
2. Knowledge of samples of works of art made at a high artistic level;
3. Know the names of major museums related to the fine arts and the cities in which they are located;
4. Knowledge of the main historical and cultural monuments related to the art of the previous and subsequent periods existing in Uzbekistan;
5. Know the cities and villages that have developed in our republic;
6. Knowledge of the genres of fine art, their types, the tools and materials used in it, the methods used;
7. Know the main phrases related to the visual arts.

Everyone compares their life to the instructive life that the noble breeds have lived. Deep down, am I a worthy heir to these breeds? "what is it?" he finishes the question to his heart. They have left such a great legacy that they should associate their activities with the feeling that I will be left behind.

The current task of education is to teach students to function independently in an ever-growing information and educational environment, to effectively apply modern information technologies in various fields and to make rational use of information flows. It is no exaggeration to say that new pedagogical technologies, innovations, new pedagogical and psychological concepts, interactive methods, which have been rapidly introduced into the education system in recent years, mastered and applied by the teacher, have radically changed the content of education.

According to Abu Nasr Farabi, " creativity is such a great virtue in the process of learning that a person must use all his other qualities 7 to master it." After all, in the process of creativity, a person searches, observes, conducts research, analyzes the results obtained and makes logical conclusions. The correctness or inaccuracy of the conclusion is checked by experience. Creativity is the most basic and active form of manifestation of the qualities of independent thinking in a person. Despite the fact that the definitions given in it differ significantly from each other, we can point out some of its common features, which are that, firstly, the product obtained as a result of creativity has a qualitative novelty; secondly, these aspects are absent from the original foundations of creativity; thirdly, any creative activity is conditioned by the need for intellectual search. In our opinion, the creativity of a student is the ability to correlate the acquired knowledge with facts and phenomena in practice, to correctly evaluate and analyze the results obtained, to generalize them with previously acquired ones.

Creative activity is complicated by the lack of psychological readiness of the teacher and students to this process. Systematic reliance on certain methods, forms, means – leads to the inability to adapt to new situations, the inability to act in unforeseen situations. It as a psychological state can manifest itself in various forms, including: complete rejection of other people's opinions and judgments; strict defense of the generally accepted point of view; the use of old methods in relation to new content and means; the preservation of old methods in new methods; the use of traditional methods in solving a completely new issue, etc. When organizing students ' creative activities, two interrelated tasks should be taken into account. The first of them is determined by the development of students ' independent thinking in creative activities, the desire to acquire knowledge, the formation of a scientific worldview; the second is the

training of the ability to independently apply the acquired knowledge in school and practice. Visual and creative activity is a type of activity that serves to ensure the strength and perfection of the knowledge acquired by students, the formation of their qualities of an active and independent thinking personality, the development of intellectual abilities. This position plays an important role, especially in mastering the basics of science for future specialists, and then in introducing peer-to-peer, based on professional creativity, in the implementation of direct management of this process. The analysis of the experience of advanced teachers showed that in the learning process for the development of creativity, students need a system of educational tasks, as well as questions of creativity, in which logical operations are formed and developed using the above classifications and principles. Factors in the development of students ' visual and creative activity each subject should be the basis of educational activity in each lesson. Since creativity encompasses all aspects of teacher and student activity, its effective organization serves to ensure the quality of the entire educational process.

In our country, the necessary conditions and large-scale targeted measures are being implemented to educate the younger generation, to realize the creative and intellectual potential of young people, to educate the youth of our country as comprehensively developed individuals who are able to fully meet the requirements of the XXI century.

Among the scientists and philosophers of our country on the formation of the teacher's personality in the higher education system, the formation of future specialists of national pride, patriotism, vigilance and self-sacrifice, civil culture,M. Khairullaev,E. Yusupov, M. Imamnazarov,J. Tulenov,O. Otamurodov,S. Shermukhamedov,A. Yalalov,A. Lyubovtsev, T. Makhmudov,N. Juraev, sociologists,M. Bekmurodov, A. Begmatov, N. Alikori, Kh.Akhmedovs,cultural scientists M. Abdullayev, Kh.Abdullayev, M. Mirsupova, U. Tashtemirov, A. Alimukhammedov, Z. Sobirova, Kh.Karimov.Ruzieva,M. Aripova, Sh.To a certain extent, this is reflected in the research work of the Rakhimovs.

The study of pedagogical theory and practice covers the problems that arise in the process of preparing future teachers for visual and creative activities, the study of which shows that special attention is paid to professional and personal, professional and cultural relations, visual and creative abilities, professional formation and pedagogical skills of future teachers.

Such activities as the development of aesthetic thinking, which is an important component of the education of a harmonious personality in future specialists, the improvement of creative abilities and skills in the visual arts, is one of the important tasks facing professors and teachers of modern higher educational institutions.

A modern teacher should be a "director", not an "actor" in the course of the lesson. He needs to organize the creative attitude of his students to the subject, to form their traits of curiosity, as well as to organize a lesson using new pedagogical technologies. To do this,it is necessary that the teacher knows new methods and techniques of teaching, and effectively uses them in the course of the lesson.

The great changes taking place in society set the school the task of solving the problems associated with the formation of the creative student's personality in all areas of educational activity. The development of creative abilities in solving these problems is one of the main factors.

The teacher of today needs to focus on the application of teaching methods and techniques that contribute to the more effective development of these abilities in working with children, ensuring the activation of the mental and practical competence of students. To do this, it will be advisable for the teacher to make more extensive use of the conditions and their own opportunities in the educational institution.

When preparing future teachers for visual and creative activities, it is necessary to focus on the development of pedagogical innovative technologies, the organization of creative exhibitions of works of fine art, the training of specialists with theoretical and practical knowledge, skills, and skills of visual and creative activity. An important basis for future teachers will also be the use of mechanisms

that ensure cultural behavior, ethics, contribute to the improvement of professional qualifications, the assimilation of socio-pedagogical knowledge, the implementation of spiritual and educational activities, scientific, pedagogical and methodological support aimed at ensuring the effectiveness of this process.

When preparing future teachers for inventive and creative activities, it is necessary to focus on the development of pedagogical innovative technologies, the organization of creative exhibitions of works of fine art, the training of specialists with theoretical and practical knowledge, skills, skills of inventive and creative activity. An important basis for future teachers will also be the use of mechanisms that provide cultural education, ethics, promote professional development, assimilation of socio-pedagogical knowledge, conduct spiritual and educational activities, scientific, pedagogical and methodological support aimed at ensuring the effectiveness of this process.

The education of spiritual and moral perfection in the process of forming a free civil society, raising the level of education and enlightenment, and raising a new generation that meets international standards is one of the priorities of state policy.

The education of spiritual and moral perfection in the process of forming a free civil society, raising the level of education and enlightenment, and raising a new generation that meets international standards is one of the priorities of state policy.

The use of modern teaching methods leads to the achievement of high efficiency in the learning process. These methods should be selected based on the didactic task of each lesson. Enriching it with a variety of methods that activate the activity of students while maintaining the traditional form of the lesson, leads to an increase in the level of assimilation by students.

Today, in a number of developed countries, interactive methods are understood as methods that form the basis of extensive experience in the use of modern pedagogical technologies that guarantee the effectiveness of the educational process. Interactive teaching methods are currently the most common and widely used in educational institutions of all types. At the same time, there are a large number of types of interactive teaching methods that are suitable for the implementation of almost all tasks of the educational process. In practice, they can be applied accordingly, highlighting the appropriate ones for certain purposes. This circumstance has given rise to the problem of choosing the right methods of interactive learning for the implementation of certain goals.

The use of interactive methods in the process of learning in fine art classes has its own specifics. Careful study and practical application of each interactive method used in educational practice expands the horizons of students and positively affects the search for the right solution to the problem. Increases the creativity and activity of students. The expansion and deepening of students ' knowledge, skills and abilities is achieved by analyzing various theoretical and practical problems using interactive methods. From the above, it becomes obvious that there is a need for an adequate analysis of interactive learning methods and their classification on this basis. When classifying these methods, they can be divided into interactive methods, interactive learning strategies, and interactive graphic organizers. Currently, the most popular interactive learning methods are:

1. Interactive methods:"case-stage" (or "training cases"), "Blist-survey", "modeling", "creative work", "problem-based learning", etc.

"Keys-study" - the method comes from the English words "case-study". At the same time, "case" – a box, box, case, folder, "study" – means to learn, to explore, to do science, to study science, to take lessons, to learn. This method is indicated by the English expression "case-true life", that is," keys – real life", according to which keys is a"piece" of real life. Accordingly, this method is also called the "method of teaching practical situations".

The plan of work performed on each problem or topic studied by the case-stage method, the details of their implementation, the generalization of the results and conclusions make up a separate case. This method is aimed at using life situations in the learning process.

This is one of the most pressing problems in the field of education today.

Stages of implementation of the " case method"

Stages of work	Form of activity and content
Stage 1: Introduction to the case and its information support	- individual audiovisual work; - familiarity with keywords(in text, audio, or media form); - summary of information; - information analysis; identifying the main problems
Stage 2: Clarifying the case and setting the training task	- individual and group work; - determination of the relevance of social problems; - statement of the main problem situation
Stage 3: finding a solution to the educational problem by analyzing the main problem in the case, developing ways to solve it	- individual and group work; - development of alternative solutions; - analysis of opportunities and obstacles for each solution; - choice of alternative solutions
Stage 4:formulation and justification of the decision of the case presentation.	- individual and group work; - justification of the possibility of applying alternative options in practice; - preparation of a creative project presentation; - final conclusion and coverage of practical aspects of solving the situation

The method of "blitz surveys". With this method, it helps students develop skills such as the ability to independently determine the sequence of actions outlined in handouts, first individually, in small groups, to convey their opinions to others or to remain in their opinions, to be like-minded with others.

The "simulation" method.The realization of objects of knowledge with the help of their models, the construction of models of existing objects and phenomena, the modeling method is widely used in modern science. It facilitates the process of scientific research, and in some cases becomes the only means of studying complex objects. Abstract subject, remote objects are also used when studying objects of very small size and to determine their specific properties and relationships.

2. Interactive learning strategies. "Brainstorming", "Boomerang", "Gallery", "Zig-Zag", "ladder-Ladder", "museum", "Rotastia", "round snow".

Organizing a "brainstorming session" is somewhat easier, and also very convenient in finding solutions to your problems. First, a group gathers and a task is set for them. All participants express their opinion on the solution to this problem. At this stage, no one has the right to attack or evaluate the ideas and thoughts of their comrades. This means that it is possible to generate dozens of ideas in short minutes by brainstorming.

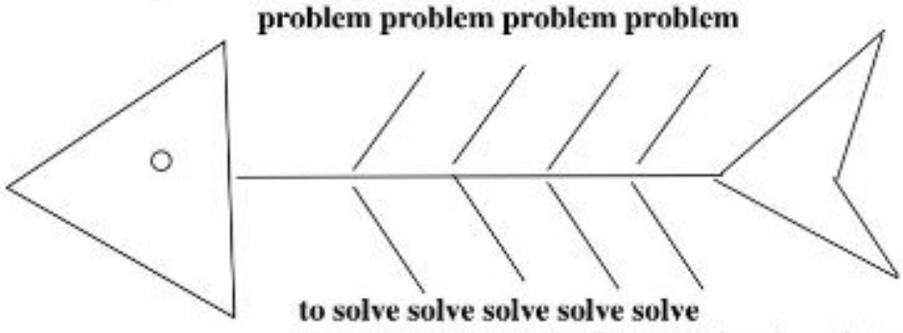
In fact, getting the number of ideas is not the main goal, they are only the basis for the rational development of a solution to the problem. One of the conditions of this method is that each of the participants must be an active participant without any external influence. The essence of the "brainstorming" training method is to divide the problem-solving processes in time into the stages of generating ideas, developing them in a critical and constructive state on the basis of collective cooperation.

Method" Zig-Zag." The students of the class are divided into 7 groups, and the groups are called. In groups, the text covering the essence of the new topic is divided into parts, and the groups are tasked with familiarizing themselves with the content of the selected parts. Students carefully study and tell the texts. In order to save time, leaders are assigned from among the group members, and the assigned task is performed by them. The opinions of the managers can be supplemented by the members of the group. After the

students of all groups have told about the content of the text transmitted to them, the texts alternate between the groups, and the previous activity is repeated. The groups contain several texts. Thus, once the contents of all of the texts studied groups, students identify the main idea in the topic, identify their logical relations with each other based on the ideas developed thematic scheme. Then, on the basis of the acquired knowledge, the students themselves are asked to develop such schemes.

3. Interactive graphic organizers:"fish skeleton", "BBB", "concept table", "Venn diagram", "T-table", "insert", "cluster", " why?", " How? and arcs.

Fish Skeleton-this model of problem statement and solution allows you to describe and try to solve a number of problems.



This scheme reflects the relationship of problems, their complex nature. It may be difficult to formulate problems.

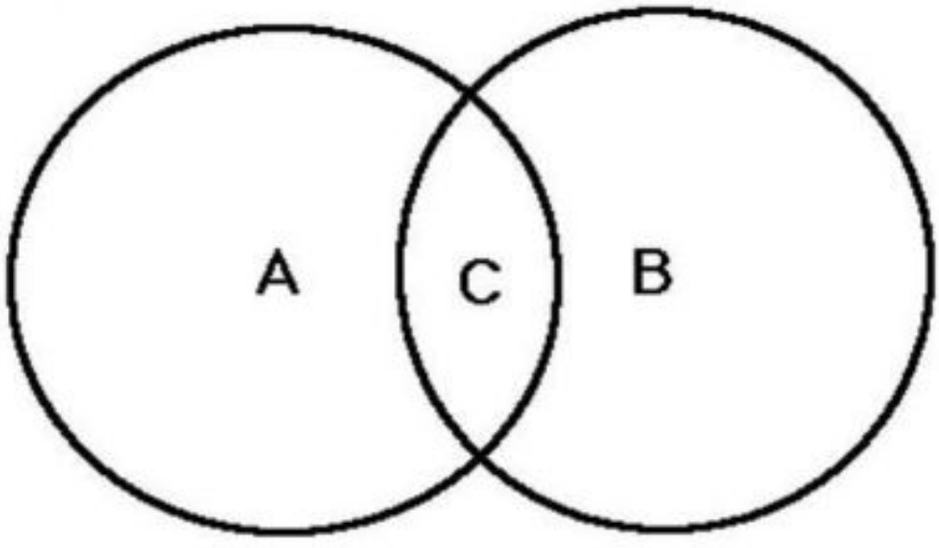
1. On a sheet of white paper (watman or sheet A-3), draw the skeleton of a fish (head, cartilage, ribs).

2. In the upper" bone " is written the formulation of the problem, and in the lower- the facts proving the existence of this problem (or ways to solve it, depending on the goal set by the teacher).

3. Presentation of the completed scheme.

In the natural and exact sciences, when using the problem-based method of teaching.

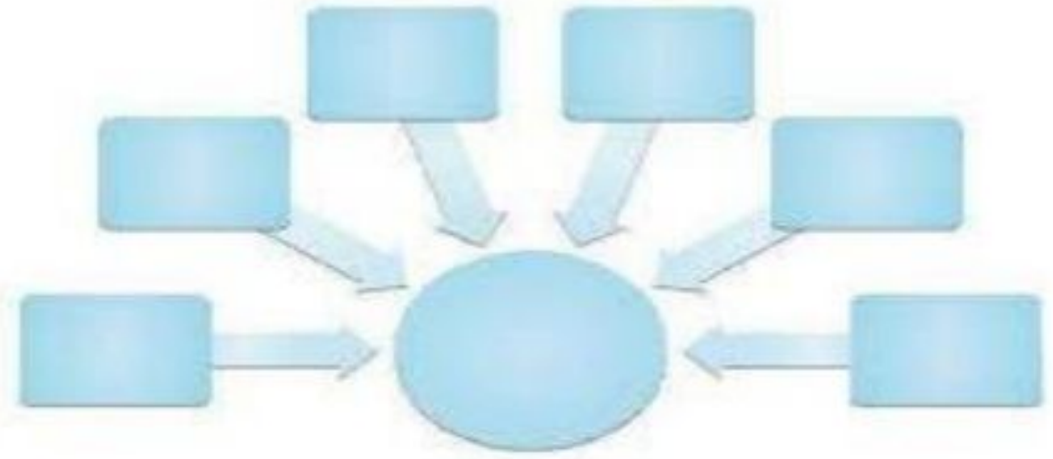
"Vienna diagram -" a diagram in the form of two circles intersecting with each other, used to compare facts, events, ideas, historical heroes. Pie chart.



Gaps in each round are used to record differences; the total area formed at the intersection of the circles, is used to write the common aspects of the two compare phenomena (facts, concepts, etc.)

The method of "clustering" is a teaching strategy that helps students to delve into the subject, teaching them to freely and openly communicate a specific concept or idea related to the subject, with consistency. This method can serve to speed up and expand the mental

activity of students before an in-depth study of a topic.



It also encourages students to consolidate, assimilate well, summarize and express their vision of the topic in the form of drawings.

In such trainings, when selecting interactive graphic organizers, it is assumed that the main points are expressed in writing in various graphic forms. The fact is that working with graphic organizers is also more related to interactive learning methods, there are no other differences between them.

To do this, the methodology of teaching fine arts requires that the lesson process is rationally organized, the teacher constantly stimulates the interest of students and their activity in the educational process, breaks the educational material into smaller fragments, uses such techniques as brainstorming, working in small groups, discussion, problem situation, reference text, project, role-playing games, encourages students to independently perform practical exercises.

When choosing interactive methods of teaching fine arts, the methodology takes into account the purpose of education, the number and capabilities of students, the educational and material conditions of the educational institution, the duration of training, the pedagogical skills of the teacher, etc.

In the methodology of teaching fine arts, it is necessary to form the ability to act and be successful in the conditions of modern society. Therefore, it is worth thinking about a more effective organization of the educational process.. Since the lessons of visual art teaching methods are built in a visual sequence, using the capabilities of multimedia equipment makes it easier for the teacher to prepare for a frequent visual lesson. Immerse yourself in the world of art, take on the role of an artist, designer, architect, do not require children to sometimes inaccessible materials. It is important to remember that the computer does not replace the teacher, but only complements him.

The use of multimedia technologies in the classroom is primarily perceived by students at the game level and gradually involves them in serious creative work that develops the student's personality.

As a result, you can determine the forms of computer use in art classes:

1. As a source of information;
2. With the help of a teacher;
3. Organization of the student's project activities;
4. The use of graphic programs as a means of artistic activity.

In accordance with the requirements of the law" On Education " and the education system, the methodology of teaching fine arts in general education schools needs new approaches to education. This largely determines the success of the revival of national culture, folk traditions, and works of fine art within the regional component.

The lesson will be more effective, as it includes:

- the attractiveness of the educational material with the use of pedagogical techniques that increase interest in the subject being studied;

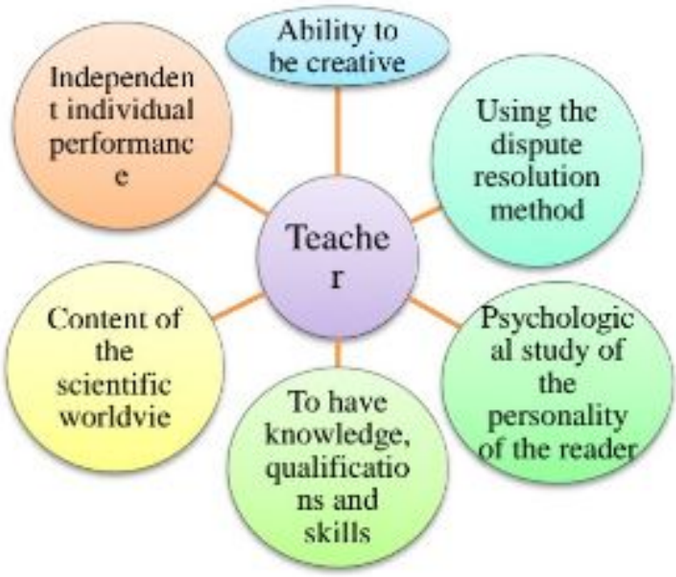
- the principle of creating a teacher and students to gain in-depth knowledge and apply the information received;
- conducting a class with multimedia performance;
- homework and independent work of students;

Depending on the typology of the lesson, different films are used-presentations, slide films, or test tasks.

Slide film-used in all lessons, can be included in any stage of the lesson. When watching a slide movie, students usually get to work right away. Perfect for step-by-step drawing lessons.

Information technologies in combination with properly selected educational technologies require quality, variability, differentiation and individualization of training and education. Among the didactic possibilities of using information technologies in art lessons, the following can be distinguished. Extracts:

- fragmentary use of information technology, depending on the purpose of the lesson stage;
- individualization of training, orientation to a specific student;
- combining classes with a game; managing the independent activities of students at different stages of learning.



Many students are proficient in computer technology, and the visual arts teacher needs them. Links to educational resources on the Internet will help you expand and deepen your theoretical knowledge and find communication partners. Presentations can be used to implement the program of methods of teaching fine arts, the unity of theory and practice, the formation of a basic experience of communicating with the works of professional artists and folk masters of national and world art culture. The use of Microsoft Power Point electronic presentations contributes to a diverse and interesting presentation of educational material, increases the level of perception of the information presented in the lesson. The teacher thinks through the sequence of the lesson and fixes it on the slides of the presentation.

The introduction of information and communication technologies optimizes the educational process, changes the traditional forms of providing information, and provides convenience and comfort. Digital photos and videos form the basis for developing presentations for lessons. Computer educational programs in the form of a game allow you to plunge into the subtleties of the work of artists, composers, architects, sculptors, making virtual visits to museums, art galleries, concert halls. Internet resources allow you to "visit" the most interesting places on the planet and find answers to questions that arise when studying theoretical disciplines. The use of digital educational resources allows you to significantly reduce the time for presenting new material, get more income from the work of children in the learning process, organize extracurricular activities, instill interest in the subject, and organize project activities.

A computer is a tool with which learning can be more interesting and simple, and the knowledge gained can be more profound and generalized.

The use of multimedia technologies is based on approaches that are natural for children's interest and a means of satisfying this interest.

The advantages of using computer technology in art classes are obvious. They open up new opportunities in the work of a teacher, allow you to solve various educational tasks.

Expanding the range of educational activities of students (searching for information on the topic on the Internet and processing information).

Visiting museums, exhibitions, galleries, etc. via the Internet becomes a natural environment for the student's personal development.

The artistic training of future primary school teachers to teach the subject of "Fine Arts" in primary school, along with the main subjects, should be carried out by increasing the practical component of the artistic training of future primary school teachers in the process of teaching visual activities. The basis of the content of artistic training of future primary school teachers is the formation of their practical skills and skills of visual activity.

Artistic training of future primary school teachers is carried out in the process of teaching visual activity within the framework of the model, the essence of which is to identify the functional elements of visual activity and their role in the artistic training of the future primary school teacher, and is divided into stages:

a) information-developing;

b) visual-developing

c) professionally-oriented.

For the effective organization of educational activities, it is necessary to optimize classical and information technology techniques and teaching methods. The success of training depends on the correct definition of its goals and content, as well as the ways to achieve the goals, that is, the methods of training.

In the lesson, the student is invited not only to describe the phenomenon, but also to convey their attitude to this phenomenon. To enhance the emotional impact, new pedagogical technologies and forms of education are used. Correct and well-organized, technically competent use of modern technologies, forms and methods of teaching the lesson fine art promotes increase of efficiency of process of training, education and development, promotes the activity, the interest of students.

References

1. Мажидов Ж. Мактабда тасвирий санъат бўйича ўкув тарбиявий ишларни ташкил этиш Т.1995.

2. Ҳасанов Р.Х. Мактабда тасвирий санъат машғулотларини такомиллаштириш йўллари. Т. 1981.

3. Даниэль С.М. Искусство видеть Л., Искусство, 1990

4. Баранов С.П, Сластенин В.А. Педагогика. М, Просвещение, 1988.

5. Возрастная и педагогическая психология. Под ред. Петровского А.В. М, Просвещение, 1973

6. Avliyakulova, N. X. "Modern technologies of education." *T.,-2001,-68 p* (2001).

7. Авлиякулова Н. М. и др. РОЛЬ КУЛЬТУРЫ И ИСКУССТВА В ПОДГОТОВКЕ БУДУЩИХ УЧИТЕЛЕЙ К ТВОРЧЕСКОЙ ДЕЯТЕЛЬНОСТИ //European science. – 2021. – № 2 (58). – С. 95-97.

8. Mamurova D. I. Application of Advanced Information Technologies of Training at Drafting Lessons //Eastern European Scientific Journal. – 2018. – №. 6.

9. Islamovna M. D. The value of using the autocad program in the works of machine-building drawings for building fastening parts //Proceeding of The ICECRS. – 2019. – Т. 3.

SOCIAL AND PSYCHOLOGICAL CHARACTERISTICS OF FAMILIES ON THE VERGE OF DIVORCE

Abdusamatov Khasanboy[1], Nuraliyeva Dildora[2]

[1]Scientific Secretary of the Mahalla and Family Research Institute Doctor of Philosophy in Psychology, PhD, Associate Professor habdusamatob@bk.ru

[2]Lecturer, Department of Psychology, Fergana State University *Bonu_dilya84@mail.ru*

ABSTRACT

This article explains the results of a study for the purpose of psychological service to the family. Currently, psychological services that need to be provided to the family remain in demand for the further development of family relations, as well as to ensure the further development of interpersonal relationships. Psychological assistance to the family and its psychological problems is the preservation, assistance, support of yourself at the level of competence. In addition, the relevance of this problem is to determine the level of training of the family, as well as to identify negative factors that cause divorce in families, and provide psychological assistance to families. The issues of reducing the number of divorces between young families are explained in detail. today there is a mechanism for working with families on the verge of divorce. The article shows the psychological basis of the search for this mechanism

Keywords: *marriage, family, psychological processes, interpersonal relations, conflict, problem, development, preservation, psychological service.*

INTRODUCTION

The Institute Mahalla and Family Research Institute is currently doing a lot of research on family relationships. Today, it is important to create a mechanism for individual work with families on the verge of divorce, as well as to identify the factors that led to the divorce. The family is a complex institution and process of family relations, and due to the changes taking place in society today, there are many family problems and conflicts between family members. Why do people get divorced? If the couple's relationship has reached a problem point, only two people can solve it. Adoption is in the hands of the husband and wife. This is not easy to do, so a couple will have to be patient and tune in to long and fruitful work to restore harmony. But if love is preserved in the marriage, it is worth trying to save him.

A husband and wife need to figure it out and understand why they want to break up. An investigation should be started by looking for reasons. Although each couple is unique, relationship problems always develop according to similar scenarios and have similar causes. Regular conflicts and quarrels are one of the factors that lead to the thought of divorce. A healthy psychological environment in the family is a key condition for mutual understanding and happiness between husband and wife. Cheating is the most common reason for separation, even in loving couples. The pain of betrayal is so strong that many are unable to overcome it and move on. Regardless of who initiates the separation, if one of the partners wants a divorce, the other is not able to do anything alone. To restore harmony, joint efforts and mutual desire are needed. But not everything is so hopeless. A partner who wants to save the marriage has the opportunity to influence the situation. The advice of a psychologist will help him in this:

- it is necessary to start constructive communication;
- you should find out why the partner initiates the divorce;
- it is important to say about your readiness to change, to make your relationship better.

You can connect a family psychotherapist to work on relationships. Even if the marriage cannot be saved, psychotherapy will make the separation less painful and will also help to avoid repeating the situation in the future.

Family for women is of great value, so they are often willing to make concessions to avoid divorce. There is an opportunity to influence the decision of the spouse, for this you need to take several steps:

- take care of your external attractiveness.
- try to rekindle the extinguished fire of feelings.
- do not impose, give a man the opportunity to independently analyze and make decisions.
- it is worth stirring up the interest of the husband, to make him fall in love again.
- it is important to forget about claims and criticism.
- it is necessary to begin to pay more attention to the relationship and the spouse, so that he feels his value and significance in the life of a woman.

It is a woman who is able to create the most favorable emotional atmosphere in

marriage, so her actions will not remain without result. But if the spouse has already made the final decision, it will be extremely difficult to persuade him. In such a situation, there is no question of choice - to divorce or keep the family, because the partner does not want it.

If the wife wants a divorce, and the man wants to keep the family, he is also able to influence the wife's decision. Overcoming problems in marriage is the responsibility of two, but the husband is able to change what he can do. Here's what a man can do to keep a family from divorce:

- find out what exactly does not suit the spouse;
- pay more attention to it;
- make her feel loved and valued;
- give her what she lacks.

You can do something alone so that the family on the verge of divorce does not break up. If the spouse notices positive changes in the man, she can reconsider her decision.

A protracted crisis is easier to overcome if the couple start working on it together. To save a marriage when both husband and wife want it, you can do the following:

- to unite efforts to solve everyday problems;
- agree to discuss any problems, and not be offended;
- stop criticizing each other, changing the pretentious tone to a constructive style of communication;
- find common interests, points of contact;
- eliminate routine and boredom from relationships;
- to harmonize sex life.

When two people are working on a relationship, it is important to learn to reach a compromise. These are solutions that do not completely satisfy anyone, but are the arithmetic mean. The ability to give in is the foundation on which a happy marriage can be built, even if the family is already on the verge of divorce. The employment of the couple leads to the fact that priorities are shifted. Spouses are so engrossed in solving everyday problems that they cease to be interested in each other and forget about elementary signs of attention. If the wife and husband want to keep the family together, then it is worth reconsidering their attitude towards marriage. You do not need to have any specific knowledge or skills for this. It's simple - you can make your tired wife her favorite tea, help with housework. A spouse may become more interested in her husband's affairs, offer support and care. Elementary simple signs of attention in everyday life can save a marriage on the verge of divorce and even make it happier. Extra control. Relationships in marriage should be close, but without violating personal boundaries. If the husband or wife wants to divorce, the family can be saved by changing the attitude towards the partner's personal boundaries. Excessive control is a sign of a lack of trust and low self-esteem. It is realistic to eliminate this negative factor - you need to start working to develop trust and increase self-esteem.

If the husband wants to save the family, you should not shift the responsibility for the problems in the marriage only to him. Likewise with the spouse - in an unhappy marriage there is no one culprit, both partners are responsible. There are other mistakes that can provoke a deterioration in relations and speed up a divorce:

- Suppression of claims, unwillingness to speak openly about them;
- Unwillingness to give in, to compromise;
- Mutual reproaches and claims instead of a constructive search for solutions to problems;
- Unwillingness to take the initiative in reconciliation.

Relationships cannot always be restored. You need to be able to understand when everything is over, and stop in time, not waste your emotional resource on futile attempts. Stages of restoration of relations. When you start working on relationships, you need to develop an effective strategy. Consistency and consideration of all the

nuances will help return love to the family and avoid divorce:

- Someone has to take the first step, so it's worth starting the change with yourself Seeing a positive example, the second partner will also move forward in development.
- It is important to define your vision of happiness in marriage. When you realize what it should be, you can focus on creating the relationship of your dreams.
- Next, you need to tackle conflict resolution. They cannot be suppressed, hidden or avoided. Constructive communication and clarification of the relationship will help identify marriage problems and fix them.
- It is important to tune in to the positive, to create a favorable atmosphere. You can change the environment, for example, unwind on a joint vacation, or simply harmonize the emotional background.

As they go through these stages in a relationship. partners will become closer, gradually eliminating all the shortcomings in the marriage. This does not mean that quarrels and conflicts will completely disappear from the family, on the contrary, they will be present, but they will no longer be able to have a destructive effect on relationships.

Betrayal of one of the partners is an objective reason for divorce. It makes no sense to think about how you can save a marriage from divorce under such conditions:

- The spouse continues the relationship on the side and does not plan to end it;
- There has been no love and mutual respect in the family for a long time;
- The spouses do not want to continue the relationship.

The family is a social unit based on the natural-biological, economic, legal, spiritual relations of families. The family needs psychological help to support these families, create conditions for their development and ensure that family relations change for the better. Psychologists of the republic have carried out a number of noteworthy scientific studies on the psychology of family and marital relations. Among them M.G. Davletshin [3], G.B. Shoumarov, V.M.Karimova, N.A.Soginov, U. Kadyrov, B.Umarov, G. Niyozmetova, Z. Rasulova. In addition, Sh.R. Baratov conducted a study "Social, psychological and scientific-practical foundations of the organization of psychological services in Uzbekistan". Psychological service to the family - to help and support the family in solving their problems. First of all, I must say that help is support, help, support for any system in society, its psychological problems, at the level of competence.

The perception of conflict in the family is based on the individual characteristics of each spouse. This conflict is often associated with the constant fatigue of the spouses. The growth of such conflicts in modern families is due to some negative reasons. This is because both sides do not feel responsible or responsible. Young people always try to look their best.

Dissatisfaction with family relationships pushes spouses to betrayal. It is necessary to look for the reasons deeper and begin to work through all the problem areas of family life in order to avoid a repetition of the situation in the future.

General recommendations: how to prevent divorce

A marriage does not fall apart overnight, and if you work regularly on relationships, you can avoid breaking up. Here's how to get back on a good relationship with your wife:

- You need to talk more often and not to bypass problematic topics;
- It is important to learn how to conflict;
- It is necessary to value each other's personal boundaries;
- It is worth diversifying family life, refreshing emotions;
- It is necessary to rest from each other.

METHODS

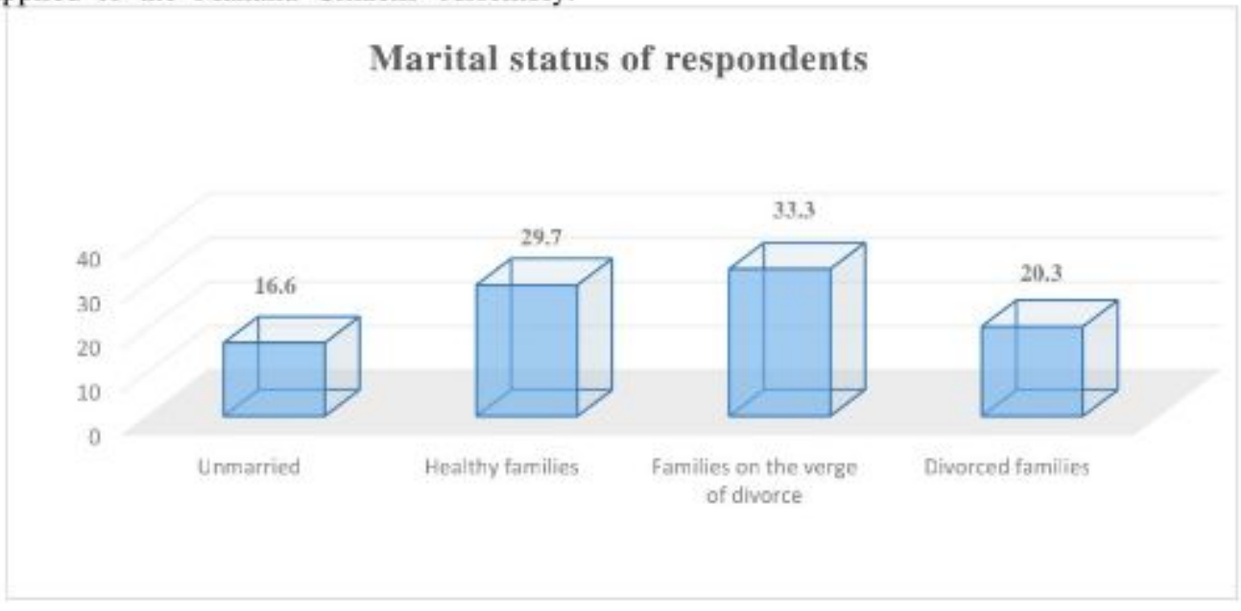
Young people always try to look their best. Only through positive and blindly false relationships will select young people be able to fully express themselves as they begin to face the complexities of life. As a result, poorly trained families get to know each other

better, become dissatisfied with their disagreements throughout their lives and lead to disagreements in the family. In this study, we used the methodology "**Spiritual preparation for marriage**" developed by G.B. Shoumarov, questionnaire "**Setting pairs**" (Yu.E. Aleshina, I.Ya. Gozman, E.M.Dubovskoy), "**Satisfaction with family life**" (V. V. Stolin, T. M. Ramanov., G. G. Butenko), "**Distribution of roles in the family**" (V. M. Karimova, G. N. Anorbaeva). Our research involved 300 respondents, of whom 118 were men and 182 were women. Most of the test takers were citizens who applied to the Mahalla Citizens' Assembly. According to marital status, the study was divided into 4 groups.

These:

1. Not married;
2. Successful families;
3. Families on the verge of divorce;
4. Divorced families.

The methodology "Spiritual preparation for marriage" was carried out among the respondents. (Fig.1).



When examining marital status, 16.6% of the respondents were not married, 29.7% were healthy families, 33.3% were families before divorce, and 20.3% were divorced families.

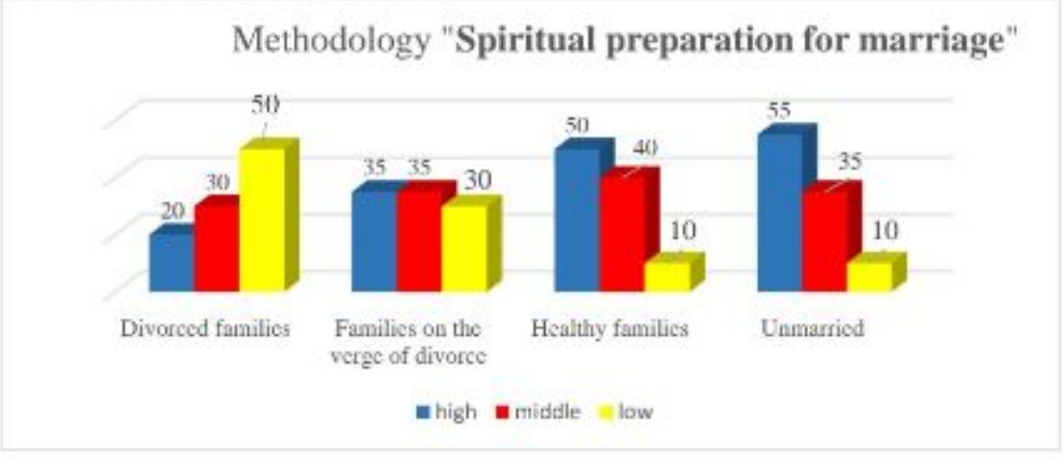
At the second stage of our study, we studied the propensity of the Uzbek family to the behavior of the spouse in the relationship of the couple. At this stage, in the second section of the questionnaire, a psychological method was used to determine which type of marriage motives were justified. The purpose of using psychological testing methods was to increase the reliability of research results and to identify the internal psychological characteristics of respondents in family relationships.

Analyzed data on families on the verge of divorce, and on the area of residence. Living space and educational attainment were identified as factors leading to divorce. The above situation in Uzbek families is as follows (Fig.2).

The results of the analysis show that in rural areas, families before divorce are mainly the result of the impact of serious conflicts. Secondary education is based on an insufficient level of spiritual preparation for marriage and the influence of other factors. However, in higher education, this figure is the result of a mismatch in the spouse's worldview. Thus, the destabilization of family life is directly influenced by the personal characteristics of husbands and wives, including the permanent place of residence of the family, the level of education of husbands and wives. It is advisable to take these factors into account in the practice of providing psychological assistance.

MAIN RESULTS

The research results show that for the study of family relations, if the "spiritual readiness for marriage" is less than 50, the spiritual readiness for family life is low, if it is more than 50, the spiritual readiness is average. (Fig.3)



In divorced families, the level of "spiritual readiness for marriage" was high - 20%, medium - 30%, low - 50%. It is obvious that the main reason for divorce in the main family is the low level of "spiritual readiness for marriage".

Families on the verge of divorce gave a high level of "spiritual readiness for marriage" - 35%, medium - 35% and low - 30%. Obviously, the main reason is the low level of "spiritual readiness for marriage" in the main family.

Healthy families gave a high level of "spiritual readiness for marriage" - 50%, medium - 40% and low - 10%. It can be seen that the level of "spiritual readiness for marriage" in the main family was 50% higher, and in healthy ones - 10% lower. Consequently, a high level of spiritual readiness is becoming an increasingly important factor in the strength of the family.

When analyzing **unmarried boys and girls**, the level of "spiritual readiness for

marriage" was high - 55%, medium - 35%, and low - 10%.

In the future, maintaining the relationship on the verge of divorce, much depends on what were the reasons for the failed separation. Understanding them, in fact, is the key to adopting the right strategy for rebuilding the former union. Problems that can arise include lack of trust and over-involvement of one of the parties. Remember that mistrust, over-control, and conflict are the first steps to betrayal, which usually starts with telling the other person about it. On the other hand, if you see that your partner is less interested than you in maintaining the tandem, it may be worth admitting to yourself that further "cooperation" does not make sense.

To provide psychological assistance to a family, it is necessary to take into account the ethnocultural background of the family, the socio-psychological classification of family members. S.M. Herzen writes that intergenerational ties also have a particular influence on this process. Satisfaction with family life means that the duties and responsibilities of spouses within the framework of the institution of the family are fulfilled at the level of satisfaction of both husband and wife. To determine its essence, we tried to compare the indicators of the respondents with the indicators of the group, i.e. healthy families, with rates of families on the verge of divorce. Satisfaction with family life in healthy families (32.73) is much higher than in families on the verge of divorce (18.76). Our research shows that spouses trust each other, help each other in family matters, parents do not interfere in the lives of young people for no reason, and having children in a family strengthens the relationship between husband and wife (Таб.1).

Comparative analysis of the survey on satisfaction with family life

(Based on Student's t test)

Family type	Statistical value				
	N	average value	standard deviation	t	p
Healthy families	89	32.73	6.78	2.69	0.001**
Families on the verge of divorce	100	18.76	6.95		

In healthy families, family issues are resolved not in the interests of the husband or wife, but in the interests of the family, that is, the socio-psychological unit - "We". As a result, there are no objections like "I don't understand him at all", "I don't know where he is, I don't know anything about his friends", "He doesn't tell me anything. about himself, he looks at me with disbelief". In families before divorce, the opposite is true. As a result, there are cases of blaming each other, searching for the guilty ones, and the dynamics of negative family relations becomes more complicated (Tab.2)

Analysis of the questionnaire for setting pairs

Families on the verge of divorce/ healthy families

№	relation	duty and pleasure	attitude to the	autonomy	divorce	romance	communication	contact restriction	traditional ideas	spend money
relation	1		,592*					,556*/463*		
duty and pleasure		1					,851**	-,521*		

attitude to the child			1					,566*		
autonomy				1	,573*				,557*	,731*
divorce					1				,878*	
romance						1				,622*
communication							1	,666*		
contact restriction								1		
traditional ideas									1	
spend money										1

Note: * r≤0.05; (95%); ** r≤0.01 (99%)

r = 0.622 (r≤0.05) * The scale of the attitude to love of the romantic type and the scale of the attitude to money (ease of spending - the degree of dependence of savings, the average scale of relationships. At the same time, in families on the verge of divorce, the attitude towards spending money increases, as they strive for romance.

r = 0.666 (r≤0.01) ** To assess the importance of the sexual sphere in family life, it was found that there is a moderate correlation between the scales and the scale of attitudes towards sexual abstinence (the idea of sexual abstinence). Accordingly, as the prohibition on sexual intercourse in the family increases, the importance of sex in family life increases.

r = 0.731 (r≤0.01) ** The scale of attitudes toward money (ease of spending) was found to be highly correlated when comparing the scale of saving and individual activity, couple autonomy, or couple interdependence. It has been found that the couple's autonomy increases as attitudes toward spending money increase in families on the verge of divorce.

CONCLUSION

Relationship psychology: how to keep a marriage on the verge of divorce? Moreover, when it seems that everything is serious: there are certain plans, sincere desires to be together always. But mutual ambition, inability to hear each other and many other circumstances can prevent even a harmonious and loving couple from building a happy union. In this case, it is necessary to admit in time: relations need to be saved, and this is a daily and difficult job for both men and women. Let's figure out in more detail how to save a relationship, a marriage on the verge of divorce. In the future, maintaining the relationship on the verge of divorce, much depends on what were the reasons for the failed separation. Understanding them, in fact, is the key to adopting the right strategy for rebuilding the former union. Problems that can arise include lack of trust and over-involvement of one of the parties. Remember that mistrust, over-control, and conflict are the first steps to betrayal, which usually starts with telling the other person about it.

On the other hand, if you see that your partner is less interested than you in maintaining the tandem, it may be worth admitting to yourself that further "cooperation" does not make sense.

What to do if the other half wants to leave?. Woman - the main tips are as follows. The main tool for resolving any disagreement is honest conversation. It is necessary to prepare for honest revelations - only in this way the desired results will appear.

Here's what to understand:

- What, in our opinion, does not work in a relationship and how does it manifest itself?
- What external factors influence this and what to do with them?
- How does personal character and behavior affect this?
- How does the character and behavior of a loved one affect this?
- What is the most difficult thing in your case to accept?

- What concessions are you willing to make so that the separation does not happen?

- Why do you want to establish family (partnership) relationships?

- What effects do you expect to see, feel?

By preparing honest answers to the above questions, you will be able to get the basis for a conversation in which it will be easier to control emotions and express feelings. If you notice that in your relationship with a guy something has ceased to take shape, and "everything is not the same as it was before," you definitely need to make contact, but always taking into account the desired method of communication. Men usually expect a problem to be presented clearly and legibly to them so that a concrete solution can then be found.

Man - the main advice of a psychologist:

- It is easier for women to talk about their feelings and show them, including negative ones. If you often quarrel, hear numerous accusations from the lips of the chosen one, and you get the impression that the conflict is growing, the manifestation of initiative and the offer of a conversation will certainly be appreciated by a woman's heart.

- Try to show closeness, tenderness and understanding to her. Keep in mind that in addition to solving your problems, it can be very important for her to let go of the accumulated emotions and get support from you.

- Announce concrete changes, because non-empty promises are an important guarantee for her. As you tell her about your expectations, emphasize what you value and like about her. If the conversation becomes dangerously stressful, interrupt it and come back to it later.

Marriage and family are values in everyone's life. The answer to the question "to save the family or not" should always be "yes". It is better to avoid a crisis and divorce than to think about how to get your spouse back after a divorce. If something goes wrong in your family, both of you are responsible. Someone in the family must be smart. You have the right to start over and live happily.

REFERENCES

1. "Family Psychology" by Shoumarov G.B., Khaidarov I.O., Soginov N.A. Tashkent 2007.130 p.
2. Abdurakhmanov F.R, Abdurakhmanova Z.E, Nuralieva D.M. Psychological assistance to the family and its mechanisms Fergana 2020 11-p.
3. Aleshina Yu.E. Individual and family psychological counseling. - Moscow, 2004.
4. Barotov. Sh. R. "Socio-psychological and scientific-practical foundations of the organization of psychological service in Uzbekistan" Dissertation Bukhara-1997. 12 - p.
5. Davletshin M. G. The state and place of residence of the psychological service in Uzbekistan. Scientific and methodological foundations and experience of organizing school psychological services. Diploma work of reports of the republican scientific and practical conference. Bukhara, September 15-18, 1989 113-p.
6. https://www.eduklgd.ru
7. Nuraliyeva D. M. The problems of developing social psychological mechanisms in the family //Theoretical & Applied Science. – 2020. – №. 1. – С. 711-713.
8. Nuraliyeva D. M. The concept of psychological service and its controversial issues in family. Stran/34-36 Proceedings of International Conference on Multidisciplinary Sciencesand Innovative Technologies Organized by Novateur Publications, India /2020/6/25.
9. Nuraliyeva D. M. Examining the orientation of women in the field of psychosocial service for the family and the empirical analysis of psychological qualities. International scientific and practical conference Cutting Edge-science Primedia E-launch page115-116 . USA Conference Proceedings 2020/6
10. Shoumarov G.B. Shumarov Sh.B. Love and family.-T.: Ibn Sino, 1994.120.

DEFORMATION OF COMPOSITE MATERIALS TAKING INTO ACCOUNT RELAXATION PROPERTIES

Azimov Tohir Dzhuraevich[1], Valeeva Nailya Gennadievna[2], Baltabaev Kamil Karimberdyevich[3]

[1]Candidate of Technical Sciences, Professor, Tashkent State Technical University
[2]Candidate of Technical Sciences, Associate Professor, Tashkent State Technical University
[3]Candidate of Technical Sciences, Associate Professor, Tashkent State Technical University

ABSTRACT

It is impossible to imagine modern science without the widespread use of mathematical modeling. The essence of this methodology is to replace the original object with its" image " — a mathematical model - and further study the model with the help of computational and logical algorithms implemented on computers. This "third method" of cognition, construction, design combines many advantages of both theory and experiment.

Keywords: *relaxation, deformation, thread, fabric, load, characteristic, creep.*

INTRODUCTION

It is known that during the formation of woven fabrics, in the process of technology of production of fabrics, threads are subjected to various types of deformation, which in turn affect the quality of products, where a huge role is played by natural properties and physical and mechanical properties of the thread, which in turn affect the quality of products and their use in the further technological process. Plain and composite fabric is worked out and the filaments are modeled as shell reinforcement by the structure of the fibers and fabric with internal pressures in the fabric and fibers. In practice, often in addition to transverse oscillations in the threads, longitudinal oscillations occur. Many scientific studies of longitudinal oscillations is reduced to the study of vibrations of various kinds of thread tension compensators, tension rollers and braid rock devices and warp threads in the surf, the sensitive elements of the thread tensioners with automatic regulation.

The inelastic and nonlinear properties of the filament material will be taken into account. The longitudinal vibrations of the thread are due to both kinematic excitation at the ends of the thread and the resistance forces that occur during the surf.

Given the above, it is necessary to study in depth the existing techniques and develop new techniques in the future for the development of new methods for assessing the viscoelastic characteristics of threads and materials, in order to design their characteristics and create new materials, which take into account and study the deformation characteristics of the material and its origin, that is, natural properties and properties after modification of the composite material.

It is known that the deformation of the material is determined by the elastic relaxation properties of both the threads and the structural characteristics of the webs, the shape of the elementary cells, their mutual arrangement, fixation of the threads in the nodes of the cells and other parameters.

Effective use of materials requires knowledge of their elastic and relaxation characteristics. Elastic characteristics of materials allow to determine the deformation of tissue elements caused by the action of dynamic loads. Relaxation characteristics are necessary to assess the changes in the deformation of the tissue elements during operation.

The aim is to develop an effective and fairly simple method for determining the physical and mechanical characteristics of the thread, fabric, providing the required performance in the production technology and in General in the application in the manufacture and use of the material as a whole.

PROPOSED METHODOLOGY AND DISCUSSION

This work is devoted to the development of methods for determining the elastic and viscoelastic characteristics of textile materials from different types of threads.

Providing the required mechanical characteristics of textile composite materials

remains an important task in the direction of improving their properties. From the literature review it follows that further development of methods for assessing viscoelastic properties is required in order to develop and create new types of materials. Composite materials have viscoelastic properties [1]. Therefore, the elastically viscous properties of the medium will be described by the linear equation of the hereditary theory in the form:

$$\sigma_{ij} = 2\mu\varepsilon_{ij}+\lambda\varepsilon_{kk}\delta_{ij}+2\int\Gamma_c(t-s)\ \varepsilon_{ij}(s)ds+\delta_{ij}\int\Gamma_v(t-s)\ \varepsilon_{kk}(s)ds. \quad (1)$$

let's consider the problem of modeling deformations of a linear viscoelastic medium. To do this, we write down a complete system of equations that determine the stressed and deformed state of the body:

the equation of equilibrium

$$\partial\sigma_{ij}/\partial x_j + p_i; \quad (2)$$

boundary conditions

$$\sigma_{ij}n_j/s = q_i; \quad (3)$$

Cauchy formulas for the case of small deformations

$$\varepsilon_{ij} = 0.5(\partial u_i/\partial x_j + \partial u_j/\partial x_i). \quad (4)$$

Let's explore the problem by similarity method. To do this, we will reduce all the equations of the problem to a dimensionless form, introduce substitutions for the given density functions of surface and bulk forces and for the desired functions

$$p_i = p_0 f_i(t/t_q);\quad q_i = q_0 f_i(t/t_q) \quad (5)$$

$$\sigma_{ii} = \sigma_0\tau_{ij};\quad \varepsilon_{ii} = \varepsilon_0\gamma_{ij};\quad u_i = u_0v_i. \quad (6)$$

Independent variables are expressed in terms of dimensionless arguments

$$x_i = x_0y_i,\quad t = t_0 \quad (7)$$

In formulas (5) and (7), p_0, q_0 are the characteristic values of the given external volumetric and surface forces; σ_0, ε_0, u_0 are the characteristic values of stresses, deformations and displacements; x_0 is the characteristic size of the body; t_0 is the characteristic time.

The dependence of dimensionless equations on dimensionless arguments is uniquely determined by the values of the defining parameters $R_1=x_0p_0/\sigma_0$, $R_2=q_0/\sigma_0$.

Let's consider the kernel of equation (1). After being reduced to a dimensionless form, this kernel takes the form:

$$\Gamma_{c1}(t) = \lambda\exp((-t/t_0)^\alpha)(t/t_0)^{\alpha-1};\ \Gamma_{c2}(t) = A\exp((-t/t_0)^\alpha)(t/t_0)^{\alpha-1};\ \Gamma_{c3}(t) = Bt/t_0)^m.$$

The nuclei of $\Gamma_s(t)$ have a similar shape. Moreover, the time t included in the cores depends on the material. Consider the integral $\int\Gamma_{sk}(t-s)\ \varepsilon_{ij}(s)ds$. Passing to dimensionless quantities, we get

$$\int\Gamma_{ck}(t-s)\ \varepsilon_{ij}(s)ds = \varepsilon_0t_0\int\Gamma_{ck}[(t_0(\tau-\xi)]\ \gamma_{ij}(t_0\xi)d\xi,$$

where k=1, 2, 3, …; $\Gamma_{c1}(t_0\tau) = \lambda\exp((-R_6\tau)^\alpha)/(R_6\tau)^{1-\alpha}$; $\Gamma_{c2}(t_0\tau) = A\exp((-\beta\tau)^\alpha)/(R_6\tau)^{1-\alpha}$; $\Gamma_{c3}(t_0\tau) = B(R_6\tau)^m$. If the module and the nature are made of the same material, then $\alpha = \alpha'$; $B = B'$; $m = m'$; $\lambda = \lambda'$; $tq = tq'$; are here designations with a stroke refers to the model, without strokes - to nature.

Let's introduce characteristic values for the functions m_0 and e_0, respectively; then $\Gamma_c(t) = m_0m(\tau)$; $\Gamma_v(t) = e_0\,c(\tau)$; $m_0 = e_0$.

Here, the characteristic values of m_0 and e_0 depend only on the properties of the material, being its physical constants. Invariant with respect to the geometry of the structure, the functions $m(\tau)$ and $e(\tau)$ in dimensionless parameters for the same material coincide. The values m_0, e_0, $m(\tau)$ and $e(\tau)$ depend significantly on temperature: The coincidence of these parameters for the nature of the model assumes the operation of both structures in similar thermal conditions.

If we enter the characteristic values of the elastic constants Lamb $\lambda 0$ and $\mu 0$ according to the formulas $\mu = \mu_0\mu_1$ and $\lambda=\lambda_0\lambda_1$ (where μ_1 λ_1 are dimensionless elastic constants), then the basic equation (1) will take the form

$$\tau_{ij}=(\mu_0\varepsilon_0/\sigma_0)2\mu_1\gamma_{ii}+(\lambda_0\varepsilon_0/\sigma_0)\lambda_0\gamma_{kk}\delta_{ij}+(\varepsilon_0t_0m_0/\sigma_0)2\int m(\tau-\xi)\gamma_{ij}(t_0\xi)d\xi+(\varepsilon_0t_0e_0/\sigma_0)\delta_{ij}\int e(\tau-\xi)\gamma_{kk}(t_0\xi)d\xi \quad (8)$$

In equation (8), the physical constants of the material are included both in the values of the defining parameters and in the arguments for which integration operations are performed.

By introducing a characteristic scale of deformations in the form $\sigma_0=\varepsilon_0\mu_0$, we obtain a complete system of dimensionless functions:

$$\partial\tau_{ij}/\partial y_i=R_1 f_i(R_6\tau)\ ,$$

$$\tau_{ij}\ |\ s=R_2\varphi_i(R_6\tau);\quad \gamma_{ij}=1/2\quad(\partial v_i/\partial y_i+\partial v_j/\partial y_i);$$
$$\tau_{ij}=2\mu_1\gamma_{ij}+R_3\lambda_1\gamma_{kk}\delta_{ij}+R_4 2\int m(\tau-\xi)\gamma_{ij}(t_0\xi)d\xi+R_5\int\delta_{ij}e(\tau-\xi)\gamma_{kk}(t_0\xi)d\xi. \quad (9)$$

Here the dimensionless parameters are: $R_1 = x_0\rho_0/\sigma_0$; $R_2 = q_0/\sigma_0$; $R_3 = \lambda_0/\mu_0$; $R_4 = t_0m_0/\mu_0$; $R_5 = t_0e_0/\mu_0$.

Typical scales of stresses and strains

$$\sigma_0=\varepsilon_0\mu_0;\qquad \mu_0=\qquad \varepsilon_0x_0 \quad (10)$$

and we can always take $\sigma_0 = q_0$

For such processes, dimensionless displacements, stresses and deformations at the same time and at the same points of nature and model must coincide, i.e. $R_k=R'_k$, where k=1,2,...,6. At the same time, in nature and model, the functions $f_i(\tau, y_5)$, $\varphi_i(\tau, y_5)$ must be the same.

The following consequences follow from what has been said:

-the essential parameter R_1 (acceleration or overload parameter), R_6 (the parameter of the relative loading rate equal to the ratio of the relaxation time t_0 to the loading time t_q), and R_4 and R_5 (parameters of physical properties), the Poisson's ratio;

-if the model and nature are geometrically similar, made of the same material, loaded only by surface forces similarly distributed and changing equally in absolute time, then the stresses and deformations at the corresponding points at the same time are the same, and the displacements are proportional to linear scales;

-if, under these conditions, mass forces also act, which change identically in absolute time, that the specified similarity is observed at accelerations inversely proportional to linear scales.

Let's consider some possible modeling options.

1. Modeling on different materials is possible only with very strict restrictions on the properties of the material. In fact, the similarity criteria are divided into two classes: criteria R_1 and R_2 do not depend on the mechanical constants of materials, and criteria R_3–R_5 are entirely determined by the physical constants of the material. The equalities $R'_3=R_3$, $R'_4=R_4$, $R'_5=R_5$, $R'_6=R_6$, for the model and nature lead to the conditions, respectively

$$\lambda'_0/\mu'_0=\lambda_0/\mu_0\ ;\qquad t'_0m'_0/\mu_0=\ t_0m_0/\mu_0\ ;\quad m'_0/e'_0=\ m_0/e_0\ ;\quad t'_0/t'_q=\ t_0/t_q. \quad (11)$$

It is also necessary that the coefficients of influence for different materials coincide; materials must have cores proportional to the magnitude of the module and completely identical, coinciding in dimensionless parameters. This is only possible for identical materials. When the conditions (11) are met, it becomes possible to simulate in time.

2. Consider other modeling conditions on the same material. Let the constructions of the model and nature be geometrically similar, so that the characteristic dimensions are related by the ratio $k=x_0/x'_0$. The equalities $R'_3=R_3$, $R'_4=R_4$, $R'_5=R_5$, are performed automatically for this case. From $R'_6=R_6$ follows $t'_0=\ t_0$.

From (11) it follows that the characteristic scales of stresses and displacements satisfy the conditions

$$\sigma'_0/\varepsilon'_0=\ \sigma_0/\varepsilon_0;\qquad \mu'_0/\varepsilon'_0=\ \mu_0/\varepsilon_0 \quad (12)$$

Consider an example. Let the stresses in the model at the same points at the same time be part of the corresponding stresses in nature, i.e. $\sigma'_0 = \sigma_0/n$. From (10) for deformations and displacements in nature and the model, we obtain: $\varepsilon'_0 = \varepsilon_0/n$ and $u'_0 = u_0/kn$. We use the criteria and for both surface

and volumetric external forces of the model and nature, then we find $p'_0 = p_0k/n$ and $q'_0 = q_0t/n$.

Next, consider an example in which the characteristic movements at the same points of nature and the model coincide. We require that $u'_0 = u_0$. From (10) we get: $\varepsilon'_0 = k\varepsilon_0$ or $\varepsilon x'_0 = \varepsilon_0 x_0$. From (12) it follows $\sigma'_0 = k\sigma_0$. Satisfying the first criterion, we obtain $p'_0 = k^2 p_0$; for the second criterion $q'_0 = kq_0$.

A method is proposed for determining the strength characteristics of composite materials based on modeling [1].

The paper provides brief information about the influence functions and modeling of deformation processes, allowing to predict the long-term deformability and strength of composite materials.

EXPERIMENTAL PART

The objects of research in this work are a number of different composite materials of cotton and silk threads and webs of these threads. On our example the samples made of the modified threads and cloths are considered and offered.

For example, here are the technological parameters of the objects of research mono thread, cotton mono thread, 0.1 mm in diameter at a linear density of 10, 4 Tex and silk mono thread with a diameter of 0.1 mm, at a linear density of 21.5 Tex. As methods of research various modes of deformation, as for example, stretching with constant speed, creep with the subsequent recovery after removal of loading were used.

Tests were carried out on the universal measuring complex "Instron 1122" for relaxation and deformation of threads and fabrics.

According to the results of the study, in accordance with the task of studying the elastic properties of the studied monofilaments, the tensile diagrams of samples of composite material - cotton and silk threads were measured.

All measurements were carried out at the request of GOST at the test facility "Instron 1122" according to a certain technique, with a relative deformation rate and a base length of samples of 100 mm.

Measurements were carried out at room temperature 293 K.

For fig.1. the diagrams of the tension of the studied threads up to the rupture are given, and further the characteristics of the thread from the modified fibers were studied.

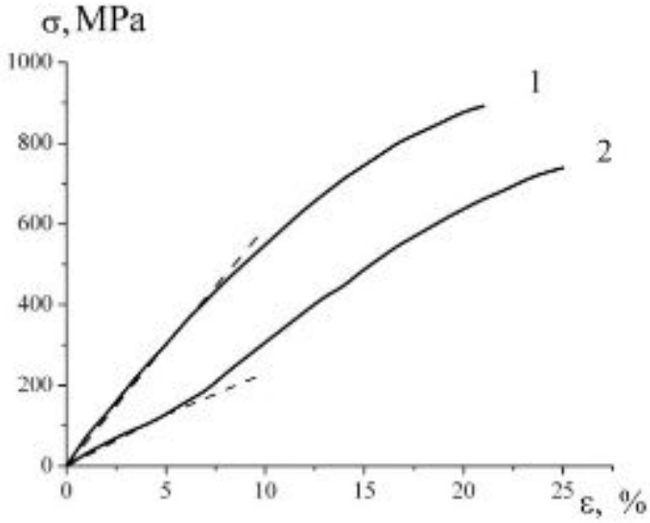


Fig.1. Tensile diagrams of modified composite cotton and silk threads

The physical and mechanical properties of cotton modified composite thread and silk thread were also studied.

Where the breaking load of cotton thread was 6.5±0.5 Fp, N, this, the breaking stress, 90.5±60 MPa, is the breaking elongation, 23±2%, E 0 is the initial modulus of stiffness, 6200±300 MPa, and in silk thread the breaking load of cotton thread was 6.0+0.1 Fp, N, this breaking stress is 760±10MPa, this breaking elongation, 25±2%, E 0-initial modulus of stiffness, 2600±200 MPa.

The results show that the discontinuous characteristics of mono-strands are relatively close in their values, while the values of the initial stiffness modules differ by 2 times.

Hence, the dependence between the deformation properties of the threads and their

linear viscous elasticity. On the basis of the methods of analysis of viscous elasticity of composites and polymers developed in SPGUTD [2], the parameters of the creep process are determined and the long-term creep parameters of composite filaments are determined.

From the physical analysis of the creep kinetics of cotton and silk threads, the characteristics of elementary creep acts that correspond to the conformational mechanism of relaxation deformation of polymer molecules are obtained.

On the basis of experimental studies on creep, the regularity of deformation of textile materials under constant load is determined.

To describe the deformation processes of composite materials, the hereditary theory of Boltzmann - Voltaire viscous elasticity was used, as well as a number of scientific papers based on the superposition principle [3.4.5].

The three-parameter Rzhanitsyn kernel is accepted as the relaxation kernel, the parameters of which are determined for each specific case by theoretical and experimental method.

The tendency to make full use of the strength reserves of materials, economy, economy, durability and other requirements lead to the need to take into account the nonlinear structural properties of composite materials.

In the case of a nonlinear viscoelastic material, the relationship between stresses and strains is described by the Ilyushin - Ogibalov cubic nonlinear dependence[5]:

$$\sigma_{ij} = E_n \varepsilon_{ij}(t)\delta_{ij} + 2\mu_n[e_{ij}(t) - \int_0^t \Gamma_1(t-\tau)e_{ij}(\tau)d\tau] + \sigma_{ij}$$

(1)

$$e_{ij} = \varepsilon_{ij} - (1/3)\theta\delta_{ij}\ e = e_{ij}e_{kl}\ \theta = \varepsilon_{ij}\ i,j,k,l = 1,2;\ e -$$

where, is the first invariant of the strain tensor; - instantaneous bulk and shear modulus of elasticity; - nonlinearity coefficient; , - relaxation kernels for linear and nonlinear viscosity components;

$$\sigma_{ij}^1 = \gamma[e_{ij}(t)e(t) - \int_0^t \Gamma_3(t-\tau)e_{ij}(\tau)e(\tau)d\tau]$$

(2)

In the monograph [4] on the basis of Volterra's works, the idea of representing the relationship between stresses, strains and time in the form of a series of multiple integrals is developed.

Included in the function of rheological properties, is a function of influence and characterizes the rheological properties of the material and the web.

The parameters of the influence function and elastic constants are determined experimentally. To do this, first build experimental curves.

To get the real values of the parameters included in the influence function, it is necessary to have a sufficient number of theoretical curves and choose the curve that coincides with the experimental curve.

Since the theoretical curves will be determined by specific parameter values, the equations of the experimental creep curves will contain influence functions with the same numerical parameter values.

It should be noted that the influence function can be determined from the data of differentiation of experimental creep curves. However, incorrect or crude results can be obtained. Therefore, in practice, use the analytical form of recording functions of influence, containing a number of parameters that are to be determined by experimental data.

The simplest and at the same time sufficient General weakly singular kernel of the form is used as an influence function:

$$\Gamma_1(t-\tau) = A_1 \exp(-\beta_1(t-\tau))(t-\tau)^{\alpha_1 - 1},\quad \Gamma_3(t -$$

The parameters are determined experimentally [5] and they are correspondingly equal.

CONCLUSION

According to these results, the following factors can be cited;

The characteristics of elasticity and creep of the modified composite cotton and silk thread are obtained.

It is established that the creep deformation for the required time of fabric stability is a significant and sometimes dominant share in the total deformation of fibers and fabric.

REFERENCES

1. Urzhumtsev Yu.S., Maiboroda V.P. Technical means and methods for determining the strength characteristics of polymer structures., M .: Mechanical engineering. 1984. P.170.
2. Makarov A. G. New approach to modeling viscoelastic properties of textile yarns [Text]/ A. G. Makarov, A.V. Demidov, N. V. Drobotun, N. G. Rostovtseva and O. B. Terushkina // Proceedings of "44 Congress IFKT "Knitting round the clock", St-Petersburg, 23-27 September 2008, P.148-153.
3. Koltunov M. A. Creep and relaxation, M: Higher school, 1976, P. 278.
4. Baltabaev K. K. Mavlyanov T. M. On the device of a three-layer shell of composite materials. Uzbekistan Composite materials. ISSN 2091-5527 No. 2, Toshkent, 2013, P. 28-31
5. Ilyushin A. A., Pobedrya B. E. Fundamentals of the mathematical theory of viscoelasticity. Moscow: Nauka, 1970, P.280.

SEEDING METHODS AND RATES OF SEEDING INTRADUATIVE (HIBISCUS CANNABINUS) KENAFA

Allaberdiev R. Kh[1]., Nabiev U. A[2]., Usmanova G.A[3]., Kamalova M. Dj[4]

[1]Candidate of biological sciences, assistant professor, National University of Uzbekistan named after Mirzo Ulugbek, Uzbekistan
[2]Candidate of biological sciences, professor, National University of Uzbekistan named after Mirzo Ulugbek, Uzbekistan
3Associate Professor, Tashkent state technical university named after Islam Karimov, Uzbekistan
[4]Candidate of biological sciences, Associate Professor, National University of Uzbekistan named after Mirzo Ulugbek, Uzbekistan
Ruzumova G.K., doctoral student (PhD), National University of Uzbekistan named after Mirzo Ulugbek, Uzbekistan

ANNOTATION

The scientific research was prepared on the basis of an expedition conducted by the Department of Ecology of the National University of Uzbekistan in four territories adjacent to the Aral Sea: Karakalpakstan, Bukhara, Khorezm and Navoi regions, in particular in 20 cities of Uzbekistan. The expedition was carried out within the framework of the project "Program for adaptation to climate change in the Aral Sea basin and mitigation of its consequences", under the auspices and assistance of the International Development Association. Also, the Agency for the Structural Transformation of Agricultural Enterprises and the Consulting Company «Intellect management» took an active part in the project.
The aim of the study was to assess climate change, understanding the impact of dangerous consequences, measures to adapt to climate change in Uzbekistan. Find possible objective and scientific approaches to the application in a broad sense of methods for confrontation in all areas of agricultural activity. In addition, within the framework of this program, in the above cities, representatives of production, farms, employees of agricultural enterprises, scientific researchers, undergraduates, bachelors of higher education in the project area were familiarized with the results of the research, attended lectures, trainings and seminars.

Key words: *halophytes, adaptation, introduction, climate, relief, salinization, microflora, endemics, extinction.*

INTRODUCTION

The question of the methods of sowing and the seeding rate of kenaf seeds is controversial, since it remains unstudied, especially with the intraduction of kenaf in an ecologically extreme unfavorable territory.

LITERATURE SURVEY

Many authors suggested sowing kenaf in two - three - and four line methods according to the schemes: 34 + 11 cm, 48 + 12 cm, 60 + 15 cm, 50 + 10 + 10 cm, 45 + 11 cm, 23 + 11 cm [1-3]. Some authors believed that kenaf should be grown in a single row with a row spacing of 45 to 70 cm [4,6,8]. The application of these seeding methods was to clarify and determine the optimal obtaining of a high-quality and high yield of kenaf with the lowest economic costs.

There were also different opinions regarding the seeding rate of Kenaf seeds. Some researchers [7,8] are supporters of a small seeding rate - 20-35 kg / ha, while others, on the contrary, recommend increased seeding rates - 45-55 kg / ha.

With multi-line sowing with a large seeding rate, the quality of raw materials sharply deteriorates, and the income per unit area decreases [4]. The disadvantages of multi-line and thickened kenaf crops were especially pronounced with the introduction of the machine into production.

At the same time, in long-term scientific research [4,5], these authors give preference to single-row crops with an unambiguous definite amount of seeds per hectare of planting in traditional territories. In addition, as the authors of [4,5] argue, this form of kenaf cultivation is beneficial for economic efficiency.

Thus, as can be seen from the above data, there are no uniform recommendations regarding the sowing method and sowing rates of Kenaf seeds, especially during intraduction in ecologically unfavorable extreme zones of the Aral Sea region. The bioecological and adaptive processes in ecologically unfavorable extreme territories of Uzbekistan, as well as the dependence of growth, development of kenaf and efficiency on a one-line sowing method between rows of 45, 50, 60 cm, and seed sowing rates have not been studied.

Therefore, the task of our work was to establish the development of the uniformity of the stems and the yield of kenaf by means of a

one-line sowing method of 45, 50, 60 cm and seed rates for growth. And also to identify vegetative growth and the effectiveness of these measures during intraduction into unfavorable ecological, extreme zones.

SIGNIFICANCE OF THE SYSTEM

The paper mainly focuses on how the chemistry derivative of bis-aromatic urea derivatives. The study of literature survey is presented in section III, Proposed methodology and discussion is explained in section IV, section V covers the experimental results of the study, and section VI discusses the future study and Conclusion.

PROPOSED METHODOLOGY AND DISCUSSION

Research methodology

For this purpose, in the allotted experimental territory, Muynak district of the Karakalpak Republic, in the mahalla (community arch) of Buzatov, in the village of Shigarty, allocated for the National University of Uzbekistan, an experimental site was allocated for the study of cultivated plants in 2017. In 2018, we carried out special studies on the intraduction of the Kenaf selection variety called Hibiscus cannabinus, Uzbekistan - 2268. We studied single-line crops with a row spacing of 45 - 50 and 60 cm when sowing seeds of 0,9; 1,2 and 1.5 million (21, 28 and 35 kg) per hectare.

For the experiment, a selection variety of Kenaf Hibiscus cannabinus, Uzbekistan - 2268 was used. This variety was approved and proposed for sowing by the Center for Variety Testing of Agricultural Crops, certificate N° 659 by the Ministry of Agriculture of Uzbekistan 2008. The size of the plots is 260 - 290 m^2, depending on the sowing method.

Sowing was carried out in parallel in several fields at the same time. Calculations of the seeding rates of seeds were made for 100 % agricultural suitability. Sowing was carried out on April 24-30, when the soil temperature averaged 16-18 °C degrees. Sowing was carried out manually. The soil is meadow - steppe with a depth of groundwater on average 0,9 -1,8 meters from the soil surface. In these fields, the predecessors were naturally sprouting halophytic, meadow and reed plants. The fields were not used in agricultural crop rotations as they were considered unsuitable for this purpose.

Agrotechnics in the experiment is a common, accepted scheme for kenaf with some changes based on environmental and climatic conditions. Survey statistics reflect the average data taken from all fields, averaged over three annual rates. Studied: emerging plants, growth intensity, stem diameter, total height, flowering, technical maturation, three-year climatogram and the number of plants underdeveloped before harvesting and other indicators.

During the preparation of the soil, autumn plowing was carried out, in the spring - harrowing; during the growing season - two cultivations, two hoes with weeding in rows, one weeding of large weeds, four to five collections of dodder. Depending on the climatic conditions of the region, irrigation had to be slightly adjusted based on the depth of groundwater.

Two dressings were produced and fertilized with mineral fertilizers. The annual rate of mineral fertilizers was: nitrogen - 210, phosphorus - 150 and potassium - 90 kg / ha. Kenaf was removed depending on the maturation of plants in the third decade of August or in the first decade of September.

RESEARCH RESULTS

Density of standing of kenaf plants

As a result of the studies carried out, it was found that the number of germinated plants was directly proportional to the number of sown seeds (Table 1). So, when sowing 0,9 million seeds per 1 ha, 801 thousand (89,0 %) plants emerged (Table 1, var. 3), and with 1,5 million - 1250 thousand (83,3) plants (Table 1, Var. 5). However, at a lower seeding rate, the field germination of seeds was higher, and at a higher rate, it was lower. So, in option 3 (Table 1), 89,0 % rose, and in option 5 – 83,3 % of the sown seeds.

Calculations of the density of plants standing before the first hoeing indicate a significant reduction in the number of plants, and this is especially pronounced in variants with a large number of sown seeds. Such a reduction of plants can be due to the death of plants from root damage or from fungal rot (rhizoctonia - Rhizoctonia solani J. G. Kuhu).

After the first hoeing, a decrease in the number of plants was observed, especially in variants with a large number of sown seeds on a narrow-row single-row (45 cm) sowing method. Such a reduction in plants was observed due to the density of growing plants and very little mechanical damage during ketmen (mechanical hand tools) hoeing. Since the thicker the plant, the greater the likelihood of mechanical damage to the plants.

Before the second hoeing, the reduction in the number of plants is small. From the first to the second hoeing, 80 - 85 days passed, during this period of time the soil was ground and mineral fertilizers were applied. With all counts of the density of standing, the same pattern is observed: with an increase in the number of sown seeds, an increase in the number of fallen plants increases.

Thus, from the above, it can be seen that a large number of plants fall out mainly at the beginning of the growing season, and the denser the sowing, the more plants. After good rooting of growth, the percentage of dead plants decreases. This pattern persists until the end of the growing season, which is confirmed by the data obtained during calculations before harvesting.

For harvesting, the absolute number of preserved plants is directly proportional to the number of emerged plants with all methods, the more plants emerged in the spring, the more of them survived for harvesting. However, with smaller quantities of plants that emerged in the spring, the percentage of plants preserved for harvesting is much higher.

With the same number of seeds sown, the better safety of plants for harvesting was found with wider row spacings. This is due to less damage to the plant during soil cultivation with this method of sowing, a lower percentage of plant death from root rot and during harvesting.

A large number of underdeveloped plants (fittings) in the stems leads to a deterioration in the quality of the bast during mechanical processing on the machine and an increase in the content of scutch in the bast, which is also an indicator of the quality of the bast. Especially many underdeveloped plants are observed in thickened crops. So, when sowing 1,5 million seeds per hectare (Table 1, options 5 and 8), there were 261-262 thousand underdeveloped plants for harvesting, this is almost twice the number of options (Table 1, options 1 , 3 and 6) where 0,9 million seeds are sown per 1 hectare of land.

On single-row sowing with wider row spacings (50-60 cm), a lower content of underdeveloped plants is observed. It should be added that at high rates of sowing seeds, their unproductive consumption is observed. So when sowing 0.9 million seeds (21 kg) per 1 hectare (Table 1, var. 1, 3 and 6), seeds emerged (86,4 % - 89,0 % - 93,1 %), and underdeveloped plants 146 - 133-110 thousand, respectively (23,1 % - 18,4 % - 14,3 %).

With a single-line sowing of seeds per 1 ha, 1,5 million seeds (35 kg) sprouted (Table 1, var.5 and 8 (83,3 % - 82,5 %) seeds), and underdeveloped plants amounted to 261 - 262 thousand, (table 1, options 5 and 8). Comparing with options (1 - 3 and 6), with crops in options (2 - 5 and 8), the difference in seed weight is 7 kg in option 2, 7-14 kg in options 4-5, the same indicator in 7-8 options. The loss of unproductive seeds is reflected in the economy when growing kenaf. One of the most common diseases in kenaf breeding is fungal root rot Rhizoctonia disease, which affects Rhizoctonia solani Kuhu as well as other damaging diseases that are to some extent involved in the loss of plants. Its spread largely depends on the methods of sowing and plant density.

When sowing on wider row spacings and smaller amounts of sown seeds, the

number of plants killed by root rot is reduced. So, in the variant (table 1, options 1, 3 and 6) and with the sowing of 0,9 million seeds per hectare, (146-81-73) thousand plants per hectare died before harvesting, and when sowing 1 , 2 million and 1.5 million seeds (28-35 kg), (table 1, options 2-5 and 8) 227-272-290 thousand died before harvesting.

Table 1. Density of standing of plants depending on sowing methods and seeding rate of kenaf seeds. (2018-2019-2020, 3 year average)

№ variant	Row spacing cm.	Seeds sown per hectare		Rose plants		Preserved plants for harvesting			
						total	Including underdeveloped		
		mln. pcs.	weight, kg	thousand ha	%	thousand ha	%	thousand ha	%
Single line seeding									
1.	45	0,9	21	0,778	86,4	632	81,2	146	23,1
2.	45	1,2	28	1,039	86,6	812	78,1	215	26,4
3.	50	0,9	21	0,801	89,0	720	89,8	133	18,4
4.	50	1,2	28	1,067	88,9	848	79,4	158	18,6
5.	50	1.5	35	1,250	83,3	978	78,2	261	26,6
6.	60	0,9	21	0,838	93,1	765	91,2	110	14,3
7.	60	1,2	28	1,015	84,5	780	76,8	161	20,6
8.	60	1,5	35	1,238	82,5	948	76,6	262	27,6

If we study the growth of plants depending on the sowing method separately, then, as can be seen from the data in Table 2, with a narrow-row sowing method with a row spacing of 45-50-60 cm and on very thickened crops (1,2; 1,5 and 1, 5 million seeds per hectare), in variants (2-5 and 8) there is a noticeable lag of plants in growth and development, especially by the end of the growing season. Kenaf development is very important for its timely harvesting.

Kenaf's growth and development

The yield of kenaf depends on the height of the plant, timely agrotechnical processing and on its development, which in turn is due to the density of the plant. With an increase in the seeding rate of seeds, the growth and development of plants slows down (Table 2). Kenaf has one biological feature: about 30-40 days after germination, it grows very slowly (3-5 mm per day), and from budding to flowering, its rapid growth begins (50-60 mm per day). Apparently, this phenomenon depends on the degree of developing, forming and growing kenaf, which is directly related to the formation and growth of the root system to groundwater and the provision of nutrients.

Table 2. Growth and development of kenaf plants for harvesting, depending on the methods of sowing and the density of standing. (average, 2018-2019-2020)

№ variant	Row spacing cm.	Seeds sown per hectare		Plant height cm.	Average plant growth per day mm.	Flowering plants%	Technically ripe plants%
		mln. pcs.	kg				
Single line seeding							
1.	45	0,9	21	254,4	23,1	81	69
2.	45	1,2	28	245,7	22,4	56	47

3.	50	0,9	21	263,9	23,9	87	77
4.	50	1,2	28	253,6	23,3	61	51
5.	50	1,5	35	234,1	21,3	36	21
6.	60	0,9	21	263,9	24,9	85	72
7.	60	1,2	28	254,3	23,1	61	53
8.	60	1,5	35	237,1	21,6	27	13

It is necessary to start harvesting kenaf at the onset of technical ripeness in 50% of plants. It is important not to reduce the yield to reduce the duration of the growing season. It has been established that the plant density plays a significant role in this. So, when sowing 0,9 million seeds per 1 hectare, with all sowing methods, the plants began to bloom before August 1, and technical ripeness began by August 20-25.

An increase in the seeding rate of seeds had a negative effect on the development of kenaf - technical ripeness did not come even by 30 August. Kenaf harvesting lasted as short a day as possible. If you start harvesting late, there is a danger of rain falling on the crop, which reduces the quality of the bast. In addition, the period of harvesting kenaf leads to a very high stress of labor, where as soon as possible it is necessary to harvest the crop without losing the crop, without reducing its quality.

Thus, with all sowing methods, the seeding rate of 0,9 million seeds per hectare makes it possible to start harvesting kenaf 10-14 days earlier than on thickened crops.

The materials presented indicate that with an increase in the density of standing, the height of plants decreases and their development is delayed against the background of a decrease in the quality of the crop, which is reflected in the economic profitability of products.

Morphological signs of kenaf

The morphological traits of kenaf plants characterize the yield and its quality. The data in Table 3 show that with an increase in the number of sown seeds, the length, diameter and weight of one stem sharply decrease. Longer, thicker, as well as full-bodied stems were found on single-line sowing with a row spacing of 60 cm when sowing 0,9 million seeds per hectare. The average length of the stems is 249,2 cm, the weight of one plant is 29,3 g.

It must be said that the mechanical technique for processing stems into bast requires stems uniform in diameter. Only in this case a bast with a lower content of scutch can be obtained. Such a bast is highly valued.

In our experience, regardless of the sowing method, more uniform stems were obtained by sowing 0,9 million seeds per hectare. – 22,8 %, (table 3, option 6). With an increase in the seeding rate of seeds, especially at 45-50-60 cm row spacing and a one-line sowing method (options 2 - 5 and 8, Table 3), the different size increases, that is, the difference in diameter of the stem.

So, in Table 3, option 6 with the sowing of 0,9 million seeds per hectare, the variability is the lowest indicator – 22,8 %. At the same time, the maximum thickness of the stems in diameter is 7,6 mm., In option 6.

Table 3. Morphological signs of stems depending on the methods of sowing and the density of standing of the kenaf. (Average, 2018 - 2020)

№ variant	Row spacing cm.	Seeds are sown on 1 hectare		Stem length, cm	Stem diameter, mm	Weight of one stem, gr.	Stalk diameter difference %
		mln. p	kg				

		cs.					
Single line seeding							
1.	45	0,9	21	212,7	6,2	19,7	23,7
2.	45	1,2	28	202,8	5,6	17,2	28,3
3.	50	0,9	21	236,8	7,4	26,1	26,3
4.	50	1,2	28	212,4	6,2	17,5	24,9
5.	50	1,5	35	190,8	5,3	14,8	27,3
6.	60	0,9	21	249,2	7,6	29,3	22,8
7.	60	1,2	28	225,9	6,5	18,8	28,1
8.	60	1,5	35	185,4	5,6	15,5	29,4

With 1,5 million seeds sown per 1 ha in option 8, the variability is 29,4 % and the average diameter is 5,6 mm. Fluctuations in diameter up to minus 26,4 %, that is, the difference in the diameter of the stem is explained by the thickening of the sowing, as well as by the large number of underdeveloped plants (fitting) in these variants.

Kenaf product grade

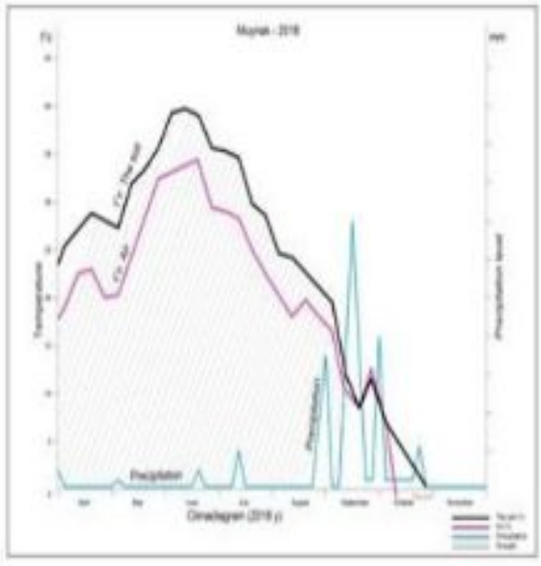
The high content of scutch in the bast reduces its quality (grade). Bast with a high content of scutch is accepted by the factories at reduced prices, which causes great damage to farms. Our experience has shown that a bast with a low content (18,4 % - 19,4 %) of scutch from the sowing method was obtained by sowing 0,9 million seeds per hectare with a row spacing of 60 cm in option-6.

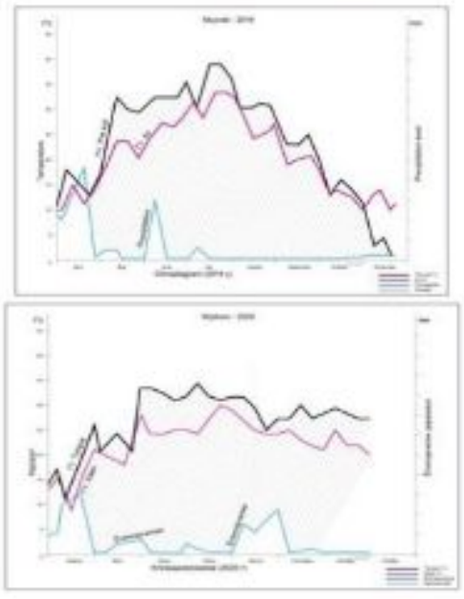
An increase in the seeding rate of seeds sharply increases the content of scutch in the bast and reduces the grade of kenaf. So, when sowing 1,5 million seeds per hectare (Table 4., options 5-8), the yield averaged 47,4 and 46,1 centners, and the yield was 25,6 – 24,3 centners / ha, i.e. almost halving the grade of kenaf. In addition, stems with a length of over 250 cm are distinguished by the best scutch separation when processing stems for bast on a machine. The content of the scutch in the bast from such stems is not more than 18,5 – 21,1 %, in var. 6, the average yield is at the level of 53,1 c / ha. Tab. 4.

Kenaf yield

In the agricultural recommendations for the cultivation of kenaf (1964-1968) for the Republic, two - three - and four line sowing methods with a seeding rate of 50-55 kg / ha were proposed. Increasing the line was understood as getting a high yield. This suggests that in these years scientific research and recommendatory approaches in this area still needed to be developed and more optimal options for sowing and obtaining high yields should be found.

As we know, the Kenaf harvest is highly dependent on agricultural technology and weather conditions of the year. The study of weather and climatic parameters according to the Uzhydromet station during the period of the experiments is shown in the climatogram.





Scheme 1. Climadiagrams. Comparative parameters of weather and climatic conditions for the period (2018-2019-2020) according to the Uzhydromet of the Republic of Uzbekistan in the Aral Sea region of the adjacent city of Muinak Karakalpakstan.

From the climatogram it can be seen that already during the periods of the experimental years at the end of the month of March and at the beginning of April, the temperature of the soil and air rises in parallel, creating favorable conditions for sowing Kenaf seeds. When the soil temperature reaches 16-18 °C, the seeds begin to sprout vigorously. During these periods of the year, in all years of the experiment, periodic, moderate precipitation is observed, creating some favorable bioecological conditions for the growth and development of kenaf.

But the period of bioecological conditions in all years does not last long, it is short, after which a period of drought begins with very rare and short precipitation. From the ascent of seeds within 35 days, the plants grow slowly, on average 3-5 mm per day. During this period, plant growth is obviously associated with the growth and formation of the root system until reaching the roots of groundwater. Groundwater in the experimental areas is in the range on average at a depth of 0,8 – 1,5 m.

As we know, in normally growing plants, the kenaf root system reaches 1,5 meters and more depth. Apparently, depending on the properties of the soil and the proximity of groundwater, especially during periods of drought, without precipitation and high temperatures of soil and air, the plant manages to develop and grow normally, despite the fact that the soil temperature reaches 45 °C in some places, and the air temperature reaches 35 °C during all the years of the experiment. In these extreme ecological conditions, plants do not experience a lack of moisture due to closely spaced groundwater, adapting and adapting to extremely unfavorable ecological environments.

After reaching the formation of the root system by the second month, the plants begin to grow rapidly. The most intensive growth is observed after 40 days in all 3-year experiments, kenaf begins to grow with an average daily growth of 24,9 mm when sowing 0,9 million seeds per 1 ha with a row spacing of 60 cm in option 6. (Table 2). And in other cases, this figure is slightly lower.

However, in all the years of experimental research, the same dependence of the yield on the methods of sowing, the rate of sowing of seeds, and especially on the weather conditions of the external environment is observed. So, on single-row crops with row spacing of 50 and 60 cm, when sowing 0.9 million seeds and when sowing one million seeds per hectare in all years of the study (2018, 2019, 2020), almost the same amount of bast yield was obtained – 52,7; 52,3 and 53,2 c / ha, respectively.

The narrow-row sowing method with a row spacing of 45 cm was inferior in terms of the amount of bast yield by this sowing method (48,9 and 46,5 c / ha) relative to options 3 and 6 (53,0-53,1 c / ha. Table 4). An increase in the sowing rate of single-row seeds, 45-50 cm, and in 60-cm crops negatively influenced the yield of kenaf. For example, in option 6 with sowing 0,9 million seeds, the bast yield was 53,1 centners / ha, and when sowing up to 1,5 million seeds (option 8), the yield decreased on average 46,1 centners / ha by 15 , 2 %. In the fiber yield, basically, the same regularity is observed as in the bast (Table 4).

Economic efficiency in sowing methods and seeding rates of kenaf seeds and low costs of money turned out to be in single-line sowing with 60 cm row spacing. (Table 4). There are significant differences in seed costs. For example, if 0,9 million seeds (21 kg) are sown per hectare, then when compared with 1,2 million seeds (28 kg) per hectare, the difference is more than 7 kg. And when sowing 1,5 million seeds (35 kg) per hectare, the difference is 14 kg.

If sowing on several thousand hectares of land, it is not difficult to imagine the economy of option 6, even taking into account the rest of the costs for growing kenaf. At the same time, the yield in the first case of sowing does not decrease, but even slightly exceeds in quantity and quality.

The profitability of kenaf depends both on the yield and to a large extent on the quality of the bast and, first of all, on the content of the scutch in it (the first grade is the bast with a scutch content of up to 30 %, the second grade - up to 35 % and the third grade - up to 40 %) where the best indicators are in the 6th option, (table-4).

Table 4. Average Kenaf yield depending on sowing methods and seed seeding rate (2018-2019-2020)

№ variant.	Row spacing cm	Seeds are sown on 1 hectare		Bast yield, c / ha			Average for 3 years c / ha	Harvest fiber c / ha
		mln. pcs.	kg	2018y.	2019y.	2020y.		
Single line seeding								
1.	45	0,9	21	46,0	52,4	48,4	48,9	25,8
2.	45	1.2	28	45,1	51,2	43,3	46,5	24,1
3.	50	0,9	21	51,9	56,2	51,0	53,0	28,6
4.	50	1.2	28	50,5	53,3	45,1	49,6	25,8
5.	50	1,5	35	51,4	50,4	40,4	47,4	25,6
6.	60	0,9	21	51,6	56,4	51,4	53,1	29,0
7.	60	1.2	28	50,7	54,5	45,5	50,2	27,1
8.	60	1.5	35	50,6	49,5	38,4	46,1	24,3

Cost-effectiveness of sowing methods and seeding rates for Kenaf seeds

Significant savings in the cost of the harvest are obtained in the cost of seeds when sowing is carried out on several thousand hectares. In addition, the profitability of kenaf depends both on the yield and, to a large extent, on the quality of the bast and, first of all, on the content of the scutch in it (the first grade is the bast with a scutch content of up to 30 %, the second grade - up to 35 % and the third grade volume - up to 40 %).

The increase in the content of the scutch in the bast leads to a decrease in the profitability of the kenaf. On a single-row sowing with a row spacing of 60 cm and sowing 0,9 million seeds per hectare, the content of scutch in the bast was 18,0 %, the bast per hectare. As can be seen from the data (table 4), the highest yield was obtained on single-row sowing with a row spacing of 60 cm, Option-6 (table-4).

CONCLUSIONS

1. The highest field germination of seeds, better safety of plants for harvesting, a smaller number of underdeveloped plants (underdevelopment) and the incidence of root rot are provided at relatively low rates of seeding of seeds on single-row crops.

2. On sowed crops, growth and development slows down, plant length, diameter, stem weight, leaf area and absolute dry matter content decrease.

3. A large percentage of uniform stems are established in diameter on single-line crops when sowing 0,9 million seeds (21 kg) per 1

hectare with a row spacing of 60 cm.

4. When processing stems for bast on a machine, stems with a length of more than 250 cm have the best scutch separation ability. Such a kenaf can be grown by sowing 0,9 million seeds (21 kg) per 1 hectare. At the same time, the content of the scutch in the bast decreases.

5. The maximum and practically the same yield of bast and fiber was obtained with single-row sowing with row spacing of 60 cm and sowing 0,9 million seeds (21 kg) per 1 ha.

6. Economically more profitable are single-row sowing with row spacing of 60 cm (21 kg) per hectare compared to 45 - 50 cm. Against the background of a decrease in the cost of 1 centner of bast due to a decrease in the cost of sowing seeds and a high-quality yield per hectare.

REFERENCES

[1] Mirziyoyev Sh.M. Buyuk kelazhagimizni mard va olizhanob khalkimiz bilan birga kuramiz. Tashkent, Ўzbekiston nashriyoty, 2017.

[2] Mirziyoyev Sh.M. Uzbekiston Respubliki Decree of the President of the Republic of Uzbekistan dated 7.02. 2017, "Uzbekiston Respublikasini Yanada Rivozhlantirish Byicha Karakatlar Strategiesi Turisida" Gi PF-4947 Sonli Farmony.

[3] Nazirov Kh.N., Dyakonova E.V. Kenaf cultivation., Tashkent, Publishing house "Uzbekistan, 1969, No. 24.

[4] Nedzvetskaya G.L. Kenaf root rot. " Flax and hemp ", 1969, No. 2.

[5] Lev V.T. It's not only about quantity, but also about quality, "Flax and Hemp", 1965, No. 8.

[6] T.Rakhimova, R.H. Allaberdiev. Promising drought-resistant plants for sowing on the drained bottom of the Aral Sea. Materials of the international conference. Tashkent, 2018.

[7] Ў.A. Nabiev, Climate change, assessment and understanding of their action and its dangerous consequences., NU Uz, INTELLEKT MANAGEMENT "CONSULTING COMPANY., Tashkent, 2018.

[8] Kholmuminov Zh.T. The impact of climate change on the development of agriculture, issues and challenges of modern solutions, measures to prevent, mitigate and counter. Tutorial. Tashkent-2018.

ON METHODS OF RESEARCH OF UZBEK LANGUAGE SYNTAX

Yuldosheva Nilufar Ergashevna

The Republic of Uzbekistan Karshi State University Docent of Uzbek Linguistics,

Candidate of Philological Sciences nilu.75@mail.ru

ANNOTATION

The article discusses the research methods of Uzbek language syntax.
In Uzbek linguistics, syntactic phenomena have been studied in detail since the 1930s, and several syntactic theories have emerged in this regard. Each of these independent theories has its own source of research and has been approached on the basis of specific research methods and methodological bases. As a result, the scientific advances they have made have in many cases contradicted each other.

Key words: *language, language, speech, contemplation, ideology, literary language, grammatical structure, syntactic unit, subject, predicate, attribute, cut, syntactic pattern.*

Language as a social phenomenon is always developed in harmony with society, in accordance with the laws of its development. At the same time, society also affects the development of social consciousness, national thinking. The development of society, on the other hand, meets the requirements of the times for the science that studies it. «Each period has its own goals and specific requirements,» he said. The development of the sciences is inextricably linked with the advanced philosophical thought of the period, the achievements of the leading fields of science for the period. Since the sources of different sciences are multifaceted, the leading philosophical thought of the period determines which aspects of the source of learning from the sciences should be given special attention, and how to reflect the existing laws of existence in logical categories. This is the methodological significance of philosophy, as well as its direct impact on other disciplines[11;12].

Founded in the 1930s, Uzbek linguistics has made great strides in the simultaneous study of language. Its units - the founders of the internal system - have been identified, extensively planned work has been carried out in a descriptive way, and as a result, our science has been formed as a relatively independent science. However, as in any field, Uzbek linguistics still has a single policy, and linguistic evidence is studied mainly in a single descriptive way, which would prevent the inevitable diversity of views on it. The changes that began to take place in social life at the end of the century were also reflected in linguistics, and a number of his research methods became richer. In particular, the influx of systemology into Uzbek linguistics, which for many years was denounced as a «bourgeois method of study» as an idealistic branch of science, has radically changed many existing views. As a result, in linguistics there is an opportunity and conditions to study the phenomenon of a language from different angles, to study its various aspects on different methodological and methodological bases. In Uzbek linguistics, too, there is a difference of opinion, «linguistic pluralism». This, in turn, paved the way for its development in sync with the times. Today, Uzbek linguistics has several independent directions, and in many cases, contradictory opinions and scientific interpretations are determined by different linguistic currents. In particular, the fact that the views obtained as a result of different approaches to a single argument in the interpretation of syntactic phenomena are immediately, even the content of education, is constantly introduced into the system shows that there is a choice in language learning. There are many ways and means to study language from different angles. At present, there are two directions in computer linguistics: 1) computer-assisted language teaching; 2) Great work is being done in the field of computer-assisted text research and machine translation, new research methods and tools are being discovered. Pragmalinguistic studies that study the speech phenomenon of language, cognitive linguistics that studies language as a source of knowledge, and linguoculturology that studies the problems of language and culture are emerging.

Traditional study of syntactic units. This method of analysis has been reflected in modern Uzbek linguistics since the 1930s. Its foundations are the teachings of the Moscow (formal) school of linguistics (F. Fortunatov, A. Shakhmatov, A. Peshkovsky, V. Vinogradov), formed in the late XIX and early XX centuries. N. Dmitriev, N. Baskakov, E. Polivanov, A. Borovkov, A. Kononov and others introduced this method to Uzbek

linguistics. However, earlier this descriptive method was used in the «Grammar of the Altai language» written in the middle of the XIX century[12,70].

In the syntactic field of Uzbek linguistics, this direction was formed by A.Gulamov, G.Abdurahmanov, M.Askarova, M.Mirzaev, F.Abdullaev. In their work, the syntactic unit, the basis of its expression, structure and formation, the formal syntactic relationship were studied [19;20;15;22;26;27].

The main principles of the modern formal direction of Uzbek linguistics in the study of the syntactic structure of the Uzbek language are:

- joint description of the phenomenon of language and speech in syntax;
- explain the synchronous state of syntactic construction;
- to describe the formal, semantic and functional aspects of the syntactic unit as a speech phenomenon.

The methodological basis of the direction is formal logic, at which stage the syntactic phenomena are put into a system in an empirical way, that is, on the basis of apparent features.

Logical-grammatical study of syntactic phenomena. The study of syntax in relation to logic, the explanation of syntactic phenomena on the basis of logical concepts and categories, has its roots in the period of formation of philosophy, the science of logic. Hegel acknowledges the connection between grammar and logic «and emphasizes the need to study these sciences in at least two stages - first to master the methods and concepts of analysis specific to this area, and then move on to the analysis of underlying phenomena, revealing new aspects of the object of study»[12; 6]. Most of the syntactic terms used in research in this area are actually logical categories: subject, predicate, attribute, object, causative, active, passive, coordination, conjugation. Errors in the synthesis of syntactic and logical concepts are still present in Uzbek linguistics. This situation, as one of the age-old shortcomings in science, still hinders the solution of many problems.

The main principles of this research method in checking the syntactic structure of language were:

- equalization of sentence and sentence, parts of speech and parts of sentence;
- search for syntactic similarities between languages;
- identification of grammatical and logical categories that form the basis of syntactic construction;
- pay more attention to solving all linguistic problems on the basis of syntactic factors[12].

In research based on the principles of logical grammar, logical and grammatical concepts can be used together. Note: "With the formation of the accusative form, the object of action, not the executor (grammatical subject), increases, and if there is no such object, it occurs: dressed, came, brought.

When an accusative affix is added to some object verbs, there is no change in the relation of the action to the object and the subject.

We have seen that the self-degree form transforms an object verb into an objectless verb. When an incremental level is created from the self level, another objective verb appears: *yuv-yuvin - yuvintir* "[21, 451].

"Judgment consists of a combination of subject and predicate. Speech, on the other hand, is usually formed from the possessive and the cut relation. It has secondary pieces and defines the cut in some way.

At the heart of everything lies reality. The speech derives its content from this reality and reflects its features through predicativeness. The predicative compound serves as the material of the sentence. Predicative includes three different grammatical categories (person-number, tense, modality) ... "[1,24].

"It is said that the sentence has an absolute ruling part in the form of a general agreement, in which the judgment is directed, the thought goes on about itself, and the sign is determined by the cut. The possessive is the dominant part of a two-syllable sentence. The owner forms a composition with subordinate parts ...

The participle, which is expressed in verb sentences, often indicates the executor - the logical subject. But the opposite is also true. This phenomenon is explained by the fact that the owner uses in real turnover (active

construction) and passive turnover (passive construction). In definite pronouns, the part of speech is often in the definite (sometimes conditional) form of the verb. The owner shows the executor of the action: Karima wrote a letter. Indicates a logical object, not a logical subject that has a passive circulation: *The letter was written by Karima* [1, 45]. In this case, the executor of the action - the logical subject - is a complement, and the logical object is a grammatical possessor. It seems that the scientific directional categorical apparatus based on this research method is in many respects compatible with the logical categorical system.

Typological study of syntactic units. "The internal structure of languages, whether related or distant, inextricably linked, is a method based on the method of comparing similarities (commonalities) and features (differences) in the expression of certain meanings and functions, with which comparative, logical the concepts of grammar, comparative-historical method and glossematics are mixed "[12,71]. The foundation of its basic principles was laid in Alisher Navoi's Muhokamatul-lug'atayn, as well as in F. de Saussure's General Linguistics Course on the concept of linguistic value. "Its main categories are t i l u s t i l i k (metatyl, metalanguage) and linguistic u m u m i y l i k. Linguistic generality partially correspond to the categories of consciousness (thinking) of other directions. Tilusticity (metatyl) is a set of concepts, relationships and tasks that are superior to natural language and must be expressed in the social activity of speech. Each of these concepts, relationships and tasks is considered linguistic when taken separately[12,71].

In the work done in this direction, the expression of typicality in syntactic units, taken as a typical phenomenon, their semantic and functional values are compared, information about the peculiarities of the syntactic system of these languages is given[5;18;16;25].

Transformational study of syntactic units is formed within the framework of "distributive analysis method" and is designed to study and analyze the ways and means of creating more complex than simple syntactic devices, from one type of syntactic device to another on the basis of certain rules. In this method of analysis, a central (basic, first simple) unit (usually precision, general tense, common person-numerical form and meaning, or, for example, a precisely proportional device, etc.) is selected and other semantic and functional devices are selected from this device. generation diagrams (e.g., creation of self-contained speech devices from portable speech devices) are clearly defined, coded, and modeled. It is determined by the ability to correctly create from one device to another on the basis of a certain program by means of an effective automation (machine, computer)[12,74]. In the transformational method of syntactic units, the problem of converting speech syntactic units into other syntactic units is studied.

Linguist S.Mahmatkulov defended his doctoral dissertation on the transformational analysis of syntactic units. The following is an excerpt from Professor S. Mahmatkulov's work based on this method of analysis: "Predicative syntagm is usually a sentence (predicative basis of a sentence). For such a syntagm to act directly as a syntactic unit in a sentence, there must be a certain grammatical change in the predicative syntagm. Such grammatical changes occur differently depending on which part of the predicate syntagm comes in the function. Below we discuss the predicate syntagma represented by the participle as an adjective.

One of the functions that a predicative syntagma can perform in a sentence structure is to become an adjective. The most appropriate predicative syntagmatic section to come to such a task is a qualitatively expressed syntagma, the possessive part of which is usually represented by a noun or a noun compound: 1. The position of the possessor is higher than his. - A warehouseman higher than him ... 2. A person's eyes are sharp and quick. - ... he was a sharp-sighted and quick-witted man in his forties ...

For a predicative syntagm to become an adjective, such a syntagm must move from the predicative form to the attributive form. Originally such a change occurs as a whole in the syntagm, but in practice the cut piece itself

changes. Therefore, the main focus is on the cut.

Only one change occurs when the predicative syntagm represented by the participle adjective becomes an adjective (here the simple participle represented by the adjective is meant): the preposition is discarded. As a result, the predicative syntagm becomes an attributive form, the quality is equal to the word[7, 65].

Syntactic derivation is a well-formed trend today, which is being developed in our linguistics by Doctor of Philology, Professor N. Turniyozov and his students.

Syntactic derivation is at first glance similar to the direction of transformational analysis. But it differs in both basic concepts and a subtle aspect. The terms transformation, transformation, transformer, transformant in the transformation direction seem to correspond to the terms derivation, operator, operand, derivative (derivative) actively used in the method of derivation analysis. But the main difference is that transformational analysis analyzes what derivative patterns emerge from a speech syntactic event pattern, static genetic connections in them, while derivational analysis analyzes what syntactic event emerges from a speech syntactic event, the dynamic genetic relationship between them is analyzed on the basis of a single text.

The theory of syntactic derivation was scientifically substantiated by E. Kurilovich, one of the great representatives of the Prague School of Linguistics. The term syntactic derivation was first used in his 1936 article, Lexical Derivation and Syntactic Derivation[8,12].

Lexical and syntactic derivation differ. Syntactic derivation refers to phrases, sentences, and text, and is characterized by a focus on the role of morphological factors in the formation of derivatives and the focus of dynamic events. Lexical derivation, on the other hand, analyzes the basic-productive relations in the formation of new lexemes and words.

In syntactic derivation, the operator is the main element that forms the syntactic operation. "Without its participation, derivation does not occur, and therefore it is called the absolute dominant element of derivation in derivatology" [18,12].

Operand is the material basis of derivation, the raw material that creates the product structure.

A derivative is a product of a derivation.

Although a lot of work has been done in the field of derivation in Uzbek linguistics, there is enough evidence to show that it was formed as a separate direction.

System-structural analysis is a field of theoretical study of language, which is known as a method of advanced rational research in world linguistics. In linguistics, it has become customary to distinguish the following views of this direction, which are recognized by all linguists:

1) descriptive direction;
2) glossematic direction;
3) functional direction;
4) generative direction.

"The main common features of these areas, which are completely different from each other and differ in their goals and objectives, intersect on the following issues:

- understanding language as a socio-psychological phenomenon;
- Consistent differentiation of language, language and speech;
- search for the essence of linguistic units in their systematic relations, as well as the predominance of opposition and paradigmatic analysis and descriptions in the language;
- approach to language as a semiotic, ie a system of conditional signs (signs, symbols);
- to focus on the semantic-functional side of linguistic units, not the material side "[12, 82].

In Uzbek linguistics, the structural direction based on these principles is recognized as an independent direction that analyzes the evidence of the Uzbek language. Linguists such as Sh.Rahmatullaev, I.Abdurahmonov, I.Kuchkartoev, R.Yunusov should be recognized as the founders of this direction in our science. A.Nurmonov, N.Mahmudov, R.Sayfullaeva, M.Kurbanova and others can be considered as representatives of developing the structural syntax of the

Uzbek language. R.Sayfullaeva? M.Kurbanova and N.Yuldosheva contributed to the formation of substantial syntax on the basis of methods of structural syntax analysis.

In our science, substantial syntax, which has grown on the basis of structural analysis of syntactic units, is rapidly evolving. In this regard, the doctoral and candidate dissertations of R.Sayfullaeva[17], M.Kurbanova[23], M.Abuzalova[2], Sh.Akramov[3], R.Bobokalonov[4], N.Yuldosheva[25], S.Muhammadjanova[10] can be considered as important researches created in this direction. This direction was established in the «Theses of formal-functional syntax», published in 1984[13,3] and 1988[14.9] in the journal «Soviet Turkology».

- "The specificity of the direction of formal-functional analysis is to fill the concepts of licon-speech, liconian unit-speech unit in Prague structuralism (functional linguistics) with the categories of dialectics generality, essence, possibility, cause (UMIC) and individuality, measure, reality, consequence (YHVO). reaches Therefore, the main principle of the direction of formal-functional analysis is the conscious and consistent use of the tips of dialectical analysis in the research process.

As in other linguistic units, the basic concepts of analysis are the principles of «cubtancy», «internal contradiction», «multiplicity», «absolute of the intermediate third» in revealing the linguistic essence of syntactic units. These principles are stated in the research of linguists H. Nematov, B. Menglicv and M. Kurbanova[12; 9; 24].

In syntax, the main types of linguistic units are divided into patterns (models), morphological (lexical forms, syntactic forms), derivational (simple and compound word formation), syntactic (nominative units - word formation models, communicative units - sentence formation). models) types differ.

In general, the syntactic theories formed in Uzbek linguistics have studied and continue to do great work on the basis of their own research methodologies and methods to study the grammatical structure of the Uzbek language from different angles and reveal its essence. The scientific findings obtained, although contradictory, are invaluable as complements to each other in terms of illuminating different aspects of syntactic construction that have an objective multifaceted and contradictory nature. Understanding the essence of the syntactic structure of the Uzbek language is based only on the generalization of conclusions specific to different syntactic directions.

References

1. Абдурахмонов Ғ., Сулаймонов А., Холиёров Х., Омонтурдиев Ж. Ҳозирги ўзбек адабий тили. Синтаксис. Олий ўқув юртларининг филология факультетлари сиртқи бўлим студентлари учун қўлланма. -Тошкент: Ўқитувчи, 1979. – Б. 45-46.
2. Абузалова М. Ўзбек тилида содда гапнинг энг кичик қурилиш қолипи ва унинг нуткда вокеланиши: Филол. фан. номз. ...дисс. – Бухоро, 1994. – 128 б.
3. Акрамов Ш. Ўзбек тилининг гап қурилишида тўлдирувчи ва хол. [WPm] валентлиги асосида: Филол. фан. номз. ...дисс. – Тошкент, 1997.
4. Бобокалонов Р. Ўзбск тилида гап синтаксиси ва сўз-гапларнинг систем-структур талқини: Филол. фан. номз. ...дисс. – Тошкент, 2003.
5. Бўронов Ж., Юсупов У., Ирискулов М., Содиков А. Инглиз, ўзбек ва рус тиллари грамматик структураси: (Олий ўқув юртлари учун). – Тошкент: Ўқитувчи, 1986. – 312 б.
6. Гегель Г. В.Ф. Наука логики. Том 1. – М.: Мысль, 1970. – С. 111-112.
7. Кулмаматов Д.С., Панжиев Н.П., Махматкулов С. Проблемы языковых контактов и трансформационного анализа. – Ташкент: БИ, 2001. – С. 65-66.
8. Kurilovich J. Derivation lexicale et derivation syntaxique. – BSI., 1936. - P. 72-92.
9. Менглиев Б.Р. Лисоний тизим яхлитлиги ва унда сатҳлараро муносабатлар: Филол. фан. докт. ... дисс. автореф. – Тошкент, 2002. – 22 б.;

10. Мухаммаджонова С. Ҳозирги ўзбек адабий тилида уюшган гаплар: Филол. фан. номз. ...дисс. – Самарқанд, 1999

11. Неъматов Ҳ., Бозоров О. Тил ва нутк. – Тошкент: Ўқитувчи, 1993. – Б. 5

12. Неъматов Ҳ. Лингвистик тадқиқот методикаси, методологияси ва методлари. – Бухоро: НС, 2005. – Б. 70-103

13. Нигматов Х.Г., Абдуллаев К.М., Банару В.И. и др. Структура предложения и актуальные вопросы синтаксиса тюркских языков. (Тезисы формально-функционального исследования) // Советская тюркология. – 1984. – № 5. – С. 3-10..

14. Нигматов Х.Г., Абдуллаев К.М., Банару В.И. и др. Способы синтаксической связи и актуальные вопросы тюркского синтаксиса. (Тезисы формально-функционального исследования) // Советская тюркология. – 1988. – № 4. – С. 3-9.

15. Нурмонов А. Ўзбек тилшунослиги тарихи. – Тошкент: Ўқитувчи, 2002. – 231 б.

16. Саидова М.Р. Сравнительно-типологическое исследование односоставных предложений в русском и узбекском языках: Автореф. дисс. ...канд. филол. наук. – ТашГУ, 1996. – 24 стр.

17. Сайфуллаева Р. Ҳозирги ўзбек тилида қўшма гапларнинг формал-функционал талқини: Филол. фан. докт. ... дисс. – Тошкент, 1993.

18. Турниёзов Б. Ҳозирги ўзбек тилида тенг компонентли мураккаб синтактик қурилмалар деривацияси: Филол. фан. номз. ... дисс. автореф. – Самарқанд, 2006. – Б. 12.

19. Узоков Ҳ. Ўзбек тилшунослари. – Тошкент: Ўқитувчи, 1972.

20. Шукуров Ш., Бозорова Д. Узбекское советское языкознание. – Тошкент: Фан, 1984.

21. Ўзбек тили грамматикаси. Т.I. – Тошкент: Фан, 1975. – Б. 450-451.

22. Ўринбоев Б., Турсунов У. Ўзбек адабий тили. – Тошкент: Ўқитувчи, 1982. – 174 б.

23. Қурбонова М. Ўзбек тилшунослигида формал-функционал йўналиш ва содда гап қурилишининг талқини: Филол. фан. докт. ... дисс. – Тошкент, 2001.

24. Қурбонова М. Ҳозирги замон ўзбек тили: содда гап синтаксиси учун материаллар. – Тошкент, 2002. – Б. 8-9.

25. Юлдошева Н. Йиғиқ гапнинг формал-функционал талқини: Филол. фан.номз. дисс. – Тошкент, 2009. –Б. 17.

26. htt://www.google.com.webhp?as_q=&hewww.bukshu.uzsci.net/ziyofi-lologiya/... Тилнинг белгилар системаси эканлиги. – Бухоро, 2009;

27. htt://www.fdu.uz/fdutz/uzbek_tili/ed_uzb/2-mavzu.htm... Системавий тадқиқотлар тарихи. – Фарғона ДУ, 2008.

PEDAGOGICAL AND PSYCHOLOGICAL ASPECTS OF THE MANIFESTATION OF EMOTIONAL STATES IN PRESCHOOL CHILDREN

Sadikova Shoista Akbarovna[1], Yakubova Zilola Zikirovna[2]

[1]Associate Professor of "Preschool Education Technologies" TSPU

Candidate of Pedagogical Sciences Kamalova Gavkhar Akbarovna - 2nd year master of the department "Preschool education technologies "TSPU

[2]Second year master of the department "Preschool education technologies" TSPU

ANNOTATION

The article discusses the impact of emotional states on preschool children in the formation of their personality. In today's computer age, there are processes that negatively affect children's personal development. It is no secret that in the age of technology, the abundance and diversity of information has a negative impact on the emotional development of the individual. The society and, in particular, the education system face a serious task - to maintain the psychological health of children. Emotional well-being is an important factor in maintaining psychological health. Future negative emotional states can lead to deviations in the psychological health of children, psycho-emotional disorders. Preschoolers are just beginning to form, and their emotional sphere is not yet fully stable. The slightest force can have a negative effect on them. In general, the urgency of the problem of studying the emotional sphere of the individual is determined by the needs of a number of public institutions. In the process of raising a child from the water point of view, it includes not only knowledge but also the formation of his emotional attitude towards the events and happenings around him. In general, the emotions of the child are very important in the formation of personality. Keywords: preschool child, emotional state, anxiety, harmoniously developed generation.

INTRODUCTION

Today, the upbringing of a harmoniously developed generation is an important and topical issue. The great work being done in our country to build an independent democratic state governed by the rule of law and a free civil society is creating new conditions for the realization of opportunities for self-realization and spiritual, intellectual and practical development. In his speech at the Youth Forum of Uzbekistan, President of the Republic of Uzbekistan Shavkat Mirziyoyev said: we think. Therefore, we are consistently implementing radical reforms in these areas.

I am confident that our selfless and patriotic youth, like you, will take an active part and make a worthy contribution to creating a new foundation for the development of our country. "We can see from this speech that since independence, the education system, especially the pre-school education system, has been given special opportunities.

It should be noted that preschool education has a special role in the formation of a child as a healthy and developed person. Today, a lot of work is being done to reform the preschool education system. In particular, on September 30, 2017, the Ministry of Preschool Education was established. The purpose of establishing a separate Ministry of Preschool Education is to further improve the system of pre-school education, which is an important part of the system of continuing education, to create an effective system of public administration, to expand the state and non-state network of preschool institutions. , strengthening the material and technical base, providing them with qualified teaching staff, sharply increasing the coverage of children in preschool education, the introduction of modern educational programs and technologies in the educational process, providing children with comprehensive intellectual, educational navy-aesthetic, physical development and radical improvement of the quality of their preparation for school.

Implemented in the preschool education system we can cite the adoption of the Law "On Preschool Education and Training" on December 16, 2019 as the legal basis for the reforms. In today's computer age, there are processes that negatively affect children's personal development. It is no secret that in the age of technology, the abundance and diversity of information has a negative impact on the emotional development of the individual.

The society and, in particular, the education system face a serious task - to maintain the psychological health of children. Emotional well-being is an important factor in maintaining psychological health. Future negative emotional states can lead to deviations in the psychological health of children, psycho-emotional disorders. Preschoolers are just beginning to form, and their emotional sphere is not yet fully stable.

The slightest force can have a negative effect on them. In general, the urgency of the problem of studying the emotional sphere of the individual is determined by the needs of a number of public institutions. In the process of raising a child from the water point of view, it includes not only knowledge but also the formation of his emotional attitude towards the events and happenings around him. In general, the emotions of the child are very important in the formation of personality.

Preschool education is an integrated process aimed at the comprehensive development of preschool children, taking into account their interests, abilities, individual mental and physical characteristics, cultural needs, as well as the formation of spiritual values in the child,

life and social experience. The development of pre-school education is very important in the upbringing of children. Insufficient research of the emotional world of preschool children does not allow to effectively determining the impact on the further development of the child's personality and the results of his activities. The development and spiritual potential of a society largely depends on the content of psychological and educational education provided to these children. As each child lives in a society, he or she strives to take a unique place and an independent position, so he or she demonstrates unique aspirations, abilities and activism, examples of intellectual labor.

Focuses on creating conditions that provide opportunities for positive socialization and development of the preschool child. Given that the system of preschool education plays a very important role in the future life of the child, a number of activities in this area are carried out every year in our country. In particular, in his address to the Parliament, the President said the following about the further development of the preschool education system, the inclusion of more children in preschool education: - Aesthetic and physical characteristics are formed..... We need to increase the coverage of preschool education to 65% by the end of next year and 75% by the end of 2023. About 2,000 additional non-governmental kindergartens will be established and the share of the private sector will be increased to 25% due to the budget subsidy of 600 billion sums. In addition, the Resolution of the President of the Republic of Uzbekistan "On approval of the Concept of development of preschool education in the Republic of Uzbekistan until 2030" also pays attention to the preschool system. Of course, in this process, one of the urgent tasks of preschool education is to study the emotional sphere of preschool children, the emotional sphere of the child, the causes of anxiety in preschool children and ways to overcome them.

REFERENCES

The emotional sphere of preschool children has been studied by many foreign and Russian psychologists. The first ideas about emotion were first put forward by Greek scholars. L.B Il'inichna, L. S. Vygotskiy, A. N. Leontev, T.A. Markova, S. A. Rubinshteyn, A. P. Usova, D. B. Elkonin, N.A. Dovgaya, T.A. Danilina et al. Emotional experiences and emotional development have been studied by local and foreign scholars: K. E. Izard, S. L. Rubinstein, P. M. Jacobson. The mechanism of the emergence, formation, and development of emotions has been studied by L.M. Wecker et al. Addressing the problem of emotional states: N.D. Levitov, E.P.Ilin, S.L.Rubinshteyn, Y.E. Sosnovikova, L.S. Slavina, A.M. Prichojan, A.M. Parishioner, et al. L.S.Slavina, B.I. Kochubey, A.N. In Lutoshkin's work, an important place is given to the problem of children's emotions. In his works, P.M. Jacobson notes that the content of emotions changes during the transition to preschool age wrote. Preschool age is also a period of comprehensive formation and development of the child.

Children at this age also begin to develop psychologically. In this process, the child acquires knowledge of the external world and the various processes in it. From this period, the child's independent activity increases. In the preschool years, children first become imitators and then begin to gain independence. In many literatures, especially in E. Goziyev's book "Psychology of Ontogeny", the period from 3 to 7 years is the preschool age. Considering that there are very rapid qualitative changes in the psychology of preschool children, there are 3 periods: (3-4 years) small preschool period (4-5 years) Preschool It can be divided into 6-7 years and older preschool periods. As N.M Shelovanov points out, "These successes in a child's development in the third year of life qualitatively change all of his or her behaviors makes it increasingly independent" [10]. In her book Developmental Psychology, ZT Nishonova states the following: "Through relationships with adults and peers, the child begins to become acquainted with moral norms, understanding people, as well as positive and negative relationships [5, p. 186]. Of course, the role of interest in the lives of preschool children is huge.

In her "Developmental Psychology" ZTNishonova said that interest is one of the motivating factors for children to move, to try to know more fully what they are interested in, not to get bored even if they are engaged for a

long time, and at the same time the child's attention and will begin to develop. Past In preschool, children learn about things around them through play activities. Play is one of the leading activities of preschool age. Play is not only a means of learning; it is also a means of education. K.D. Ushinsky noted that the game is a powerful educational tool. D.B. Elkonin described the game as "a huge repository of the true creative thought of the future man." Based on her research, N.M. Aksarina concludes that the game does not appear on its own. There are three conditions for its appearance: the presence of different impressions from the surrounding reality, availability of various toys and tutorials, frequent communication of the child with adults [11]. Properly organized play in kindergarten has a positive effect on the overall development of the child. Kindergartens play mostly story-based and role-playing games. In role-playing games, children reflect on their surroundings.

THEORY AND PRACTICE

D.B. Elkonin stated that play is not a universal form of life for all children, it is a historical education. Play occurs only at certain stages of social development, when the child is unable to participate directly in the social system. D.B. In his research, Elkonin states that play is not a universal form of life for all children, but a historical education. [11] Thinking in children through play also has a positive effect on the development of creative abilities. In general, children learn a lot through games, and through games we can learn about the child's interests and relationships with others. Team games are also beginning to take shape in preschool children. By observing these games, we can learn about the child's individual characteristics and relationships with peers. A.P Usova: "The composition of the participants of the game increases with age and the duration of the game of one team also increases. New groups are created when members of one group join other members of the group. Up to 25 such regroupings can be observed in 30-40 minutes," [7, p. 56] Toys are especially important in preschool play. Not only is it a tool of the play process, but the toy makes the child happy, has a positive attitude towards others, and is important for the child to have positive emotions. With this in mind, toys should be chosen based on the child's age. Properly chosen toy will help the child to develop artistic taste and mental development. It is also a powerful educational tool. Of course, this has an effect on the formation of the child. According to N.M. Matyushina, "There are children who are not afraid to give a toy, they are usually the most timid children" [8]. The fine arts also have a special place in the activities of preschool children. It is of great importance in the comprehensive upbringing of school-age children. In child psychology, the visual activities of preschool children, especially drawing, are the most studied. Drawings of preschool children are usually schematic. What is unique about this is that it is just a diagram of a person's head, arms, and drawing. The child schematically describes not only the person, but all other objects. According to A. M. Schubert, the higher the drawing in all respects, the more characteristic it is, but not for the life of the mind, but for the life of the senses. A.F. Lazursky and other psychologists also emphasize the connection between the child's personality and his drawings. In the process of drawing, children first need to get acquainted with or observe an object in order to draw or make it, to know its shape, size, location, color, and in the process to see, feel, touch, efforts are involved.

This process plays an important role in the conscious upbringing of the child. In this process, children get acquainted with different materials (paper, chalk, paints), their specific properties, and techniques of working with them. This causes the children to develop mentally. In the process of drawing children have the following qualities - the work they started to bring to the end, to set a goal and strive to achieve it, to overcome difficulties, to help their peers. Visual activities play an important role in the artistic and creative development of children. The artistic and creative development of a child is the acquisition of figurative thinking, aesthetic perception and the skills necessary to create an image. For example, a trip to nature or a park, a trip in the fall. As a result of this activity, aesthetic education develops in children, and in addition, this is the main task of artistic,

moral education. According to B.A. Sazont'ev, the development of drawing in children involves both stages, each of which consists of several stages. 1. Generalized analysis period: a) a chaotic analysis of the general shape of objects, taking into account their relative size or properties; b) generalized contour analysis taking into account the general shape of the models; c) a generalized analysis of contours and details consisting of a stereotypical representation of the details of the depicted object. This stage is most characteristic for preschool children. 2. Period of differential analysis: a) stratified contour analysis, the emergence of similar descriptive motives in children, the need to compare the drawn image with the model, the need to correct the contour lines, which leads to a rigid palpation line; b) perspective analysis of the described objects, taking into account the individual characteristics, proportions and position of the object in relation to the drawn image [9]. According to psychologists at the School of Complex Experiments in Leipzig, children's art has an expressive character - it depicts what a child is experiencing, not what they see. Drawings from this period provide information about the child's mental state, inner experiences, as well as through this process it is possible to assess the child's processes such as memory, thinking, cognition. This process is also a form of play for the child. Usually all children like the process of drawing.

As H.M. Ribnikov noted, in order to understand children's drawing, it is very important to study not only the drawing result, but also the process of creating a drawing. H.M. Ribnikov noted that the visual activity of a child is different from the visual activity of an adult. This is why children draw with great passion, but often throws it away when they have finished drawing. Only at the end of preschool age does a child begin to pay attention to painting as a product of visual activity. As American researchers point out, "Attempts to teach a child this age to draw an apple are tantamount to teaching a child to pronounce words correctly or compose sentences."

N.P Sakulina emphasizes that by the age of 4-5, two different children are distinguished: those who prefer to draw separate objects (they mainly develop the ability to describe) and those who tend to develop a plot, narrative (in their pictures the plot image is full of speech will have a playful character). G.J. Gardner writes about "communicators" and "visualizes": for the former, the process of drawing is always incorporated into play, dramatic action, communication; the other draws a picture with devotion, paying attention to the picture itself, without paying attention to the surroundings. "According to A.V. Zaporozhets, visual activity, like play, allows a child to gain a deeper understanding of topics of interest.

In preschool, fairy tales also have a significant impact on a child's development. In this regard, K. Buller has specifically studied the role of fairy tales in the development of the child. According to him, the heroes of fairy tales are simple and typical, they often do not even have names. Their characteristics are limited to two or three qualities that are understandable to children's perception. K. Bühler called the preschool age the "Age of Fairy Tales."

EXPERIMENTAL RESEARCH

In our study, we used the "Choose the right face" method to determine the level of anxiety, which is aimed at determining the level of anxiety in preschool children. The methodology selected during the study was conducted in a group of subjects and the results were analyzed in terms of quantity and quality.

Table 1

Anxiety in children of preschool age manifestation levels

Examiners	High	Middle	Low
50 people	45,6%	49,4%	5,2%

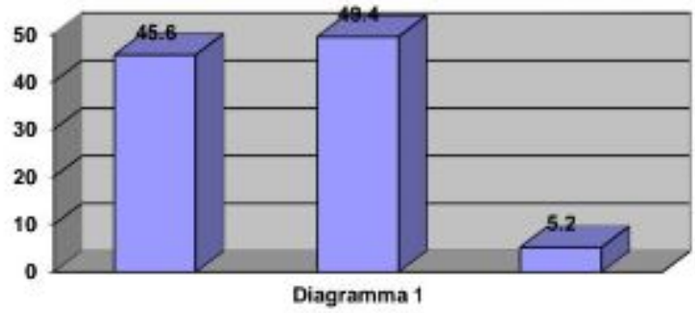


Diagramma 1

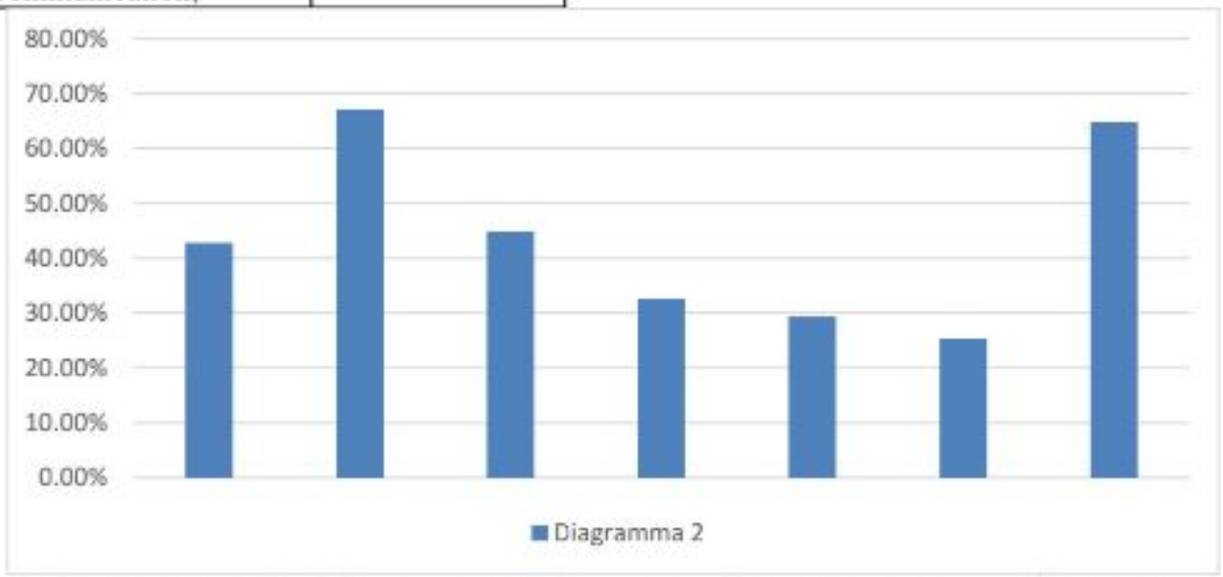
Figure 1. Features of anxiety in preschool children. A study of anxiety in preschool children found that 45.6% of subjects had excessive anxiety. It is known that the main reasons may be the influence of the external environment, the strength or weakness of the attention paid to children by adults and parents, as well as the incomplete development of communication skills. Also, the uniqueness of the system of relationships with peers, the lack of self-confidence can be a factor that causes them anxiety. Anxiety among preschool children was found to be moderate at 49.4%. This is due to the fact that they have emotional tensions, in a sense, do not adapt to the effects of the environment and are dissatisfied with the system of interpersonal communication. Therefore, in dealing with them, it is necessary to take into account the characteristics of the young age, as well as the crisis that occurs. Among those surveyed, 5.2% had low anxiety. This suggests that they are, in a sense, adaptable to the effects of the social environment and have a place and place in the system of interpersonal relationships. Also, these children are not afraid of what is happening around them and do not worry about it. They are defined by their ability, ability, and awareness of personal qualities and characteristics. This category of children is generally socialized children who are independent, able to have sincere relationships with their peers, and have interpersonal relationships.

COMMENTARY OF RESULTS

After determining the level of anxiety in children, we used the project "Home, Tree, Man" to determine the individual psychological characteristics of anxiety. This projective method of studying the personality was proposed in 1948 by J. Buck. The test is designed for adults, children, and groups. This method is all about the test subject's development, sensitivity (combination of sensory features and processes that ensure the development of the psyche), flexibility, and workability; in general, the field of interaction with others, especially with specific people helps to collect data. The essence of the method is as follows: the examinee is advised to draw a picture of a house, a tree and a person. Then there will be a question and answer session on the developed plan. The test consists of two parts: drawing and interviewing. The peculiarity of this method is that it is rich in information; repeat the test may reflect the dynamics of the mental and emotional state of the child's development. It is advisable to use the home, person and tree test during the initial psychological counseling process as it allows the subject to identify a major problem related to the intellectual or emotional field. Home, human, and tree tests are widely used in psycho diagnostics to examine people of all ages. The Home, Tree, and Man test, which was used to study anxiety in preschool children, was conducted with the children of the preparatory group, and the results were analyzed quantitatively and qualitatively on each scale. The results of the quantitative analysis were presented in tables and diagrams. Table 2 Features of anxiety in preschool children

Attributes	Quantitative indicators
Insecurity;	42,8%
Anxiety	67,2%
Self-doubt;	44,9%
Self-dissatisfaction;	32,7%
Hostility;	29,4%
Frustration	25,4%

Difficulty in communication;	64,8 %
Depression	38,5 %



According to the results of the assessment of anxiety in preschool children, the vulnerability in the group of subjects was 42.8%. It is well known that a characteristic feature of preschool children is that they feel vulnerable. People of this age, in particular, always need the support of others. It is known that children of this age are fully aware of the feeling of help and support from others.

At the same time, they need to be able to rely on someone to help them. Anxiety is highest in preschool children at 67.2%, indicating a high level of anxiety. According to him, the predominance of such a situation in the majority of subjects may be due to the fact that they are not fully adapted to the conditions of social life and the system of relationships provided by the educational institution. Excessive attention, especially from parents, can be a factor in the development of anxiety and fear in a person. Also, in the group of subjects, self-esteem was 44.9%, which is a direct cause for concern. A characteristic of children of this age is the development of self-confidence. It should be noted that their lack of life experience and low level of knowledge, as well as their lack of understanding of their personality traits, naturally lead to such a situation.

At the same time, their inability to fully grasp their abilities and potential can lead to a lack of self-confidence. Self-dissatisfaction is 32.7%, which is due to the fact that they do not fully master the activities and do not understand that they are part of the personality traits and qualities. Obviously, they want to do a lot of things and try to find the strength to do it. It should be noted that in most of the subjects, this result is due to their lack of life experience. Prejudice among preschool children is 29.4%. One of the characteristics of preschool children is revenge on other people or their peers. In this context, children of this age need to develop sincerity in their relationships with peers and adults. In particular, their impact on others is nonverbal. This process is also closely linked to the formation of egocentrism in them. In children of preschool age frustration accounted for 25.4%, indicating the presence of disagreements in their relationships with peers and adults. Most of the disagreements between them are determined by the fact that they do not understand each other as individuals, and do not understand the essence of the psychological and physiological changes that take place in them. It can also be the result of parental attention and a lack of support for their needs, interests, and aspirations. He is especially known for putting his personality first and always striving to be the center of attention and attention.

Difficulty in communication was 64.8% in the group of subjects. This, of course, can be explained by the psychological characteristics of the young age, which is determined by the fact that at this age the speech skills are not fully formed, and there are various barriers to communication. This is especially true for children of this age, whose cognitive processes are not fully developed, who have little life experience, who have limited communication skills, and whose communication skills are incomplete.

Depression in preschool children is 38.5%. According to him, the intensity of anxiety and fear in children of this age can lead to depression. Especially when we consider the variability of the human emotional system, in which the situation is inextricably linked with the system of situations and social conditions. It should be noted that the variability of the emotional sphere in preschool children is indicative of diversity. The results of the methodology suggest that the manifestations of anxiety in children of preschool age are associated with their age and individual-psychological characteristics, in particular, the impact on them and the response to them. It should be noted that the manifestation of anxiety in preschool children affects their personal qualities and characteristics. Therefore, it is important to prevent an increase in anxiety in children of this age.

CONCLUSION

We came to the following conclusions from our research: the child masters social forms of emotional expression; the role of emotions in the child's activities changes, emotional expectations are formed; emotions become more conscious, generalized, rational, arbitrary, out of state; during this period, emotions dominate all aspects of children's lives; manages and regulates its psychological functions without exception. Emotions of preschool children appear primarily through the use of colorful, attractive objects. The more variety and beauty they have, the more positive emotions they develop. During this time, the child's emotions are directly reflected in their actions or facial expressions.

References

1. Address of the President of the Republic of Uzbekistan Sh. Mirziyoyev to the Oliy Majlis. 29.12.2020.
2. Decree of the President of the Republic of Uzbekistan dated September 30, 2017 No. PF-5198. https://president.uz/oz/lists/view/1090
3. Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 802 of December 22, 2020 "On approval of state standards of preschool education."
4. Nishonova Z. Psychological features of memory development in preschool children. // Pedagogy. 2021. № 4.
5. Nishonova Z., Kamilova N. Developmental psychology pedagogical psychology. Toshkent 2017.
6. Goziev EG Psychology of ontogeny. -T. Publisher. 2011.
7. Usova A.P. To the question of the nature of creative games of preschool children and the rules of their management // Uchenye zapiski LGPI im. A. I. Herzen. - 1947.
8. Matyushina N.M. The struggle of motives in preschool children: Cand. dis. - M., 1945.
9. Sazontiev B. A. On the development of visual skills in preschool children: Cand. dis. - M., 1953.
10. Shchelovanov N.M. Development and education of a child from birth to three years. -m.: Enlightenment. 1968.
11. Elkonin D.B. Psychology of the game.

PSYCHOCORRECTIONAL ANALYSIS OF CONFLICT SITUATIONS IN PERSONAL RELATIONS

Rakhimova Iroda Giyosjonovna[1], Nazaralieva Marhabo Haitboevna[2], Suleymanova Albina Nailovna[3], Toshmatov Bobokhon Egamshukurovich[4]

[1,2,3,4]TSPU DEPARTMENT OF PSYCHOLOGY

ANNOTATSION

The article summarizes information on the psychological characteristics of conflicts in interpersonal relationships during adolescence. The information provided can be enriched with theoretical knowledge in the field of psychology, psychodiagnostics and psychocorrection of people with difficult behavior.

KEYWORDS : *Adolescent, conflict situations, psychocorrection, destructive, constructive conflicts.*

INTRODUCTION

In social life, in interpersonal relations, it is inevitable that there will be separate conflicts and disagreements. Therefore, scholars sometimes openly acknowledge that contradictions or conflicts can have not only negative but also positive aspects. For example, G. Andreeva writes about the constructive consequences of some conflicts. According to him, sometimes a conflict between two people leads them to the right conclusion in the future, and urges them not to repeat such a move, to be prudent and vigilant. Or, at first glance, the contradiction between reprimanded persons causes the person to constantly work on himself, to correct his own behavior. Such conflicts as a result called constructive. The result of a destructive conflict and it is often negative, which leads to conflicting conflicts between individuals, the nerves of the participants in the conflict become tense and general weakness is observed, which can lead to various diseases. In families, however, destructive conflicts can lead to marital discord between husband and wife, mother-in-law, and daughter-in-law, leading to divorce.

Conflict or conflict can be defined as a social psychological phenomenon.

Conflict, conflict or contradiction - a problem in the mind of an individual, or in the process of communication between individuals, within a group, or during a meeting and interaction between groups, with conflicting views, attitudes and positions is a social psychological phenomenon that expresses the purpose of the relationship.

There are many factors that contribute to conflict situations, but they can be divided into 5 main groups:

1. Information factors: inaccuracies, inaccurate facts, rumors, which are incorrectly conveyed to partners during the meeting; Doubts, information that is deliberately or unknowingly conveyed in an almost secret manner, lack of confidence in the source of the information, rules and regulations, rules and beliefs, rules and beliefs that may cause controversy and controversy related to certain events and events. .

2. Factors related to the functioning of certain systems in society: property issues, social status disputes, conflicts over government actions and reports, various social norms, traditions, standards, security issues, conflicts of interest, conflicts of interest, conflicts of interest, conflicts of interest; , conflicts in the distribution of resources, goods, services and benefits;

3. Factors related to values (principles that we recognize or reject): collective, group or personal beliefs, values that we do not believe and believe in and their manifestation in behavior, ideological, cultural, religious, moral, political, moral, ethical, moral possible conflicts;

4. Relationship factor: such factors arise directly from the interaction and the recognition that a person is satisfied or dissatisfied with the meeting. In interpersonal relationships, personal conflicts arise when the treatment of more than one person does not correspond to the expectations of another person, and their resolution is different in different situations. Conflicts in a personal meeting can be resolved in various ways, depending on the person's life experience, level of education, professional skills;

5. Behavioral factors: interests, interests, self-esteem, or the emergence of a threatening situation, as if the factors that appear as a means of protection, are a group of things, whether the person is responsible or not. as a result. In such a situation, the dissidents become upset because they see and feel the negative attitude towards them in action, and this conflict ends.

Conflicts can also be caused by the subjective mistakes of people in relationships, and from this point of view, the following types of conflicts differ:

Internal conflicts involving the individual- usually not studied directly by social psychology, such conflicts are the subject of general, pedagogical and pathopsychology, which are mainly caused by the conflict of different feelings, desires and motives in the human heart. Such a conflict is known only to

the individual, and sometimes he or she is assisted by a psychoanalyst or pathopsychologist if he or she does not realize that what he or she is doing is the result of his or her own internal conflicts.

Conflicts between individuals and groups usually the attitudes of an individual, the behavior of the group to which he or she belongs or work, contradicts the norms of behavior, and the expectations of the individual do not meet the requirements and norms of the group. Therefore, we have devoted our research to the psycho-correctional analysis of conflict situations in adolescence in interpersonal relationships.

In this case, the conflict between individuals, that is we have studied the contradictions of one or more specific individuals within each other or within a group as a result of psychological observations. Conflicts have been reported both in official communities and as a result of informal meetings. It has been found that such conflicts can arise in different ways depending on the behavior of the adolescent and the specific situation, and can vary depending on the nature of the situation. In particular, the causes of conflict between parents and children were studied.

Conflicts between parents and children, teachers and adolescents are caused by the imbalance between the demands of adults and the desires of children and adolescents. The existence of a hidden conflict between parents and children, teachers and adolescents is explained by the fact that it is not obvious, and exacerbates the problem. Sometimes conflicts arise for objective reasons and circumstances. For example, if this is the case, poor working conditions, inadequate distribution of responsibilities, disregard for human resources, injustice in the promotion of labor, etc., can lead to certain tensions between people. leads to covert or overt dissatisfaction. This can only be done by changing the objective conditions that led to such conflicts or by eliminating the shortcomings. This is because such conflicts in the community serve as a kind of signal, through which leaders become aware of the unfavorable psychological environment in the workforce.

Conflicts caused by subjective causes or factors are often based on the disproportion of people themselves, their personal characteristics, needs, desires and professions. This is due to the fact that the decision-maker is unpopular with others, their work is unfair, and some people are openly quarrelsome by nature.

In addition, disputes are classified as follows:

- **horizontal** - among ordinary servants who do not obey each other;
- **vertical** - those who differ from each other in the level of action, for example, between the leader and the employee;
- **mixed** - in interpersonal relations when he and this situation coincide. Typically, the most common types of disputes in manufacturing activities are vertical and mixed, accounting for 70-80 percent of all disputes.

REFERENCES REVIEW

From an early age, a person is confronted with various conflicts in an involuntary way. If we remember our childhood, we realize that we are very sad about simple things, we give in to our feelings and fight for our interests. All of these are common conflicts and disagreements that occur in everyday life.

At the same time, a number of scientific studies have been conducted by psychologists to study the conflicts that arise in interpersonal relationships. Including Ansupov A.Ya. Shipilov A.I.; Bould K.; Chase C.; Vasilyuk E; Hassan B.I.; Darendorf R.; Simmel G.; Merlin V.S.; Weber M and Shoumarov G.B. from national psychologists of the Republic; Goziev E.G.; Karimova V.M., Umarov B.M. such as the scientific research of our scientists K.N. Thomas' Assessment of Conflict Response Questionnaire. In my research, I used a questionnaire "Attitudes to conflict situations" modified by Professor E.G. Goziev, psycho-correctional training. Buhler, who called adolescence the pubertal period,

revealed in his works the biological essence of this period. Puberty is a period of biological growth. Sexual maturation ends, but physical development continues. He calls the pre-pubertal stage the study of man, and the birth of this age the adolescence. Buhler divides the pubertal period into two periods: mental and physical. External and internal stimuli that affect the development of adolescence, destroying his self-satisfaction and composure, encourage him to look for another sex. Biological maturation makes him inquisitive, and in his "I" is born the ability to meet "U". That is, S. Buhler tries to distinguish mental puberty from the body. According to him, the average age of physical education in boys is 14-16 years, and in girls - 13-15 years. mental and physical periods. External and internal stimuli that affect the development of adolescence, destroying his self-satisfaction and composure, encourage him to look for another sex. Biological maturation makes him inquisitive, and in his "I" is born the ability to meet "U". That is, S. Buhler tries to distinguish mental puberty from the body. According to him, the average age of physical education in boys is 14-16 years, and in girls - 13-15 years. mental and physical periods. External and internal stimuli that affect the development of adolescence, destroying his self-satisfaction and composure, encourage him to look for another sex. Biological maturation makes him inquisitive, and in his "I" is born the ability to meet "U". That is, S. Buhler tries to distinguish mental puberty from the body. According to him, the average age of physical education in boys is 14-16 years, and in girls - 13-15 years.

THEORY AND METHODOLOGY

It takes a great deal of strength for a person to be able to move actively in accordance with the requirements of our complex, rapidly changing times. This is especially important for adolescents who are at a specific stage of ontogenetic development, experiencing a variety of crises.Adolescence mainly includes children aged 11-15, ie students in grades 6-9. The process of raising young and old is difficult. During this period, adolescents develop their own opinions. They expand their understanding of self-worth. New sensations, thoughts, inclinations and experiences that arise during sexual intercourse dominate the mind of a teenager. The teenager is a member of his family; Conflicts with parents, brothers or sisters may arise. This is directly influenced by the community, school, peers.

Adolescence is always considered to be a period of sharp transition from childhood to adulthood. This age crisis is very different from the younger age crisis. It is the most serious and longest period. During this period, the child's previous relationships with and around him are broken and restored, and the adolescent's stage of independent life is formed. Stepping into life is not a sudden event, but a long-lasting process, the biological, psychological and social aspects of which have their own driving forces, their own motives and speeds of development.

Due to the high but inconsistent rates of physiological and psychological development of adolescents, there is still a process of social maturity, which is not always possible to meet these needs. For this reason, the denial of needs in adolescence is often observed and is expressed more strongly than in adolescence, which is very difficult to overcome due to the lack of adequacy in the mental and social development of adolescents. During this difficult period, the purpose of the adolescent's consciousness and experiences becomes a strong biological need, such as sexual desire, and a number of traumatic experiences are associated with it, and the emotional sphere changes. Intellectual inclinations rise to a new level, worldviews expand, new interests and interests appear.

The teenager feels the changes that are taking place in him, but he does not understand and comprehend them all. In peer-to-peer communication with peers, there is a need to expand the scope of vital relationships by comparing oneself with them. The opinion of peers, the opinion of parents and teachers is more important. According to the dissertation, the social status of a teenager does not change with the advent of adulthood - he remains a student and is in the care of his parents.

Therefore, many of his demands (claims) lead to insurmountable difficulties, conflict or conflict with reality. This is also the psychosocial cause of the crisis of adolescence.

The inability to change one's lifestyle in practice in adolescence creates dreams, which are considered by psychologists to be typical for this age group. Sometimes teenagers, especially those who have a serious conflict between their desires and their ability to satisfy them, begin to look for risky ways to realize their dreams outside of school and home. In such cases, teenagers fall into the hands of the street, they drop out of school and fall into the group of children who are "disconnected" from such a school, which leads to the social manifestations of homelessness and behavior.

If the adolescent himself sufficiently forms stable personal interests and behavioral motives, such as educational and aesthetic needs, the pursuit of spiritual and moral perfection, the transition period will be much easier. Adolescents' ability to act in an exemplary manner, to imitate in accordance with the highest and most promising goals, is able to determine the behavior, emotions and morals of the subject in any direction. This kind of purposeful behavior can eliminate the contradictions between different motives or, in a sense, flatten them out and make teenagers more introverted.able to provide.

At the same time, it should be borne in mind that adolescence, as the famous Russian psychologist L.S. Vygotsky (1960) put it, can not be covered by a single formula. In order to understand its features, it is necessary to study the forces and contradictions that motivate the mental development of this period, to distinguish the specific psychological and social achievements that reveal the complex nature of all the features of adolescence. One of these major psychosocial successes is in the early stages (12-14 years old), according to L.I. Bozhovich, and in the final stage of self-awareness (15-17 years old), where adolescents have the opportunity to express themselves and express themselves. The problem is not based on the desires of the first stage, but on the need to solve it taking into account its real capabilities and external conditions. It is connected with the need for a teenager to determine his own destiny and purpose in life. This aspiration and deprivation of needs can lead to a crisis in the psychology of adolescence, and in some cases, psychological behaviors in the field of psychiatry.

If we look at the classical study of adolescence, we see that it contains a variety of theories, hypotheses, and fundamental research. One of the brightest psychological concepts of adolescence is the cultural-historical theory developed by L.S. Vygotsky (1930) in the early twentieth century, in which the symptoms of adolescence, the phenomenon of stability and historical variability in adolescent psychology, its concept of interactions. L.S. Vygotsky considered the relationship between education and development. In doing so, he cited the following situation. Difficult forms in the mental life of a student are formed in the process of communication, that is, communication forms a relatively systematic form - the development of learning, the creation of new mental information, the improvement of higher mental function. Education plays an important role in the formation of the psyche,

The scientist points out that any teaching is not effective. It is effective only if it is able to move forward and follow it. The idea of L.S. Vygotsky, which develops not only in the process of independent activity, but also in the field of actual development, which includes the student himself, but also in the field of close cooperation with adults, is a source of inspiration for the modern reader.

He believes that the essence of the crisis, which arises at the age of 11-15 years, is to give them a sense of escape from the attitude of adults to students. Another characteristic of 11-15 year olds is the emergence of a "crisis of disconnection" and a sense of loneliness among their peers and the community. This situation is caused by historical conditions and factors.

Buhler, who called adolescence the pubertal period, revealed in his works the biological essence of this period. Puberty is the period of biological growth, when sexual maturity comes to an end, but physical development continues. He calls the pre-pubertal stage the study of man, and the birth of this age the adolescence. Buhler divides the pubertal period into two periods: mental and physical. External and internal motivations that affect the development of adolescence, destroying his self-satisfaction and composure, encourage him to look for another gender. Biological maturation makes him inquisitive, and in his "I" is born the ability to meet "U". That is, S. Buhler tries to distinguish mental puberty from the body. According to him, the average age of physical education in boys is 14-16 years, and in girls - 13-15 years. Of course Such differences take into account the influence of urban and rural areas, individual countries and even climate. The lower limit of puberty should be 10-11 years, the upper limit - 18 years. The negative features of this period are the physical and mental exhaustion, restlessness, ease of movement, hypersensitivity and agility, which characterizes the adolescence's agility and agility. Adolescents' dissatisfaction with themselves causes them to become dissatisfied with those around them, which is combined with different aspirations and leads to the formation of various negative thoughts. That is, adolescents develop "weak melancholy" and "aggressive defense." One of the creative features of this period is the perception of the perception of beauty, the feeling of love. Demak, Sh.

One of E. Spranger's followers, V. Stern, considers adolescence as one of the main stages of personality development. W. Stern tries to explain the phrase "If you show your friend, don't tell me who you are" by saying, "Tell me the most precious night in your life, I'll tell you who you are." Because under the influence of the experiences that make up the content of a teenager's life, his personality is formed. Expensive experiences help to differentiate his personality. In this way, W. Stern distinguishes six types:

a) all the aspirations of the theoretical type-person are aimed at understanding existence;

b) aesthetic type - for such a person it is difficult to understand the objective existence, he has an individual choice;

c) the poet in the efforts of such an economist-type person is more focused on profit (result);

d) the content of social life is love, treatment and living for others;

e) political type is characterized by aspiration, influence and command;

j) religious type - tries to reconcile any event with the essence of both life and the world.

According to W. Stern, the transition period is not only the ideal and aspirations, feelings and direction of thoughts, but also a unique image of actions. He calls this the situation between school games and the responsible activities of adulthood, and calls it "serious games." He emphasizes that serious games allow a teenager to set goals, express their attitudes to different interests and overcome hesitations in comparative analysis, as well as strengthen his will.

Adolescence is a period of transition from school to adulthood, which is characterized by physiological and psychological features. At this stage, the physical and mental development of students accelerates, their interest in various things in life, the desire for innovation increases, their character is formed, their spiritual world is enriched, and contradictions increase. Adolescence is a period of puberty, characterized by the emergence of new feelings, emotions and issues related to sexual life.

Under the influence of these, the character of the adolescent, his interaction with others, his attitude to what is happening in society is rapidly changing. Sometimes he is critical of certain rules because of misconceptions and misconceptions about

social issues. Adolescents also experience dramatic changes in mental processes, as well as changes in mental activity. Therefore, there are difficulties in the process of radical change in interpersonal relationships, student-teacher communication, the relationship between adults and adolescents. This happens first of all in the educational process: new information, the form, style and methods of presentation of information do not satisfy the teenager. Well, What is the driving force behind the mental development of adolescents? Conflicts can be gradually eliminated by ensuring the psychological maturity, the complication of the activities, the formation of new psychological qualities in the adolescent.

Today's teenagers have some physical, mental, and political advantages over their predecessors. They are more prone to sexual maturation, socialization, and mental development. At each age, complex processes such as psychological renewal, physiological changes and social adaptation take place.

Teenagers try to behave like adults. They tried to show their abilities and potential to a certain extent to their peers and teachers. This situation can be observed by a school teacher in the course of daily lessons.

By studying the psychological characteristics of adolescence, we can understand the direct influence and importance of the ways of formation and development of the adolescent personality and the biological and social factors that affect it. During this period, the teenager said goodbye to a happy schooling, but in the life of an adult is still in a difficult situation, which has not found its place.

Adolescence is characterized not only by the onset of aggressive attitudes toward adults, but also by the direct and indirect effects of negative sexual characteristics, such as negativism. Relationships with adults, school, and family are important characteristics. The leading activities during adolescence are study, communication and work. The main task of the adolescent meeting is to identify and master the basic norms of friendship. The main feature of the meeting of teenagers is that it is subject to a full partnership code.

Adolescents are in dire need of the trust that adults place in them. The most favorable conditions for adults to influence and educate adolescents are to engage in this common labor. If younger students are satisfied with the supporting roles, adolescents, especially adolescents, are more likely to be able to work on an equal footing with adults and, if necessary, to take their place.

As a result of the biological and physical changes that take place in adolescence, there is a turning point in his mental world. Growth does not go smoothly: girls grow 5-7 cm, boys grow 5-10 cm. Growth is due to the elongation of the primary bones and the enlargement of the spine. As a result of changes in the mouth and throat, the tone of voice also changes. This is more common in male students than in female students. The boys' voices become louder and louder. Although the muscles grow and strength then rapidly during this period, the growth of the bones of the legs and arms still lags behind. In adolescents, this trait causes them to behave erratically, to behave erratically, and to take big steps.

The thorax also develops more slowly as the body grows taller. As a result, some teenagers' shoulders and chests become narrow, which in turn leads to a lack of oxygen and shortness of breath. Lack of oxygen impairs spiritual activity.

The teenager tries to solve complex life problems without properly assessing his abilities and strengths, but due to the superficiality of his ability to think, he suffers from a number of shortcomings in everyday life. But he prefers to argue with adults rather than admit his mistake. He doesn't like critics, and every criticism seems to be a sign of contempt, a deliberate act. As a result, there are negative changes in the mental activity of adolescents. He tries to act independently, arbitrarily, ignoring the advice of adults. Some teenagers begin to learn different habits to show that they have joined the ranks of adults. Parents and educators need to work with

adolescents individually to find their way and to guide their behavior in a timely manner.

Adolescence is a period of formation of worldview, beliefs, principles, self-awareness, self-esteem. Adolescents begin to organize their activities on the basis of certain principles, beliefs and personal views. In determining their personality, it is necessary to take into account their attitude to the environment, social events and people.

Research by psychologists shows that the majority of teenagers have a correct understanding of spiritual and moral concepts, such as determination, humility, pride, sincerity, kindness. As a result of mastering the basics of science in their life experience, a stable religious and scientific worldview is formed, on the basis of which moral ideals begin to emerge.

As a teenager develops his or her personality, he or she tends to evaluate himself or herself in the process of self-awareness, and there is a need to compare himself or herself with others. These, in turn, affect the mental activity of the adolescent in the mental world, the formation of attitudes to the environment. The most important psychological trait in adolescence is the development of a sense of maturity or adulthood. The feeling of greatness is expressed in the socio-moral sphere, in intellectual activity, in curiosity, in communication, in the process of entertainment, in the external forms of behavior. The teenager begins to realize that his strength and endurance have increased, and his level of education has expanded.

Commenting on the peculiarities of adolescence, P.I. Leventuev, D.B. Elkonin, T.V. Dragunov noted that boys and girls at this age are interested in relationships with their peers, are interested in the life of their peers. Adolescents' physical growth and sexual maturation cause dramatic changes in their psyche. Increase in academic disciplines, information. the expansion of the data network shapes their thinking.

The basics of the subject that teenage students study are aimed at developing their abstract thinking. One of the features of their mental activity is the development of abstract thinking. Under the influence of school education and independent learning, analytical-synthetic activity in adolescents begins to develop rapidly.

One of the most important features of a teenager is independent thinking and the rapid development of critical thinking. This means that a new era in the mental activity of adolescents has begun. Criticism of the mind sometimes creates a "misunderstanding" between teacher and student. Critical thinking is one of the main characteristics of adolescents, who tend to find mistakes and shortcomings in the opinions of others, in the textbook, and try to argue and argue on their own.

The independence of thought is of great importance to man. The teacher should support this trait in a variety of ways, both in the classroom and outside of class, in any difficult situation, and provide opportunities for its development.

It is necessary to pay constant attention to the behavior of adolescents, to lead them firmly and consistently, to do all this in such a way that the student does not feel the constant guardianship of adults, even in small matters. Adolescents respect demanding but fair teachers who consider them to be new to their lives, who do not consider them “small”.

In adolescence, interests vary. Properly nurtured, these interests can have a profound effect on the development of adolescents' abilities and inclinations. The student's knowledge deepens, he begins to study subjects, in which he develops a great interest in certain subjects, art, some kind of sport. Adolescents to too many things; He is interested in sports, tourism, cinema, art hobby, collecting postage stamps and ancient coins, collecting plants and insects.

In many cases, these interests are passionate. With the right schedule and the right timing, a teenager can study well, engage in extracurricular activities, and have enough time for fun. Adolescents on the threshold of

early puberty are prone to emotions, experiences, and, in particular, to their own inner world, to self-analysis. Self-awareness is the need to know oneself, one's qualities and shortcomings, one's abilities and capabilities, and to be accountable for one's actions. The highest level of self-awareness is to have a clear idea of one's place in life, to understand oneself as a person.

In the beginning, his thoughts about himself were in many ways the opinions of other people about him. When asked, "How do you know about your character?" But in any case, they begin to value other people more than themselves. They want their ideas to win. Adolescents are sometimes hasty in their assessment of others, allowing them to think hard. For example, they often judge people solely on the basis of certain behaviors and qualities. This excuse applies to the whole person. As a result, a person's self-esteem is often misjudged as positive or negative. Their self-assessment is not always objective. For example, they talk about the rudeness or stupidity of their partners, but they do not feel it.

Not all teenagers are able to criticize themselves, to admit their mistakes conscientiously and honestly. The teenager is sensitive to the value of those around him. This is the reason for his resentment and hesitation. Accidental success or schooling by adults leads to self-esteem of teenagers, excessive self-confidence and pride. Even temporary, accidental failure can exacerbate a teenager's feelings of insecurity, hesitation, cowardice, cowardice, and shyness. As a teenager, the fear of being called weak, not independent, but small, increases.

He is often stubborn and rude in order to show his independence, even though he realizes that he is wrong. Being rude, demanding, and disrespectful to a student like a young student is one of the things they think they understand best.

Adolescents feel the need for self-education, which can be explained by the growth of their English, their desire to be like adults, and now they are, to a certain extent, self-education, such as self-confidence, self-command, self-control. In particular, they try to destroy their physical and volitional aspects. Abandoned teenagers rely on very simple, student-centered activities (for example, to test their courage and endurance, to bring a burning match close to their hands, or to wear a coat to harden themselves).

During adolescence, students develop a sense of duty and responsibility, and students are able to take action to achieve a specific goal they have consciously chosen. His perception perceives not only the external aspects of things and events in reality, but also the more complex aspects of them. They try to know the essence of things, to analyze things and events, to compare them with each other. It clearly understands the differences between important aspects and helps to cultivate good observational qualities in them. The memory of a teenager changes significantly. The mechanical memory of a small school-age child is replaced by a logical memory. Depending on the age of the teacher, it is important to look for ways to successfully memorize poetry or lyrics in adolescence, to teach ways to connect with each other. They are treated unkindly. This has a devastating effect on teenagers.

Understand that the student is older. It is a pleasure to have a serious relationship with them and to entrust them with responsible work. Nurturing the will of a teenager plays a big role in his self-education. The need for this arises in adolescence. Adolescents can make certain demands on themselves, they are able to look at themselves critically. They strive to cultivate the qualities they consider ideal. But at the age of maturity, a person really strives to educate himself. It is impossible for a teenager to study and do other things without showing determination. Knowing how to finish what you have started and going for it will help you to develop perseverance. Perseverance requires hard thinking and inner discipline.

In summary, when we study the typical features of the psychophysiological development of adolescence, the budget rounds are based on the characteristics of adolescents themselves. The dramatic

psychophysiological changes that take place during this period can have consequences for their self-esteem, self-expression in any field, and various behavioral disorders based on an underestimation of their capabilities.

EXPERIMENTAL RESEARCH

The main methods are the methodology "Determining the degree of conflict", the projective method "Non-existent animal" K.N. Thomas' questionnaire "Assessment of the method of response to conflict situations." In my research, I used a questionnaire "Attitudes to conflict situations" modified by Professor E.G. Goziev, psycho-correctional training. Also, in our study, the necessary information was obtained using the method of psychological observation, conversation.

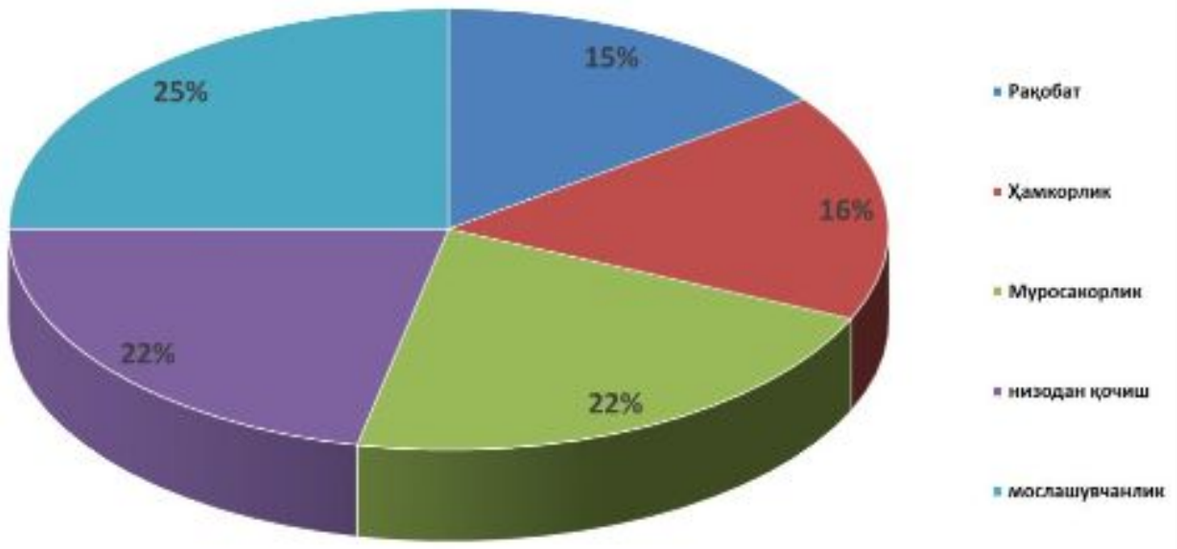
Table 2.1 Carl Thoms's Personal Conflict Survey.

	Scales				
T / R	Competition	Cooperation	Conciliation	Avoid	Adaptability
1				8	
2	10				
3	9				
4	10				
5	8				
6	10				
7	8				
8		9			
9		9			
10		8			
11		11			
12		10			
13		8			
14		9			
15				8	
16	12				
17		9			
18		7			
19		7			
20			9		
21			8		
22			9		
23			7		
24	8				
25			8		
26			9		
27			10		
28			7		
29			7		
30			9		
31			7		
32			3		
33			9		
34				7	
35				7	

36				8	
37				7	
38				7	
39				6	
40				9	
41				8	
42				8	
43				8	
44				7	
45					8
46					8
47					9
48					9
49					8
50					10
51					8
52	8				
53					8
54					10
55					10
56					9
57					9
58					8
59					7
60					9

2.1 жадвал

Карл Томснинг шахснинг низоли вазиятларга муносабат сўровномаси



The second method used in our study is the "Non-Existing Animal" project test, which can be used to identify adolescents' strengths, including conflict tendencies, based on their drawings.

This methodology is one of the projective methods in terms of its content. It can be used to gather information about certain personality traits and mental states. Due to the fact that the method is of a guiding nature, it is used as one of the methods that enters the research battery. The nature of individual self-assessment using the methodology; dissatisfaction of the examinee with his condition; insufficient recognition by others; lack of self-confidence; fear; reluctance; human activity; features of thinking; egocentrism; personality aggression; anxiety and protective reactions; aspects such as a person's creative potential can be explored.

The methodology is universal and can be conducted by test subjects of different ages and levels of development. The most important thing here is to accurately describe the picture and its details by the researcher. The purpose of the method was to study the character traits and conflict propensity of adolescent students. During the experiment, white or yellow (non-smooth) paper and a medium-soft black pencil were used.

The examinee was instructed as follows: "Think of a non-existent animal, draw a picture of it and name it."

The methodology was conducted individually and the results were analyzed. In the analysis of the results: The elements of the picture are classified, that is, the picture is placed in the middle of the sheet, which is placed vertically. Recognize that protest is a sign of self-affirmation, if the picture is at the bottom of the page, it is a sign of insecurity, low self-esteem, indecision, depression, unwillingness to gain a position in the community. The possibility of evaluating the quality was analyzed on a tribal basis.

Also, the analysis of the central part of the form in the analysis of the results of the methodology for example, the description of the head or its substitutes is also important.

"Breathing" mode, that is, if the person drawing the main picture is drawn to the side, this is interpreted as egocentrism. If the head

reflects the sensory details, that is, the ears, the mouth, the eyes, the interest in receiving information is considered to be attention to the thoughts of others about themselves. Partially open-mouthed, in harmony with the tongue, but with clear lips, it is assessed as strong speech activity (excessive speech), and if the lips are clearly drawn, it is assessed as sensitivity.

An open mouth without tongue and lips, especially a hard one, with fear and anxiety, from the easy manifestation of insecurity.

Verbal aggression, described as teeth, is often a sign of defensive aggression (relative rudeness, irritability, swearing in a negative address to the person).

It should be noted that for children and adolescents it is typical to describe the mouth in a round shape. This indicates a state of fear and anxiety in the subject.

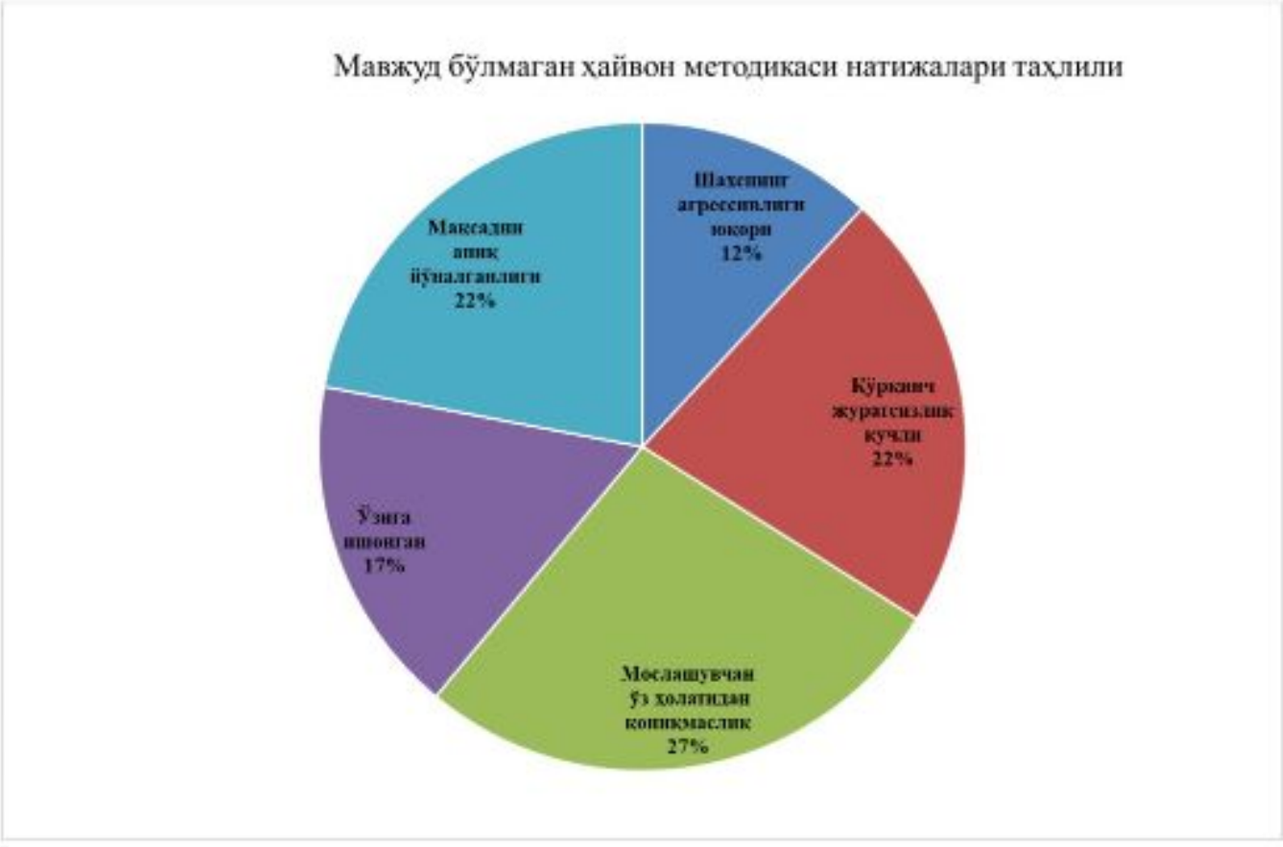
The contour of the picture drawn by the teenager, i.e. bBurns are analyzed for the presence or absence of rope, needle-type, and thick lines. it is a sign of protection from others. If the bulges are made at sharp angles - aggressive defense; if the contour line is painted black - fear and anxiety; if the shield is placed and the lines are two - it is analyzed as anxiety, scattering and suspicion. Depending on the spatial location, the direction of such protection is determined: the upper contour of the figure - in relation to older people, parents, teachers, bosses, leaders, ie, those who carry out the ban, the perpetrators of violence; lower contour - the younger ones, the ridicule of their subordinates, the lack of acceptance among them; side contours - uncertain concern, the tendency to defend oneself against various dangers that may arise in any situation. If the "protective" elements are located inside the contour, that is, in the body of the drawn animal, and they are turned to the right, then in the process of operation, as well as to the left, more thought is interpreted as protection than rigid vision. In short, the analysis of the results of the "Non-existent animal" test provides information about the current state of mind and inclinations of people of different ages. is interpreted as a relative protection against rigid vision. In short, the analysis of the results of the "Non-existent animal" test provides information about the current state of mind and inclinations of people of different ages. is interpreted as a relative protection against rigid vision. In short, the analysis of the results of the "Non-existent animal" test provides information about the current state of mind and inclinations of people of different ages.

Analysis of the results of non-existent animal methodology

№	The aggression of the person is high	Fear is strong	Adaptive dissatisfaction	Self-confident	The goal is clear
1		1			
2	1				
3	1				
4	1				
5	1				
6	1				
7					
8				1	
9				1	

10				1	
11				1	
12				1	
13				1	
14				1	
15		1			
16	1				
17				1	
18				1	
19				1	
20					1
21					1
22					1
23					1
24	1				
25					1
26					1
27					1
28					1
29					1
30					1
31					1
32					1
33					1
34		1			
35		1			
36		1			
37		1			
38		1			
39		1			
40		1			
41		1			
42		1			
43		1			
44		1			
45			1		
46			1		

47			1		
48			1		
49			1		
50			1		
51			1		
52			1		
53			1		
54			1		
55			1		
56			1		
57			1		
58			1		
59			1		
60			1		
жами	7	13	16	10	13



Conclusion

Theoretical and scientific analysis of the problems on the subject, especially in adolescenceaggression, conflict and attitude to conflict situationsshowed that the work devoted to the theoretical study of the concept of Many of the world's most advanced psychologists are in their teensaggression, conflict, and attitudes toward conflict situations It has been repeatedly emphasized that this process is a field of research that is important for the socialization and development of the individual.

At the same time, psychologists are scientists they are also focusing on exploring and researching some of the features of this problem. A number of studies and analyzes of scientific observations have led to the following conclusions:

1. In general, a teenager attitude to conflict situations There are various controversies in history and today about the forms of this idea, which have been scientifically refined over the centuries in various sources, in the works of Eastern and Western thinkers, in the scientific works of representatives of advanced psychology. At the moment,attitude to conflict situations It has become an object and a subject of constant research, which has attracted the attention of scientists as an important factor in the self-development of self-awareness and adequate assessment of their capabilities.
2. In adolescent students attitude to conflict situations research of theoretical and scientific sources for the study of the course of development as a socio-psychological problemattitude to conflict situationsallows you to make a more detailed observation of the factors that contribute to the social development of adolescents. This opportunity creates a complex structure of a person's psychological resources and the ground for further in-depth research.
3. Scholars have acknowledged that the diversity of perceptions of attitudes toward conflict situations during adolescence is directly related to the effects of the social attitudes that surround them, as well as to their individual characteristics.

List of used literature

1. Karimov I.A. -T .: "Dream of a mature generation", 1999.
2. I.A. Karimov "Let the ideology of our society serve to make the people, the nation, the nation" Magazine "Tafakkur", No. 2, 1998.
3. Karimov I.A.- T .: "Uzbekistan on the threshold of the XXI century" .1994.
4. Adizova T.M. Psychological diagnosis and correction of interpersonal relationships of students. - Tashkent, Tashkent State Pedagogical University, 1997.
5. Adilova M., Rakhmonova D.R. Children need our love. Women's Psychology: Tradition and Variability. Collection of reports of the Republican scientific-practical conference. - Tashkent, 2002.
6. Anastasia A. Psychological testing. - M:., 1982.T.2.
7. Baratov Sh. Methods of studying the student's personality. -Tashkent, teacher, 1995.
8. Vygotsky L.S. Problems of mental development./Sobr.soch .: in 6-ti t.T.Z.1983.
9. Greenberg D. Stress Management. St. Petersburg: Peter, 2004.
10. Davletshin M.G. Current issues of education in the national school./People's education. № 3-4, 1995.
11. Nishonova Z.T. Diagnosis of mental development. Tashkent. TDPU named after Nizami, 2004
12. Nishanova Z., Kurbanova Z., Abdiev S., Tulaganova Sh. Psychodiagnostics. Study guide. -Tashkent, 2008.
13. Отажонов M. Fundamentals of Psychoanalysis, Tashkent, Uzbekistan Publishing House, 2004, pp. 26-28.

14. Prutchenkov A.S. Personal growth training. M., New School, 1993.
15. Adolescent psychology. Translation from French. M .: "Pedagogy", 1991.
16. Psychology of the modern teenager. Under the editor. Feldstein D.I. M .: Pedagogy. 1987.
17. Rakhmanova D.R. Factors of mental state - // Tafakkur.- Tashkent -2001. -№4. –P 82-83
18. Tulaganova G.K. Interests of "Hard" teenagers as a reflection of the peculiarities of the motivational-consumer sphere: Dis. candid. psychol. наук.Т.
19. Tulaganova G.K. "Adolescents with difficult upbringing", Tashkent, "University" publishing house; 2005.B. 6-22.
20. Turakulov E., Rakhimov S. Abu Rayhan Beruni on psyche and education. T .: Teacher, 1993
21. General Psychology A.V. Under the general editorship of Petrovsky. Translation into Uzbek. Tashkent, "Teacher", 1992
22. Farobi A.N. City of noble people. T .: A. Qodiriy, 1993.
23. Yusupov I.M. Psychology of mutual understanding. Kazan. Tatar Book Publishing House, 1991.
24. Goziev E. Psychology (Psychology of Youth): Ped. Textbook for students of institutes and universities. - Tashkent, "Teacher" 1994.
25. Goziev E. General psychology. Textbook for Psychology, Book 1 Tashkent "University" Publishing House, 2002.
26. Goziev E., Holmuhammedov M., Ibrohimov Kh. Methodology of psychology. Training manual for psychologists. Tashkent M. Ulugbek National University of Uzbekistan, 2002.
27. www.library.com Internet library.
28. www.Expert.psychology.ru
29. www.psychology.net.ru

1. Karimov I.A. Uzbekistan on the threshold of the XXI century: threats to security, conditions of stability and guarantees of development-T .: Uzbekistan, 1997
2. Karimov I.A. The ideology of national independence is the belief of the people and confidence in the great future - T .: Uzbekistan, 2000
3. Andreeva G.M. Social psychology. Textbook for higher educational institutions / G.M. Andreeva.- 5th ed., Ispr. and the ball. - M .: Aspect Press, 2003.- 364 p.
4. Arthur Reber. Great interpretive psychological dictionary.- A-O - M., 2003
5. Bazarov T.Y. Personnel Management.- M .: UNITI, 2002
6. Bodalev A.A. Perception and understanding of man by man.-M., 1982
7. Bodalev A.A. Personality and communication.- M., 2003
8. Management psychology. Textbook / Ibrahim Mahmudov edition. - T. 2006.-132 p.
9. Yenikeev M.I. General and social psychology.- M., 2002
10. Kamenskaya E.N. Psychology and ethics of business communication: Lecture notes.- Rostov n / Don, 2004
11. Karimova V.M. Social psychology and social practice. Textbook.- T .: University, 1999 - 96 p.
12. Karimova V.M. Psychology. Study guide. - T .: A. People's Heritage Publishing House named after Qodiriy, 2002 - 205 p.
13. Karimova V., Berdiev G. Is it possible to compromise or resolve conflicts? - T., 2003 - 44 p.
14. Karimova V.M. Psychology of health or the secrets of mental control for good health.-T .: New Century, 2005 - 72 p.

Karimova V.M. Psychology of family life. Study guide. - T., 2006 -, 2002.

15. E. Goziev and others. "Public Education," N5,1996.

CHARACTERISTICS OF GENDER EQUALITY BETWEEN HUSBAND AND WIFE IN UZBEK FAMILIES

Saribaeva Umida Sattarovna

Associate Professor of "Psychology" TSPU, Candidate of Psychological Sciences
saribayeva2805@mail.ru

ABSTRACT

In this article it is addressed that the issue of ensuring the active participation and opportunities of Uzbek women in all spheres of socio-economic development. Information was provided on the achievement of gender equality in the family, the system of national and ethnic values, and the role of psychological knowledge in maintaining social equality.

Keywords: *family, male and female, gender equality, psychological compatibility, national ethnicity, opportunity, ethnic values, socio-economic development*

INTRODUCTION

It requires a new approach based on the new worldview of Uzbekistan to increase the social activity of our women in all spheres of development, the problem of equality between men and women in society[1]. One of the requirements of a developed society is to ensure equality between men and women. Today, Uzbek women are not only busy with their homes and raising children, but are also trying to do "both their families and the work they love" in the development of society. However, as some of the factors that may hinder gender equality, there are some of the most acute developmental challenges, and one of the most difficult solutions to achieve gender equality in both society and the family. The problem that has plagued women for thousands of years is that women are often left out of the development process, and there are many difficulties and even losses, such as family conflicts, divorces, celibacy, and the inability to marry and raise children.

INTERPRETATION OF LITERATURE

The Oxford University Press has published a number of studies on "Human rights" by experts in the field, including the types of inequality and the most obvious forms of inequality[2].

Identified the types of "Inequality and types of inequality". In particular, the process of human development is continuous and involves the constant expansion of opportunities for people to participate in the political, economic, social, spiritual and cultural life of society. For man, free choice is a condition for his development, and at the same time represents one of the highest goals of human society. Among the most important opportunities to take advantage of the remaining opportunities are three: the opportunity to live a long and healthy life, the opportunity to get an education and a material standard of living that provides a decent standard of living.

Human development is the basic content and form of existence of human society. In all forms of human activity, the modern stage of development not only puts man at the center of social development, but also requires that the results of development serve the path of human development, and the basic principles of the concept of human development are stated.

- Human development, along with the expansion of the scope of human choice, represents the abundance of life that human beings have achieved;

- Abundance is measured in terms of people's ability to lead decent lives;

[1] Decree of the President of the Republic of Uzbekistan DP-5325 dated February 2, 2018 "On measures to improve the activities in the field of support of women and strengthening the institution of the family."

[2] UNDP, Human Development Report. 1990. № 4. Oxford University Press.

• Human development depends on meeting the three basic needs that characterize human development, such as longevity, education, and material well-being:

• Income is a means of expanding one's choice, it is not necessary to have a steady high income to provide decent living conditions for people, it is noted that the positive effect of high income decreases as income increases.

According to the concept developed by the UN Development Program, the main components of human development are effective work and public life.

Adoption of the report is aimed at expanding the powers and opportunities of people to participate, sustainable development, opportunities for all and equality of choice[3].

The materials of the Millennium Development Goals Summit in September 2000 focused on promoting equality between men and women, and empowering women and girls[4]. In particular, the main criterion for the economic development of human society is the appropriateness of economic goals and the efficiency of production, with a special emphasis on the role and place of women. It was also noted that the development of a society should be assessed not on the basis of economic competence, but on the basis of the fact that each person in it serves the path of prosperity and harmonious development[5]. Freedom of speech and freedom of the press, freedom of religion, freedom of assembly and association, freedom of equal protection by law, freedom of the rule of law and freedom of justice are enshrined as fundamental human freedoms.

"Sustainable development" – is a unique approach to managing global resources, including economic, social and environmental strategies aimed at improving people's lives today, as well as the preservation of natural resources for future generations[6].

It was noted that the sustainability of human development can be achieved only if the issues of development are resolved without harming future and present generations, that is, when a rational combination of current and future goals is achieved[7]. It also sets out the basic criteria for sustainable human development - the need to create and implement a system of guarantees for the current generation of people that will ensure their confidence in the future. These include:

• guarantees of peace and the absence of any forms of war;

• guaranteeing the rights and freedoms of citizens;

• guaranteed access to education;

• guarantees of ecological safety of the living environment;

• guarantees of the existence of a public health system;

• guarantees of access to the labor market and income;

• guarantees of access to resources necessary for the life of the population;

• Preservation guarantees for at least the next two generations of these guarantees.

In terms of equality of choice and opportunity, equality in terms of human development means that there are equal opportunities for all people, including education, health, employment and opportunities to participate in the political life of society. Equality of opportunity is based, first of all, on the equality

[3] Lecture on human development. NBT Development Guide. Uzbekistan. 1996. 1998. 1999.
[4] The Millennium Development Goals. The Millennium Summit Materials. September 2000.
[5] UNDP, Report on Human Development, Tashkent, 1996.
[6] N. Desai, Secretary General of the World Summit on Sustainable Development. Speech at a special meeting of the World Economic Forum. New York. February 4, 2002.
[7] World Commission on Environment and Development (1987). Our Common future (The Brundtland Report). (Oxford, Oxford University Press).

of human rights and fundamental freedoms, regardless of the level of material prosperity, social status, beliefs, gender and ethnicity. As stated in the Universal Declaration of Human Rights (1948), human dignity is — "the foundation of freedom, justice and general peace."

Equality, as an integral part of the concept of human development, implies the creation of equal opportunities for all people to meet their material and spiritual needs.

The term "social stratification" is used in modern sociology to describe the system of inequality. Social stratification (Latin stratum - layer and facio - I do) – "it is a system of social stratification, signs and criteria of inequality in society, which form the basis of the social structure of society, where people are more interested in government, property and status."[8] The process of stratification is directly related to the form of the social structure of society and the orientation of the respective values of its citizens "

Inequality between men and women According to the radical feminist approach, one of the universal models of social stratification inherent in any society is the division of men and women by gender[9]. It can be observed that gender inequality of opportunity is a factor in determining differences and inequality within each stratum of society.

As noted in the UN Human Development Documents, "in no society do women and girls have the same opportunities as men."

Uzbekistan is one of the first Central Asian states to give women and girls equal rights with men, to raise their status in society,

- Implemented a number of measures to expand their rights. In 1996, Uzbekistan ratified the Convention on the Elimination of All Forms of Discrimination against Women and Girls (CEDAW)[10]. A number of its articles have been included in national legislation. At the same time, the adoption of relevant legislation is not always consistent with its implementation. In all countries of the world, including Uzbekistan, there are serious problems in this area due to the low status of women in society and non-compliance with their rights. Overcoming stereotypes about the role of women and men, achieving gender equality, and creating equal opportunities for women and girls, men and boys, is an important aspect of human development.

Differentiation of the concepts of gender and tender is considered a condition for the approach to gender and development, and is seen as a constraint on the path to development of inequality[11].

Also, the process of absolute differentiation of biological differences between men and women has led to the fact that many areas of human activity are artificially divided into "feminine" and "masculine" types. The new concept of gender differs from biological sex in that sex and social relations between the sexes differ only in the biological differences between men and women. Androcentrism is a characteristic of the Fapb culture, according to which a man is generally understood as a human being, a human being as Homo Sapiens[12]. Gender is an anatomical, physiological concept, that is, a unit of biological characteristics that determines an individual's belonging to a biological sex[13]. However, in addition to biological differences between people, there may be social roles, types of activities, behavioral and psychological factors. Unlike gender, gender is formed by psychological, cultural and social means.

A review of the literature shows that the success of development depends in many ways

[8] Weber M. Basic sociological concepts // Weber M .. Selected works. M .: Progress, 1990.

[9] Gender and culture. Textbook for students of humanities faculties. Monday. Asia-Plus news agency. 1999.

[10] Lecture on human development. Uzbekistan. 1999. Tashkent.

[11] Introduction to the theory and practice of gender relations. Tashkent, 2007.

[12] Glossary MGCI- www.gender.ru

[13] Zdravomyslova EA, Temkina A. A. Social design of the tender. Collection of articles "Possibilities of using qualitative methodology in gender studies". MCGI. 2001.

on the goals of the people, the involvement of women in social activities, and the consideration of local needs and requirements. In our view, the success of development also depends on the ethno-psychological aspects of the issue of equal rights for men and women in society.

THEORY AND METHODOLOGY

Our independent state, which has ratified international instruments, attaches great importance to the issue of equality between women and men in its national legislation, based on the universally recognized requirements of international law[14]. However, despite the fact that our national legislation provides for legal guarantees of equality between women and men, the majority of family disputes are due to the fact that in some cases women's rights are violated by men, and in many cases women's rights are not recognized.

Today, in modern Uzbek families, domestic labor cannot be a basis for direct or indirect discrimination on the basis of sex. established opportunities guarantees. However, the results of our research have shown that many segments of the population are not psychologically ready to accept these opportunities, which are specified in the law.

Achieving equality between men and women, respectively, the more fully the population is involved in development programs, the more effective the development process will be and the more sustainable the results will be[15].

Therefore, the movement "Women in the development of women", which began in the 70s of the 20th century, is aimed at increasing the social activity of women and girls in the Republic of Uzbekistan, attracting them to effective and profitable activities in society, a certain group, as deputies. As a result of the integration of women and girls into the development process, programs are being developed and put into practice to increase the effectiveness of development. This is because developmental women are more effective in attracting girls to their full potential. Wife - participation in girls' projects; Strategies are being developed to improve household chores.

However, while statistics show that the total income level of families has increased, in practice, the situation of women, girls and children has worsened as a result of the involvement of women and girls in the development process.

The aim of our research is to study the different needs and wants of men and women in Uzbek families, to determine the attitudes and influences of adolescents and the elderly on gender equality, and to identify gender inequalities and differences in ethnic values and psychological factors. We aimed to determine the methods of action.

EXPERIMENTAL RESEARCH

The process of generalizing the biological differences between men and women has led to the fact that many areas of human activity have been artificially divided into "feminine" and "masculine" types. Gender is an anatomical, physiological concept, that is, a set of biological characteristics that determine an individual's belonging to a biological sex[16]. However, in addition to biological differences, there are social roles, types of activities, behavioral and psychological characteristics. Unlike gender, gender is formed by psychological, cultural and social means.

The development of different skills and psychological characteristics in boys and girls, the division of labor between women and men, the accepted cultural norms, roles and attitudes in society - represent the process of shaping gender differences.

[14] UNDP, Report on Human Development, Tashkent, 1996.

[15] Decree of the President of the Republic of Uzbekistan PF-5325 dated February 2, 2018 "On measures to improve the activities in the field of support of women and strengthening the institution of the family."

[16] Zdravomyslova EA, Temkina A. A. Social design of the tender. Collection of articles "Possibilities of using qualitative methodology in gender studies". MCGI. 2001.

Men and women play gender roles in accordance with certain gender standards, but these roles are not given to them by nature, in accordance with their biological development.

Based on the social organization and definition of the roles of men and women in society, our study found that "the role of men and women in the distribution of domestic labor and values in Uzbek families is shaped by the image of men and women.

DISTRIBUTION OF HOUSE CHORES AND VALUES BETWEEN HUSBAND AND WIFE IN UZBEK FAMILIES

Table 1

№	Approval	Men's Responsibility	Women's Responsibility
1	Responsibility for the material and economic support of the family	Responsible	Responsible
2	The task of solving problems in the family	Responsible	Responsible
3	Maintaining the peace and tranquility of the family	Responsible	Responsible
4	Continuous parenting is always a responsibility in your free time.	Responsible	Responsible
5	Accounting for household shortages, saving in free time, always responsible, if possible	Responsible	Responsible
6	Having a good relationship with relatives is always a responsibility in your free time, if possible.	Responsible	Responsible
7	Self-control, self-indulgence always in his spare time from housework, if it benefits the family	Responsible	Responsible
8	Awareness of innovations in public life, social activism is always useful only in free time from household chores, if it benefits the family	Responsible	Responsible
9	Doing household chores in your free time is always a responsibility, if possible.	Responsible	Responsible
10	Mutual respect, trust, and understanding between husband and wife will always depend on the situation.	Responsible	Responsible

The fact that 67% of Uzbek men are engaged in household chores and women's work means that they feel discriminated against, humiliated, and ashamed of their relatives, neighbors, and neighborhoods. Twenty-eight percent of men said that they could help women to do their homework "in their free time, if possible." Only 5% of men volunteered to help women with household chores. Although the law does not provide a basis for direct or indirect discrimination on the basis of gender, domestic labor is practiced on an equal footing by men and women, "the law states. Due to the existence of ethno-psychological aspects of the problem and in the process of long historical evolutionary development, women's labor and men's labor, which have been strengthened in social institutions, national and ethnic relations, are being treated unfairly in the psychology of men.

REPRESENTATION OF HOUSE CHORES AND VALUES BETWEEN

HUSBAND AND WIFE IN UZBEK FAMILIES

(in percentages)

Table 2

№	Approval	Men's rating		Women's rating	
		Male in action	Female in action	Male in action	Female in action
1	The task of material and economic support of the family	68 %	25 %	56 %	38 %
2	Problem solving in the family	66 %	34 %	54 %	46 %
3	Keeping the peace of the family	67 %	33 %	58 %	42 %
4	Continuous involvement in child rearing	33 %	67 %	27 %	63 %
5	Assessing household shortages, saving	41 %	59 %	52 %	48 %
6	Relationships with relatives	38 %	62 %	48 %	52 %
7	Self-determination, self-employment (if it benefits the family)	100 %	34 %	71 %	29 %
8	Awareness of innovations in public life, social activism	69 %	31 %	90 %	58 %
9	Household and household chores	28 %	72 %	23 %	84 %
10	Demonstrating mutual respect, trust, and understanding between husband and wife	43 %	47 %	23 %	77 %

Existing social attitudes and stereotypes about gender equality, which still persist in the majority of Uzbek families, hinder the regulation of modern family relations, and attribute attitudes to the predominance of attributes, which are mainly masculine and feminine. This, in turn, shows that Uzbek families have deep-rooted national and ethnic values, traditions and customs in matters of gender equality.

In addition, the majority of men do not recognize the potential of women who strive for equality, and do not like their social activities, which often leads to gender discrimination against women in the process of employment or employment. To identify the root causes of violence against women in the family and in society, first of all, it is necessary to study and eliminate the causes of violence against women, to ensure the socio-economic development of society and socio-economic development rather than to punish men. is one of the priorities of development.

As a result of our research on public awareness and social activism, 72% of men said that they are always socially active and responsible for the material economy of the family. In this regard, it was stated that women can engage in activities that benefit the family only if they are more than just household chores.

CONCLUSION

The unequal distribution of responsibilities between men and women in the family, and the fact that caring for the household, children, and parents, is mainly the responsibility of the wife and daughter, develops their professional skills. Certain stereotypes and preconceived

notions of girls and women in society, and their ability to develop freely and pursue their hobbies, can only be achieved by single mothers and housewives. confirms that the level of self-awareness of women in the family remains undeveloped as a result of a certain degree of self-control and restriction of their favorite activities.

Only 29% of the women surveyed had sufficient strength and education in the family, local community, and community. Due to the lack of psychological education of women and girls, national and ethnic stereotypes, social discrimination and various forms of violence, both in the family and in society, have become victims of violence.

There are a number of ethno-psychological and psychological barriers to the free and all-round development of women. When assessed by men, it was noted that not only women who stay at home, but also women who work, are always concerned about the household and are always responsible for children.

According to 72% of men, "A working woman is always considered to be responsible for household and household chores. It was observed that he was almost deprived of free time, which is the basis for raising the level of education, intellectual and physical development of the individual, expanding the scope of social communication.

The main obligation imposed on men - the notion of a high salary - has a negative impact on the performance of fatherly duties by men, which has led to their separation from the upbringing of children.

Mutual respect, trust and understanding between husband and wife is confirmed by 43% of men. This is explained by the fact that men are less emotionally excited, as well as trying to show less emotion. This leads to a "psychological deterioration" in the family's relationship with their families, wives and children. On the other hand, it leads to greater conflict and competition among men.

While the role of men in solving family problems was confirmed by women at 54%, it was observed that men tend to look educated and competent in showing mental resilience and are discriminated against by those around them who witness their ignorance when problems above their level of knowledge arise. , is explained by the fact that employees with deeper knowledge in the workplace, begin to oppress his wife in the family, try to force themselves to confess.

This means that equality has long been a problem for women and girls, but today it is a problem for men as well.

In order to overcome these problems, "there is a contradiction between the pursuit of equality in society and the possibility of achieving absolute equality.

Ensuring equal access to education, science, physical education and sports, spiritual culture can be eliminated by elimination.

REFERENCES

1. Report on human development. NBT Development Guide. Uzbekistan. 1996. 1998. 1999.
2. Gender and culture. Monday. Asia-Plus news agency. 1999.
3. Decree of the President of the Republic of Uzbekistan PF-5325 of February 2, 2018 "On measures to improve the activities in the field of support of women and strengthening the institution of the family."
4. INDP, Human Development Report. 1990. № 4. Oxford University Press)
5. The Millennium Development Goals. The Millennium Summit Materials. September 2000.
6. UNDP, Report on Human Development, Tashkent, 1996.
7. N. Desai, Secretary General of the World Summit on Sustainable Development. Speech at a special meeting of the World Economic Forum. New York. February 4, 2002.
8. Weber M. Basic sociological concepts // Weber M. Favorite works. M .: Progress, 1990.

9. Report on human development. Uzbekistan. 1999. Tashkent.
10. Glossary of MGCI - www.gender.ru.
11. Zdravomyslova EA, Temkina A. A. Social design of the tender. Collection of articles "Possibilities of using qualitative methodology in gender studies". MCGI. 2001.
12. Desai N., Secretary General of the World Summit on Sustainable Development. Speech at a special meeting of the World Economic Forum. New York. February 4, 2002.
13. Convention on the Elimination of All Forms of Discrimination against Women. UN. 1998.
14. Introduction to the theory and practice of gender relations. Tashkent, 2007.
15. Myers D. Social psychology / trans. with English. - SPb .: Peter Com, 1998. P.102.
16. Convention on the Elimination of All Forms of Discrimination against Women. UN. 1998.
17. Platform of the National Movement for the Promotion of Women in Uzbekistan. 'Tender and Development Bureau. UNDP Manual, Tashkent. 1999.

GENERAL CHARACTERISTICS OF GENDER RELATIONS IN THE PROCESS OF GLOBALIZATION

Qandov Bahodir Mirzayevich[1], Normatov Otabek Maxamatjonovich[2], Kuyliev Tulkin[3], Mukimov Bakhriddin[4]

[1]Associate professor of the Tashkent region Chirchik State Pedagogical Institute, doctor of Philosophy in Philosophical Sciences (PhD) Tashkent, Uzbekistan **E-mail**: kandov1976@mail.ru, +99893-479-47-76
[2]Chirchik State Pedagogical Institute of Tashkent region, doctor of philosophy historical sciences (PhD), Tashkent, Uzbekistan **E-mail**: *otabeknormatov@mail.ru,+998935069318,*
[3]Senior teacher of The Tashkent State Agrarian University, Tashkent, Uzbekistan
[4]A teacher of Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, Tashkent, Uzbekistan

ANNOTATION

This article reveals the social aspects of ensuring gender equality for women in the context of the modern globalization process. It has been shown that there is a need to pay attention to the racial and class discrimination trends that are taking place in the world. The author analyzes the views on gender theory existing in the scientific literature and supports the point of view that gender is a new understanding and a new perception of social relations between the genders.
The article is based on the fact that the coordination, harmonization of relations between society and the individual, mankind and man is a prerequisite for global development. It is for this reason that the issues of global development encourage the solution of women's rights in accordance with its purpose and have expressed certain views on the fact that each of us has a great responsibility in this regard.

***Keywords**: globalization, human interests, freedom, equality, obligation, gender, gender equality, social life, personal rights, social rights, humanism.*

Introduction

As a consequence of the changes taking place in the world community in today's modern globalization, the human factor has become a prior factor in the process of changing the social world, while the attitude towards women has radically changed. Achieving gender equality is one of the main prerequisites for fair and sustainable human development. The fact that gender equality is of top importance in social relations, which is important for the development of society, is more evident in the modern process of globalization. In many scientific centers around the world, research is being conducted to address the current problems of women and girls. In particular, the social aspects of ensuring gender equality of women were revealed, the importance of paying attention to the racial and gender discrimination trends around the globe was shown. The social, economic and political influence of a woman on the development of society is studied from the point of modern methodology in the system of a number of branches of science. The identification of ways to ensure women's equality in the current process of socio-economic and political development and the development of practical recommendations are among the most relevant research topics. Addressing such challenges is particularly important for young, independent countries that have embarked on the path of change inherent in a market economy and which are overcoming the serious challenges of the transition period.

Ensuring equality and increasing the responsibility of women in the system of reforms carried out in our country has become important social, political and economic issues and one of the priorities of state policy."...taking into account the living conditions of women, our most urgent task is to continue an active state policy to ensure employment, to create all possible opportunities to ease the pain of our sisters, to increase the role and prestige of women in our social and political life"[1: 144]. However, in carrying out these tasks, it is important to study ways to increase the enrollment, activity, and responsibility of women in all spheres. Furthermore, great opportunities have been created in our country for the building of the new Uzbekistan, and serious reforms are continuing. The final goal of democratic reforms carried out in the framework of the action strategy on five directions of development of the Republic Uzbekistan for 2017-2021, which means that our country has

taken a decisive step into a new stage of development towards the construction of a democratic state and fair civil society.

(Research methodology; Literature review).

Normative and theoretical basis for this study were the decrees and orders of the President of Uzbekistan Shavkat Mirziyoyev on guarantees reliable protection of the rights and freedom of citizens, particularly women's rights, opinions and theoretical insights to social protection. In the process of studying the problems of gender equality in the global environment, axiological analysis and comparative methods were used.

The existence and development of society is the basis of cultural existence [2: 27]. The idea of a cultural being in a particular historical territorial space and time is made up of civilizations, which are the countries that have their own citizens and states. Uzbekistan is a country with its own state and citizens [3: 11]. Therefore, the methodological basis of the study was the civilizational approach.

Women's rights are an integral part of a human's personality and life. Hence, the right of women and the protection of their freedom have always been the main subject of religious, moral, philosophical, and social dialogue. In particular, the book of Avesto puts forward the idea of "restoring an organized, prosperous society in which harmony is achieved in all respects" [4: 1]. Ancient Greek thinkers Plato, Aristotle, Protagoras, Lycophron as the best state acknowledged the state in which equality and justice reigned society. They put forward the rules which maintained the equality for all. Using the idea of equality of men and women in his works, the Greek scientist Antiphon argued that "nature creates everyone: both women and men alike, but people develop laws that make people unequal"[5: 147]. The political and legal teachings of ancient Chinese scholar Confucius show the need for natural equality of people to understand human rights. The opinion of Confucius that "if you study the basics and principles of actions, your thoughts about (moral knowledge) good and evil will reach the very last level of perfection"[6: 139] - in the context of globalization will show the protection of women, family and world peace and the protection of the right to life. Universal and national aspects of the problem of women, new approaches and views on empowerment has been studied by a number of scholars in the field of research [7]. The role of women in society, socio-political and economic processes, are put forward in the scientific works of such thinkers as I.Kant, F.Hegel, R.Descartes,E. Fromm, plays the methodological part of the research problems under the theme of political and philosophical ideas about the nature of their role in society. In the context of modern globalization, scientific research is conducted on the basis of completely new approaches and views on the problem of ensuring gender equality of women on a global scale. In particular, Western researchers [8] have successfully worked out practical and theoretical solutions to problems that have arisen in the lives of females. K. Borman, P. Barrey, M. Valet, E. Kaks, S. Haggard, and others have published a number of monographic studies on the role of women in ensuring equality, their role in political, social, and economic development. In Uzbekistan, the issues of gender equality of women, some aspects of the rights and social status of women are discussed by such scientists as Kholmatova[9: 240], S. Safaeva[10: 160], A. Huseynova[11: 88], N.D.Joraeva (the role of women in the socio-economic and cultural life of Uzbekistan), N. M. Muravyeva (issues of increasing the social activity of women), G. B. Orazalieva (improving the legal culture of women in gender relations), D. Khenumunova (socio-philosophical analysis of increasing the responsibility of women in the modern spiritual and cultural development of Uzbekistan), G. A. Matkarimova[12: 41.

Analysis and results.

During the years of independence, the government realized a lot of work to improve the status of women in Uzbekistan, the harmonious development of their creative, spiritual and economic opportunities. Today, as a result of the special attention paid to increase the activity of women in the family, society, and especially in public life, great changes are taking place both in public relations and legislation. Currently, more than 80 legislative acts of Uzbekistan are directly

related to the protection of women's rights, interests and freedom. In particular, the Law of the Republic of Uzbekistan "On Guarantees with respect to equal rights and opportunities for women and men", adopted on September 2, 2019, is an integral and basic legislative document aimed at ensuring gender equality in our country. For the first time by this law, the concept of "gender" is described in our national legislation. The law defines gender as a social aspect of relations between women and men, which is manifested in all spheres of life and activity of society, including politics, economy, law, ideology and culture, education and science. This law defines the main directions of State policy in the field of ensuring equal rights and opportunities for women and men, as well as public administration in this area. "In order to achieve gender equality, it is essential that the equal rights and opportunities provided for by law are accepted by the whole society"[13: 27]. Thus, globalization makes it possible to objectively develop sub-ideas, scientific and theoretical views on a global scale, and implement them in real life.

Globalization allows a person to control the validity of the international bill of all countries in ensuring rights. Experience shows that national and racial discrimination can exist, especially in countries which are tend to autocratic and totalitarian regime , if it is not controlled by international organizations, especially the UN and its institutions.The racial scandals that occurred in Eastern Europe after the collapse of the USSR showed that many troubles can still fall on the heads of people and nations.

The International Convention on the Elimination of all Forms of Discrimination Against Women was adopted on 18 December 1979 and was instituted in 1981,which has been ratified by 196 states. The Convention is basically described as an international bill for rights of women. The concept of" gender" is used in modern philosophical, legal and social sciences. According to the new interpretation, " sex "and" gender " - express intersex relations, and legal relations are considered as gender as well . Thus, the concept of "gender" was first used in 1968, although it was introduced into scientific circulation by Stoller [14: 6], its socio-historical background is found from antiquity. Because the gender relations between men and women go back to the period of the formation of classes in society, not only as physiological, anthropological, but also as political and legal relations. However, the issue of rational organization of gender relations on a global scale is now on the agenda. Because although men and women are considered equal in political and legal terms, ensuring this gender equality in real life remains one of the global challenges. For example, according to the UN official, more than 60% of children who do not attend school are girls, girls study 4.4 years less than boys, during pregnancy and childbirth 140 thousand girls die of life every year, in developing countries, about 450 million girls are developing behind boys due to malnutrition at a young age, and about two million girls are injured during sexual intercourse-related operations[16: 76]. Therefore, the Beijing Declaration adopted by the United Nations and the Beijing Platform for Action (1995, Beijing) emphasized gender equality. Since 1986, the UN has held meetings of the official circles of Strasbourg (1986) and Vienna (1989,1997) for a global solution to the problem of ensuring equal rights for women. At the Third World Conference on Women in Nairobi (1985), one of the main indicators of social development was put forward by the UN to the problems of gender equality and the idea of an integrated approach to their solution. While the UN is committed to addressing gender issues globally, ensuring legal equality between women and men remains one of the most difficult issues to address soon. Gender equality is a human right. Guaranteeing women's rights and enabling them to reach their full potential is essential not only for achieving gender equality, but also for achieving broad stages of development. It is no secret that women and girls with equal opportunities can contribute to the health and effectiveness of their families, people and countries and create a force that benefits all.

Despite the fact that the world has made giant steps towards gender equality, there is still a large gap. According to the researchers, gender inequality is still a problem, and there

is a gender disparity in having significant opportunities in social life. This is especially evident in such processes as healthcare and higher education. The equality of rights of women and men in our society is not always manifested in the same way, the reason that men perceive women as "weakest" is integrated in some families as a tradition through upbringing. Promoting gender equality, international influential organizations call on all countries of the world to support the idea of gender equality, destroying the stereotypes of sexual discrimination that have developed in existing societies. Studies show that gender issues are broader than political and legal realities, they are age-old and historical and cultural traditions that require an approach from the real point of view.

The theory of gender approaches in culture from a fundamentally different point of view approaches the question of the distinctive features inherent in men and women. The basis of this attitude is the idea that all the differences that are considered traditional between the sexes are based not on a biological basis, but on a social basis. These differences are formed in society through social institutions, norms, and cultural dogmas. The Bund consists not only in the presence of differences (biological and social) from a gender point of view, but also in their socio-cultural assessment and interpretation. In traditional culture, the concepts of "masculinity" and "femininity" were sharply stratified and formed on the principle of double opposition. In addition, masculinity and femininity are hierarchized in such a way that one of them is a priority, the other is subordinate to it. Thus, gender stratification appears as the basis for the restoration of the system of violence in traditional culture. The basis of the theory and methodology of gender studies is not a dry description of the positions, roles and other aspects of the lives of men and women, but an analysis of the authority and priorities through which decisions are made in society through gender stratification. In more recent times, numerous studies have shown that the traditional male and female imaginations may even change over a period of time in the history of same-sex mythology. Personal characteristics that are considered male or female are still poorly correlated with gender, such as clothing, habits, and headdresses that society gives to a particular gender. It is important that in addition to biological and social characteristics, gender was also influenced by material properties.

The women's movement first emerged in North America, during the fight for independence in 1775-1783, and in France during the great bourgeois Revolution in 1789-1794[14: 17]. Women's Day was widely celebrated on March 8, 1914, simulate usly in 6 countries – Austria-Hungary, Belgium, Germany, the Netherlands, Russia and Switzerland [17: 121]. Early feminists see them on both the legal and social fronts, as the crush of women follows the reasons for their dependence on men. Their views took the form of a feminist worldview, later feminist theory. However, the feminist advocacy and empowerment speeches were unexpected for society, and the positive reception was not lost on everyone, and even among women.

Feminism has played a crucial role in the emergence of gender theory as an alternative theory of socio-cultural development. Feminism has played a crucial role in the emergence of gender theory today as an alternative theory of socio-cultural development. In the 70s of the XX century, not satisfied with traditional social science, inspired by the ideas of Z. Freud and T. Parsons, feminist theorists began to express their theoretical assumptions in relation to Western knowledge, as well as new theoretical and methodological approaches to cultural analysis.

Based on traditional views, the roles of men and women arise from the notion that their social behavior is based on biological differences. The above mentioned famous psychoanalyst Sigmund Freud stated that "Anatomy is an event" [5: 573]. The upbringing of boys is traditionally aggressive, because it is accepted that a man must be strong, ambitious and persistent compared to women. Men are given the role of the builders of history and culture. However, girls are taught the role of the future mother from an early age,thus she should not have personal interests and must devote her life to her family-

her husband and children. Girls are raised both physically and psychologically vulnerable. This creates a favorable basis for accepting violence against oneself.

Women are assigned for the roles of housewives, who are responsible for household chores and raising children. Such a biologically oriented approach to the role of men and women is now criticized by supporters of the socio-gender formation.

It is noteworthy that biological determinism as an approach not only accepts the existence of gender inequality as a common moral , but also favors the inequality that has been formed over the centuries between different social groups. In particular, skin color or origin in different societies were signs that a person belongs to a particular social group. Hierarchical stratification arose in the process of social stratification. However, the universal model of stratification, characteristic of any society, is gender stratification, the hierarchy in this case was determined by gender, and almost always men were at a level higher than women. History has shown that the real power has always been in the hands of men and from the very beginning of the patriarchal period, they considered women dependent.

The penetration of feminist ideas into various spheres of culture continued at an incredibly rapid pace: in the early 70s, the concept of sexuality of traditional culture, which surprised everyone, caused a flood of controversy and emotions (gender discrimination is understood when talking about sexuality), has now become an integral concept in the consciousness of a cultured person of the XXI century. In practice, the fight against sexuality was also declared in the UN Convention on the Elimination of all Forms of Discrimination against Women. These ideas serve as a reference point for the activities of UNESCO, as well as numerous social, cultural and educational institutions, organizations that publish textbooks for teachers, students, journalists, as well as publications on the elimination of sexist beliefs in the language. In addition, it is impossible to imagine education at the universities of modern Uzbekistan without training courses and programs on the theory of feminism and gender studies.

(Conclusion; Recommendations).

In conclusion, it should be noted that in the modern era of globalization, a new approach to the problem of women and men has emerged in socio-political and philosophical views. The problem of the social essence of a person, which is one of the main issues of philosophy, was considered from a gender perspective, and this situation is reflected in gender studies, which are now widely spread throughout the world. As a result of the promotion of gender theory, the need to ensure gender equality between men and women in the general thinking that seeks to guarantee equality of their rights and opportunities is put on the agenda. The history of mankind shows that for thousands of years, the cultural level and spiritual perfection of any society is determined by their attitude towards women. The first president of our country, Islam Karimov, noted that "infinite respect for women is another reason for our tension, that a woman is a selfless creature who first of all inspires every person, protecting him from the storms of life"[18: 248-257]. We must increase the responsibility and the role of women and girls in our family and society, and ensuring their vital interests more widely. Increasing the social and political activity of women is aimed at restoring a democratic state governed by the rule of law in Uzbekistan. President of the Republic of Uzbekistan Shavkat Mirziyoyev : "We must mobilize all our forces and capabilities to educate our youth in the spirit of national and universal values. To realizing such an incredibly important task, we firstly rely on the intelligence, knowledge and experience of our mothers, women-activists of the district, respected women, you our dear sisters"[1], - states. Certainly, women's political responsibility is an crucial factor for social development. Because no society develops without the active participation of women in the management of society and state affairs.

List of references (bibliography)

1. Mirziyoev Sh.M. Milliy taraqqiyot yo'limizni qat'iyat bilan davom ettirib, yangi bosqichga ko'taramiz. – Toshkent: "O'zbekiston", 2017. – B. 144. 349-350.
2. Abduxoliqov S. Vijdon erkinligi: metodologik muammolari. – Toshkent: "Fan", 1997. – B. 27.
3. Turdiboev B. Ijtimoiy tarixiy yaxlitlik va jarayonlarni ijtimoiy-falsafiy bilishning o'ziga xos xususiyatlari. – Toshkent: "EXTREMUM PRESS", 2011. – B.11.
4. Safa-Isfehani N. Rivayat-i Hemat-i Asawahistan: A Study in Zoroastrian Law (Harvard Iranian Ser). – Cambridge, 1980. Vol. 2. – P.1.
5. Gunnar Skirbekk, Nils Gile. Falsafa tarixi. – Toshkent: "Sharq", 2004. – B.147.
6. Budda. Konfutsiy. Jizn i uchenie. – Moskva: "Nauka", 1995. – S.139.
7. Alimova D.A. Jenskiy vopros v Sredney Azii. Istoriya izucheniya i Sovremennie problemi. – Tashkent: Fan, 1991; Ganieva G.J. Jenskiy vopros v Uzbekistane: novie podxodi, problemi i resheniya (1991-2005): Avtoref. dis... kand. ist. nauk. – Tashkent, 2006.; Nasrullaeva X. O'zbekistonda xotin-qizlar ijtimoiylashuvi jarayonining falsafiy tahlili: falsafa fan. nomz. ... dis. – Toshkent, 2000; Nishonova O.J. O'zbek ayollari etnomadaniyati: genezisi, xususiyatlari, muammolari (falsafiy-madaniy yondashuv): falsafa fan. nomz. ... dis. Avtoref. – Toshkent, 2005.
8. Borman K., Quarm D., Gildeonss(eds). Women in the workplace: Effects on families. – New Jersey, 1984. 104p.; Barroy P.J. Determinants of Economic Growth:Crosscountry Survey A. – Cambridge, MA: MIT Press, 1997. R.407 .; Cox E.Leading women. Sydney, 1996. R.326.; Haggard S. The political Democratic Transitions. – Princeton University Press, 1995. P. 179.
9. Xolmatova M.X. Oilaviy munosabatlar madaniyatini takomillashtirish va sog'lom avlodni tarbiyalashning ijtimoiy-falsafiy muammolari. Dok.Diss. – Toshkent, 1998. – B. 240
10. Safaeva S. Ayollar masalasi: umumijtimoiy va milliy jihatlar. – Toshkent: "O'zbekiston", 2003. – B. 160.
11. Kandov B. National ideas and development humilities in globalization. Актуальные научные исследования в современном мире. Общественная организация" Институт социальной трансформации". 2020. – s. 150-154.
12. Xuseinova A.A. Fuqarolik jamiyati va ayollar. – Buxoro, 2009. – B.88.
13. Matkarimova G.A. Xalqaro va milliy huquqda ayollarning gender va reproduktiv huquqlari. D.yu.n Avtoref. – Toshkent, 2002. – 41 s.
14. Grumurthy A. Womens Rights and Status. Queqtions of analysis and measurement. Gender in Development. Monograph. №7. UNDP. New York. 1998. - P.27.
15. History of Woman in West. / Gen. eds. G.Duby, M.Perrot V.I Cambridge (Mass.), 1992. – P.6.
16. Doktor German Ploss. Jentshina v estestvovedenii i narodovedenii. Antropologicheskoe issledovanie. T.1. - Siktivkar - Kirov, Perya-maa-GIPP "Vyatka", 1995. -S.271-367; Usaleva N. Jentshina: eyo status, sudba i obraz v mirovoy kulture. - Almati, "Tilim", 1994. – S. 135-138; ayol va jamiyat. – Toshkent: "Adolat", 1999.
17. BMT Bosh kotibining ming yillik ma'ruzasi. 2003. -76 b.
18. Normatov O.M. ZONING POLITICS AND CONSEQUENCES IN UZBEKISTAN. Journal of Ethics and Diversity in International Communication (JEDIC), e-ISSN: 2792-4017, Volume: 1 Issue: 5, October -2021.-Pp.62-66. www.openaccessjournals.eu
19. Қандов Б.М. Глобаллашув шароитида инсон хукуқлари ва эркинликларининг фалсафий-хукуқий масалалари // "Имом ал-Бухорий сабоқлари". №3. – Самарқанд: 2019. 125-128 бетлар.
20. Kalkanov Eshmatboy Tashpulatovich. Modern approaches to globalization and informatization of society. Актуальные научные исследования в современном мире. Общественная организация". Институт социальной трансформации". 2020. – s. 145-149.

21. Кандов Б.М., Алимухамедова Н.Я. Глобализация правовых ценностей и перспективы развития правовой культуры. Vedecko vydavatelske centrum Sociosfera-CZ. sro. Сборники конференций НИЦ Социосфера. 2014. - С. 269-277.
22. Отабек Махаматджанович Норматов. ПОЛИТИКА СОВЕТСКОЙ ВЛАСТИ ПО АДМИНИСТРАТИВНО-ЭКОНОМИЧЕСКОМУ РАЙОНИРОВАНИЮ УЗБЕКИСТАНА (НА ПРИМЕРЕ ФЕРГАНСКОЙ ДОЛИНЫ) Современное состояние и пути развития. 2020. 5(13)174-177
23. Normatov O.M. Some Features of Regional Policy in Turkestan // International Journal of Trend in Scientific Research and Development (IJTSRD), e-ISSN: 2456- 6470, 2021. –Pp.53-55.

TRADITIONAL APPROACHES AND THEORETICAL-METHODOLOGICAL BASIS OF ANALYSIS OF THE HISTORICAL ROOTS OF ETHNOMIC CONCEPTS

Alimuxamedova Nodira Yadgarovna,

Senior teacher of the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers
(Tashkent, Uzbekistan)

ANNOTATION

The article examines the exacerbation of global, geopolitical, ethnic, national problems in the context of the modern contemporary process of globalization. The emergence of independent national states in the post-Soviet environment, on a new methodological basis, the concepts of ethnos, ethnicity, nation, national identity, mentality, which play an important role in socio-political processes, ethno-national concepts are analyzed.

The article widely uses the advanced achievements of the world social sciences in matters of national and universal values, nation and religion, history and spirituality, statehood and democratization, taking into account national experience and characteristics.

Key words: *globalization, ethnicity, ethnic group, nation, national identity, mentality, national identity, religion, history, spirituality.*

Introduction

Issues of nation, national statehood, national ideology are topical today. In the era of globalization, the special attention of the social and humanitarian sciences to the problem of the formation (origin) of a nation and a nation is undoubtedly associated with the growing number of independent states on the world map. Such governments have set themselves the task of uniting a multi-ethnic society on the basis of a national idea, because one of the most important conditions for the life of society is the creation of an atmosphere of unity and solidarity between representatives of different nationalities and nationalities. According to the philosopher-scientist S. Otamuratov: "Today, in the context of globalization, the protection of the nation is becoming a global problem. Because this process increases the risk of integration of peoples (nations) of "small" and less developed countries into large and developed countries and peoples (nations) living in them. In this context, the presence of the state will be essential to protect countries from this threat"[1, 77]. Contrary to forecasts that the integration of nations as a result of globalization will ultimately lead to the loss of nationality, the position of the nation has not changed dramatically in the 21st century either. "Being a nation remains the most important legal value in the political life of our time". V.Kochkarov emphasizes the role of social and political institutions, especially the state, in ethnic self-awareness. Although the state is formed and developed in harmony with the ethnos, the state has become an institution influencing public consciousness, cultural development, and self-awareness of the ethnos due to the fact that socio-political reality has become a decisive instrument that seize power, intergroup relations, social relations, management of social life.

Consequently, the socio-political characteristics associated with the state continue to play a decisive role in the formation of a nation. It is they who unite all the other elements around them, accelerating and ensuring their common desire to unite and cooperate... "The government is not an alien external element for understanding ethnogenesis and national identity, but a socio-political institution that embodies the most important, most positive qualities and serves them"[2, P. 19] Therefore, more and more attention is drawn to the problems of the nation, national identity, the study of national identity, around which there are a lot of controversy. The issues of national identity and interethnic relations, as noted above, are relevant for multinational countries that seek to integrate into the world community and are changing in this direction, including Uzbekistan, where more than 130 nationalities and ethnic groups live. In general, the reason that attention to the national problem is growing throughout the era of modern globalization is that the national factor has not lost its influence on the life of every person, social and political processes.

Research methodology and literature review.

The normative and theoretical basis of the study was the decrees and decrees of the President of Uzbekistan Shavkat Mirziyoyev on strengthening the guarantees of reliable protection of the rights and freedoms of citizens of Uzbekistan, regardless of nationality, views, scientific and theoretical conclusions aimed at social protection.

At the end of the 19th and 20th centuries, the issues of society, nation, national idea, national statehood led to world science, which led to the integration of socio-political sciences, the isolation of modern trends such as sociology, political science, social anthropology. The theoretical foundations of this study were laid by the thinkers of the 18th century J. Boden, J. Rousseau, A. Buffon, J. Vico, I. Kant, J. Condorcet, C. Montesquieu's views on the formation and development of nations, their essence, and G. Hegel, D. S. Mill, E. Renan, R. Neumann, M. Weber, I. Herder, E. O. Durkheim, A. J. Toynbee, S. Freud, E. Fromm's works, S. Huntington, K. Jaspers, P. Sorokin are the main source of solutions to the main problems of human and social development. Yu.V. Bromley, L.N. Gumilev, K.P. Ivanov, S.M. Shirokogorov, N.I. Dryakslov, P.N. Shikharev, S.V. Cheshko, R. Scientific research of such scientists as Reisner, K. Shoniyazov, A. Askarov, F. Sulaimonova, express their experience and opinions about the historical and psychological foundations, laws, dialectics of human development, ethnos, thinking of the nation.

In his research, S. Shermukhamedov studied the problems of national and cultural development and civilization, the dialectics of nationalism and humanity in the formation of a democratic society. S. Mamashokirov's articles analyze the issues of nationality, humanity and globalization, their mutual dialectics and integration. S. Otamurodov conducted a study of national development in the context of globalization[3, p.201]. Also S.S. Azamkhodjaev's research is devoted to the analysis of the historical turn of the Uzbek people at the end of the 19th - beginning of the 20th centuries, the processes of national formation during the period of oppression[4, p.164]. V. Khonazarov connects the unity of the nation with certain historical periods[5] V. Kuchkarov analyzed the problems of national identity and social development[2, Б.56] Sh.Madayeva analyzed anthropological aspects of identity as a separate topic. The study of nations and nationalism around the world is characterized by an attempt to generalize and classify different approaches, critically understand the strengths and weaknesses of concepts, identify opportunities, find a specific comprehensive approach, or abandon these attempts.

Analysis and results.

To study the philosophical foundations of modern ideas about the nature, origin and evolution of ethnic groups, nations, nation states and nationalism, we must turn to the ideas and research of philosophers, sociologists, ethnologists and anthropologists of past centuries. In general, since these social phenomena fall into the category of interdisciplinary problems, they have been studied by sociologists, various aspects of social life, sociologists, political scientists, social philosophers, anthropologists, ethnologists, psychologists, and historians with a keen interest in problem analysis. We are trying to analyze the historical roots of existing concepts, their theoretical and methodological foundations.

No scientific analysis can achieve its goal without first demonstrating the research method. Therefore, the problem of "the origin of an ethnos and a nation" is basically a theoretical and methodological problem. In the methodological arsenal of social and humanitarian sciences that study this problem, special attention is paid to the categorical and terminological apparatus, which serves as the most important means of understanding. The evolution of the concepts "ethnos", "ethnicity", "nation", that is, the formation of an ethnos, is associated with social, political, geographical, demographic, walking-transitional and even assimilation processes. From this point of view, "Ethnicity is a special form of historical coexistence of social groups of people. Such communities arise and develop in a natural-historical way, for many centuries they live by self-education, regardless of the will of those who belong to the group of the community"[6]. Communities formed on the basis of a common culture, language and identity in the science of the former Soviet Empire – "ethnos", "people" are the object of the study of ethnology (sociocultural anthropology – A.N.). In Western scholarship, the term "ethnos" is rarely used, and the term "ethnicity" is widespread and seen as a cultural identity or collective experience that distinguishes one group from another. The main reason for this

approach is that in the former Soviet ethnology, ethnic groups were studied as historically formed communities, while Western researchers focused on cultures and social structures based on them.

But today, world scientists have carried out a lot of scientific research in this area, as a result of which different approaches to the study of the essence of an ethnos, nation and nationalism have been formed. Of course, the urgency of the problem does not exclude which of the traditional worldview and methodological paradigms of philosophy is "correct", and the need for another solution that can be recommended for specific research in understanding the nature and essence of the nation. Obviously, any paradigm is a scientific research tool, and in each specific epistemological situation it is necessary to use this tool as much as possible in order to achieve sufficient results in understanding the true purpose of the modern nation and nationalism. Analysis of scientific and theoretical literature shows that today in subjects, including philosophy, sociology, social anthropology, ethnopsychology, there is a certain scientific basis for studying the concepts of "nation", "ethnos", "ethnicity", "national identity", "understanding of national identity" were formed. Before the formation of the nation, there was an ethnos (nation) form of social development, and the term ethnic unity is also used in the study of the history of the origin of peoples. The term "ethnos" is found in the ancient Greek language and means a tribe, a nation. The origin of the word is due to the fact that in the VI-V centuries BC it was applied to non-Greek tribes and clans, and in this sense the term was also used in Roman culture, in Latin language[7]. According to the historian S.N. Tursunov, in the II millennium BC, Aryan (Hindu) tribes, including the Bactrians and Tochars, lived in Central Asia. As a result of this process, not only the first primitive social and political institutions - tribes, clans, communities, but also "with the development of irrigated agriculture in Central Asia formed the first state associations, such as Bactria, Margiana, Sogdiana, Khorezm. The population of these territories is mentioned in various sources as Sakas, Massagets, Sogdians, Sakarauks, Apaspaks, Assyrians, and there were ethnocultural ties between them"[8, P.59].

Russian emigrant scientist S.M. Shirokogorov first defined the concept of "ethnos" in 1923: "... Ethnos is a group of people who speak the same language, recognize one origin, have a set of traditions and a common way of life"[9, P.10].

S.M. Shirokogorov developed a number of criteria that determine the nature of ethnic groups based on their biological properties. He claims that "the processes of creation, evolution and disappearance of elements in an ethnos allow humanity to exist as a species"[9, P.10]. An interesting aspect of the concept of S.M. Shirokogorova is that the definition of ethnos largely corresponds to the definition of the 60-80s of the twentieth century. For example, this is clearly seen in the description of the ethnos by Y.V. Bromley: "Ethnos (ethnic unity) is a historically formed association of people who distinguish themselves from a certain region, language, origin, common culture, self-ethnic understanding and unification of others and have their own ethnic name (ethnonym) and a unique image of life".

The English scientist E. Smith defines an ethnos as "an association of people formed in a certain territory on the basis of a sense of solidarity, recognition of the legends about their ancestors, which have their own history, culture and ethnonym". The peculiarity of E. Smith's teachings is that he considers the history of an ethnos to be a myth, that is, a myth accepted by all. These views bring the scientist closer to the position of constructivism.

The Russian constructivist scientist V.Y. Tishkov thinks ethnic groups are a mental structure, a kind of "ideal type" necessary for the systematization of materials in the hands of scientists. "They (ethnic groups) are a product of the thinking of historians, sociologists, ethnographers" he says.

The word "ethnicity" is derived from the English word "etnia". The concept of "etnia" is derived from the French and signifies the primacy of cultural unity over biological kinship. "Etnia" means "... a population that belongs to a particular region and has its own name, based on common myths about its

origin, history and culture, with a sense of solidarity". This concept is used in biblical texts to mean "heathen" or "non-Christian".

The concept of etnia, a derivative of ethnicity, emerged in the mid-1960s and became a key concept in the categorical apparatus of Western social sciences, and in 1972 it was included in the Oxford English Dictionary. For the ethnologist A.Bastian it is a synonym for the word "nation". For russian scientist S.E. Rybakov, ethnicity means that a person perceives himself as a representative of a particular ethnic group[10, P.11]. "Ethnicity" has not existed since time immemorial, it is "social and political structures created by elites who alter and sometimes falsify the cultural materials of their groups and groups that seek to represent their own well-being, political or economic interests"[11, P.102]. Ethnicity is primarily a form of human identity and cultural tradition based on coalitions (or groups) of people that exist in various configurations and interdependencies, called ethnic communities (peoples, nations, or ethnonyms). In E. Hobsbawm's works, ethnicity only allows to clearly express the identity of the group, instill a sense of solidarity in all members of the group ("we"), and emphasize their differences from "others". According to V.Y. Tishkov, ethnicity is primarily a form of identity of people and cultural traditions, on the basis of which coalitions (or groups) of people with different configurations and interdependencies, which are called ethnic communities (peoples, nations or ethnonyms). Norwegian scientist Thomas Eriksen claims that ethnicity is an aspect of social relations between agents who consider themselves culturally different from members of other groups. As long as cultural differences are regularly repeated in the interactions of group members, such social relations will have an ethnic element[12, P.12]. Another Norwegian ethnologist, Frederic Barth, describes ethnicity as a category of social identity, a situational phenomenon created through symbolic differences, and understands ethnic boundaries as the most important criterion for forming the basis of group identity[13, P.10]. However, as anthropologist Marcus Banks points out, "ethnicity has been a key concept in sociology and anthropology for many years, but its meaning, application, and relationship to other concepts are still unclear[14, P.10].

In constructivism, an ethnos is a group of people formed on the basis of cultural self-awareness (self-determination) in relation to other interacting communities, which differs from other definitions in that the emphasis is not on common characters based on ethnic groups, but on the perception of common characters "Ethnicity is the process of socially constructing imaginary communities based on the belief that they are linked by natural ties, a common culture, a common origin, and an idea or myth of a common history"[15, P.46].

One of the most important ideologies reflecting the socio-political life of the new era and directly related to the process of social change is the national ideology that arose as a result of the formation of nations and nation states. This is determined by the strengthening of the processes of national identification in national states that have arisen as a result of political, socio-economic changes in the post-Soviet environment, the desire of peoples to understand their identity, history, and culture.

Globalization has brought not only socio-economic, but also political and cultural changes. The rapprochement of peoples and cultures, the development of modern means of communication, the spread and assimilation of various values in national cultures, the process of cultural unification are considered by many countries as a threat to the existence of their culture, the existence of the nation as a whole. The transforming society in which we live leads to mobility, migration, constant changes in demand, and as a result, people do not feel the ancient (historical) roots, the collapse of traditional values and traditions. However, psychologists argue that in such a complex social environment, a person always needs to know his origin, past, ancestors - ancient (historical) roots[16]. "You always need to feel like a part of "us" psychosociologist J. Barton, E. Hazard expressed the opinion that identity is one of the ontological needs of a person. The presence of historical memory, recognition of one's ancestors, that is, an understanding of one's ethnic identity - ethnic identity manifests itself in behavioral movements such as cooperation or solidarity,

and indicates that the ethnic group performs a psychological function in society. The psychological functions of an ethnos as a community: 1) direct it to the outside world through the delivery of relatively systematic information; 2) determination of common life values; 3) protection of not only social, but also physical well-being[17, P.5]. Ethnic culture defines vital values, protects individual well-being and satisfies the need for psychological stability in a changing world. Consequently, the nation's need to define its national identity, to understand its national identity is one of its ontological needs.

Yes, an ethnos is a nation that manifests its characteristics through great representatives who grew up in it and are recognized by others. For example, the Uzbek people in the eyes of other peoples is embodied in the descendants of such great people as Imam al-Bukhari, Amir Temur, Ulugbek, Bobur, Navoi. Moreover, when we talk about a people, a nation, we mean the mentality that unites them, the region in which they live, their unique characteristics, the role of humanity in social development, historical heritage, moral values, political experience, and socio-cultural values. We know that there are not two identical person in the world, just as no two nations are alike. Therefore, they have different characters, interests, worldview, inner world, which is an axiom. This means that the problems of interethnic relations will remain as long as there are nations.

Human is not a slave to race, language, religion, river flow, or the direction of mountain ranges. The miraculous unity of people, whose minds and hearts are burning, creates a moral consciousness called a nation. Since this moral consciousness has proven its strength by sacrifices that require a person to give up for the good of society, it is legitimate, it has a right to exist. In his famous speech, Ernest Renan argued that the nation as a product of creativity is a social and ontological phenomenon as a community with a common "historical memory" and selective "memoryless" that intends to continue to live in this community. Thus, defining an ethnos and a nation as an artificial structure, the result of human consciousness and purposeful activity, moral consciousness, E. Renan understands that the main factor of a nation is the collective memory or "historical memory" and the individual choice of the personality.

Conclusion/Recommendations.

In short, the ideas outlined above show that a "nation" is an ethnic entity with a complex character. Consequently, in the scientific and philosophical literature existing today, there is no consensus on its definition. But the aspects that summarize them are noted separately. Concepts such as "nation", "national", "nationality" came into our language from the Arabic language in the 8th century, that is, from the time of the conquest of Movarounnahr by the Arab Caliphate. These concepts are based on the phrase "mil". The concept "mil" in translation from Arabic means "core", "essence", "base". The concept "nation" is widely used and has several meanings: 1) religion, religious community; 2) ummah, a community of believers of a certain religion; 3) people, nation.

The concept of "nation" is defined also by Uzbek scientists in the scientific literature. For example, "A nation is a stable unity of people who have a common language, territory, mind, spirit and spirituality"[18, P.13]. Obviously, in the definition of the concept of a nation, more attention is paid to its spiritual aspects, while a nation is a phenomenon that reflects extremely complex aspects of social life. In turn, N. Nazarov defines this as "a characteristic feature of the period of the rise of the nation-humanity to a qualitative stage, a qualitatively integral national character of an ethnos"[19, P.10]. In this definition, the ethno-national foundations of a nation are illuminated from the point of view of socio-historical development. Although these aspects of this definition are of particular importance for revealing the essence of the nation, they do not serve to fully embrace the new socio-spiritual and cultural image of the nation today.

Indeed, considering the concept of a nation from the point of view of the harmony of ethnic and social unity allows a comprehensive study of its general scientific foundations. The study of scientific literature shows that there are different approaches and opinions regarding the concepts of "ethnos" and "nation", their genesis, internal characteristics, differentiation from other

peoples and nations, and sometimes contradict each other. The philosopher S. Otamuradov analyzed them in detail. However, in almost all of them, an ethnos and a nation are somehow considered as an ethnosocial unit, formed at a certain socio-historical stage, with its own language, culture, spirit, customs, historical consciousness and memory, and a way of life, territory, One way or another, a view is expressed at socio-political institutions as an existing ethnosocial unit. When studying the essence of the historical roots of ethno-national ideas, these features should be taken into account, since they cannot be organized without the abovementioned characteristics of an ethnos and a nation.

In short, every nation, every people creates its own cultural heritage in the process of historical development. Awareness of this cultural heritage contributes to the formation of a person's historical thinking. What period does this cultural heritage monument belong to, reflecting the worldview, socio-economic life, customs, beliefs or in a word, the history of people of that period. It serves to form elements related to conscious and practical activities, level of thinking, lifestyle, manifestation of universal relationships in which people of different nationalities or ethnic groups work together to meet the needs of everyday life and self-awareness.

List of used literature

1. Отамуратов С. Глобаллашув ва миллий-маънавий хавфсизлик. – Тошкент: "Ўзбекистон", 2013. – Б. 77.
2. Қўчқаров В. Миллий ўзликни англаш ва ижтимоий-сиёсий жараёнлар. – Тошкент: "Академия", 2007. – Б. 19.
3. Отамуродов С. Глобаллашув ва миллат. – Тошкент.: Янги аср авлоди. 2008. – 201 б.
4. Аъзамхўжаев С. Туркистон Мухторияти. - Тошкент.: Маънавият, 2000. – 164 б.
5. Хоназаров К. Миллат назариясига танқидий назар. – Т.: Миллий тикланиш, 1998, 16–июнь
6. Хўжамуродов Н. Маънавий кадриятлар ва миллий ўзлигини англаш. -Т.: Маънавият, 1991.
7. Турсунов С.Н. Ўзбек элатининг илк аждодлари ва шаклланиши. - Т: "Университет", 2003.-59 б.
8. K.B Mirzaevich, K.E Toshpulatovich, A.Nodira. Social and Philosophical Aspects of Globalization. International Journal of Recent Technology and ..., 2019.
9. Абдуллаев У. Этнологиянинг назарий-методологик муаммолари. /Ўзбекистон этнологиясининг долзарб муаммолари. Республика илмий-назарий коференция материаллари. - Т.: ЎФА, Тарих институти. 2007. 10-б.
10. Рыбаков С.Е. Философия этноса. - М., 2001. -С.11.
11. Брэс П. Этнос и политика: хрестоматия / авт. сост. А.А. Празаускас. - М.: Изд-во УРАО, 2000. - С.102.
12. Eriksen T.H. Ethnicity and Nationalism. Anthropological perspectives. L., 1999. -P. 12.
13. Этнические группы и социальные границы: Социальная организация культурных различий / под ред. Фредрика Барта; пер. с англ. Игоря Пильщикова. - М.: Новое изд-во, 2006.
14. Banks M. Ethnicity: Anthropological Constructions. L.; N. Y., 1996.
15. Кандов Б.М., Алимухамедова Н.Я. Глобализация правовых ценностей и перспективы развития правовой культуры. Vedecko vydavatelske centrum Sociosfera-CZ sro. Сборники конференций НИЦ Социосфера. 2014 - С. 269-277.
16. Normatov O.M. ZONING POLITICS AND CONSEQUENCES IN UZBEKISTAN. Journal of Ethics and Diversity in International Communication (JEDIC), e-ISSN: 2792-4017, Volume: 1 Issue: 5, October -2021.-Pp.62-66. www.openaccessjournals.eu
17. Отабек Махаматджанович Норматов. ПОЛИТИКА СОВЕТСКОЙ ВЛАСТИ ПО АДМИНИСТРАТИВНО-ЭКОНОМИЧЕСКОМУ РАЙОНИРОВАНИЮ УЗБЕКИСТАНА (НА ПРИМЕРЕ ФЕРГАНСКОЙ ДОЛИНЫ). Современное состояние и пути развития. 2020. 5(13)174-177

18. Normatov O.M. Some Features of Regional Policy in Turkestan // International Journal of Trend in Scientific Research and Development (IJTSRD), e-ISSN: 2456- 6470, 2021. –Pp.53-55.
19. Чернобровкин И.П. Этнонациональный конфликт: природа, типы и социальный контроль. - Ростов н/Д: Изд-во Рост. ун-та, 2003. -С.
20. Стефаненко Т.Г. Этнопсихология: Учебник для вузов. — М.: Аспект Пресс, 2009. -С. 5.
21. Бахронов Ж. Шахс миллий ўзлигини англаши қонуниятлари. -Самарқанд: Зарафшон, 1995. –Б. 13.
22. Назаров Н. Мустакиллик шароитида этноижтимоий жараёнлар. -Т.: Ижтимоий фикр, 2005. –Б. 10.
23. Қандов Б.М. Глобаллашув шароитида инсон хукуқлари ва эркинликларининг фалсафий-хукукий масалалари // "Имом ал-Бухорий сабоқлари". №3. – Самарқанд: 2019. 125-128 бетлар.

CORPORATE SOCIAL REPORTING: A CASE STUDY OF SELECTED INDIAN COMPANIES

Dr. Anita Mane

Director, RM Dhariwal Sinhgad Management School, Pune

ABSTRACT:

Social reporting is defined as the reporting of some important and definable areas of the performance of a commercial enterprise that have a social impact. Owen (2005)[10] indicated that identifying the motivation for companies' disclosure of social information is an important research tradition in the corporate social reporting literature. CSR disclosure may not only be beneficial for society, but also for the competitiveness and the innovation of businesses. Corporate social reportage may be a gesture to demonstrate organization's commitment towards sustainability. It is a tool through that organization extends dialogue with its stakeholders (Das, 2003)[4]. It is reportage on some domain business activities that have social impact, and is geared toward activity adverse and useful effects of such activities each on the firm and people littered with the firm (Ghosh, 2003)[6].

In this paper it explores variety of parts influence the amount of corporate social responsibility (CSR) revelation within the annual reports of polished companies.

This sort of thinking is important for maintaining long run existence of the organization. It involves measurement and reporting of internal and external information concerning the impact of an activity on society.

KEYWORDS: *Corporate social reporting practices, social reporting, corporate social disclosure, Social accounting disclosure, Determinants of corporate social reporting.*

INTRODUCTION

The result indicates that Corporate Social reportage has been gaining momentum in India and lots of companies volitionally come out to elucidate their standing on varied aspects starting from atmosphere to employee-specific problems. In view of the dynamical patterns in social, economic, political, legal, and different environments current in India, corporate enterprises fight a broader that meaning. Reporting of corporate performance is helpful not just for varied interested teams however additionally for the organization itself. With this it will facilitate for building its corporate image and goodwill. In the best interest of users, corporate management feel bound and be presume to disclose social information just for the most effective interest of users.

Therefore the Corporate management should publish the social information. The Corporate sector in India has been reportage monetary and non-financial information. A Corporate shouldn't be seen solely as an engine for profiteering, capital creation and business growth. In fact, it ought to be a significant, nationally important, social and economic institution that ought to assume larger responsibilities towards society. The main objective of any business concern isn't solely to earn profit however maximize it. No organization will sustain and survive while not earning adequate profits. A part of this profit is, in used towards social welfare. In different words, profit objectives and social objectives are quite related and inter-linked.

Users of Corporate Social Reporting (CSR):

There are varied parties within the society that have interest either directly or indirectly in social reportage. The users of corporate social reports are Investors, Directors, Executives, Managers, Share Holders (Equity & Preference), Suppliers, Trade Creditors, Financial institutions, Employee, Tax authorities and different interested agencies. The direct users, of the social reports include-Social Analysis, Trade Associations, Trade Unions, Researchers, Consumers, Govt. In short, there are varied interested users; which require valuable social and non-social information from the corporate enterprise.

II.NEED OF THE STUDY:

Corporate Social Reporting is such a massive space of analysis that no single study will cowl totally different dimensions associated with it. The current study has been conducted on Corporate Social coverage Practices in India, but still, there is far potential for analysis during this space. Indian firms have faced robust international competition over the past few decades, particularly once the gap of the Indian economy in the early 1990s as international competitors tried to determine their footholds in India.

III. OBJECTIVES OF THE STUDY

- To study the problems of social reporting and today's challenges of corporate reporting
- To find the actual & Prescribed CSR of top companies in India
- To find the importance of CSR and to create the awareness of corporate social responsibility relates to the "Quality of life".

IV.REVIEW OF LITERATURE:

Zeghal and Ahmed (1990)15 dole out a study, based mostly upon the content analysis of corporate social responsibility information revelation by largest Canadian banks and therefore the nine large st petroleum companies in 1981 and 1982, examination the number and focus of revelation within the annual reports, brochures and advertisement. The results of the annual report's survey discovered that there was some homogeneity among the banking industry in terms of the themes of revelation, with 82% focusing severally on human resources, products, and business practices. Mansur Lubabah Kwanbo (2011)9 documented the effectiveness of social revelation on Earnings per Share (EPS) in Nigerian public corporations. Content analysis was used to analyze the social revelation of the 231 companies quoted on the Nigerian stock Exchange as at December 2009. The study finished that the social revelation connected additional to shareholders and employees then EPS. Social disclosures were created notwithstanding the position of cyberspace profit of the coverage amount. Rozen Perrigot et al. (2012)13 conducted a study so as to search out the determinants of CSD within the franchising sector. An in depth analysis of franchisers" CSD on their websites was conducted in April and May 2010. The study discovered that almost all French franchisers disclosed social and environmental information; 86.03 per cent of the franchise chain mentioned a minimum of one corporate social responsibility activity in the dedicated website. Andrew Munthopa Lipunga (2013)1 explored the corporate social responsibility reporting practices within the annual report of commercial banks in Malawi. Annual reports of the chosen banks were wont to collect information for the study. Content analysis was utilized in examining the annual reports of the chosen business banks. It had been found that corporate social responsibility revelation within the annual reports of the banks was found either or each within the within the and Chief government report. Philipp Schreck and Sascha Raithel (2015)[11] investigated the distinct and joint effects of Corporate social performance (CSP), firm size, and visibility on a Corporate's call to disclose property-related information through sustainability reports.

OBJECTIVES BASED ON THE "QUALITY OF LIFE"

The notice of corporate social responsibility relates to the "Quality of life". Incorporate management, the social cost of economic development increasing day by day that affects the varied aspects of the standard of life. Corporate body once doesn't behave socially accountable its activities can have a negative impact on the society. Society reacts powerfully to the negative approach of the corporate body. Relations between society and companies became trained. It creates uncertainty regarding the role of the corporate body in society. Thus there should be correct cooperation and coordination between society and corporate management, to develop social goals and supply relevant information to outsiders or its users with reference to the discharge of their social responsibility. Corporate management uses sure goals for reporting social information such as: Most of the corporation Social reports are for reaction of positive image for themselves. Corporate management mustn't act as a destroyer of the social atmosphere or non-contributor to social causes.

PROBLEMS OF SOCIAL REPORTING:

For reporting of social information to the users; the measuring of social prices and edges is crucial. If correct measuring tools, techniques, means, principles and procedure aren't satisfactory or offered, the utility of social reports are terribly restricted. There are varied issues for developing the measuring techniques and tools like follows:

QUALIFICATION OF SOCIAL INFORMATION RMATION:

Social information ought to be expressed in financial terms for analysis of Corporate performance. Social information should be given within the sort of 'Social Income Statement' and 'Social Balance Sheet'. In

apply; these aren't properly given by the management. Owing to responsibility and verifiability principally, the social reports are rejected. Hence, quantitative measures ought to be developed for direct social benefits arising out of producing activities like employment of minority teams, coaching of workers etc. Another drawback is expounded to valuation of producing activities. Hence, quantitative measures ought to be developed for direct social benefits arising out of producing activities like employment of minority teams, coaching of workers etc. Another drawback is expounded to valuation of producing activities.

ISSUES OF SOCIAL REPORTING: Reporting format is that the most significant issue of social reporting. Varied formats are planned by the Indian. Corporation however in apply, these aren't usually accepted. Social Income Statement, Social Balance Sheet, Social Audit, Socio-Economic Statements, Cost Benefit Statement are the samples of important formats. These formats aren't usually accepted.

DETERMINANTS OF CORPORATE SOCIAL REPORTING: Corporate social reporting could be a gesture to demonstrate organization's commitment towards sustainability. India is that the 1st country within the world to create corporate social responsibility (CSR) necessary, following associate modification to the Companies Act, 2013 in Apr 2014. Businesses will invest their profits in areas like education, poverty, gender equality, and hunger as a part of any CSR compliance.

IMPORTANCE OF CORPORATE SOCIAL RESPONSIBILITY

Corporates move with society in some ways. The government perceives CSR because the business contribution to the nation's property development goals. CSR could be a conception that suggests that industrial companies should fulfill their duties of providing care to the society. Corporate Social Responsibility involves a commitment by a corporation towards the property economic development of the society. As the organization could be a part of the society, it cannot operate in isolation. Thus there's an obligation and responsibility from a part of the Corporate to require action that protects and improves the welfare of society as an entire.

WHICH INDIAN COMPANIES TOPPED CSR IN 2020?

Tata Chemicals has dropped to the third position once being No. one for the past three years. Infosys has climbed one spot. Mahindra & Mahindra has climbed second spots to assert the second rank within the high Ten Indian Companies for CSR in 2020. The Vedanta Group has outdone itself within the corporate citizenship realm, creating it to the highest five, from its previous eighth rank. a brand new entry on the chart is Grasim Industries. The part of the Aditya Birla Group, Grasim won various awards for its flagship programs.

EXAMPLES OF CSR IN REPUBLIC OF INDIA

Corporate Social Responsibility is concerning the approach businesses see of their economic, social, and environmental impacts within the approach they operate maximizing the advantages and minimizing the downsides. The decision is out. Infosys has overwhelmed Tata Chemicals for the quantity one position in our 2020 Republic of India property and CSR chart. Tata Chemicals control the highest spot for three consecutive years, until now. Infosys was the second ranker in 2019 and has up to numeric Uno for CSR in 2020. Another Indian company comes getting ready to Mahindra & Mahindra once it involves leading the charge for global climate change action and property business practices. Tata Chemicals spends INR 12 corers on CSR annually, and wildlife conservation accounts for 30% of the budget of the TCSRD. Tata Chemicals established the Tata Chemicals Society for Rural Development (TCSRD) in 1980 as a society and trust. It lays stress on the spirit of democratic development by involving the beneficiaries at every stage of the event method that Ensures viability and property of the programs.

Year	2014 - 2015	2015 - 2016	2016- 2017	2017- 2018	2018 - 2019	2019 - 2020
Actual CSR	10.2 0 Cr	13.9 7 Cr	15.0 0 Cr	14.2 8 Cr	25.6 8 Cr	37.8 1 Cr
Prescribed CSR	11.6 6 Cr	12.3 4 Cr	13.9 2 Cr	16.8 0 Cr	19.8 6 Cr	21.3 9 Cr

TATA CHEMICALS LIMITED

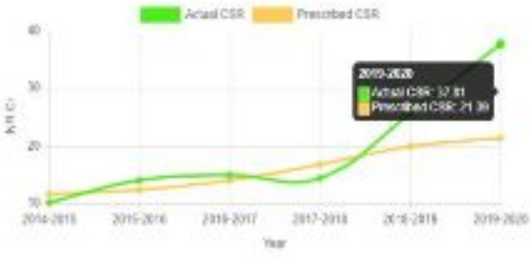


Fig: Actual CSR & Prescribed CSR of Tata Chemicals Limited

Sourse:https://csrbox.org/India_Company_Tata-Chemicals-Limited Maharashtra_5427

ITC:

ITC Limited is an Indian multinational conglomerate company headquartered in Kolkata, West Bengal. Established in 1910 because the 'Imperial Tobacco Company of India Limited', restricted, the corporate was renamed because the 'India Tobacco Company Limited' in 1970 and later to 'I.T.C. Limited' in 1974.

The dots within the name were removed in Gregorian calendar month 2001 for the corporate to be renamed as 'ITC Limited' wherever 'ITC' would now not be an initialize. ITC spent Rs. 326.49 cores on CSR initiatives in 2019-20, surpassing its defrayal for previous years. The conglomerate has active social comes in education, environmental conservation, property agriculture, healthcare, digital skill, sports, and culture. Chairman Sanjiv Puri leads the social initiatives with a mixture of humility and ambition

Year	2014-2015	2015 - 2016	2016 - 2017	2017 - 2018	2018-2019	2019-2020
Actual CSR	214.0 6 Cr	247. 50 Cr	275. 96 Cr	290. 98 Cr	306.95 Cr	326.4 9 Cr
Prescribed CSR	212.9 2 Cr	246. 76 Cr	275. 27 Cr	290. 47 Cr	306.55 Cr	326.1 7 Cr

Figure: Actual CSR & Prescribed CSR of ICT

Sourse: https://csrbox.org/India_Company_ITC-Limited-West-Bengal_34

Estimated Prescribed CSR Budget FY 2020-21: INR 363.08 Cr. The Company is always dedicated towards CSR activities and has spent more than the prescribed CSR budget in last three financial years.

VEDANTA:

Vedanta Limited previously known as Sesa Sterile, a Vedanta Group company is one of the world's largest global diversified natural resource majors, with operations across zinc-lead-silver, oil & gas, iron ore, copper, aluminum and commercial power. Around ninety two of the high-volume low has an effect on wastes like ash, slag, are being recycled.

Vedanta Limited

Year	2014-2015	2015-2016	2016-2017	2017-2018	2018 - 2019	2019 - 2020
Actual CSR	25.50 Cr	17.54 Cr	48.48 Cr	45.19 Cr	51.7 2 Cr	50.2 8 Cr
Prescribed CSR	0.00 Cr	0.00 Cr	0.00 Cr	9.42 Cr	13.0 0 Cr	13.0 0 Cr

Year	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Actual CSR	82.35 Cr	92.12 Cr	103.88 Cr	116.09 Cr	126.45 Cr	143.74 Cr
Prescribed CSR	79.92 Cr	91.94 Cr	101.71 Cr	112.20 Cr	124.19 Cr	142.20 Cr

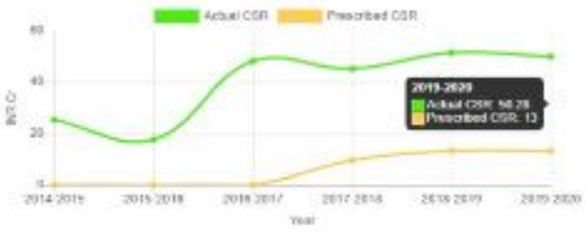


Figure : Actual CSR & Prescribed CSR of Vedanta Limited

Sourse: https://csrbox.org/India_Company_Vedanta-Limited-Maharashtra_47

Estimated Prescribed CSR Budget FY 2020-21: INR 24.72 Cr Although the company incurred loss in the FY 2019-20, it has spent INR 50.28 Cr for CSR activities in that year.

HUL (Hindustan Unilever Ltd.)

Year	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Actual CSR	83.24 Cr	84.95 Cr	83.30 Cr	81.97 Cr	93.50 Cr	126.60 Cr
Prescribed CSR	83.03 Cr	84.95 Cr	83.30 Cr	81.27 Cr	93.37 Cr	106.56 Cr

The company uses its CSR funds to work on issues which plague India's development. It has achieved huge successes in the areas of water conservation as well as tackling health and hygiene issues at the grassroots level. HUL has pledged INR 100 cores to help the Indian government fight COVID-19. They're a subsidiary of Unilever, one in all the world's leading suppliers of fast-moving trade goods with robust native roots in additional than one hundred countries across the world with annual sales of €53.3 billion in 2015. Unilever has 67.2% property in HUL.Hindustan Unilever Ltd. has been defrayal over the mandated a pair of profits over the years. In FY 2020, its CSR pay was a large Rs. 142 cores

Fig: actual & Prescribed CSR

Source: https://csrbox.org/India_Company_Hindustan-Unilever-Limited--(HUL)-Maharashtra_43

Estimated Prescribed CSR Budget FY 2020-21: INR 165.99 Cr. The Company is always dedicated towards CSR activities and has spent more than the prescribed CSR budget in last five financial years.

MAHINDRA AND MAHINDRA LIMITED

The Company has matured quickly since its origination in 1947. Mahindra & Mahindra may be a leader within the tractor and utility vehicles area. They continue to be committed to investment in technology, growing their world presence, and maintaining their leadership position. They need been India's No.1 UV and Tractor maker for an extended time currently. And that they will replicate the Republic of India success story on the world stage. Mahindra and Mahindra Limited has been diligent in its CSR defrayal. Since the FY 2014-15, once the businesses were mandated to pay to per cent of their web profits on CSR, Mahindra and Mahindra are defrayal the prescribed quantity for CSR while not fail. In FY 2019-20, the corporate exceeded its CSR defrayal to 126.6 Crores from its prescribed quantity of 106.56 Crores. Below is that the graph that highlights the CSR defrayal of Mahindra and Mahindra Ltd. for the last five years.

Fig: actual & Prescribed CSR

Sourse:https://csrbox.org/India_Company_Mahindra-&-Mahindra-Ltd-Maharashtra_52

Estimated Prescribed CSR Budget FY 2020-21: INR 103.62 Cr. The Company is always dedicated towards CSR activities and has spent more than the prescribed CSR budget in last five financial years. Tata Motors is committed to sustainable development, where business goes hand in hand with societal wellbeing and environmental consciousness. The company spent 22.9 cores of rupees for CSR in FY2019-20. Most of the research studies and reports till July 2019, indicated that India's total CSR spend reached INR 50000 core in FY 18-19 while the data reported by the Ministry of Corporate Affairs indicate that the total prescribed CSR fund has crossed INR 100,000 Core (INR 10,00,000 million) in FY 18-19.

V. SUGGESTIONS

Implementing a good review system in terms of up the standard of CSR Developing Rules and rules to Enforce CSR. It's necessary to speak the importance of CSR to staff in any respect levels, at an equivalent time, introducing rules and rules at intervals the corporate that guarantee compliance with these rules and rules. Achieving an multiplied level of cooperation between the varied departments of the business in terms of achieving CSR connected aims and objectives. Introducing CSR aspects of the business at the initial stages of the project and integration them with long aims and objectives. Achieving worker Engagement in CSR Initiatives. Worker engagement in CSR-related initiatives can absolutely contribute to the amount of worker satisfaction and increase the amount of potency of CSR initiatives.

VI. CONCLUSION:

In today's state of affairs, the most challenge for firms is to sustain and lift earnings and reply to social desires at an equivalent time. A shot has been created to live the company social coverage practices in Indian firms. Corporate Social Responsibility is fraught with definitional issues that make it troublesome for a standardized platform to assess firms' responsiveness to that. Corporate Social Reporting has been gaining momentum in Bharat. Kirsty Raubenheimer (2008)[8] states that whereas employee-focused corporate social responsibility reporting is growing, environmental protection and community initiative coverage still dominate the massive majority of businesses. Nevertheless, there has been a growing tendency to report more on the commitment of the companies to the common cause, in general. The age of the corporate doesn't have a big result on the revealing of social responsibility; however the scale of the corporate, within the style of total assets, will have a positive influence on social disclosures.

VII. REFERENCES:

1. Andrew Munthopa Lipunga (2013), Corporate Social Responsibility Reporting b y Commercial Banks in Annual Reports: Evidence from Malawi, International Journal of Business and Social Research (IJBSR), 3(9), 88- 101.

2. Bellantuono, N.; Pontrandolfo, P.; Scozzi, B. Capturing the Stakeholders' view in sustainability reporting: A novel approach. Sustainability 2016, 8, 379. [CrossRef]

3. Dahlsrud, A. How corporate social responsibility is defifined: An analysis of 37 defifinitions. Corp. Soc. Responsib. Environ. Manag. 2008, 15, 1–13. [CrossRef] Das. S (2003),"Towards Corporate Social Reporting", Available from http://www.financial express.com/fe_full_story.php?content_id-27639, Accessed on August 25, 2006.

4. Federation of European Accountants. EU Directive on Disclosure of Non-Financial and Diversity Information. Achieving Good Quality and Consistent Reporting; Federation of European Accountants: Brussels, Belgium,

2016. Available online: https://www.accountancyeurope.eu/wp-content/uploads/FEE_position_paper_EU_NFI_Directive_fifinal.pdf (accessed on 10 March 2017).

5. Ghosh A (2003), "Corporate Social Accounting: Empirical Studies in India and Abroad", Available from http://myicwai.com/knowledgebank/as09.pdf, Accessed on July 29, 2006.
6. Khaled Samaha (2012), Corporate Governance Disclosure and its Determinants in Egypt, Advances in Accounting, 28(1), 168-178
7. Kirsty Raubenheimer (2008), A Research Note: Employee-focused Corporate Social Responsibility Reporting in the Banking Industry, Young Zealand Journal of Employment Relations, 33(3), 91-104
8. Mansur Lubabah Kwanbo, (2011), An Assessment of the effectiveness of Social Dis closure on Earnings Per Share in Nigerian Public Corporations, World Journal of Social Sciences, 1(1), 86 – 106
9. Owen, D. L. (2005). Corporate social reporting and stakeholder accountability: the missing link. Accounting, Organizations and Society, 32, 649-67.
10. Philipp Schreck and Sascha Raithel. 2015. Corporate Social Performance, Firm Size and Organistational Visibility: Distinct and Joint Effects on Voluntary Sustainability Reporting. Business and Society, 1-37
11. Rexhepi, G.; Kurtishi, S.; Bexheti, G. Corporate Social Responsibility (CSR) and innovation—The drivers of business growth? Procedia Soc. Behav. Sci. 2013, 75, 532–541. [CrossRef]
12. Rozenn Perrigot, Bruno Oxibar and Frederique Dejean, (2012), Determinants of Corporate Social Disclosure in the Franchising Sector: Insights from French Franchisor"s Websites, Working Paper, University of Caen, University of Rennis 1 http://ssrn.com/abstract=2005702
13. Suman Das, Dob Dixon and Amir Michael. 2015. Corporate Socil Responsibility Reporting: A Longitudinal Study of Listed Banking Companies in Bangladesh. World Review of Business Research, 5(1), pp. 130-154.
14. Zeghal, D. and Ahmed, S.A. (1990), "Comparison of Social Responsibility Information Disclosure Media Used by Canadian Firms", Accounting, Auditing & Accountability Journal, Vol. 3 No. 1. https://doi.org/10.1108/09513579010136343

WEBSITES:

1. http://dro.deakin.edu.au/eserv/DU:30075020/chatterjee-currentstatus-post-2008.pdf
2. https://www.gruppogiardini.com/rwfglgx/top-100-automobile-companies-in-world
3. https://thecsrjournal.in/top-indian-companies-for-csr-in-2020/
4. https://www.ijser.in/archives/v9i2/SE21205104022.pdf
5. https://thecsrjournal.in/top-indian-companies-for-csr-in-2020/
6. https://www.gruppogiardini.com/rwfglgx/top-100-automobile-companies-in-world https://w3sdev.com/3-social-responsibilities-of-managers-principles-of-management.html
7. https://www.ijser.in/archives/v9i2/SE21205104022.pdf
8. https://subsidiosdelestado.com/zylrp5/top-100-construction-companies-in-the-world-2020
9. https://www.coursehero.com/file/94340111/HUM1001-Ethics-and-Values-TEEpdf/
10. https://books.google.com/books?id=UDkTEAAAQBAJ
11. https://indiacsr.in/tata-chemicals-spends-rs-12-cr-on-csr-every-year-wildlife-conservation-tops-priority/ https://okhai.org/pages/tata-chemicals-society-for-rural-development
12. https://www.coursehero.com/file/94340111/HUM1001-Ethics-and-Values-TEEpdf/https://www.ijser.in/archives/v9i2/SE21205104022.pdf
13. https://w3sdev.com/3-social-responsibilities-of-managers-principles-of-management.html,
14. https://thecsrjournal.in/top-indian-companies-for-csr-in-2020/

15. https://www.gruppogiardini.com/rwfglgx/top-100-automobile-companies-in-world
16. https://w3sdev.com/3-social-responsibilities-of-managers-principles-of-management.html
17. https://www.ijser.in/archives/v9i2/SE21205104022.pdf
18. https://subsidiosdelestado.com/zylrp5/top-100-construction-companies-in-the-world-2020
19. https://www.coursehero.com/file/94340111/HUM1001-Ethics-and-Values-TEEpdf/
20. https://okhai.org/pages/tata-chemicals-society-for-rural-development
21. https://indiacsr.in/tata-chemicals-spends-rs-12-cr-on-csr-every-year-wildlife-conservation-tops-priority/
https://www.coursehero.com/file/88144481/19MBAOPE036-Prashant-Bagal-Surprise-Test-2docx/
https://thecsrjournal.in/top-indian-companies-for-csr-in-2020/
22. https://www.gruppogiardini.com/rwfglgx/top-100-automobile-companies-in-world
23. https://w3sdev.com/3-social-responsibilities-of-managers-principles-of-management.html
24. https://www.ijser.in/archives/v9i2/SE21205104022.pdf
https://subsidiosdelestado.com/zylrp5/top-100-construction-companies-in-the-world-2020
25. https://okhai.org/pages/tata-chemicals-society-for-rural-development
26. https://indiacsr.in/tata-chemicals-spends-rs-12-cr-on-csr-every-year-wildlife-conservation-tops-priority/
27. https://books.google.com/books?id=UDkTEAAAQBAJ
https://www.coursehero.com/file/88144481/19MBAOPE036-Prashant-Bagal-Surprise-Test-2docx/
28. https://en.wikipedia.org/wiki/ITC_Limited

A OPTIMIZED & EFFICIENT FACE RECOGNITION TECHNIQUE USING LBP AND HYBRID CLASSIFIER

[1]Keshav , [2]Suraj yadav

[1]Resaerch scholar , [2]Assistant Professor Email Id , suraj@jagannathuniversity.org
[1,2]Departent of Computer Science and Enginnering Jagannath university, Jaipur

ABSTRACT

The system has to identify the face first so that it can be identified. Face detection is a binary classification procedure that is done in many smaller sections of the picture, each of which may include a face. For the face detector, we utilised Viola-Jones; furthermore, we looked at many machine learning methods and examined their various features. Rotational noises may be avoided by normalising a face after it is cropped. We utilise a face rotation normalisation system to tackle this challenge, which takes eye, nose, and other facial coordinates to adjust the face. In order to identify proper nodal centres, it is important to align nodes correctly, which also impacts recognition performance. Face recognition has two meanings, much as face detection does:

Keyword: Face Recognition, SVM, Random Forest, PCA, LBP, Efficiency

Introduction

Deciding whether or not two people are one in the same is one of the initial considerations. Face verification is exactly what it's called. Second, this involves the process of figuring out who someone is by looking them up in a face database. Face identification is what it's called. Even while training classifiers is more efficient with picture files, image resolution may provide unexpected differences in classification across similar objects, such as pixels on different computer screens or the level of detail in the original image. In order to deal with incoming picture data, an image filter is usually the initial step (e.g. an edge detector). Feature extraction is what's going on here. Compute the results of our algorithm that retrieves the binary values of our feature extraction. We test the output of our algorithm and determine the face in the image. Compare the outcome with what you already have. The time this system takes to correctly identify a face, even in an unstructured setting, is another obstacle.

Several fields have combined to create face recognition technology, which is an emerging study topic including everything from image processing to neural networks. Face recognition software has many business and law enforcement applications, and these applications include many uses from still pictures like passport, credit card, and driver's licence photographs to real-time images such as surveillance footage that can be matched (Kirby 1990) Recognizing human facial recognition is a subject for psychologists and brain scientists, which presents several challenges. Understanding face recognition is also essential, since the fundamental processes are same to those used to identify faces via machine-based automation. Even while people seem to identify faces in noisy situations without much trouble, machines find face identification much more difficult when the pictures are deformed, coarsely quantized, or include hidden features.

Francis Galton initially suggested a systematic way to categorise faces (Wiskott et al., 1997) The research in facial recognition has increased recently thanks to a few of key developments:

1. The increase in emphasis on civilian/commercial research projects,
2. The increasing need for surveillance related applications due to drug trafficking, terrorist activities, etc.
3. The re-emergence of neural network classifiers with emphasis on real time computation and adaptation,
4. The availability of real time hardware.

Review of Literature

Moghadam et al. (1998): A "beyond eigenfaces" algorithm Face recognition that involves probabilistic matching. In order to execute the warping, an affine transformation is calculated. To align input faces with model faces, an active shape model is utilised. An alternative to the global method was developed to identify face components, using a semi-

automatic alignment step in conjunction with support vector machines. Component-based recognition techniques use a flexible geometric relationship between classifiers to fix the distortion caused by variations in posture.

an embedded HMM-based method to face detection and identification by Nefian and Hayes (1998) To build a 2D elastic network, geometrical models of faces were used. The nodes in the elastic network are responsible for computation of the wavelet coefficients which made the recognition possible.

Grudin (2002): Multi-level compact face recognition model. Using the biggest eigenvalues as a reference, just the best eigenvectors are necessary to estimate it. M-dimensional spaces (known as "face spaces") are created by the best M-dimensional Eigen faces. Background had an effect on the findings, since the pictures had so much open space. In their findings, the scientists noted that a strong correlation existed between pictures under various lighting scenarios, which indicated the strong performance of the system. While this study revealed that a picture of the entire face isn't optimal for good recognition performance.

For the eigenfaces method, illumination normalisation is often required. Suggested a novel approach to estimate the covariance matrix, where three pictures were collected under various lighting conditions to cover all non-homogeneous illumination effects.

Elastic bunch graph matching to identify faces (as studied by Wiskottet al. in 2002). The system matches three separate facial areas for the purpose of doing facial recognition (eyes, nose and mouth). Because of this, the placement of the different components of the system was completely free while they were doing the categorization.

(CSA) Conducted theoretical study of lighting in PCA based vision systems, which was completed by Zhao and Yang (2002). They carried out a more thorough investigation into what their facial characteristics seem like based on the Eigen features their work. An eigenspace comprised of the aforementioned eigenfeatures was utilised (i.e., eigeneyes, eigennose, and eigenmouth). Eigenface emerges as a quick, straightforward, and effective approach in sum. But it does not offer consistency with variations in illumination and size. Recently.

Zhao and Chellappa (2006): Shape-from-hading to improve robust face recognition. In order to include the DCT coefficients of a face picture, we used a Hidden Markov Model and also moved a window across the face image's DCT coefficients. Research on facial recognition has yet to conquer variations in posture and lighting in certain particular areas. Despite showing a lot of potential, and though many solutions have been suggested, major challenges still exist. With this being the case, because of the underwhelming performance of automated face recognition compared to fingerprint and iris matching, it may be the only viable option available for a certain application. Errors of 2-25% are standard. But such robustness only holds provided the training and test pictures are of about the same quality. The finest systems today may be confounded by incident light, head position, face expression, haircut (including facial hair), cosmetics (including eyeglasses), and age. Changes in these factors all affect the system's capabilities. Generally, to classify ways of dealing with variation in the appearance of things, we divide them into three types: invariant characteristics, canonical forms, and variation-modeling. The first method uses characteristics that remain unchanged under the modifications under investigation. A classic example is the Quotient Image, which, by definition, is invariant to illumination and is often used to identify faces.

Nitzeet al. (2012) compared the results of Random Forest, Artificial Neural Network, and Support Vector Machine (in their study "Comparison of Machine Learning Algorithms"). the author has put to the test The classifier's kind and quantity of satellite pictures were the two most influential elements in the classification results. In most instances, SVM classifiers beat RF and ANN. We observed this issue on the early-season monotemporal dataset; total accuracy for

SVM-RBF and RF differed by as much as 17%. With more satellite images available, the classifiers ended up with comparable overall accuracies. Since just one user-set variable is required, Random Forest is simple to operate. But when using just one satellite image for image categorization, it proved much more vulnerable than any other machine-learning technique.

Kremic and Subasi (2016): in which they compare SVM and Random Forest face recognition results. The author of this paper discusses the face recognition capabilities of Random Forest (RF) and Support Vector Machine (SVM). Random Forest Tree (RFT) method is used in face recognition systems and computer vision. Optimization was achieved via usage of kernel parameters. The SVM had a 93.20% accuracy, but that improved to 95.89%, 96.92%, and 97.94% after classifier optimization. 97.17% accuracy was obtained using RF.

Noi and Kappas (2018): Study of Sentinel-2 land cover classification through comparison of random forest, k-nearest neighbour, and support vector machine classifiers. In an effort to apply several machine learning algorithms, an analysis was conducted that used three distinct machine learning algorithms. The outcomes were examined and contrasted. Fourteen distinct sub-datasets with classes ranging from 50 to over 1250 pixels, with an unbalanced training sample size range of 25-250 pixels/class, were tested. The SVM classifier achieved an OA on average ranging from 90 percent to 95 percent, followed by the RF and kNN classifiers, which were comparable but more sensitive to training sample size. Both with unbalanced and balanced training sets (iset 5/bset 5, iset 6/bset 6, and iset 7/bset 7), when training sample sizes were larger than 750 pixels per class, the OA values were comparable and high (over 93.85 percent). It's important to take at least 0.25% of the entire research area and represent it as a training sample size when doing land cover categorization using remote sensing pictures and machine learning algorithms. Information such as lighting colour and posture angle are absent.

Access control mechanisms, with all their obvious benefits in our rapidly growing civilization, nevertheless have a major problem. Besides human and voice recognition, techniques that can be used by humans without any equipment except the use of a password or some kind of code (e.g., a PIN). Even more troubling, keys, badges, passwords, and PIN codes are often misplaced or forgotten, while fingerprints and retina scans are deemed unreliable because people refuse to use them. Face recognition has an identification rate of more than 95% when both posture and lighting are properly regulated. Even while facial recognition has a high success rate, it is nowhere near as effective as other authentication techniques such as key, password, or badge identification.

According to Georghiades et al. (2000), Campbell, California, implemented ID3D Handkey, which recognises individuals by the three-dimensional form of their hand. In order to produce a collection of geometric characteristics, a controlled capture box is employed, which takes two pictures of a hand, with the images' front and side views. The data may be captured in a few of seconds, and only requires 9 bytes of storage space. The system has a storage capacity of 20,000 unique hands.

It is widely known that the fingerprint biometric measure works effectively. The research is varied, and it is conducted by many different organisations across the globe. Fingerprint scanners are not intrusive and inexpensive. You will find them at banks, as well as in places that are only accessible after approval. The Wiskottet al. (1997) article on Fowler's systems gives a brief description of the various options.

No two people have the same fingerprints. Research has shown that the iris of the eye, like fingerprints, has patterns and textures that are unique to each human and remain stable over decades of life. This was discovered and published by Professor Peter Miller from the University of Otago in Wellington, New Zealand, where he observed the patterns in his own eye and subsequently compared them to research conducted in his laboratory and others around the world (Siedlarzet al., 2000) An

alternative approach was introduced by Daugman et al. (2016) to identify human irises, which incorporates 2-D Gabor transformations.

Speaking is a surprisingly discreet biometric, since it is an almost unnoticeable means of identification through one's voice. A prototype AT&T has developed is characterised as storing a person's voice on a memory card (Mandelbaum, 1990) For use in secure locations, financial transactions, and other applications, these new technologies are very helpful; nevertheless, they are invasive both physically and socially.

Users have to be in the right place with the sensor, then stop for a moment to get permission. Due of the need for precise space sensing, this interaction won't likely evolve. On top of this, since it is impossible to identify individuals using this information, it will not be used in regular human interactions and social structures. The 'pause and present' interaction perception is advantageous in high security applications but precisely what one doesn't want in places like retail stores, information kiosks, and houses that want to remember the people who reside there. Walking by a surveillance camera might be enough to identify a person in the event of a facial recognition system being in place. One common way for people to tell one another apart is to notice differences in their faces. The basis of face recognition technology is this same phenomena. Human monitoring has never been as accurate as it is with facial recognition. Human resources may now increase their productivity in several industries thanks to the rise of facial recognition technology. Many workplaces are turning to face recognition because of the decreasing costs of camera and image recognition software. This has allowed even smaller businesses to keep watch on employees and potential thieves. Despite not being fully developed, commercial face recognition systems are available, and research groups are trying to create more dependable and more accurate systems.

Proposed Work

Many situations now exist where the importance of security and organisation are priorities, and in these scenarios, identification and authentication methods have become a key technology in a wide variety of arenas: access control for computers and ATMs, in the day-to-day world, or even in law enforcement. The need for enhanced security measures has led to the introduction of biometrics, which helps improve personal identification. Biometric identification uses features such as physical characteristics or personal traits to identify and verify an individual. An automated system must be able to scan a human characteristic or attribute and identify or verify a person with no interference from the user. Biometric technology was developed for law enforcement and military security systems, where it became common. Identification of human beings and enforcing security are the two features of biometric technology. There are behavioural and physical subcategories of biometric features. It's important to include typing and signature rhythms as activities that fall within the larger category of behavioural biometrics. Identification is done using the eye, finger, hand, voice, and face in biometric systems. The Recognition Systems Inc. has designed a biometric system which can be identified by fingerprints. Georghiades et al. (2000) named it ID3D, and it's in Campbell, California. Handkey utilises three-dimensional hand shapes to identify individuals. In order to produce a collection of geometric characteristics, a controlled capture box is employed, which takes two pictures of a hand, with the images' front and side views. The data may be captured in a few of seconds, and only requires 9 bytes of storage space. You can store 20,000 different hands with this system. Local Binary Pattern (LBP) has been widely utilised in face recognition during the last several years. LBP computes a histogram, examining each pixel and its neighbours. But it's susceptible to noise and has a variation to rotation. A popular choice is the use of Gabor features, which are obtained by applying a family of Gabor kernels at various sizes and orientations on an image of a face. This method has been successful, however using many kernels results in a huge feature set and therefore is computationally intensive and is

unsuitable in real-time applications. Many machine learning classifiers use face recognition. This subject has created many methods that are driven by statistical and artificial intelligence theories. Random Forest classifier, which has recently risen to be a standard method for classification. Random Forest is a set of Decision trees with each individual tree classifying based on a majority vote, each of which gets its classification through independent decision-making. RF shown to be better or at least as accurate as other classifiers in many types of tasks, including facial recognition. Indeed, Breiman's dataset (Face recognition standard Dataset) has shown in comparison to random forest against many ensemble techniques, such as Bagging and Boosting, which have similar or worse accuracy. Furthermore, Random Forest results are equal to those of SVM and were shown to be superior than Neural Networks. Classifiers used in our tests all provide the same result in facial recognition. In terms of both learning and classification, random forest has shown to be among the most efficient methods available, excelling only in speed over accuracy. In fact, the classifier was built in a real-time tracking system, in which both the learning and testing happen on the fly, and both processes need to be speedy. Facial features may change dramatically with the environment, and facial emotions are subject to fluctuations. Face presentation may vary by time of day, and the face may be partly obscured. Handling face characteristics throughout time (such as ageing) may also be needed, depending on the application. Although previous techniques have succeeded in restricted situations, researchers have found difficulties with light variations, rotation of images, and occlusions. This project will deal with two of the three critical issues: dealing with shifting ambient light and variations in lighting. One may distinguish at least two major types of face recognition systems: those that rely on applications for their methods, and those that do not.

1. Identifying a face among thousands of others (e.g. in a police database). Even in the cases where there's just one picture for each individual, it's common.) You won't always need to know someone on the spot to recognise them.

2. Picking out a specific person in real time (e.g. location tracking system). (For training and real-time recognition, people may have several pictures.)

The bulk of the work completed on this summary was done in relation to the first instance, which included a secondary need of many face images for each participant. Prior to the face detection process, the software assumes face detection has already been done. We want to assign the proper label (such a name label) to faces in our database, even when faces are covered or not well lit. A gallery is a database of faces that is kept in a system. In the gallery, every person is seen from at least two different angles. Cases with any out-of-plane or in-plane rotation are ignored; in other words, the minimum preprocessing step is accessible if it is needed.

The study in this project focuses on the face identification issue, but includes recognition methods to cope with facial detail variations (such as whether someone is smiling or not, whether they have their eyes open or closed, whether they are wearing glasses, and so on). This study involves a very thorough examination of the algorithm's accuracy. A variety of source pictures were acquired and many test sets were utilised to choose an algorithm.

In general, Hybrid random forests present the following advantages:

1. The approach is generic. It is easily extend-able to the detection and recognition of any object other than faces.
2. Image classification is shown to be successful in spite of partial occlusions.
3. Random forests are a parallel learning algorithm - critical components can be executed completely in parallel.
4. The approach has a quick training phase. Random forests are very accurate at generalization.

In the first section of this description, we first identify the face by utilising face detection technology. This allows us to preserve a representation of the human body that captures just the face and erases everything else. Then,

we use a skin detection approach that ensures only the facial skeleton is present in the picture after feature analysis. To do this, we utilise linear binary pattern, and then employ many classification techniques, including KNN, SVM, and Random Forest. The picture is more resilient with respect to variations in expression and lighting because to the usage of facial Skeleton. However, because nodal point face will result in a large number of characteristics, many of which are superfluous for classification, it is often preferable. According to Fasel, the face picture characteristics that are utilised to identify facial landmarks are not the greatest. It takes a lot of time to analyse the many details in a probe picture. In order to address this problem, the feature of variable significance calculation in random forests is offered. To calculate the best characteristics, the random forest that performs classification is used, and the results demonstrate that these critical elements are adequate for recognising faces. To speed up the classification process, the feature space has been significantly reduced to just hundreds of features.

Performance Evaluation

The method is being tested by comparing its results with the performance metrics. These are some relevant metrics that should be included:

- Confusion Matrix: Also known as an error matrix, it causes people to go in circles while making important decisions. A particular table design for the presentation of an algorithm's success.

Actual	Predicted	
	Positive Class	Negative Class
Positive Class	True Positive(TP)	False Negative(FN)
Negative Class	False Positive(FP)	True Negative(TN)

- True Positive (TP): Observation is positive, and is predicted to be positive.
- False Negative (FN): Observation is positive, but is predicted negative.
- True Negative (TN): Observation is negative, and is predicted to be negative.
- False Positive (FP): Observation is negative, but is predicted positive.
- Precision: The Precision of an algorithm is measured by the percentage of correct results it produces. The accuracy of a class is the number of things classified properly as belonging to the positive class, divided by the total number of items that were correctly identified as positive (i.e. the sum of true positives and false positives, which are items incorrectly labelled as belonging to the class).
  Precision = TP/ (TP+FP).
- Recall: In simple terms, the term recall defines the percentage of relevant occurrences that have been located. In a classification task, recall is the proportion of objects that really belong to the positive class, as a proportion of the total number of items (i.e. the sum of true positives and false negatives, which are items which were not labelled as belonging to the positive class but should have been).
  Recall = TP/ (TP + FN).

Conclusion

Random forests categorise pictures using Local Binary Patterns, a method used to describe them using pixels (LBP). The neighbourhood texture operator, which may work on monochrome images, works off of a definition of texture in a small area. The latest changes to the LBP operator make it a very useful tool for measuring picture texture, with tests giving outstanding results. LBP may be described as a unifying concept for conventional texture analysis, which has separate models for the structural and statistical sides. The LBP operator's main strength in practical applications is its invulnerability to monotonically increasing or decreasing gray-scale values. Computational simplicity also allows for image analysis in difficult situations, and that computational simplicity is just as essential.

The last step is to study and evaluate how well random forests do in identifying partly obscured pictures. This research is based on the conclusion that random forests rely heavily on

very few facial characteristics when classifying a face. Because not all input picture characteristics need to be properly identified, this is why this happens. The voting method gives the classifier flexibility in correctly labelling a few characteristics as false positives.

References

1. Belhumeur, P.N., Hespanha, J.P. and Kriegman, D.J. 1997. Eigenfacesvsfisherfaces. Recognition using class specific linear projection. *JournalsIEEE Transactions on Pattern Analysis and Machine Intelligence***19:** 711–720.
2. Beymer, D. J. 1994. Face recognition under varying pose. *In: Proceedings of IEEE Conference, on Computer Vision and Pattern Recognition* held at Seattle during June 21-23,1994, pp.756-761.
3. Brunelli, R. and Poggio, T. 1993. Face recognition: Features versus templates Journal *IEEE Transactions on Pattern Analysis and Machine Intelligence***15:** 1042–1052.
4. Edwards, G.J., Cootes, T.F. and Taylor, C.J. 1998. Face recognition using active appearance models. *In: Proceedings of European Conference on Computer Vision*held at Freiburgduring June 2-6,1998, pp. 581-595.
5. Fleming, M.K. and Cottrell, G.W. 1990. Categorization of faces using unsupervised feature extraction. *In: Proceedings of IEEE IJCNN International Joint Conference on Neural Networks*heldatSan Diego during June 17-21, 1990, pp. 65–70.
6. Georghiades, A.S.,Belhumeur, P .N. andKriegman, D. J. 2000.From few to many: Generative models for recognition under variable pose and illumination. *In: Proceedings Fourth IEEE International Conference on Automatic Face and Gesture Recognition* held at Grenoble during March28-30, 2000, pp.277-284.
7. Jonsson, K., Matas, J.,Kittler,J. and Li,Y.P. 2000. Learning support vectors for face verification and recognition. *In: Proceedings ofIEEE International Conference on Automatic Face and Gesture Recognition* held atGrenoble during March 28-30,2000, pp. 208–213.
8. Kirby, M. andSirovich, L. 1990. Application of the Karhunen- Loève procedure for the characterisation of human faces. *IEEE Transactions on Pattern Analysis and Machine Intelligence***12:**103-108.
9. Kremic, E. and Subas, A. 2016. Performance of Random Forest and SVM in Face Recognition. *The International Arab Journal of Information Technology***6:**287-293.
10. Lanitis, A.,C. J. Taylor and T. F. Cootes. 1997. Automatic interpretation and coding of face images using flexible models. *IEEE Transactions on Pattern Analysis and Machine Intelligence***19**:743-756.
11. Moghaddam, B., Wahid, W. and Pentland, A. 1998. Beyond eigenfaces: Probabilistic matching for face recognition. *In: Proceedings of IEEE International Conference on Automatic Face and Gesture Recognition* held at Nara during April 14-16, 1998, pp. 30–35.
12. Nefian, A.V. andHayes,M.H. 1999. An embedded hmm-based approach for face detection and recognition. *In: Proceedings ofIEEE International Conference on Acoustics, Speech, and Signal Processing*held at Phoenix during March 15-19,1999, pp. 3553–3556.
13. Nitze,U., Schulthess,H. and HartmutAsche, 2012. Comparison of Machine Learning Algorithms Random Forest, Artificial Neural Network and Support Vector Machine *In: Proceedings of Geographic Object Based Image Analysis* held at Brazil during May 7-9,2012,pp.35-40.
14. Noi, P.T. and Kappas, M. 2017. Comparison of Random Forest, k-Nearest Neighbour, and Support Vector Machine Classifiers for Land Cover Classification Using Sentinel-2 Imagery. *Sensors***18**:1-20.
15. Salhi, A.L., Kardouchi, M. and Belacel, N. 2012. Fast and efficient face recognition system using Random Forest and Histograms of Oriented Gradients. ***In:*** *Proceedings of the International Conference of Biometrics Special Interest*

Group held at Darmstadt during September 6-7,2012,pp.1-11.

16. Sirovich, L. and Kirby, M. 1987. Low-dimensional procedure for the characterization of human faces. *Journal of the Optical Society of America*A**4**: 519–524.
17. Wiskott, L., Fellous, J.M., Kruger, N. and Christoph von der Malsburg. 1997. Face recognition by elastic bunch graph matching.*In: Proceedings of International Conference, on Image Processing* held at Santa Barbara during October 26-29, 1997,pp.129-132.
18. Zhao, L. and Yang, Y.H. 1999. Theoretical analysis of illumination in pca based vision systems.*The Journal of the pattern recognition society* **32:** 547-564.

DEVELOPMENT AND EVALUATION OF A TRUST ALGORITHM IN A MOBILE AD-HOC NETWORK USING ARTIFICAL ENGINNERING

[1]Gopal Krishna , [2]Suraj yadav
[1]Resaerch scholar, Departent of Computer Science and Enginnering, Jagannath university, Jaipur
[2]Assistant Professor, Departent of Computer Science and Enginnering, Jagannath university, Jaipur
[1]gopal07krishna@gmail.com , [2]suraj@jagannathuniversity.org

ABSTRACT

A MANET network is made up of wireless nodes which operate without a defined structure, the arrangement of existing devices does not have any ministerial or control entity , the management tasks are carried out by the teams which are in the network, therefore a MANET network is said to be a managed network. As there is no infrastructure, such as, the bandwidth, availability, input error rate, among others, depend exclusively on the behaviour of the network users. This work presents a functional solution, which decreases the energy consumption in MANET networks, implemented using game theories and genetic algorithms solution. The evaluation of the pay-as-you-go strategy from the modified prisoner dilemma was shown to be an easy to implement and interpret tool for the network equipment. The processes of generation, combination and mutation of strategies demonstrated the in-centive of cooperation in the network, observed in the increase of the average confidence of the nodes, a very high value. The intervention of the protocol with the use of genetic algorithms, demonstrated ot be a form of implementation of solutions for problems of multiple agents, the increase in the evaluation of trust of the nodes was observed, which can be interpreted as a convergence of the nodes to cooperate. The results obtained in the simulations carried out show the functioning of the algorithm implemented and the functionality of the network after its implementation.

Keywords: *Wireless network, Manet, Game Theory, Trust, Accuracy, processing, Performance,*

Introduction

A MANET network is made up of wireless nodes which operate without a defined structure, the arrangement of existing devices does not have any ministerial or control entity [1] [2], the management tasks are carried out by the teams which are in the network, therefore a MANET network is said to be a managed network. As there is no infrastructure, such as, the bandwidth, availability, input error rate, among others, depend exclusively on the behaviour of the network users [3]. In addition, transmission strategies must take into account changes in the distribution of nodes. Tasks such as: Routing, addressing, power management, among others, are of great importance since the strategies used in them would directly influence the network's desempen˜o [4]. For example, changing routes requires the transmission of configuration information, so making changes more frequently than required can decrease the efficiency of the network. However, trying to use non-existent or useless routes would also decrease the efficiency of the network since retransmissions would have to be made. Transmitting information involves energy costs, and a node is rewarded for this by the possibility of transmitting in the network. However, the team may determine not to retransmit the information, so its energy expenditure will decrease. information. This behavior is harmful to the network because of the reduction of effective nodes in the transmission [5]. Routing protocols could then help with the operation of the network if they ensure that a node that does not transmit to its neighbours (idle) has some kind of punishment and a node that cooperates with the transmission is rewarded. This will increase bateries the average battery life of the equipment and the useful time of the network, commonly called the lifetime. The implementation of this proposal was based on the application of bonding algorithms, which allow addressing problems with multiple agents and seek to reduce the required resources [4]. The game theory was used as a tool for the evaluation of the generated strategies and the validation was done through the NS2 network simulator software.

Problem Defination

The energy consumption of the devices (nodes) present in an Ad Hoc mobile network (MANET) determines the life time of the network, as the nodes exhaust their batteries. it would reduce the number of equipment in the network. This constitutes a problem for the functioning and operation of the network, for example in the figure 1, a network is shown in which the node A disappears, which increases substantially the distance of the route between the devices B and C causing greater energy consumption by sent package.

Figure 1: MANET network. I) Connection between nodes B and C in the presence of A, II) Connection between nodes B and C without the presence of A.

It is perfectly rational for a team wishing to stay longer on the network to avoid broadcasting information, since broadcasting will diminish energy reserves and eventually leave it outside the network. This behaviour, although rational, is detrimental to the network since the principle of its functioning is based on the cooperation of all the nodes, the non-retransmission could generate losses of packets on the route or an increase in the number of equipment present on the route and a consequent decrease in the efficiency of the network [6]. The problem of finding a strategy that maximizes the energy use of the batteries, bateries guaranteeing the efficiency of the network, becomes a very interesting objective. Many authors have developed solutions implemented in the routing protocols and direction, through the use of strategies that guarantee the participation of the teams in the broadcasting tasks[7].

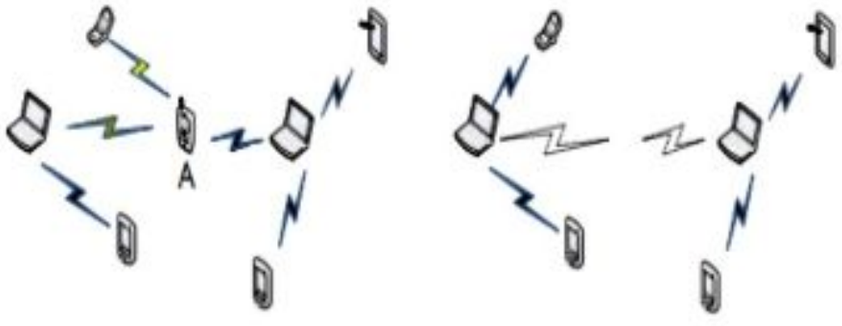


Figure 2: Network separation. Without the presence of node A, the network is divided into two network

As mentioned, in MANET networks, routing and addressing tasks are performed by the network teams without the existence of hierarchically superior nodes, in other words, all nodes would be responsible for the proper functioning of the network. The solutions to the energy problem must be present in all the equipment and the success of this depends on the response given by each equipment present in the network. As there are no entities in charge of monitoring and controlling the network, the routing functions become the responsibility of each node present. In addition, due to the mobility character, the position and availability of the nodes change as a function of time; in short, networks require changes in the distribution of routes, which must be carried out by all the equipment present in the network. The procedure for changing routes, should therefore take into account the way in which the different devices present in the network behave, the routing procedures in MANET networks are governed by protocols of various types. As we have seen, the routines of choice and maintenance of routes, executed by each equipment in the network, must guarantee connectivity, even when there are nodes that are not willing to retransmit messages, equipment that we will call idle. In order to deal with this situation, many studies have proposed the use of

confidence measures in the selection of routes to be used, and it is also possible to use such measures to represent a node which does not collaborate with the retransmission of messages in the network, by denying it the transmission of its messages. As mentioned above, non-retransmission or non-cooperation behaviour is perfectly rational. The challenge then is to find out how to measure, evaluate and build up this trust and how to implement this procedure in routing protocols.

Trust algorithms

The operability of a network without infrastructure, evaluated by the effectiveness of communication between the nodes, depends on the behaviour of the equipment present. For this reason, it could qualify the behaviour of the network, depending on the choices of the nodes that make it up, problems such as relaying, routing, network security, depend exclusively on the behaviour of the equipment present. Different strategies have been developed to evaluate and increase the operation of the network, we find techniques that measure, evalut and make decisions based on the behavior of the devices, being the trust models one of the most implemented solutions. The general idea of the trust algorithms is to measure, evaluate and execute actions based on the definition of trust that is defined in the network. If a node has a high trust, it must have a high evaluation and it is expected that it can share the benefits of participating in the network, otherwise, the node would have penalties that can go to the separation of the network. In these solutions, measuring trust becomes a relevant task in the functioning of the network, so some strategies for the evaluation of trust in mobile Ad Hoc networks wil be presented[8]. Figure 3 shows the different strategies used in trust algorithms.

Figure 3: Types of trust strategies Organization of paper

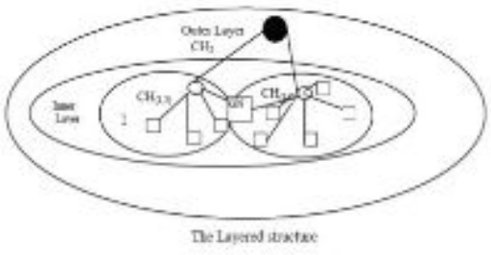
This paper is organized as follows. The introduction which describes the introduction of the work, the field of application and some elements to be taken into account for the construction of the project. The section address the problem, referring to the characteristics that the implemented solution must comply with. In this section the main components belonging to the solution are presented, and the theoretical basis of the work carried out is present in this section of the document. In section 2 the most used routing protocols of the Ad hoc networks are presented, showing the main elements of each routing strategy and examples of some protocols. An evaluation of the existing protocols is carried out in order to determine which one would be involved and the functioning of the chosen protocol is described. In section four, the solution is described, focusing on the intervention in each algorithm and the way of construction of the main functions of the confidence algorithm, the generation and mutation of strategies and the evaluation by means of game theory In the section five the results of the intervention are presented, reviewing the operation with respect to variables such as the number of nodes.

Literature review

Mobile ad hoc network is wireless networking devices that customise itself and arrange itself dynamically and provide a mobile, multi-hop network. The dependency on fixed-network infrastructure is eliminated from mobile ad hoc networks by considering a mobile node as an intermediary transfer, which expands the mobile node ranges well beyond the base transceivers.The range of movable nodes is expanded beyond their level by mobile ad hoc networks. If the nodes want to connect with other

nodes outside their reach, however, the packets need to be routed from source to destination by a routing algorithms.We used AODV routing protocol because it operates in a complex network context such as MANET. What a case will lead to certain security threats. Subject to such a circumstance. Wormhole attack is one effective form of a denial of service. Because routing is the cornerstone of all mobile ad hoc communication, the whole communication will come to a standstill if routing faults occur.

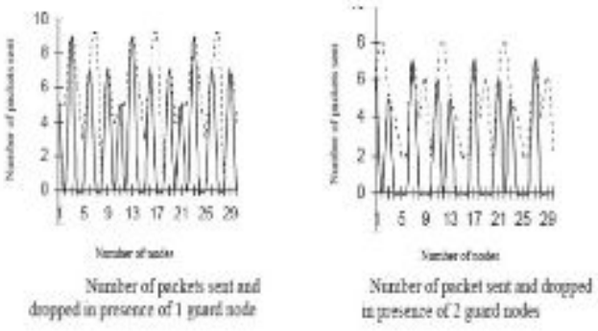
The resaerch in Mobile Ad-hoc Network have already done a great deal of work on stopping Wormhole attack.Many routing algorithms have been tested and suggested under various requirements such as solid and viable protection nodes and lightweight encryption authentication. Many of these methods have been used to block unintended entry to the worm hole. The 'packet leashes' is the one of Hu's worm troll avoidance techniques[9]. He defined two types of leashes: leashes and leashes. When GPS systems are realistic, geographical leashes should work perfectly. Later on, however, we find that GPS systems are not versatile because global system for positioning doesn't fit well inside houses, underwater, with heavy magnetic light, etc.



The Layered structure

Figure 4: Layered structure used in GPS system

Although temporary leashes need to be much better coordinated with the geographical leashes, they don't rely on GPS detail. This method lacks the transmission time of the message. Once again, a separate strategy was implemented based on the flight time of individual packets that is close to the temporal packet leashes. A two-layers technique is used to detect whether or not a node is active in a wormhole attack. The use of the layered solution primarily decreases the computing burden on individual cluster heads. If you look at the safety side, the chance of compromise for a Cluster Head is also minimised.


Number of packets sent and dropped in presence of 1 guard node

Number of packet sent and dropped in presence of 2 guard nodes

Figure 5: performance analysis with 1 malicious node and 2 malicious nodes

Many of the investigators were focusing on the issue of wormhole assault by using a wormhole as an uneven node. A wormhole attack is not clearly defined in this form of strategy. In order to avoid gossip attacks, The aim of this attack mitigation is to find and stop only one form of packet loss wormhole activity. The big concern with wormholes that deliver legitimate network messages is unwanted nodes. In certain cases, node-based technological solutions could be satisfactory, but the wormhole issue is not properly defined. The first figure represents the single guard node. As seen in the figure above. The packet drop and packet number sent are virtually the same. In the presence of a single guard, just 50% of the rise is seen.

[D. O. Akande and M. F. Mohd Salleh, 2019] , Authors [9] offered their activities on the performance analysis of improved protocol schemes through their reconsideration, where he said that the vehicle conductive ad-hoc network on the road could be anything that any killer could enter into the network and affect the normal work of the MANET network. This requires an authentication mechanism that limits the entry of the polluted node in the MANET. This paper is a recommended advanced mid-re-encryption algorithm which reduces the overhead pattern in MANET. Through this algorithm, it reduces the proportion of the packet supply and reduces the strength of the reduction, decrease and limit the invasion in the network. The authors will be less likely to attack the MANET Convention by its new method EIRE.

[Y. Song et.al, 2019]: Authors[10] presented their paper on the survey of attacks which can be done in MANET; they presented their research on various attacks and provided comparative research on attacks and approaches to that attack surmount. The author says that in the last three or four years, the MANET attracts so much attention that due to the opportunities given to the network, many studies are around its network and to increase its ability to use it properly. Discuss about the desire for safety within the network which is required for the safety of the authors of the network. Further they provide a habitual and recycled method of surmount detailing the details of attacks on MANET and those practices. They classify these attacks in a variety of categories and provide a comparative study on this attack. The author concludes that the attack on the MANETis a serious problem because it affects the network and its functionality Make sure it is convenient but these benefits and its power cannot be used properly if these security breaches are not resolved.

[M. El-Semary and H. Diab, 2019]: Authors[11]] offered their actions on the lasting attack that it is possible to apply these attacks on MANET, even though they mention that the MANET applications are based on periodic exchange of security packets. In their coverage they say that the packets should be sent at important times, because the proper arrangements on those packets can only be reached in a timely manner. It is the responsibility of each node in the MANET network to provide the right place in the right document. When an attacker wants to attack the node network, it takes advantage of MANET vulnerabilities and attacks them. MANET attacker's protection that prevents or delay the attacker's advancement of important security messages from neighboring nodes. It can execute the replay attack by sending the facts of the event happened beforehand.

[Y. Chen, C. Hu, E. H. Wu, S. Chuang and G. Chen ,2018] offered their work on a metric which is safe for delivering messages on MANET which they said that enabled wireless communication between MANET vehicles. The MANET machinery helps people with good transportation safety and efficiency. However, security issues for providing content over the infrastructure prevented wireless communication from MANET applications. They offer a civilian profit-loss Markov (APLM) model to measure the level of reliability of security systems for distribution of MANET content.The author says that the MANET belongs to the class of the genre, where mobile nodes are disconnected through wireless communication.

[Z. Chen, W. Zhou, S. Wu and L. Cheng,2020] [13]. A novel methodology based upon the study of two-hop neighbor Route Reply packet transport was proposed by fan To verify the sender 's validity, the right scheme is mandatory to produce a single key between the individual sensor node and the basis station. For their method no specific hardware or time sync is appropriate. In addition, for the proposed step of key generation only self-geographic position is needed. The mechanism of the Route Reply packet incorporates conditional transmission dependent on the legitimacy of the two-hop neighbour transmitting it. Only when each node reversed to the source node validates the two-hop sender node is the path chosen for transmission.

[Ankit Kumar et.al ,2020][14] suggested a site-based solution in which the neighbour is tested by using directional antennas. The neighbours are authenticated in the direction that the response of the HELLO message comes from and by using verifiers. The approach will detect insider attack even by authenticating the system with pair of wise hidden keys. Furthermore, this technique can only find kinds of wormholes with false neighbours.

[S. Hao, H. Zhang and M. Song, 2018] In order to avoid black hole and wormhole attack, S. Hao, H. Zhang and M. Song (2018) [15] use connexion rating schemes. They all rely on authenticated data packet identification to score links: if there is a connexion that loses packets, the recognitions will not pass; in the future the connexion is assessed as poor and prevented.

[B. Ojetunde, N. Shibata and J. Gao ,2019] suggested an approach[16] in the transmission time dependent mechanism (TTM) whereby each node noted the RREQ packet time and the RREP packet receipt time. Time consideration is also the key component in this algorithm. By excluding sender and recipient from keeping the

request and reply timing, Singh et Vaisla changed this strategy.

[N. Jiang, P. Xu, Y. Yao, T. Bui and Q. Chen,2018]The findings of Mobile Ad-hoc networks (MANET) under wormhole assault have been analysed by[17]. Several QoS parameters such as the latency, latency, packet distribution ratio, energy node and node density were taken into account here.Return Routing Scheme (RRS) and Nodes Scheme Authentication (ANS). The existence of wormhole is found in this system. It operates mostly with the BSR protocol and the importance of the threshold is too important for this solution to succeed.The Stable NeighbourhooD (CECUND) protocol, which detects multi-ended gusts, was proposed by author. No need for advanced hardware, node location information or clock synchronisation specifications are positive points of this approach, but it will only operate if the presence of wormhole significantly increases fake neighbours.

[M. Ahmad, A. Hameed, A. A. Ikram and I. Wahid, 2019]The Lightweight Counter-measurement (LITEWORP) suggested[18] using guard nodes to detect the wormhole threat. After the wormhole has been found, LITEWORP leaves only the network open mode, which can cause more disruptions. To overcome this, it introduced another MOBIWORP protocol that eliminates malicious nodes from the network, locally or internationally, using central authority. They carried out work on WSN and outlined the security processes focused on the layer review of the networking protocol. The risks and vulnerabilities within them were also established. Their description of safety issues was then different. These challenges are grouped into seven categories: cryptography, key protection, attack and preventative detections; protected routing; protected location safety; and safe data fusion.They have suggested a sober approach for discovering the normal application of statistical analysis for a wormhole attack. False neighbours can detect a sensor triggered by wormhole during their proposed process of exploration, and then a k-means clustering method for detecting wormhole attacks based on their information from their neighbours.

[T. Rahman, I. Ullah, A. U. Rehman and R. A. Naqvi ,2019] The proposal to use stable hash algorithms in MANET-saving channel routing to enforce the protection by author [19]. It was done on the protocol CA-AOMDV which is ad hoc multipath vector routing protocol-conscious channel. They recommended that the credibility of the ad-hoc network be ensured. Three protection services have been remembered, including data secrecy, data privacy and authentication. To defend CA-AOMDV against man in the centre attacks on MANET, SHA-1 is introduced. It functions as it is with the SHA-1 algorithm. Simulation of NS2 simulator is also completed. Below are the simulation statistics that display malicious node data transmission and malicious node data transmission. The blue node is a node without a malicious node, and a green node is a malicious node, in another figure.

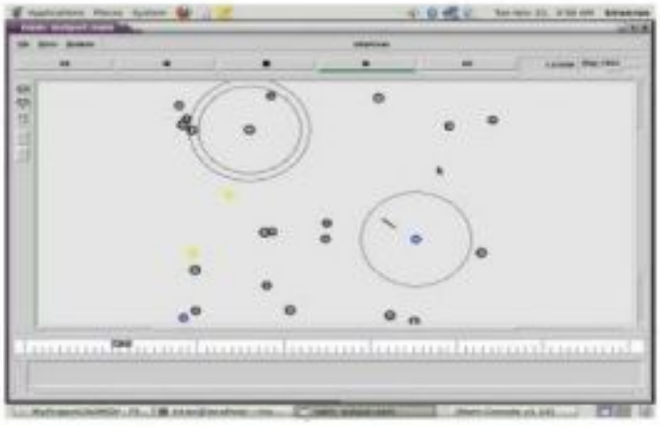


Figure 6: data transmission between source and destination node without malicious nodes

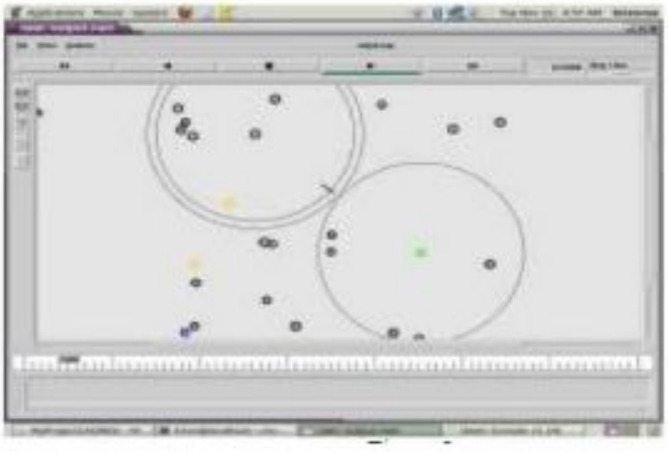


Figure 7: data transmission with Different node

[Kumar A et.al 2020] have attempted to find effective, secure wireless ad-hoc network communications in this article[20]. A secure connexion between source and destination is provided by CA-AOMDV. In addition, CA-AOMDV is implemented with the SHA-1 algorithm to stable MANET routing. author also suggested a local approach for the identification of wormholes. This approach is applicable in metric routing protocol sensor networks and is separate from data aggregation. Two parameters were defined, respectively potential and gradient. The first is to illustrate how the attraction of a node to the flow of information in a sensor network is intensive and the later explains how a children's node to the parent node increases its capacity.

[M. Ponguwala and S. Rao, 2019] The proposal made to make AOMDV protocol in MANETs safe and stable by author[21]. Its main objective is that before transmitting data packets, the data packets are first to find the safest, stable and reliable route. The research paper clarified that, when data packets are distributed, the route is checked whether or not they are stable. Any node is then tested for misbehaviour during transmission. If there are suspected nodes on every trajectory, this is stopped and nodes are delivered through a separate trajectory. The nodes will then be tested for wrongdoing. It can be caused by congestion, collision, overload buffers etc. If the justification is genuine, the incorrect detection will be stopped, and otherwise this route will still be pt in the blacklist. Many guilty of such a route are excluded from the path list, so that the network is configured for nodes misbehaviour. Three steps are taken to simplify the network:

(a) False detection avoidance
(b) Reputation-based device avoidance
(c) Promotional avoidance of overhearing

[S. Doss *et al*, 2019]: Authors[22] They raise safety matrices for measuring the level of integrity of security schemes for the supply of MANET content, such as a civilian profit-loss Markov (APLM) model. With a black box approach, identity documents such as damage to the identity of corruption as the banknotes and taking corrupt data documents. By using the Marcouch Chain, they record how the system gains and damages the reactions under evaluation to adjust its behavior. Due to more damaging states than the profit state, the model is uneven. Profit defines the reliability of a system by its technique and does not focus on the contaminated record pieces. The symbol of the damaged contaminated statistics department symbolizes the negative effects of a structure. The Markove discipline system keeps account of change behavior which ensures that it will monitor profits and harmlessly. The advantage of the APLM model is that it comes in black-box mode that does not need to check the details of the effectiveness of any peak protective system by calculating the integrity stage, this feature creates a suitable model for use. Due to the special quality of authentication of VNAT, the APLM model is tested in five instances. Measurement results show the significance, duplicate, and functionality of the APLM model. The APLM model supports optimization of security system design for vanity content delivery.

[R. J. Cai, X. J. Li and P. H. J. Chong,2019][23] implemented a protected localization solution that can detect basic and duplex wormhole attacks. This algorithm was expanded to make it accurate, but some wormholes can not still be identified with the technique, even for the variations in transmission of sensor nodes. Author has presented a cluster-based counter-measure to counteract MANET wormhole attack effectively. They recommended an algorithm for intrusion detection of the wormhole attacks using a Cluster-based strategy. As the underlying network topology, the AODV routing protocol is used. The method of two layers is used to detect whether a node functions as a wormhole.Many scientists focused on the issue of wormholes by considering the wormhole as a false link. A wormhole attack is not defined explicitly in such approaches. Instead, the harmful conduct of the wormhole is mitigated.

Proposed Work

Trusted models

The way in which the measure of confidence is generated, allows us to divide the strategies, structures that contain the actions to be developed, into the types mentioned below we

will mention the main characteristics of each types:

a) **Cluster:** This trust scheme uses authentication by means of public keys in the evaluation of a node, these are grouped into clusters which allows a group of nodes to monitor the activity of the equipment directly, the nodes certify the trust of a computer which can be verified with the use of the key and a certificate issued by each neighbour, the nodes which issue trust certificates which do not coincide with the evaluation of the Cluster would be considered "malicious" nodes and would lose the possibility of participating in the network[24].

b) **Social networks:** Model based on four components on each computer; Monitor that detects unusual behaviour in the nodes, reputation system that allows the nodes to be qualified acording to their routing or data transmission actions, route manager in charge of selecting the routes they present, and a trusted manager that alerts to the so-called malicious nodes. If a node shows negative behaviour that exceeds the network parameters, this will not be taken into account in the routing process, denying it the possibility of participating in the network.

c) **Non-cooperative games theory re-transmision**: Presents a model which manages trust based on the prisoner's dilemma, each node rationally making decisions about whether or not to broadcast from a neighbouring team based on a proposed strategy, which does not include the other network participants. The strategies used vary for each interaction in order to increase the payout in the game. After several executions of the game, it is expected that changes in the strategies will improve the network.

d) **Graph Model :** This model uses a graph called confidence graph, in which the vertices represent the nodes and the edges represent the confidence that the interconnected nodes have, the value of the confidence, with each interaction in the network a new edge is created or the value associated to the existing one is changed, guaranteeing the veracity of the information[25]. The nodes that have not interacted with each other must estimate the confidence measure using the measures that they have in the network, by means of averages or absolute values of the values of the network traveled.

e) **Cooperative Games Theory:** Seeks to increase the measure of trust by generating joint strategies. In this model, interactions between teams in the choice of strategies can be presented. The payment scheme of the game makes the nodes look for cooperation in the tasks of re-transmission and in the joint construction of strategies, the payment of a team will increase according to its participation in coalitions and to the extent of its collateral. The scheme seeks to increase cooperation between teams quickly and has a memory[26] limited to the behaviour exposed by the nodes in the previous iteration.

Functions of a trust model

The use of confidence algorithms must include processes that allow not only to identify reliable equipment, but also to make decisions based on the measured confidence. The following are the functions that a confidence algorithm must include.

Collection of information: The trust model should provide information about the behaviour of the nodes in the network[27], which would be used in the subsequent steps. This information is obtained from the experience of a team or from the neighbouring nodes, teams that are one jump away.

Grading and sorting: Using the information collected, the nodes must be graded acording toa policy of trust and organized according to the trust that is placed in them.

Act: Actions must be taken using the results of the two previous steps, in this step they make decisions such as not to relay information from a team with a low level of confidence.

Confidence based on the theory of noncooperative Games Theory

The trust algorithms based on game theory make use of a payment model in the work of classification of the nodes[28]. The payments come from rules defined for each game and are awarded at the end of each interaction of a player, the nodes must draw strategies that allow them to increase the payment received. A game is classified as non-cooperative if the execution of the strategy is carried out in a way that is not agreed upon by the participating players, the strategy profiles generated seek to increase the player's benefit and may or may not benefit the

other players. The non-coordination between the participants of the game is one of the characteristics which was chosen as a model, a lesser exchange of information configuration will have less impact on the operation of the network, after the implementation of the algorithm. The algorithm would be implemented in all network nodes, however each node could use an independent strategy profile, which would be evaluated and changed after the transmission process is repeated in the network. The evaluation is based on the payment scheme of the game to be used and this evaluation is the variable that will be increased after each execution of the algorithm. Using a non-cooperative game facilitates the implementation of the functions described by not coordinating strategies and using a payment scheme that encourages the cooperation of the teams with the operation of the network.

Implementation of the trust model

After the execution of the confidence algorithm, a node decides to transmit or not. The computer uses information that comes from a neighbouring node, a hopping computer, or a distant node, however as mentioned, a node only evaluts the behaviour of its neighbours. In order to have elements of judgement about the relay of information from equipment more than one jump, a different measure of confidence must be taken into account, than information about the behaviour of distant nodes. We can evaluate the behaviour of distant nodes [29], in more than one jump, depending on the behaviour of the routes in which they participate, i.e. if a route is successful the nodes within it are "reliable". A team would then be evaluated by the behavior it presents to its neighbours and by the behavior of the routes in which it participates. In this section we will expand on the description of the confidence assessment process, both at the nodes and on the route.

Node confidence

The confidence you have on a node can be evaluated as the number of retransmissions it has made, having as limits the system memory, for example if the taman˜o of the memory is 3, a node wouldhave a confidence evaluated between zero and three. The evaluation includes indiscriminately the routing and transport packets, this value will change with each packet whose destination, at the link level, is the node to be evaluated. A node must then monitor the behaviour of its neighbouring nodes, identify the packets it is to retransmit and verify the retransmission. If the equipment retransmits, the confidence level will increase by one and if it does not detect the retransmission, the confidence level wil decrease by one[30].

Confidence in the Route

The teams that share information are not necessarily neighbours, so routes must be generated between source and destination teams. The correct transmission implies the cooperation of all the nodes belonging to the route. A source team will evaluate the route for the success of the transmission and a destination team will receive the information. To implement this evaluation, the fields containing the identifier of received and pending packages are used. It is not necessary to receive a confirmation of each package sent, in order to avoid errors of perception [31] . Route confidence will be evaluated as the numberof successful transmissions made, increasing if a successful transmission is detected and decreasing if a retransmission of the package is required. This evaluation would be given to the first node of the path, that is, a node would be affected by the behaviour of all the equipment it shares the path with. Finally, it should be mentioned that this measure would also be limited by a memory, the reasons for the existence of this are similar to those already expressed in the evaluation of a node, however the value of the memory of the route should be less than that of the node, since this measure depends on other equipment and as we will see later the trust in the network is greater than that related to the node.

Confidence-building measure in node

The confidence measure is constructed using the behaviour of a node in the face of information transmission as an input. All the nodes evalut the teams that are one jump away (neighbours) and evaluate the performance of the routes built by the AODV algorithm. The qualification obtained is of public character and is used in the evaluation of the strategy and in the decision making process of broadcasting. Each node would only be evaluated by its neighbours, since it would not be

possible to have nodes in formation more than a jump away, in order to avoid the re-sending of information between nodes[32] and the consequent decrease of efficiency in the network, however, the network bond is a measure of the behaviour of nodes more than a jump away and the algorithm implemented would seek to increase this measure. The measured confidence will be the double Cn = {Cu, Cr}, where Cu represents the confidence in the node and Cr represents the confidence in the path. The possible values of Cn depend on the behaviour of node n in the last three retransmissions, a value known as the system memory, therefore Cu {0, 1, 2, 3 } this value would be equal to three if the node made the last three required retransmissions, two if it only retransmitted two of these, one if it only retransmitted one request and zero if it did not retransmit any packet. The variable Cr acts in the same way as the previous one except that it is limited to the last two transmissions and is assigned to the initial node, "first jump", of the assigned route, that is, Cr ∈ {0, 1, 2}.

Algorithm 1 : Evaluation of a node

```
function <-Confidence(neighbour)
  Pass the list of neighbours()
  while i! = confi.fun) do
    if i node == neighbour then
    Return confi.fun
    end if
  end while
Return 0
end function
```

Algorithms 1 shows the evaluation routine of the confidence in the retransmission of a node, for this evaluation a dynamic table is used which contains the The identification of the neighbours of a node and the evaluation of confidence in it.

confidence on the route

For route confidence evaluation, the transport level packets received by the final recipient are taken into account. Algorithm 2 shows the route evaluation process performed in the 802.11 protocol [33]. The memory of the route used is 2, the value returned by the evaluation in case the node is not found in the list of neighbours is 2 which corresponds to the maximum score.

Algorithm 2: Return of route evaluation

```
function CONF ROUTE(node, neighbour)
  confi.fun list of neighbours()
    while i! = confi.fun) do
      if i.neighbour == neighbour && i.node
      == neighbour then
        return i. evaluate
      end if
  end while
  Return 2
end function
```

3.4.5 Generation of the action strategy

As we have seen, our confidence measure has a total of twelve possible indicators, the next step is to determine what action R should take when

relaying information from a node whose confidence[34] is Cn. We only have two ways of acting, if we retransmit R = 1 or not R = 0, that is to say that our strategy will be conformed by the twelve actions that can be taken, 'these would be consigned within an arrangement that we will call strategy vector E, the following table exemplifies a set of strategies given the qualification of a node.

Table 1: Confidence level of action strategy

Confidence level		Action to take *R*
in the *Cu* node	in the *Cr*	
3	2	1
3	1	1
3	0	0
2	2	1
2	1	1
2	0	0
1	2	1
1	1	0
1	0	0
0	2	0
0	1	0
0	0	0

The initial strategies should ensure that an assessment and contrast of various forms of action is initiated. This is the reason why the nodes start their transmission with a random strategy, otherwise if a team is not initially transmitted, due to low confidence evaluation or the initial strategy configured in the neighbouring nodes and this does not change quickly, it would have to wait to raise these values and as its strategy evolves it could become an idle node. The changes in the strategy must be made on all the nodes, coding our strategy vector we find 212 = 4096 possible strategies per node and a total number of 4096 N strategies, where N is the number of nodes in the network, for example 204800 with only 50 nodes. Selecting a strategy among so many possibilities is a task that requires an important amount of resources, this is the reason why a solution is used in a strategy generation [35].

Evaluation of the strategy

Based on the payments described in Table I, all nodes receive a payment for each retransmission, the highest payment being due to the retransmission of node information with high confidence or by the non-retransmission, "punishment", of the nodes with low confidence. Payments are also made for the actual transmission of information in the transport layer, which guarantees the evaluation of the route's behaviour. This evaluation is carried out periodically[36], there are two variables to review in this process, first the duration of the period, it was observed that if 'this value is very high, the source and destination nodes of the transmission receive a higher value, while if the value is very low all the nodes tend to have a low evaluation. On the other hand the payment table can be modified, if 'these are very high the errors in transmission can generate changes of strategies that tend to the non cooperation, if these values are low the desempen˜o network with or without confidence algorithm is very similar. The evaluation of the strategy is calculated[37] as Σnv ΣDC ∗ R¯j + TC ∗ RjΣ, where nv n is the number of neighbours, DCn is the payment associated to discard the message of the node, with confidence Cn and TCn is the payment for the retransmission given the confidence Cn, Rj represents the retransmission action.

Algorithm 3 : Strategy evaluation

```
1: function EVALUATE ESTRA(intindex)
2:     Count
3:     Evaluate the List
4:     Call history()
5: while i! = history.end do
6:    if i.source == index then
7:       Compute Evalauiataion(i.destination, index)
8:    return i.destination
9:       if i.pending then
10:    Eval ← Discard(inedx) + Eval
11:     EvalRetrans(inedx) + Eval
12:     end if
13:       Cont + +
```

```
14:   end if
15:  end while
16:    while i! = history.end) do
17     if i.source == index then
19:        Eval Eval + 5
20:        Cont + +
21:        end if
22:       end while
24:        Return Eval
25:        end function
```

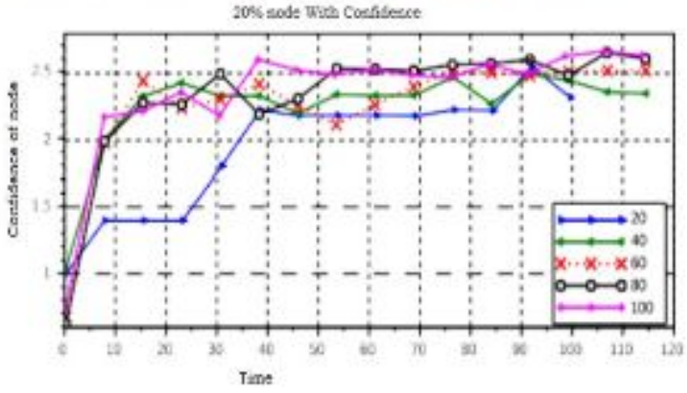


Figure 8: data transmission with Node relay confidence measure with 20%

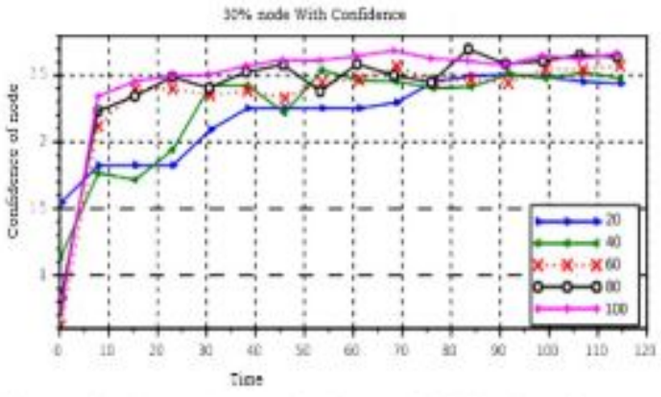


Figure 9: data transmission with Node relay confidence measure with 30%

Result & Analysis

Validating the behaviour of the implemented solution requires first of all verifying the behaviour of the trust measure of the devices in the network [38]. To generate this measure, the confidence that the neighbours have of a Cn node is averaged, separating the confidence by Cu retransmissions and the confidence in the Cr route.

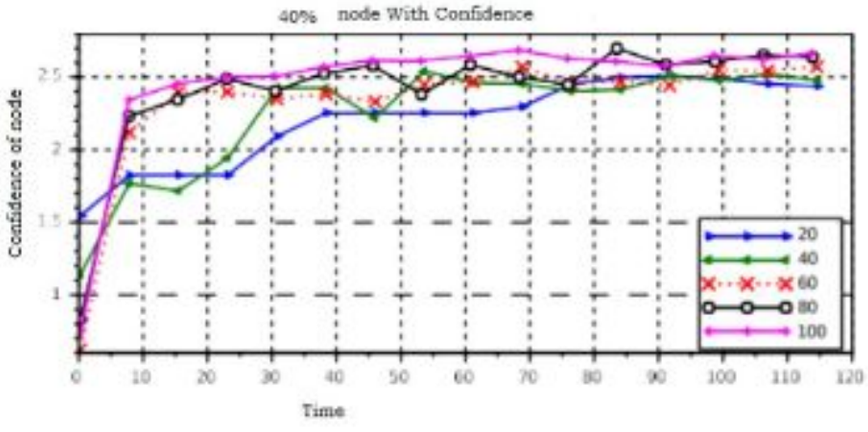


Figure 10: data transmission with Node relay confidence measure with 50%

Figure 5,6,7 shows the behaviour of the confidence measure for scenarios with different percentages of nodes acting as sources and a variable number of nodes[39]. It can be seen that the confidence measure increases over time, the final confidence values are not altered by the number of information sources, however they are affected by the number of nodes in the network, the higher confidence value is associated with scenarios containing more nodes. The solution reaches the maximum confidence value more quickly among more equipment acting as information sources. We can observe the behaviour of the confidence in the Cr network in figure 7. It is important to highlight that this measure presents a relatively low value and that the highest qualification is obtained by the

scenarios with a lower number of nodes, this can be explained by the non-interference and the possible lower number of transmitting nodes.

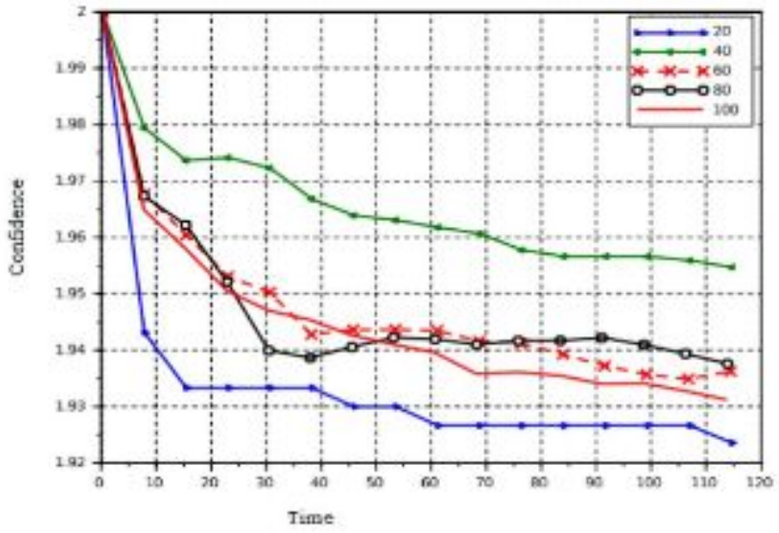


Figure 11: Confidence value of the nodes in the network

It is then confirmed that the solution increases the confidence value of the nodes in the network, we also observe that these values tend to stabilize over time, which ensures that the solution continues to be functional for longer periods[39,40] of work.

Evlauataion of Network

In order to evaluate the changes that the network presents with the use of the confidence algorithm, indicators of the efficiency of the network were simulated, these are, the average time of re-delay in the sending of packets, the percentage of erroneous or non-delivered packets and the throughput of the network, calculated as the total of information delivered satisfactorily on the simulation time[41].

Table :2 Evlauataion of Network for the percentage of erroneous or non-delivered packets

Number of nodes	Delay time (ms) With Algorithm	Without Algorithm	Percentage of Lost Pacages With Algorithm	Without Algorithm
20	346,673	483,858	6.4	7.4
40	512,392	450,574	7.1	7.0
60	480,903	602,027	8.0	8.3
80	268,77	308,825	4.3	5.2
100	151,702	253,29	4.0	5.6

Table :3 Evlauataion of Network for the throughput of delivered packets

Number of Node	Throughput (Kbps) With Algorithm	No Algo
20	622.75	
40	622.75	
60	493,01	
80	391,01	
100	552,33	

There has been a considerable reduction in the percentage of packets per day, in some cases representing more than 20% of existing transmissions, which can be explained by the increased cooperation of the nodes in the network[42] . Finally, throughput shows a considerable increase, the cause of which is the transmission of more packets due to the non-retransmission of information. The evaluation of the desempen˜o network allows us to affirm that the inclusion of the trust algorithm in the network does not present negative consequences in the desempen˜o network, the simulations give an account of the functionality of the transport protocol after its intervention and of the network.

Conclusion

This work presents a functional solution, which decreases the energy consumption in MANET networks, implemented using game theories and genetic algorithms solution. The evaluation of the pay-as-you-go strategy from the modified prisoner dilemma was shown to be an easy to implement and interpret tool for the network equipment. The processes of generation, combination and mutation of strategies demonstrated the in-centive of cooperation in the network, observed in the increase of the average confidence of the nodes, a very high value. The intervention of the protocol with the use of genetic algorithms, demonstrated ot be a form of implementation of solutions for problems of multiple agents, the increase in the evaluation of trust of the nodes was observed, which can be interpreted as a convergence of the nodes to cooperate. The results obtained in the simulations carried out show the functioning of the algorithm implemented and the functionality of the network after its implementation. On the other hand, the usefulness of the generation and measurement of confidence in the network is verified, not only in the decrease of the average energy consumption of the equipment, but also in the increase of the network flow and the decrease in the percentage of lost packets.

The proposed solution showed a low dependency on the implementation scenario, factors such as the speed of the nodes, the percentage of information sources and the area of simulation did not cause changes in the informaion of the network, while factors such as the numrbeof nodes and the probability of persistence of the parent strategies significantly affected the data transmission rate.

Refrences

1. L. L. Njilla, H. N. Ouete and D. K. Doungwa, "Monitoring colluding behavior in MANETs using game theory," *2016 IEEE 21st International Workshop on Computer Aided Modelling and Design of Communication Links and Networks (CAMAD)*, Toronto, ON, 2016, pp. 152-153. doi: 10.1109/CAMAD.2016.7790348
2. T. Sanguankotchakorn and S. Wiriyapunt, "OLSR power consumption reduction using Game theory," *2015 Seventh International Conference on Ubiquitous and Future Networks*, Sapporo, 2015, pp. 295-299.doi: 10.1109/ICUFN.2015.7182553
3. J. Loganathan, Sathyaseelane, Ranjithkumar and Kirubagaran, "Enhanced load balancing scheme in MANET by using Co-Operative Game Theory approach," *2015 International Conference on Innovations in Information, Embedded and Communication Systems (ICIIECS)*, Coimbatore, 2015, pp. 1-5.doi: 10.1109/ICIIECS.2015.7192937
4. K. R. Reddy and A. Rajesh, "Best relay selection using co-operative game theory: MANETs," *2016 International Conference on Communication and Signal Processing (ICCSP)*, Melmaruvathur, 2016, pp. 1347-1351.doi: 10.1109/ICCSP.2016.7754372
5. S. Rai, R. Boghey and P. R. Yadav, "Cluster based energy efficient authentication scheme for secure IDS over MANET," *2017 7th International Conference on Communication Systems and Network Technologies (CSNT)*, Nagpur, 2017, pp. 200-205.doi: 10.1109/CSNT.2017.8418537
6. B. U. I. Khan, F. Anwar, R. F. Olanrewaju, B. R. Pampori and R. N. Mir, "A Game Theory-Based Strategic Approach to Ensure Reliable Data Transmission With Optimized Network Operations in Futuristic Mobile Adhoc Networks," in *IEEE Access*, vol. 8, pp. 124097-124109, 2020.doi: 10.1109/ACCESS.2020.3006043
7. A. Vij, V. Sharma and P. Nand, "Selfish Node Detection using Game Theory in MANET," *2018 International Conference on Advances in Computing, Communication Control and Networking (ICACCCN)*, Greater Noida (UP), India, 2018, pp. 104-109.doi: 10.1109/ICACCCN.2018.8748632
8. R. Preethi and M. Sughasiny, "PBGTR: PRICE BASED GAME THEORY ROUTING FOR MINIMUM COST ROUTING PATH IN MANET," *2018 2nd International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC)I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), 2018 2nd International Conference on*, Palladam,

India, 2018, pp. 469-474.doi: 10.1109/I-SMAC.2018.8653603

9. D. O. Akande and M. F. Mohd Salleh, "A Network Lifetime Extension-Aware Cooperative MAC Protocol for MANETs With Optimized Power Control," in *IEEE Access*, vol. 7, pp. 18546-18557, 2019. doi: 10.1109/ACCESS.2019.2895342
10. Y. Song, H. Luo, S. Pi, C. Gui and B. Sun, "Graph Kernel Based Clustering Algorithm in MANETs," in *IEEE Access*, vol. 8, pp. 107650-107660, 2020. doi: 10.1109/ACCESS.2020.3001137
11. M. El-Semary and H. Diab, "BP-AODV: Blackhole Protected AODV Routing Protocol for MANETs Based on Chaotic Map," in *IEEE Access*, vol. 7, pp. 95197-95211, 2019.doi: 10.1109/ACCESS.2019.2928804
12. Y. Chen, C. Hu, E. H. Wu, S. Chuang and G. Chen, "A Delay-Sensitive Multicast Protocol for Network Capacity Enhancement in Multirate MANETs," in *IEEE Systems Journal*, vol. 12, no. 1, pp. 926-937, March 2018.doi: 10.1109/JSYST.2017.2677952
13. Z. Chen, W. Zhou, S. Wu and L. Cheng, "An Adaptive on-Demand Multipath Routing Protocol With QoS Support for High-Speed MANET," in *IEEE Access*, vol. 8, pp. 44760-44773, 2020. doi: 10.1109/ACCESS.2020.2978582
14. Ankit Kumar*, Pankaj Dadheech, Dinesh Goyal, Pawan Kumar Patidar, S. R. Dogiwal and Neha Janu, "A Novel Scheme for Prevention and Detection of Black Hole & Gray Hole Attack in VANET Network", Recent Patents on Engineering (2020) 14: 1. https://doi.org/10.2174/1872212114999200512120211
15. S. Hao, H. Zhang and M. Song, "A Stable and Energy-Efficient Routing Algorithm Based on Learning Automata Theory for MANET," in *Journal of Communications and Information Networks*, vol. 3, no. 2, pp. 43-57, June 2018. doi: 10.1007/s41650-018-0012-7
16. B. Ojetunde, N. Shibata and J. Gao, "Secure Payment System Utilizing MANET for Disaster Areas," in *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, vol. 49, no. 12, pp. 2651-2663, Dec. 2019. doi: 10.1109/TSMC.2017.2752203
17. N. Jiang, P. Xu, Y. Yao, T. Bui and Q. Chen, "Exploiting Radio Irregularity for Location Verification in Sparse MANETs," in *IEEE Communications Letters*, vol. 22, no. 6, pp. 1284-1287, June 2018. doi: 10.1109/LCOMM.2018.2828406
18. M. Ahmad, A. Hameed, A. A. Ikram and I. Wahid, "State-of-the-Art Clustering Schemes in Mobile Ad Hoc Networks: Objectives, Challenges, and Future Directions," in *IEEE Access*, vol. 7, pp. 17067-17081, 2019. doi: 10.1109/ACCESS.2018.2885120
19. T. Rahman, I. Ullah, A. U. Rehman and R. A. Naqvi, "Notice of Violation of IEEE Publication Principles: Clustering Schemes in MANETs: Performance Evaluation, Open Challenges, and Proposed Solutions," in *IEEE Access*, vol. 8, pp. 25135-25158, 2020. doi: 10.1109/ACCESS.2020.2970481
20. Kumar A., Dadheech P., Beniwal M.K., Agarwal B., Patidar P.K. (2020) A Fuzzy Logic-Based Control System for Detection and Mitigation of Blackhole Attack in Vehicular Ad Hoc Network. In: Chaudhary A., Choudhary C., Gupta M., Lal C., Badal T. (eds) Microservices in Big Data Analytics. Springer, Singapore. https://doi.org/10.1007/978-981-15-0128-9_15
21. M. Ponguwala and S. Rao, "E2-SR: a novel energy-efficient secure routing scheme to protect MANET-IoT," in *IET Communications*, vol. 13, no. 19, pp. 3207-3216, 3 12 2019. doi: 10.1049/iet-com.2019.0039
22. S. Doss *et al.*, "APD-JFAD: Accurate Prevention and Detection of Jelly Fish Attack in MANET," in *IEEE Access*, vol. 6, pp. 56954-56965, 2018. doi: 10.1109/ACCESS.2018.2868544
23. R. J. Cai, X. J. Li and P. H. J. Chong, "An Evolutionary Self-Cooperative Trust Scheme Against Routing Disruptions in MANETs," in *IEEE Transactions on Mobile Computing*, vol. 18, no. 1, pp. 42-55, 1 Jan. 2019. doi: 10.1109/TMC.2018.2828814

24. Sangeetha V. and S. S. Kumar, "ZIDS: Zonal-based Intrusion Detection System for studying the malicious node behaviour in MANET," *2015 International Conference on Emerging Research in Electronics, Computer Science and Technology (ICERECT)*, Mandya, 2015, pp. 276-281.doi: 10.1109/ERECT.2015.7499026
25. J. Xie and T. Murase, "Multiple User Cooperative Mobility in Mobile Ad Hoc Networks: An Interaction Position Game," in *IEEE Access*, vol. 8, pp. 126297-126314, 2020.doi: 10.1109/ACCESS.2020.3007931
26. I. Chen, R. Mitchell and J. Cho, "On modeling of adversary behavior and defense for survivability of military MANET applications," *MILCOM 2015 - 2015 IEEE Military Communications Conference*, Tampa, FL, 2015, pp. 629-634.doi: 10.1109/MILCOM.2015.7357514
27. D. Neznik, L. Doboš and J. Papaj, "Radio Resource Management for Wireless Networks," *2019 29th International Conference Radioelektronika (RADIOELEKTRONIKA)*, Pardubice, Czech Republic, 2019, pp. 1-6.doi: 10.1109/RADIOELEK.2019.8733591
28. R. Seetharaman, L. H. Subramaniam and S. Ramanathan, "Mobile Ad Hoc Network for Security Enhancement," *2019 2nd International Conference on Power and Embedded Drive Control (ICPEDC)*, Chennai, India, 2019, pp. 279-282.doi: 10.1109/ICPEDC47771.2019.9036648
29. R. Chaudhry and S. Tapaswi, "Game theoretic energy aware power management in Mobile Ad hoc Networks," *2017 4th International Conference on Signal Processing and Integrated Networks (SPIN)*, Noida, 2017, pp. 38-43.doi: 10.1109/SPIN.2017.8049912
30. L. Y. Njilla and N. Pissinou, "Dynamics of data delivery in mobile ad-hoc networks: A bargaining game approach," *2015 IEEE Symposium on Computational Intelligence for Security and Defense Applications (CISDA)*, Verona, NY, 2015, pp. 1-6.doi: 10.1109/CISDA.2015.7208634
31. C. Wu, M. Gerla and M. van der Schaar, "Social Norm Incentives for Network Coding in Manets," in *IEEE/ACM Transactions on Networking*, vol. 25, no. 3, pp. 1761-1774, June 2017.doi: 10.1109/TNET.2017.2656059
32. A. NAJA, M. BOULMALF and M. ESSAAIDI, "A game theoretical based rebroadcasting protocol for content dissemination in VANETs," *2019 15th International Wireless Communications & Mobile Computing Conference (IWCMC)*, Tangier, Morocco, 2019, pp. 591-596.doi: 10.1109/IWCMC.2019.8766594
33. B. Kasiri, I. Lambadaris, F. R. Yu and H. Tang, "Privacy-preserving distributed cooperative spectrum sensing in multi-channel cognitive radio MANETs," *2015 IEEE International Conference on Communications (ICC)*, London, 2015, pp. 7316-7321.doi: 10.1109/ICC.2015.7249495
34. L. Njilla, H. Ouete, N. Pissinou and K. Makki, "Game theoretic analysis for resource allocation in dynamic multi-hop networks with arbitration," *2017 Annual IEEE International Systems Conference (SysCon)*, Montreal, QC, 2017, pp. 1-8.doi: 10.1109/SYSCON.2017.7934772
35. J. Konorski and K. Rydzewski, "A Centralized Reputation System for MANETs Based on Observed Path Performance," *2015 8th IFIP Wireless and Mobile Networking Conference (WMNC)*, Munich, 2015, pp. 56-63.doi: 10.1109/WMNC.2015.42
36. M. Wadea, A. Mostafa, D. P. Agrawal and A. Hamad, "Enhancing VANET connectivity through utilizing autonomous vehicles," *2017 IEEE 13th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)*, Rome, 2017, pp. 204-211.doi: 10.1109/WiMOB.2017.8115851
37. N. Marchang, R. Datta and S. K. Das, "A Novel Approach for Efficient Usage of Intrusion Detection System in Mobile Ad Hoc Networks," in *IEEE Transactions on Vehicular Technology*, vol. 66, no. 2, pp. 1684-1695, Feb. 2017.doi: 10.1109/TVT.2016.2557808
38. Ilavendhan and K. Saruladha, "Comparative Analysis of Various Approaches for DoS Attack Detection in

VANETs," *2020 International Conference on Electronics and Sustainable Communication Systems (ICESC)*, Coimbatore, India, 2020, pp. 821-825.doi: 10.1109/ICESC48915.2020.9155737

39. J. Kim, S. Bohacek, P. K. Biswas, S. Samoohi, S. Mackey and M. Patel, "Friendly-Jamming-Aware Routing Protocols for Tactical Networks," *2018 IEEE 37th International Performance Computing and Communications Conference (IPCCC)*, Orlando, FL, USA, 2018, pp. 1-6.doi: 10.1109/PCCC.2018.8711190
40. J. Xie and T. Murase, "An Optimal Location Allocation by Multi-User Cooperative Mobility for Maximizing Throughput in MANETs," in *IEEE Access*, vol. 8, pp. 226089-226107, 2020.doi: 10.1109/ACCESS.2020.3044886
41. P. J. Nicholas and K. L. Hoffman, "Analysis of Spectrum Allocation to Support Mobile Ad-Hoc Networks in Contested Environments," *MILCOM 2018 - 2018 IEEE Military Communications Conference (MILCOM)*, Los Angeles, CA, 2018, pp. 1-6.doi: 10.1109/MILCOM.2018.8599736
42. U. Khan and B. K. Ratha, "Time series prediction QoS routing in software defined vehicular ad-hoc network," *2015 International Conference on Man and Machine Interfacing (MAMI)*, Bhubaneswar, 2015, pp. 1-6.doi: 10.1109/MAMI.2015.7456576

A STUDY OF GREEN AND ENERGY MANAGEMENT: CHALLENGES AND OPPORTUNITIES IN IT INDUSTRIES

Ms Seema Sangwan[1], Dr Pradeep Tomar[2]

[1]Assistant Professor, MDU-CPAS, Gurugram
[2]Assistant Professor, MDU-CPAS, Gurugram

ABSTRACT

Purpose: *Cloud computing is a rapidly evolving area of ICTs, posing new environmental concerns. Its goal is to provide fundamental components and needs for the energy cloud and its management. Computers and associated resources are used in an eco-friendly manner.*

Methodology: *This paper will present the study on efficient green and energy computing management through the analysis of several viewpoints shared by the researchers and academicians.*

Findings: *Cloud data centres use a lot of energy, which leads to high power costs and CO2 emissions. Since cloud providers place a high priority on effective resource management, researchers are increasingly interested in developing new energy saving technologies. Green computing efforts include equipment recycling, paper reduction, virtualization, cloud computing, power management, and green manufacturing.*

Conclusion: *The massive rise in worldwide industrial activity has resulted in excessive energy consumption and increased global warming. Green and sustainable computing practices assess the industry's environmental effect and promote the use of efficient methods and technology.*

Keywords: *Green Computing; Energy management; Cloud computing and environmental protection.*

Introduction

With the exception of fuels and heat, electricity serves as the primary energy carrier for all types of processes in the home, business, and industry. The expansion of the global industrial economy has posed two difficult environmental challenges. A major issue is the increasing depletion of natural energy resources. Alternative energy sources and efficient operations are sought to slow the current rate of depletion of natural resources. Second, the expansion of the industrial sector around the world has led to higher carbon emissions. Because of the greenhouse gas emissions, sickness rates have risen, the earth has warmed and the ozone layer has been diminished. We seek for information to make our lives easier at an increasing rate and in a variety of formats. Computing and the IT industry both use a lot of energy and produce a lot of carbon dioxide. There is an increasing need for this product, thus management must take efforts to alleviate the scarcity of available resources.

Contribution of this paper

a) To understand the concept of green and energy management
b) To study the challenges or problems in green and energy management
c) To know certain measure to overcome these challenges

Cloud computing: As an internet-based type of computing, cloud computing may provide service models such as infrastructure, network and software on a subscription basis under the circumstances of a on demand payment model. Because of their scalability, dependability, and low cost, cloud computing systems have many uses. As a result of the cloud computing revolution, the current networking landscape is being reshaped in positive ways on all fronts: environmental, economic, and technological. The number of people using cloud computing has continuously grown since it first emerged as a major computer technology. New technologies (e.g. computing, IoT, and Big Data) are becoming more prevalent as techniques for handling data and information related to energy systems improve. In response to the growing demand for computational processing capacity, data centers have seen a rise in carbon emissions, operating costs, illegal waste management, resource shortages and energy usage. In order to save power, energy-efficient coding reduces the amount of hardware that is used instead of just executing same code on a lower-power machine. Resource management is a key issue for cloud providers and academics are increasingly focused on energy efficiency. Scalability, energy efficiency, and device management all

benefit from this change. One of its main objectives is to supply the basic components and requirements for the energy cloud, as well as important management issues, in order to help the cloud, expand and spread. With the help of the cloud, different communications technology services may share virtual resources. In embedded systems, energy consumption is a significant constraint and there is a wealth of information available for reducing and optimizing computer energy use. The study of energy economics continues to increase the energy efficiency of network, servers, cooling and renewable sources of energy.

Energy Management System (EMS)

In an energy management system, all the actions that are planned and executed to guarantee the least amount of energy usage are bundled into one unit. To decrease overall operational energy consumption, utilize basic and extra resources cheaply, and enhance energy efficiency constantly, energy management affects organizational and technical processes as well as behavior patterns. Systems for measuring energy flow are used to make informed decisions about where to spend money on efficiency improvements. An effective EMS aids a university in adhering to its energy policy obligations and in improving its energy efficiency over time. In order to develop an energy policy and define and achieve strategic goals, a company must have an EMS, which includes all of the components listed above. As a result, it encompasses all of the mechanisms, both organizational and informational, needed to put energy management into practice. Energy policy is formulated and implemented, with plans, introductions and operations being monitored and measured as well as corrections and controls being implemented. Internal audits are also conducted on a regular basis as part of the management review process. Energy management cloud applications Managing energy is the process of keeping tabs on, regulating, and reducing energy use. The management of energy is a significant issue in the smart grid system. It is required to save resources, preserve the environment, and save money without affecting work operations by coordinating several energy sources effectively. Researchers have used a variety of approaches to energy management in the past, including BEMS (Building Energy Management System) and HEMS (Home Energy Management System), dynamic pricing, and load shifting. Constructing a (EMS) is intended to create a new era of energy management aimed at reducing building energy use, prices, and greenhouse gas emissions. Built-in software solutions let managers control building operations more efficiently by incorporating energy management systems (EMS). Microprocessor, computer, ethernet, internet, and a wireless sensor network are all used in energy management to control how much energy different locations or facilities use (Kusakabe et al., 2014). It's possible to manage energy use and therefore save expenses while increasing earnings. As sustainable energy development becomes increasingly important to the global economy, a number of issues, such as energy scarcity, blackouts, and global warming, are coming to light. It is necessary to manage energy production and consumption in order to prolong the life of the energy source and thus, the battery. Some energy management methods include centralized power management, dynamic power management, and static power management. In power management, power analysis and optimization are both important components.

A) Power analysis: Using power analysis, one may simulate the power consumption of different computer system components.

B) Optimization of power. By using energy-saving methods, such as power optimization, the end goal is to use as little power as possible while still achieving the desired results. Software and hardware methods may both help with power optimization.

Software power optimization methods are used in an effort to reduce the amount of energy used by software. Some examples of software power optimization include instruction reordering and creation of energy-efficient code. Hardware power optimization covers methods that be implemented directly

on the hardware, without relying on software or the operating system. Hardware optimization methods include dynamic voltage scaling and dynamic power management.

Green Computing: In today's digital economy, data centers support the widespread application and use of cloud-based services, but data centers consume a significant amount of power and emit carbon dioxide (CO2) into the atmosphere, there is a pressing need for strategies, techniques, and technologies that can reduce data center CO2 emissions. It is possible to reduce data center CO2 emissions by using green computing. A primary goal of green computing is to make the world a better place by deploying and using environmentally friendly technology. Using computer resources efficiently is the focus of green computing. It represents a shift in thinking about energy use in favor of methods that are both cost-effective and environmentally beneficial. Green computing, according to Uddin et al., involves the implementation of environmentally friendly IT-based initiatives aimed at achieving corporate goals. As a result, green computing techniques may be used in IT-based businesses data centers to reduce CO2 emissions, lower costs, better ethical waste management, and reduce natural resource depletion and excessive energy consumption. In their study, Molla and Cooper looked at the reasons for becoming green in data centers, as well as the factors that influence those reasons. Data centers may be made more energy efficient by using both virtualization and Green IT, according to Uddin et al. An IT paradigm known as Green Computing maximizes the use of available IT resources while also making use of sustainable products and manufacturing practices while also supporting green initiatives in other industries through the use of monitoring and management tools. Green Computing practices cover use of eco-friendly technology in business and industry. Because of the sharp decline in global energy supplies, the cost of energy per unit will increase dramatically. As a consequence, state-of-the-art strategies and plans for green computing are now required for both public and government sectors. Older gear consumes more power and has to be replaced or disposed of. As a result, recycling practices must be expanded to include obsolete IT assets.

Challenges

- **Limited estimate accuracy:** The effective use of battery resources necessitates accurate estimate accuracy for mobile application energy optimization. However, the precision of the estimate is restricted because to the poor accuracy of fuel gauge sensors in smartphone batteries. It also takes a long time to estimate the energy and has a lot of costs associated with it.
- **Difficult analysis of big data:** Energy consumption estimation and computation for big data analytics are difficult tasks. Big data's high-speed analytic needs can only be met if an accurate estimate is provided.
- **Huge Energy Consumption:** Approximately 30% to 40% of computers are left ON throughout the weekend and even beyond business hours, according to the Environmental Protection Agency, and around 90% of these PCs are left inactive.
- **Lack of awareness:** Educating stakeholders about computers' effect on the environment was a significant challenge.
- **Return of Investment:** The benefits of a project including Greening are sometimes not apparent for many years after it is started. As a result, showing quick returns following the successful installation of Green IT in the computer centre was a significant difficulty in this project.
- **Designing adequate techniques**: green computing research problems need the development of appropriate techniques that are optimum in terms of performance, energy use, and temperature.
- **Disposal of Electronic Wastes**: Getting rid of electronic waste in terms of reliability, using green materials in computing is perhaps electronics industry's greatest issue.
- **Lack of basic research initiative**: It's been difficult to get strong patents and commercial manufacturing for locally

made equipment due to a dearth of fundamental research effort and supportive infrastructure

- **Time consuming and costly:** Using Power Achieving this objective requires a lot of work, time, and highly competent engineers. In contrast to traditional computing, green cloud computing requires more operational and infrastructure resources.
- **Security Threat**: Data breaches, lack of cloud security architecture and strategy, account hijacking, and insider threats are all significant risks.
- **Misconfigurations and inadequate change control:** Incorrectly configured assets are attackable. In addition to insecure storage, too permissive permissions and default credentials are significant risks.
- **Insufficient identity, credential, access and key management**: Identity and access management problems are related to most cloud security risks. Insufficient credential security, absence of automatic cryptographic key, password and certificate rotation, and weak passwords are common causes.

Measures to overcome challenges

- **Government regulations:** To encourage green cloud computing company providers and consumers, government regulations must be developed.
- **Require estimation tool:** It is necessary to create an estimate tool that is both accurate and efficient. If this is the case, one option is to estimate the software's energy consumption based on the operating costs (in terms of both energy and execution time).
- **Adequate designing of system:** There are many methods for green computing such as first understanding the objective/Purpose and understanding power usage and its effect. Then adequate design of system and later develop environmental sustainability monitoring and assurance methods on time.
- **Green Computing**: Environmentally-friendly computing is concerned with reducing the environmental effect of computer equipment via research into how they are designed, engineered, used, and disposed. Developing software in a green computing environment ensures that we are making optimum use of available physical resources.
- **Climate Savers Computing Initiative (CSCI):** With the Climate Savers Computing Initiative (CSCI), PCs in both active and idle modes will use less electricity.
- **Energy efficient coding**: Using less software to run on the hardware implies using energy-efficient code. It will take less resources to perform a computer task with an improved algorithm.
- **E-Waste Recycling**: Recycling of Electronic Waste Because many developed nations have better technology, they dispose of massive amounts of computer systems and associated waste on a daily basis. Using recycled components to repair or improve other computer systems saves energy and cuts down on the amount of E-waste generated, which helps the environment. The recycling trend in green computing keeps hazardous elements like lead and mercury out of landfills.
- **Virtualization:** Using virtualization, a single piece of physical hardware may host several operating systems. With fewer physical equipment plugged in, energy efficiency may be accomplished, which lowers power and consumes less electricity. Virtual computing software packages are now widely available from a wide range of businesses and open-source initiatives.
- **Cloud Computing**: It allows businesses to scale up or down quickly, pay per usage, and use cloud-based services without purchasing or maintaining on-premises equipment. Cloud infrastructure with pay-per-use encourages users to use only necessary resources and save energy.
- **Green Machine Power management feature**: Making a Green Car Computer power management saves energy and money. SLEEP and HIBERNATE settings may help the computer's environment.

Both manual and automatic power management options are available.

- **IT product and Eco-Labeling**: The "eco-label" is another trend in green computing that has gained worldwide acceptance. Organizations award eco-labels to IT goods depending on various environmental criteria. It also covers recycling, noise, and energy usage.
- **Internet of Things (IOT)**: Wanyama (2017) built industrial networks labs accessible locally and remotely through the Internet. The IOT is a network that utilises the internet to connect clients and products (Lu & Teng, 2012). The IOT does this by using RFID, infrared sensors, GPS, information sensing devices, and/or laser scanners. These components can intelligently identify, locate, track, monitor, and manage. The IOT is interdisciplinary. Implementation requires technology in communications, networking, data collection, data fusion, cloud computing, and security. The following categories exist for enabling technologies (Yang, 2014): 2) communication and networking - technologies for massive, efficient, dynamic, flexible, and secure communication networking; 3) intelligence level - technologies for data fusion and service discovery where distributed users use Wireless sensor networks (WSN) allow the IOT to gather information about an object's surroundings.
- **Smart Grid**: It is a transparent, continuous, and instantaneous bidirectional energy supply that gives customers greater control over their energy choices. Smart grids use low-carbon technologies like renewable energy to reduce costs and environmental effects while increasing system dependability, resilience, and stability. As a result, the smart grid requires real-time data processing and communication to keep up with changing user energy requirements. This needs a platform that can securely communicate, store data, and process large amounts of data from many customers. The smart grid's demand needs may be fulfilled using IoT and cloud computing. A smart grid is an energy network that utilises sophisticated digital and other technologies to monitor and control power transmission from all generating sources to end-users.

Bibliography

1. Toward Increase of the Efficiency of Modeling, Maciej Pietrzyk, Danuta Szeliga, in Computational Materials Engineering, 2015
2. Analysis and Development of Green-Aware Security Mechanisms for Modern Internet Applications, Luca Caviglione, Alessio Merlo, in Handbook of Green Information and Communication Systems, 2013
3. Green Computing and Communication Architecture, Tarik Guelzim, Mohammad S. Obaidat, in Handbook of Green Information and Communication Systems, 2013.
4. Power issues in network systems, Dimitrios Serpanos, Tilman Wolf, in Architecture of Network Systems, 2011.
5. Green Computing Platforms for Biomedical Systems, Vinay Vijendra Kumar Lakshmi, Bharat S. Joshi, in Handbook of Green Information and Communication Systems, 2013.
6. (IJACSA) International Journal of Advanced Computer Science and Applications, Vol. 9, No. 7, 2018; Green Cloud Computing: Efficient Energy-Aware and Dynamic Resources Management in Data Centers Sara DIOUANI, Hicham MEDROMI Engineering research laboratory (LRI) System Architecture Team ENSEM, Hassan II University of Casablanca, Morocco.
7. MATEC Web of Conferences 150, 05048 (2018); MUCET 2017; A Descriptive Study towards Green Computing Practice Application for Data Centers in IT Based Industries Bokolo Anthony Jnr., Mazlina Abdul Majid, and Awanis Romli; Faculty of Computer Systems and Software Engineering, University Malaysia Pahang, Gambang, Pahang, Malaysia

(https://doi.org/10.1051/matecconf/201815005048).

8. Shuja et al. Journal of Internet Services and Applications (2017); Greening emerging IT technologies: techniques and practices Junaid Shuja1*, Raja Wasim Ahmad, Abdullah Gani, Abdel muttlib Ibrahim Abdalla Ahmed, Aisha Siddiqa, Kashif Nisar, Samee U. Khan and Albert Y. Zomaya.
9. Energy Management in Embedded Systems – Towards a Taxonomy; Umesh Balaji Kothandapani Ramesh Mälardalen; University School of Innovation, Design and Engineering, Software Engineering Division, Västerås, Sweden; Severine Sentilles, Ivica Crnkovic Mälardalen.
10. Management Challenges and Opportunities for Energy Cloud Development and Diffusion; Jones Luís Schaefer, Julio Cezar Mairesse Siluk, Patrícia Stefan de Carvalho, José Renes Pinheiro and Paulo Smith Schneider; Received: 26 June 2020; Accepted: 3 August 2020; Published: 5 August 2020.
11. Cloud computing for energy management in smart grid – an application survey; P Naveen, Wong Kiing Ing, Michael Kobina Danquah, Amandeep S Sidhu and Ahmed Abu-Siada; Materials Science and Engineering (2016).
12. EURASIA Journal of Mathematics, Science and Technology Education, 2018, ISSN:1305-8223 (online) Application of an Energy Management System via the Internet of Things; Wen-Jye Shyr, Li-Wen Zeng, Chen-Kun Lin, Chia-Ming Lin, Wen-Ying Hsieh; Revised 20 November 2017, Accepted 25 November 2017.
13. Recent Advances in Energy Efficient Resource Management Techniques in Cloud Computing Environments July 13, 2021; Niloofar Gholipour, Ehsan Arianyan, Rajkumar.
14. National Conference on Recent Advances in Computer Science and IT (NCRACIT) International Journal of Scientific Research in Computer Science, Engineering and Information Technology; 2018 IJSRCSEIT, Volume 4 Issue 1, ISSN : 2456-3307 326 Green Computing – Trends and Challenges; Kumar Gourav Arora, Garima Kohli, Pranav Ratta.
15. Review Green Cloud Computing: A Literature Survey Laura-Diana Radu Department of Research, Faculty of Economics and Business Administration, Alexandru Ioan Cuza University of Iasi, Bulevardul Carol; Received: 31 October 2017; Accepted: 27 November 2017; Published: 30 November 2017.
16. https://searchcloudsecurity.techtarget.com/tip/Top-cloud-security-challenges-and-how-to-combat-them
17. https://www.educba.com/cloud-computing-challenges

DYADIC COMMUNICATION BETWEEN MOTHERS AND DAUGHTERS ON SEXUAL RISK PROTECTION TOPICS: A SOCIAL WORK-STUDY

Suma K G

[1]Assistant Professor, Department of Social Work, Vijaynagar Srikrishna Devaray University, P G Centre Nandihalli, Sandur, Ballari-583119, Karnataka, India E-mail: suma@vskub.ac.in

ABSTRACT

Understanding sexual and reproductive health issues can be complex for both parents and their adolescent children. This study aims to measure the level of communication between mothers and adolescent girls regarding sexual risk protection. The study was conducted in the Karnataka district of Ballari, and data were collected from 200 mothers using a simple random sampling method. The study explored that the average age of the respondents is 33.38, and the vast majority (75 percent) are literate. The level of communication about sexual risk protection was found to be minimal in both rural and urban areas.

Key Words: *Dyadic, Communication, Sexual Risk, Mother-Daughter.*

Introduction

Adolescence is a period of significant physical, cognitive, and behavioral changes that lasts from 10 to 19 years. It marks the beginning of a new generation of individuals with higher levels of autonomy and self-esteem (United Nations Population Fund, 2009).

As they transition from being kids to adolescence, everyone shows signs of developing new behaviors and physical characteristics. During this time, individuals develop various levels of cognitive, social, and behavioral maturity. The complexity of their lives and the various issues they face as they grow up can be addressed through the help of different programs and support services (United Nations Population Fund, 2009).

Parent-adolescent relationships and interactions and adolescents' perceptions of communicating about sexual issues with their parents are critical factors in SRH communication. These factors include adolescents' behavioral beliefs, subjective norms, and their perception of comfort communicating about sexual issues and parental reproductive health knowledge. When parents are required to socialize their children, this is accomplished through parent-adolescent sexual and reproductive health (SRH) communication. Communication aids in transmitting values, attitudes, and expectations regarding SRH issues to their teenagers (Muhwezi et al., 2015).

Each year, a significant number of adolescents and young adults aged 10 to 24 years die as a result of a lack of information about available health services and avoidable negative consequences of sexual and reproductive health, such as unwanted pregnancy, unsafe abortion, and sexually transmitted infections, including HIV/AIDS. This is due to insufficient access to and use of sexual and reproductive health treatments. Adolescents' health is more in danger nowadays as a result of urbanization and lifestyle changes. Without question, HIV/AIDS and other reproductive health issues pose the biggest threat to their well-being (Shiferaw et al., 2014).

It is a complex process to raise sexually healthy children. Both parents and peer groups play key roles in developing healthy sexual habits and promoting positive values. It is impossible to overstate the importance of adolescent–parent dialogue around sexual and reproductive health (SRH) issues. Effective and constructive communication about sexual health between parents and children enables adolescents to develop their own values and make sexually healthy choices. Additionally, effective adolescent–parent communication supports healthy sexual development and helps teenagers avoid sexual dangers (WHO, 2008).

Parent-adolescent communication is the essential mechanism by which parents transmit their ideas, values, beliefs, expectations, information, and knowledge to their children. The frequency of parent-adolescent sexual communication is the most frequently utilized topic in studies of parental influence on teenage sexual attitude and behaviour. For example, the more parents discuss sexual relationships, pregnancy, and sexually transmitted infections (STIs), such as

acquired immune deficiency syndrome (AIDS), with their adolescents, the less likely they are to engage in risky sexual behaviour and the more likely they are to delay their first sexual act. A systematic evaluation of behavioral research discovered a protective effect of family closeness and general and sexuality-specific parent-young person discussions on youth sexual and reproductive health outcomes (De Looze et al., 2014).

The mother-daughter attachment and the interpersonal communication that happens within it may act as guiding influences for girls as they manage sexual changes during puberty. Mothers are their daughters' primary source of sexual socialization, offering knowledge and modelling attitudes and ideas concerning SRH concerns (Clawson and Reese-Weber, 2003).

Objectives

- To study the level of communication between mother-adolescent girls regarding sexual risk protection topics.
- To Understand the Association Between Communication about Sexual Risk Protection Topics and Locality of the mothers.

Methodology

To accomplish the study's objectives, both qualitative and quantitative methodologies were used. The study follows a descriptive research approach, and the data was gathered directly from the respondents. Semi-structured interview schedule was used for collection through interview, and focused group discussion technique was also employed for qualitative data collection on various elements relevant to Communication on Sexual Risk Protection issues between Mother-Adolescent girls.

Universe and Sample

The universe comprises all the mothers who have adolescent girls aged 10 to 19 and live in Karnataka's Ballari district. The simple random sampling method was used, with a sample size of 200. Each mother from the Urban and Rural 100 was interviewed for data gathering.

Analysis

The primary data collected from the mothers was processed. The percentage, frequency, and ANOVA were calculated using computer software, namely the statistical software for social sciences (SPSS.20). Tables were created based on the data output.

Results and Discussion

Understanding the parents' profile is essential to learning the nature and quality of communication with adolescent girls. Hence, an effort is made to explore the respondents' age distribution, religious distribution, caste category, and domicile. The age of the mothers of adolescents varies from 28 to 39 years. The mean score of the age is 33.38 years. It is evident that by the age mothers attain 30 years and above, they will have adolescent girls. More than three-fourth are Hindus, and about half belong to other backward classes—about each half belonging to rural and urban localities.

Table 01: Communication about Sexual Risk Protection Topics

S. No	Topics	Rural			Urban			Total		
		Yes	No	Total	Yes	No	Total	Yes	No	Total
1	Pregnancy Prevention	44 22.0 %	56 28.0 %	100 50%	47 23.5 %	53 26.5 %	100 50%	91 45.5 %	109 54.5 %	200 100 %
2	Abstaining from sex until marriage	26 13%	74 37%	100 50%	27 13.5 %	73 36.5 %	100 50%	53 26.5 %	147 73.5 %	200 100 %

3	Consequences of having premarital sex	34 17%	66 33%	100 50%	30 15%	70 35%	100 50%	64 32%	136 68%	200 100 %
4	Overcoming from Sexual Desires	16 8%	84 42%	100 50%	17 8.5%	83 41.5 %	100 50%	33 16.5 %	167 83.5 %	200 100 %
5	Sexually Transmitted Infections	2 1%	98 49%	100 50%	3 1.5%	97 48.5 %	100 50%	5 2.5%	195 97.5 %	200 100 %
6	Consequences of having Unsafe Sex	19 9.5%	81 40.5 %	100 50%	22 11%	78 39%	100 50%	41 20.5 %	159 79.5 %	200 100 %
7	HIV/AIDS	16 8%	84 42%	100 50%	17 8.5%	83 41.5 %	100 50%	33 16.5 %	167 83.5 %	200 100 %
8	Consequences of abortion	8 4%	92 46%	100 50%	7 3.5%	93 46.5 %	100 50%	15 7.5%	185 92.5 %	200 100 %
9	Consequences of teen pregnancy	23 11.5 %	77 38.5 %	100 50%	28 14%	72 36%	100 50%	51 25.5 %	149 74.5 %	200 100 %
10	Contraception/birth control	28 14%	72 36%	100 50%	30 15%	70 35%	100 50%	58 29%	142 71%	200 100 %
11	Sexual Violence	28 14%	72 36%	100 50%	27 13.5 %	73 36.5 %	100 50%	49 24.5 %	151 75.5 %	200 100 %
12	Sexual Intercourse	2 1%	98 49%	100 50%	3 1.5%	97 48.5 %	100 50%	5 2.5%	195 97.5 %	200 100 %
13	Relationship with opposite sex	12 6%	88 44%	100 50%	17 8.5%	83 41.5 %	100 50%	29 14.5 %	171 85.5 %	200 100 %
14	Homosexuality	26 13%	74 37%	100 50%	23 11.5 %	77 38.5 %	100 50%	49 24.5 %	151 75.5 %	200 100 %
15	Sexual Morality	00 00	100 50%	100 50%	00 00	100 50%	100 50%	00 00	200 100%	200 100 %

The statistics show that communication between mothers and adolescent girls about sexual risk prevention is entirely inadequate. Nearly a quarter of parents have talked with their daughters about pregnancy prevention. Interaction on not having sex before marriage was also minimal; roughly three-tenths interacted, while more than seven-tenths did not. Over three-tenths had a conversation, and nearly seven-tenths never discussed the consequences of having premarital sex. The interaction on Overcoming Sexual Desires was deemed inadequate; almost one-fifth of respondents had communication, and more than four-fifth had no communication at all. Less than a tenth communicated about Sexually Transmitted Infections, Abortion Consequences, and Sexual Intercourse. More than two-fifths of respondents reported communicating about the consequences of underage pregnancy,

sexual violence, and homosexuality, while more than seven-tenth reported never communicating.

Table: 02 Association of Sexual Risk Protection Topics with Rural & Urban Locality

S. No	Sexual Risk Protection Topics	* Association with Rural & Urban Locality			
		Sum of Squares	Mean Square	F	Sig.
1	Pregnancy Prevention	49.595	.250	.180	.672
2	Abstaining from sex until marriage	38.955	.197	.025	.873
3	Consequences of having premarital sex	43.520	.219	.365	.547
4	Overcoming from Sexual Desires	27.555	.139	.036	.850
5	Sexually Transmitted Infections	4.875	.025	.203	.653
6	Consequences of having Unsafe Sex	32.595	.164	.274	.601
7	HIV/AIDS	27.555	.139	.036	.850
8	Consequences of abortion	13.875	.070	.071	.790
9	Consequences of teen pregnancy	37.995	.191	.654	.420
10	Contraception/birth control	41.180	.208	.096	.757
11	Sexual Violence	36.995	.186	.671	.414
12	Sexual Intercourse	4.875	0.25	.203	.653
13	Relationship with opposite sex	24.795	.125	1.003	.318
14	Homosexuality	36.995	.187	.241	.624

The ANOVA findings indicate that communication between parents and teenage daughters about sexual risk protection has no significant association with the locality. Parents from both rural and urban areas communicate poorly or not at all about sexual risk protection issues. It was discovered that the following factors had a more considerable variance and were not significant: Sexually Transmitted Infections, Consequences of Unsafe Sex, HIV/AIDS, Consequences of Teen Pregnancy, Sexual Violence, Sexual Intercourse, Relationships with the Opposite Sex, and Homosexuality.

Table:03 Level of Communication about Sexual Risk Protection Topics

S. No	Sexual Risk Protection Topics	High			Moderate			Low		
		Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
1	Pregnancy Prevention	15 7.5%	19 9.5%	34 17%	51 25.5%	51 25.5%	102 51%	34 17%	30 15%	64 32%
2	Abstaining from sex until marriage	00 00	00 00	00 00	42 21%	50 25%	92 46%	58 29%	50 25%	108 54%
3	Consequences of having premarital sex	00 00	00 00	00 00	00 00	00 00	00 00	100 50%	100 50%	200 100%
4	Overcoming from Sexual Desires	00 00	00 00	00 00	15 7.5%	19 9.5%	34 17%	85 42.5%	81 40.5%	166 83%
5	Sexually Transmitted Infections	00 00	00 00	00 00	51 25.5%	51 25.5%	102 51%	49 24.5%	49 24.5%	98 49%
6	Consequences of having Unsafe Sex	00 00	00 00	00 00	00 00	00 00	00 00	100 50%	100 50%	200 100%
7	HIV/AIDS	00 00	00 00	00 00	67 33.5%	65 32.5%	132 66%	33 16.5%	35 17.5%	68 34%
8	Consequences of abortion	00 00	00 00	00 00	22 11%	29 14.5%	51 25.5%	78 39%	71 35.5%	149 74.5%

9	Consequences of teen pregnancy	00 00	00 00	00 00	51 25.5%	51 25.5%	102 51%	49 24.5%	49 24.5%	98 49%
10	Contraception/birth control	00 00	00 00	00 00	20 10%	21 10.5%	41 20.5%	80 40%	79 39.5%	159 79.5%
11	Sexual Violence	00 00	00 00	00 00	00 00	00 00	00 00	100 50%	100 50%	200 100%
12	Sexual Intercourse	00 00	00 00	00 00	18 9%	16 8%	34 17%	82 41%	84 42%	166 83%
13	Relationship with opposite sex	00 00	00 00	00 00	00 00	00 00	00 00	100 50%	100 50%	200 100%
14	Homosexuality	27 13.5%	25 12.5%	52 26%	40 20%	34 14%	74 37%	33 16.5%	41 20.5%	74 37%
15	Sexual Morality	31 15.5%	30 15%	61 30.5%	34 17%	30 15%	64 32%	35 17.5%	40 20%	75 37.5%

The above table examines the level of communication regarding sexual risk protection topics; the results show a more significant difference in communication; regardless of the locality, communication is discovered to be minimal.

Discussion

The results of this study explored that the interaction with adolescent girls is challenging and fraught with difficulties. Mothers are a significant and important source of communication for their daughters regarding sexual risk protection during adolescence. According to the research, locality has no significance association with communication; mothers from both rural and urban areas have shown that their communication is minimal, particularly on important topics such as HIV/AIDS, contraception, sexually transmitted infections, abortions, and abstaining from sex until marriage.

Social Work Intervention

The social work profession aims to deliver interventions to individuals, families, and groups to support their needs and problems. Interventions are intended to assist families to enhance communication between Mother-Adolescent girls about Sexual-Reproductive health especially on Sexual Risk Protection topics, the following initiations are recommended for the enhancement of communication:

- Awareness building among mothers on Sexual Risk Protection topics is substantial, and this can be done through micro-level strategies.
- By adopting Social Work Intervention, we can diminish the fear and disquiets about Sexual Risk Protection topics.
- The local government machinery needs to frame programs related to reducing the communication gap with adolescent daughters.
- The frontline workers, such as ASHA and Anganwadi workers, maybe well trained to train the mothers on transferring Sexual Risk Protection information to Adolescents.
- The ICT intervention is copiously required to enhance the knowledge of Sexual Risk Protection and convert that knowledge into practice, and the same can be delivered to their daughters.
- Community-based interventions Such as Focused group discussion and One to one interaction can be adopted by social work and other health professionals.
- It is vivacious to adopt Behaviour change communication (BCC) to make mothers conscious about adolescents' nutritional requirements.

Conclusion

Communication between mothers and their adolescent daughters is influenced by a variety of factors, including the mother's educational status, family type, and age.

Adolescents will be able to overcome the difficulties they confront during their adolescence if they are encouraged to communicate and share important information. Because of a variety of factors, the quality and quantity of communication between mothers and their adolescent daughters is limited; this may result in a wide range of problems for adolescents; therefore, mothers must understand and meet their daughters' communicational needs in order to avoid developmental hazards that may occur during adolescence.

References

1. Clawson, C. L., & Reese-Weber, M. (2003). The amount and timing of parent-adolescent sexual communication as predictors of late adolescent sexual risk-taking behaviors. Journal of Sex Research, 40(3), 256–265. https://doi.org/10.1080/00224490309552190
2. De Looze, M., Constantine, N. A., Jerman, P., Vermeulen-Smit, E., & ter Bogt, T. (2014). Parent–Adolescent Sexual Communication and Its Association With Adolescent Sexual Behaviors: A Nationally Representative Analysis in the Netherlands. The Journal of Sex Research, 52(3), 257–268. https://doi.org/10.1080/00224499.2013.858307
3. Muhwezi, W. W., Katahoire, A. R., Banura, C., Mugooda, H., Kwesiga, D., Bastien, S., & Klepp, K.-I. (2015). Perceptions and experiences of adolescents, parents and school administrators regarding adolescent-parent communication on sexual and reproductive health issues in urban and rural Uganda. Reproductive Health, 12(1). https://doi.org/10.1186/s12978-015-0099-3
4. Shiferaw, K., Getahun, F., & Asres, G. (2014). Assessment of adolescents' communication on sexual and reproductive health matters with parents and associated factors among secondary and preparatory schools' students in Debremarkos town, North West Ethiopia. Reproductive Health, 11(1). https://doi.org/10.1186/1742-4755-11-2
5. United Nations Population Fund. (2009). Adolescent sexual and reproductive health toolkit for humanitarian settings : a companion to the inter-agency field manual on reproductive health in humanitarian setting. UNFPA
6. World Health Organization (2008). Promoting adolescent sexual and reproductive health through schools in low-income countries: an information brief. WHO.

THE MAURYAN PERIOD OF INDIAN HISTORY: AN ASSESSMENT OF STATE & SOCIETY

Vikas Kumar

Assistant Professor, Department of History Ram Lal Anand College University Of Delhi
E-mail: vikasanand.history@gmail.com

ABSTRACT

The Mauryan Empire was one of the greatest achievements of Ancient India. The discovery of Arthashastra in 1905 improved upon the understanding and perception of the Indian past and it would not be wrong to say that the richness of the sources related to Mauryan period have led the scholars and researchers to relook and reassess the structure of the Mauryan state and society. The present research paper aims to offer a new perspective and conformation to some of the existing understandings of the Mauryan period of Indian History.

Keywords : *State, administration, society, economy, bureaucracy*

Main Paper

The Mauryan State was initially understood as a centralized state with a larger control over resources. The different trends of historiographical writings helped in the creation of several perceptions of the Mauryan state and the beginning of this paper with the discussion on state does not mean that state superseded the economic and social structures. The social structure of Magadha played a lasting role in the transformation of space from being a *mahajanapada* to a *rajya* and a *samrajya* but interestingly the powerful ruler Asoka of Mauryan dynasty never assumed any elaborate title. This was a salient part of the political culture of the contemporary times.

Scholars have generally believed the Maurya Empire to be one of the greatest empires of Indian history. The history of this empire can be analyzed from a variety of sources and of course the dating of these sources has been a matter of great academic discussion. Some of the prominent sources are Asokan Inscriptions, Kautilyan Arthashastra, Indica of Megasthenes besides the Puranic descriptions of Mauryan age.

The origin of the Mauryan dynasty has also been a topic of great discussion among scholars and it needs to be emphasized here that different writings and historiographical trends have sought to locate the dynasty according to the differing readings of the sources they reached. The Puranas mention that the Nandas who belonged to some low origin, were uprooted by a Brahmana named Kautilya who facilitated the establishment of the Mauryan Dynasty with Chandragupta Maurya being the first ruler of the dynasty.[17] The Buddhist traditions on the other hand emphasize that the Mauryan dynasty belonged to the Kshatriya varna. Texts like Mahavamsa, Divyavadana and Mahaparinibbana refer to Chandragupta as an heir to the Kshatriya clan of the Moriyas ruling over Pippalivana. The centralized nature of the empire covering the entire subcontinent has been a topic of serious academic discussion for decades. [18]

Notions of empires were perhaps the creation of the Colonial period and naturally the definition looked desperately for an extensive territory, monumental architecture, public works and even imperial declarations and proclamations. It needs to be stressed here that these parameters tied up well with the contemporary times of 'Imperial Ideology'.

Empires can be identified with an evolved state system with a certain degree of

[17] Romila Thapar, (2012) *Ashoka and the Decline of the Mauryas*, Oxford, Delhi, Third edition, p. 13.

[18] R.S. Sharma and D.N. Jha, "The Economic History of India up to AD 1200: Trends and Prospects" in *Journal of the Economic and Social History of the Orient*, Vo. 17, No. 1, 1974, pp. 48-80, p. 54.

complexity in its structure and organisation. The Mauryan period marks the transition from an early state and pre-state situation to a full fledged state system with an extensive spread almost over the entire subcontinent barring a few regions. The extensive movement of goods, materials and people also account for an extensive network of communication channels with a good system of coins, script and a bureaucratic apparatus. Textual sources indicate an extensive and highly centralized state but as later researches by scholars such as Romila Thapar indicate, the Mauryan state was not evenly spread over the entire territory under control hence the degree of centralization and state control cannot be taken to be the same all throughout.

The Arthasastra, Indica and Asokan inscriptions provide a good deal of information about the Mauryan state and society. The king was the head of the state, assisted by a *mantriparishad* (council of ministers). The bureaucratic machinery was highly evolved and complex with a hierarchy of various officers and superintendents known variously as *adhyaksas*. According to Arthasastra , salary ranged from forty eight thousand *panas* (a form of coinage) to sixty *panas*. This testifies to the elaboration of the bureaucratic apparatus.

The central government was directly controlled by the emperor. Emperors of the Mauryan dynasty were perhaps supreme commander of the army besides being the absolute sovereign. The department of justice was also headed by the emperor at the apex. The crown princes and other princes also had a variety of roles to play. The *yuvaraja* along with the *mantriparishad* often assisted the king closely in the day to day discharge of the royal duties. The other princes, *kumaras* often took care of the provincial administration and were stationed far from the capital city, perhaps to avoid the clash of interests. [19] The *mahamatras* were another category of royal officials who were responsible for the maintenance and supervision of the various departments. The *Dhamma-mahamatras* were specially appointed by Asoka to take care and propagate the policy of *Dhamma*.

The provincial administration was also no less elaborate. Besides, headed by a royal prince, officers such as *pradeshikas*, *sthanikas* etc. formed the layers of hierarchy at the provincial level of administrative machinery. The village administration was entrusted to the *gramani* who were more or less like the village heads. *Rajjuka* or *rajju gahaka* was the officer responsible for measuring land and ascertaining the land rent and revenue besides the other royal dues. The *yuktas* functioned as secretaries of the modern times. Megasthenes writes that the capital city of Pataliputra was administered by various departments whose number stands at six. They took care of the various facets of civic administration such as manufacturing, industry, crafts, census, tax collection and registering of visitors and foreigners. [20]

Likewise the Mauryan state managed to maintain a large army and this ties up well with the *Saptanga* theory propounded in Kautilya Arthasastra. Trautmann talks of the huge efforts made by the state towards capturing, taming and training elephants for warfare purposes. [21] The huge army was well divided into infantry, elephant corps, cavalry, chariots, navy, etc. The espionage system which evolved under the Mauryan rule is to be seen as a part and parcel of the evolution of the complexities of the state over the period of time. The spies often trained by the state were men and women who often disguised themselves as acrobats, dancers, musicians, soothsayers, mendicants, merchants, etc. They brought information from the far off corners of the empire and at times also informed the state

[19] See Romila Thapar, *Mauryas Revisited*, Centre for Studies in Social Sciences, 1987.

[20] See Upinder Singh, *A History of Ancient and Early Medieval India*, Pearson, 2009.

[21] See Thomas R. Trautmann, *Elephants and Kings: An Environmental History*. United States: University of Chicago Press, 2015.

about the developments in the neighbouring kingdoms.

The Mauryan state presiding over an elaborate and complex bureaucratic apparatus made sincere efforts in collecting taxes from a variety of sources. Arthasastra informs us that the revenue collected by the state should be used for the welfare of the subjects just like the water drawn by the sun from earth is returned back in the form of rainfall for irrigation purposes. The state made ample efforts to extend the area under plough cultivation. Reclamation of fallow land and resettling of population are two major areas of interest in Kautilya Arthasastra. Agriculture and some amount of trade and animal husbandry were the mainstay of the Mauryan economy. The Hellenistic world mentioned in Asokan inscriptions indicates that some amount of overseas and foreign trade was also practiced by the people and this attests to the presence of merchants, financers, and bankers as well. The Buddhist literature, Indica of Megasthenes and the economic activities of the Mauryan period clearly indicates the presence of different social categories engrossed in various professions and occupations.

Megasthenes's reference to the seven castes is not a valid observation and perhaps he seems to have mixed class with caste categories. Buddhist and Jain literature often refer to guilds (*nigam*, *sreni*), traders , caravans, rich merchants, coins, financing, usury, loan etc. These references certainly build up the picture of a vibrant economic life in the Mauryan empire.

Conclusion

The boundaries of the Mauryan empire roughly coincided with the natural boundaries of the subcontinent and this makes some scope for wider generalisations regarding the political, social and economic life of the contemporary times. On the basis of the available sources and their interpretation, it can be safely concluded that the Mauryan Empire marks one of the most vibrant phases of Indian History.

An Empirical Study of the Workers in Brick Making Industries: Evidence from Thoothukudi District of Tamil Nadu

Mr. S. Karthick Selvam, Dr. C. Mathana Kamaraj, Dr. A. Asok

[1]Ph.D Research Scholar, Reg.No.18212101031008, Research Centre in Economics, Kamaraj College, Thoothukudi. Affiliated to Manonmaniam Sundaranar University, Abishekapatti, Tirunelveli-627012, Tamilnadu, India.
karthickselvam679@gmail.com

[2]Associate Professor of Economics (Retd.,), Research Centre in Economics, Kamaraj College, Thoothukudi. Affiliated to Manonmaniam Sundaranar University, Abishekapatti, Tirunelveli-627012, Tamilnadu, India.
mathanakamarajc@gmail.com

[3]Associate professor and Research Coordinator (Arts), Research Centre in Economics, Kamaraj College, Thoothukudi. Affiliated to Manonmaniam Sundaranar University, Abishekapatti, Tirunelveli-627 012, Tamilnadu, India.
asok1965@gmail.com

Abstract

The study's goal was to look into the impact of brick kilns on the socioeconomic environment, working environment, exposure, and risk associated with each of the farm activities performed by brickfield employees. Brick industries are proven to serve an important role in promoting the economic well-being of local workers. The study's key findings include an increasing trend of worker exploitation in terms of low pay, the involvement of hard work and hazardous working conditions, a lack of hygiene and sanitation systems, the provision of contaminated water, and a lack of convincing first aid kit and compensatory tools in an industry.

Keywords: *Brick Kiln, Socioeconomic Environment, Working conditions, Thoothukudi District.*

Introduction

Circular migrants are employed in the brick kiln industry, which also employs a huge number of destitute people. There are 50,000 brick kilns in India; brick-kiln workers frequently migrate with their families; the number of brick kiln workers in India; and an agent who provides a wage advance of Rs 20-50,000 to the rural family. This is a considerable sum, and because there is no interest, the workers and their families mistakenly believe it is a low-cost loan. The money must be repaid through employment, and the wages paid are well below the legal minimum, essentially turning the agreement into a debt-bondage arrangement. The complete family, including the husband, wife, and children, lives on site and works together for the entire season. Everything necessary to handle daily necessities is sold on credit by employers and agents (at greater rates than the market) and then deducted from actual wages, creating an exploitative situation. Each pair gets between Rs 70 and 130 per day, and many are defrauded of their entire salary. They spend a lot of money on country booze and usually only save about Rs.1000-2000 at the end of the season. Some people are perennially in debt, and they relocate the following year in order to receive a lump sum payment to pay off their debts.

Theoretical Issues

Poverty, fragility, family and societal expenditures drove rural human resources to work in a bondage situation, according to studies on brick kiln employees. Few studies have looked into how local social pressures and economic motivations lead rural workers to migrate to brick kiln jobs (Shah, 2006 and Guerin et al., 2009). The advance payment forces the migration of labour force to the brick kiln industry due to economic motivation and local societal influences. They also obtained loans from the proprietor of the brick factory for household and societal expenses (marriage and other functions). In this setting, low wages, endless work hours, and a low standard of living cause major health problems

for workers and have a negative impact on the brick kiln workers' ability to repay their loans. It placed the brick kiln workers and their families in a state of debt and debt slavery. Few empirical research have emphasised this point (Guerin et al., 2012).

Review of Literature

Nafees, et al. (2012) performed a cross-sectional survey among brick kiln workers in Sindh's Larkana and Dadu districts. The translated version of the American Thoracic Society Division of Lung Disease (ATS-DLD) questionnaire was administered to 340 adult men. Guttikundaet al, Guttikundaet al, Guttikundae (2013) Brick manufacturing, along with car exhaust and resuspended road dust, is Bangladesh's fastest-growing industrial sector and one of the top three contributors to air pollution and health problems in Dhaka. Because present technologies do not allow output during the monsoon, brick manufacturing in the Greater Dhaka region is limited to the winter season (October to March) from 1,000 brick kilns dispersed over six districts. Although not technically classified as an industry, brick production is a substantial activity in Bangladesh. Bangladesh's brick kilns are rapidly developing, as brick is the country's major construction material due to a scarcity of stone aggregate. As a result, over the last decade, the demand for bricks has increased. According to government figures, Bangladesh has at least 4,234 brick kilns, both legal and illegal. The Bangladesh Brick Makers Owners' Association, on the other hand, claims that the country has roughly 8,000 registered and unregistered brick kilns (ILO, 2014). The goal of Atif Kamal et alstudy .'s in Punjab province was to assess the health risks of brick kiln workers exposed to dust-bound PAHs (Pakistan). To analyse cancer risk assessment via ingestion, inhalation, and skin contact pathways, the cancer risk model (CR-Model 1) and the incremental lifetime cancer risk model (ILCR-Model 2) were utilised. Both models revealed that brick kiln employees (adults and children) were exposed to a high-potential carcinogenic risk throughout the brick production process through ingestion and skin contact. While manually breaking coal, brick workers are exposed to the sun for long periods of time as well as a high concentration of dust. During manual coal feeding, workers are exposed to gas/dust (from bottom ash strewn over the kiln) and open fire, and they must walk on hot surfaces (top of the furnace) while monitoring and regulating the fire (Vaidya et al., 2015). The case of debt-bonded brick kiln workers in Phnom Penh, originally smallholder farmers in communities, is examined in Laurie Parsons et al's (2016) article. The article first looks at how labourers became debt-bonded, placing them within the country's broader agricultural shift and recasting peasants as rural labour. It then looks at how employees perceive rural life, arguing that the lack of freedom in kiln employment, compared to the fixedness and possibilities for mobility in rural life, makes people want to return to their roots. Finally, the article shows how smallholder farmers' persistence can be regarded as a problem of poor work under neoliberalism in Cambodia, and it sheds light on the role of labour agency in this. The goal of Sajan Das et al. (2017)'s research was to identify the influence of brick kilns on socioeconomic conditions, working environment, hazards and risk connected with each task, as well as the negative impact of brick field employees' hazardous labour. The main data gathering approach from the different 9 brick fields of Gouripur and Ishwargonj sub district under the Mymensingh district was a semi-structured survey. The study by Usman et al (2020) looked on the procedure of microcredit issuance and loan repayment in monthly instalments among brick kiln labourers. In-depth interviews with brick kiln labourers were undertaken to learn about their experiences and challenges in obtaining microcredit. From awareness of microcredit to loan issuance, the process of obtaining microcredit entails a number of phases. A local non-profit was in charge of advising brick kiln workers on the various stages involved in obtaining microcredit. The paper illustrates how the prevalence of inequitable and manipulative tactics at various phases of obtaining microcredit may limit labourers' access to the loan facility. Uttam Kumar Patra and SouravHalder (2021) The

brick kiln industry is one of Southeast Asia's oldest disorganised, labor-intensive informal industries. In South-East Asia, the primary brick-producing countries are China, India, Pakistan, Vietnam, Bangladesh, and Nepal. The annual production of bricks is 1.5 trillion. The South-East Asian country produces 250-300 billion bricks per year. One of the main causes for increased brick production is the rapid rate of urbanisation in Southeast Asia.

Statement of the problem

The brick industry is one of the fastest-growing industries in the northeast, where many other industries' physical presence is negligible. Industries have a large potential for job creation and play an important role in promoting socioeconomic development. The study's main focus is on worker exploitation, which includes health-related difficulties, working conditions, a lack of cleanliness and sanitation systems, and a lack of a credible first-aid kit. Despite recognising that the sectors' practises have a substantial impact on the health and financial concerns of local workers, just a few studies have been done. For this reason, the focus of this research is on the welfare of employees, and the study is referred to as an empirical Study of Workers in Brick Making Industries: Evidence from Thoothukudi District.

Objectives

To study on seasonal migration and the purpose of selecting brick kiln industry in Thoothukudi Tamilnadu.

Methodology

There are around 3000 brick kilns in Tamil Nadu, employing roughly 3 lakh people. From November to July, these people relocate either within the district or beyond the state to work in brick kilns to support themselves. Every year, they typically stay at their jobs for 7 to 9 months. Thiruvallur, Kanchipuram, Thiruvannamalai, Villupuram, Cuddalore, Dinducal, and Thoothukudi are among the 3000 brick kilns in Tamilnadu, employing around 3 lakh people. According to studies, more over 90% of the migrant labour at Tamilnadu's brick kilns are from other states.

Analysis and Interpretation

The demographic profile of respondents is examined as part of the current research project, with the goal of determining the respondents' perceptions, outlooks, employability, and so on. The respondents are classified based on the characteristics of age, educational qualification, marital status, other allied occupation in the offseason, and organising training for the workers, as described above. It was discovered that 59 percent of respondents are between the ages of 35 and 50, while 45 percent are between the ages of 20 and 35. The responses range in age from 20 to 59 years old. The respondents' average age was found to be 38.47 years. Males account for 81 percent of answers, while females account for 39 percent, indicating that men make up the majority of industry workers. The figure shows that 62 percent of respondents can read and write, with 40 percent of male respondents and 22 percent of female respondents. Then there are 48 respondents who are in high school, and none of the respondents are illiterate. It was discovered that 96 of the respondents were married, while the remaining respondents were single. The majority of responders are between the ages of 30 and 45, as a result of their age. It was discovered that 48 respondents worked as day labourers and 30 worked in seasonal agriculture. When it came to organising training for the workers, it was discovered that 90 of the respondents attended training between 1 and 5 days each year, with only 2 attending training for 15 or more days per year.

Economic Profile

Workers' economic profiles are determined by their year income, annual expenses for education, food, and medical care, festival bonuses, and compensation under any provision. The respondents' source of income is a significant factor that contributes to their substantial growth and economic freedom. It was discovered that 66.67 percent of respondents had a personal

yearly income of Rs 150001-200000, while 20 respondents (16.67 percent) had an annual income of Rs 100000-150000. The personal annual income of senior personnel (3.33 percent) is determined to be in the range of Rs 250000 and above. Team leaders, assistant managers, supervisors, and others fall into this category. The majority of responders acknowledge the importance of education in society. As a result, the local workers were putting in a lot of effort to budget for schooling. According to the above table, 65 percent of respondents spent Rs 30001 or more on schooling each year, followed by 25% who spent between Rs 20001 and Rs 30000, and just 10% who spent between Rs 10000 and Rs 20000. Medical expenses are one of the key factors used to assess respondents' financial capabilities. According to the findings, 70% of respondents spend between Rs 10000 and Rs 20000 on medical expenses per year, 16.67% spend between Rs 2000 and 3000 per year, and only 13.33 percent spends between Rs 30001 and above per year. The study's major goal is to develop tools to improve worker welfare. Incentives/bonuses were given to 100 percent of responders at any festival held in the state, according to the data. In an organisation, incentives are granted in kind or in cash up to Rs 5000 per year. The introduction of an adequate compensation instrument will ensure the workers' safety. In the event of an unclear accident, 86.67 responders were rewarded up to Rs 5000. Only 3.33 percent of responders are compensated in the range of Rs 10001 and above.

Socio-Economic Issues

The brick industry employs individuals who are subjected to harsh working conditions and low pay. Brick making is now a labor-intensive industry in India, with primitive technology generating significant worker drudgery. Because the furnace chamber is blanketed in ash, they are also exposed to high amounts of Respirable Suspended Particulate Matter (RSPM) while monitoring and regulating the fire (ash acts as insulator). Due to the open dumping and storage of fly ash, as well as during physical mixing of fly ash with clay. Green and red bricks are transported by a head load of 9 to 12 kgs, which causes health difficulties, particularly in women.

Despite the fact that bricklayers are exposed to these workplace hazards, they are almost never covered by insurance or medical facilities. Labor is brought in through a contractor in the brick industry (from distant places). They are not covered by current labour rules, such as the Minimum Wages Act, because they are not on the payroll of the kiln owner. The labour force is compensated based on the amount of work performed and the accomplishment of specific tasks, such as moulding 1000 bricks or transporting 1000 green bricks. Brick manufacture is seasonal, thus jobs are only available for six to seven months out of the year. The majority of the workforce has little choice but to work as seasonal labourers (often agricultural labourers) for the remainder of the year. The nature of the task necessitates expert labour, particularly for the moulding and firing processes. Every season, a considerable number of people migrate to the major brick production areas. In most societies, these responsibilities are customarily passed down from father to son. There has been a labour shortage in recent years as the younger generation no longer wants to be linked with the brick industry. Due to the labour shortage, a phenomena reported in specific clusters is the hoodwinking of entrepreneurs by labour, who promise their services to several owners, take advance payments, and then fail to show up. Labor costs have also risen, reducing kiln owners' profit margins.

Working conditions

Poverty is the leading cause of forced women employees in brick kilns, which leads to an advance loan from the employer and a long-term relationship. Workers in brick kilns of all types indicated they work between 12 and 14 hours per day. Workers in brick kilns must work for 12 to 14 hours a day and live in makeshift shelters that lack proper drainage, toilet/bathroom facilities, and air. They have to trek miles for drinking water, and their working circumstances are extremely difficult, and they encounter a variety of health issues. Brick kiln workers are migrants who come from a low-income neighbourhood. The main

cause of poverty for brick kiln workers is because they are forced to work by removing other boring jobs. Only seasonal work is available in the brick kiln industry. Poverty is the leading cause of people migrating to different regions in search of work and to pay off their obligations. Workers in brick kilns are forced to migrate and work in hazardous conditions. Due to their weak economic background, the workers' economic status does not alter after they enter the brick kiln industry. To help them overcome their financial difficulties, they are forced to work as bonded labour after receiving an advance payment from their employer. As a result, brick kiln workers become trapped in a vicious cycle of low pay, ill health, debts, and, eventually, bondage.

Summary and Conclusion

One of the prospective aids to the livelihood of many local employees was the prospect of brick industries on economic infrastructure. The paper begins by looking into the workers' demographic characteristics. Workers in these occupations are mostly between the ages of 35 and 55, are more likely to be married, and only 62 percent of them can read and write. Organizations are unable to provide permanent work opportunities. As a result, during the offseason, more workers are re-engaged in daily labour. Local staff participated in a number of training sessions arranged by the organisation. In addition, the research looks at the trend of locomotor challenges and social amenities. More than 90% of workers in a certain industry "y experience "gastrointestinal disorders" as a result of filthy food and unsanitary toilet facilities, as well as pollution in the environment and drinking contaminated pond water. The prevention of epidemics caused by water-borne diseases necessitates the improvement of sanitation and water supply systems ", which also noted Das et alsimilar .'s investigations (2016). The majority of workers also have locomotor issues, such as repetitive gestures, sitting posture, standard posture, lifting weight, and walking, to name a few. "Posture, as well as the placement and weight of a load, impacts the moment of the force applied in the research areas, which affects muscle loading and compressive forces on the internal spinal disc," according to the findings. Anderson and Chaffin (1987) It also demonstrates that "prolonged squatting position, clay mixing, carrying in a trolley, and pushing the trolley are the main causes of locomotor problems, similar findings among brick kiln employees conducted" Trevelyan and Haslam (2001). Only seasonal work is available in the brick kiln industry. Poverty is the leading cause of people migrating to different regions in search of work and to pay off their obligations. Workers in brick kilns are forced to migrate and work in hazardous conditions. Due to their weak economic background, the workers' economic status does not alter after they enter the brick kiln industry. To help them overcome their financial difficulties, they are forced to work as bonded labour after receiving an advance payment from their employer. As a result, brick kiln workers become trapped in a vicious cycle of low pay, ill health, debts, and, eventually, bondage.

References

1. Ajeet Jaiswal. (2011). A study of the occupational health functions among female textile workers. International Journal of Sociology and Anthropology, 3(3):109-114.
2. Anandi Bagchi., Sugata Das., Sougata Karmakar., and Subrata Ghosh. 2014. "Occupational & Ergonomic Health Analyses of Female Construction Workers of West Bengal, India". International Journal of Analytical, Pharmaceutical and Biomedical Sciences, 3(2):55-62.
3. Anu Rai., and Ashis Sarkar. (2012). Workplace Culture and Status of Women Construction Labourers: A case study in Kolkata, West Bengal. Indian Journal of Spatial Science, 3(2):44-54. EISSN: 2249 – 4316
4. Ariens GA, Mechelen WV, Bongers PM, Bouter LM, Wal GVD (2000). Physical risk factors for neck pain. Scand. Journal Work Environment Health. Pp: 26:7-19.

5. Bongers PM, Kremer AM, ter Laak J (2002). Are psychosocial factors, risk factors for symptoms and signs of the shoulder, elbow, or hand/wrist? A review of the epidemiological literature. Am. J. Ind. Med. 41(5):315-342.
6. Chung MK, Kee D (2000). 'Evaluation of lifting tasks frequently performed during brick manufacturing processes using NIOH lifting equations'. Int. J. Ind. Ergonom. 25(2):423-433.
7. Cromie JE, Robertson VJ, Best MO (2002). Work-related musculoskeletal disorders and the culture of physical therapy. Phys. Ther. 82(5):459-472.
8. Das, Rabin. 2013. "Socio-Economic Conditions of Female Workers in Brick Kilns - An Exploitation to Healthy Social Structure: A Case Study on Khejuri CD Blocks in Purba Medinipur, West Bengal" International Journal of Science and Research, 4 (1): 95-102.
9. Das, S., Hasan, M. S. Q., Akhter, R., Huque, S., Khandaker, S., Gorapi, M. Z. H., &Shahriar, M. (2017). Socioeconomic conditions and health hazards of brick field workers: A case study of Mymensingh brick industrial area of Bangladesh. Journal of Public Health and Epidemiology, 9(7), 198-205.
10. Fuyane B.F, Atlhopheng J.R & Mulale. K (2013). Impact Analysis Of Informal Brick Production On The Environment: Gaborone Dam Area, Botswana. International Journal of Scientific & Technology Research. Vol. 2, Issue 9, Sept. retrieved on 12, Jun. 2018 from www.ijstr.org
11. Guerin, Isabelle and Venkatasubramanian, Govindan. 2009. "Corridors of Migration and Chains of Dependence: Brick Kiln Moulders in Tamil Nadu." in J. Breman, I. Guérin and A. Prakash (eds) India's Unfree Workforce: Old and New Practices of Labour Bondage. New Delhi: Oxford University Press.
12. Guerin, Isabelle; Ponnarasu, Subramanian; Venkatasubramanian, Govindan; and Michiels, Sébastien. 2012. "Ambiguities and Paradoxes of the Decent Work Deficit: Bonded Migrants in Tamil Nadu." Global Labour Journal: Vol. 3 (1): 118-142.
13. Guttikunda, S. K., Begum, B. A., &Wadud, Z. (2013). Particulate pollution from brick kiln clusters in the Greater Dhaka region, Bangladesh. Air Quality, Atmosphere & Health, 6(2), 357-365.
14. Halder, S., & Patra, U. K. (2021). Status of brick kiln workers in South East Asia. Journal of Natural Remedies, 21(10 (1)), 6-16.
15. Health hazards of child labor in brick kilns of Bangladesh. Geneva: ILO. Available at: file:///C:/Users/Raj/Downloads/Bangladesh_Country_Report.pdf.
16. International Labour Office, International Programme on the Elimination of Child Labour (IPEC) (2014).
17. Iqbal, Muhammad Javaid. 2006. "Bonded Labor in the Brick Kiln Industry of Pakistan." The Lahore Journal of Economics, 11 (1): 99-119.
18. John. J and Nasir Arteeq. 1998. "Migrant Labour in the Brick Kilns of Punjab" CEC Working Paper, New Delhi.
19. Joshi, Sunil Kumar, Pranab Dahal, Agya Poudel and Helen Sherpa. 2013. "Work related injuries and musculoskeletal disorders among child workers in the brick kilns of Nepal." International Journal of Occupational Safety and Health, 3 (2) 2– 7.
20. Kamal, A., Malik, R. N., Martellini, T., &Cincinelli, A. (2014). Cancer risk evaluation of brick kiln workers exposed to dust bound PAHs in Punjab province (Pakistan). Science of the total environment, 493, 562-570.
21. Katiyar, Sudhir. 2012. "Vulnerability Assessment of Brick Kiln Workers in Five Districts of West Uttar Pradesh." International Labor Organisation, New Delhi.
22. Koh D, Jeyaratnam J (2001). Work and Health: Textbook of Occupational

Medicine Practice. 2nd ed. Singapore: World Scientific. Lundgren K, Kuklane K, Gao C, Holme´r I (2013). Effects of heat stress on working

23. Manash Das 2013. "Industrial Accidents in Bricks Industry: A Case Study in Karimganj District of Assam." An Online Journal of Humanities and Social Science, 1 (4): 64-76.
24. Muhammad, Niaz, Musawir Shah, Intikhab Alam and Ali Askar. 2010. "Debt Bondage: A Sociological Study of Brick kiln Workers in Badhaber, Peshawar, Pakistan." Pakistan Journal of Life and Social Sciences, 8(1): 19-23.
25. Mukhopadhyay P (2008). Risk factors in manual brick manufacturing in India. HFESA J. Ergon. Austr. 22(1):16-25.
26. Natarajan, N., Parsons, L., & Brickell, K. (2019). Debt-Bonded Brick Kiln Workers and Their Intent to Return: Towards a Labour Geography of Smallholder Farming Persistence in Cambodia. Antipode, 51(5), 1581-1599.
27. Roy, Swapan Kumar. 2012. "Socio-Economic Conditions of Women Workers in Some Selected Brick Kilns in West Bengal: An Empirical Study with Special Reference to Nadia Management, 2 (7): 121-128.
28. Salerno DF, Copley-Merriman C, Taylor TN, Shinogle J, Schulz RM (2002). A review of functional status measures for workers with upper extremity disorders. Occup. Environ. Med. 59:664-670.
29. Santha. R and C. Athena. 2013. "Socioeconomic Status of Brick Workers in Coimbatore." Language in India, 13 (8Entitlement and Deprivation" USA: District" Shah A. 2006. "The Labour of love: Seasonal Migration from Jharkhand to the Brick kilns of Other States in India." Contributions to Indian Sociology, 40 (1): 91–118.
30. Shaikh, S., Nafees, A. A., Khetpal, V., Jamali, A. A., Arain, A. M., &Yousuf, A. (2012). Respiratory symptoms and illnesses among brick kiln workers: a cross sectional study from rural districts of Pakistan. BMC Public Health, 12(1), 1-6.
31. Trevelyan FC, Haslam RA (2001). Musculoskeletal disorders in a handmade brick manufacturing plant. International Journal Ind. Ergonom. 27:43-55.
32. Usman, D. A., Kataria, J. R., Awan, H., Hussain, S., & Usman, M. (2020). Elimination of Bonded Labour in South Asia: The Process Patronage and Labourers' Right to Access Micro Credit in Brick Kiln Industry of Pakistan. South Asian Studies, 30(1)

THE USE OF MODERN EDUCATIONAL TECHNOLOGIES IN THE PREPARATION OF FUTURE TEACHERS FOR CLASSES IN THE METHODOLOGY OF TEACHING FINE ARTS.

Nafisa Muzafarovna Avliyakulova

Bukhara State University, Teacher of the Department of Fine Arts and Engineering Graphics

SUMMARY

This article clearly highlights the ways and forms of using modern educational technologies in the preparation of future teachers for classes in the methodology of teaching fine arts. Thanks to this proverb, future teachers are motivated to develop the skills of independent thinking, creative search and initiative.

The article preserves the form of the lesson, enriching it with a variety of methods that activate the activity of students, which leads to an increase in the level of assimilation by students. This, in turn, will pave the way for becoming a mature specialist.

Keywords: *efficiency, innovation, flow, interactive methods, Zig-Zag, case stage, organizers, Ven diagram.*

Until that time, traditional education taught students only to acquire ready-made knowledge. Such a method would stifle independent thinking, creative search, and initiative in the students.

Currently, interest and attention to improving the effectiveness of teaching using interactive methods (modern innovative pedagogical and information technologies)in the educational process is increasing every day.

The classes on the methodology of teaching fine arts use modern technologies, classes are aimed at ensuring that students independently search for the acquired knowledge, independently study and analyze them, even draw conclusions themselves. The teacher creates conditions for the development, formation, acquisition of knowledge and education of the individual and the team in this process, while acting as a guide, a reference point.

The widespread use of the modern approach aimed at the development and formation of students ' visual and creative abilities, which are manifested in the skills of actions implemented in a specific product of activity, which is of a creative nature, is an important factor in the long-term development of society and the state, the country's conquest of leading world positions, which is also shown by the example of developed countries.

The introduction into practice of advanced pedagogical experience and achievements of the theory of education in this direction in our country today increases every year. There is and accumulates such a great experience as the involvement of future teachers in visual and creative activities. Since time immemorial, the question of the development of a person's creative abilities, which are the beginning of creativity, has been of interest to both future teachers and scientific researchers directly involved in the education of children. The formation of personality, the development of abilities is still the most relevant issue of modern pedagogy.

In the context of the rapid entry of the process of globalization into our lives and activities, the rise to the level of state policy of the issue of training specialists based on their own knowledge, strength, capabilities, building the interests of the people, the country in harmony with their own interests, in the context of further deepening of democratic transformations in the country and the implementation of the concept of the foundations of civil society, an independent, creative person, who is fluent in science, technology and technology of its functioning, training of business specialists is one of the most important tasks, the challenges facing higher education institutions today.

Since the first years of independence of the Republic of Uzbekistan, the main focus has been on reforming the education system, forming it on the basis of national and spiritual values, and educating physically healthy, spiritually mature, and mentally literate people.The role of the sphere and history of fine arts in educational institutions in the education of the younger generation of a spiritually harmonious personality with the formation of a scientific worldview is extremely great.

Visual art in all historical epochs has occupied an important place in the process of spiritual improvement of a person. Art is one of the miracles created by human labor, the mind, and the pride of the soul. Art testifies to the creative activity of human activity. In a work of fine art, a special talent of the individual is manifested.

Man is an artist by nature. He always strives to make his life beautiful. P. Benkov also believed that art - the aesthetic education of the younger generation, a person-is necessary not only for the perception of art, but also for the development of a common culture, a culture of work, a culture of life, a culture of feelings. Therefore, future teachers should develop their visual and creative activities and have the following concepts and information when studying art:

1. Know the masters of fine art of ancient and modern times, their names and surnames;
2. Knowledge of samples of works of art made at a high artistic level;
3. Know the names of major museums related to the fine arts and the cities in which they are located;
4. Knowledge of the main historical and cultural monuments related to the art of the previous and subsequent periods existing in Uzbekistan;
5. Know the cities and villages that have developed in our republic;
6. Knowledge of the genres of fine art, their types, the tools and materials used in it, the methods used;
7. Know the main phrases related to the visual arts.

Everyone compares their life to the instructive life that the noble breeds have lived. Deep down, am I a worthy heir to these breeds? "what is it?" he finishes the question to his heart. They have left such a great legacy that they should associate their activities with the feeling that I will be left behind.

The current task of education is to teach students to function independently in an ever-growing information and educational environment, to effectively apply modern information technologies in various fields and to make rational use of information flows. It is no exaggeration to say that new pedagogical technologies, innovations, new pedagogical and psychological concepts, interactive methods, which have been rapidly introduced into the education system in recent years, mastered and applied by the teacher, have radically changed the content of education.

According to Abu Nasr Farabi, " creativity is such a great virtue in the process of learning that a person must use all his other qualities 7 to master it." After all, in the process of creativity, a person searches, observes, conducts research, analyzes the results obtained and makes logical conclusions. The correctness or inaccuracy of the conclusion is checked by experience. Creativity is the most basic and active form of manifestation of the qualities of independent thinking in a person. Despite the fact that the definitions given in it differ significantly from each other, we can point out some of its common features, which are that, firstly, the product obtained as a result of creativity has a qualitative novelty; secondly, these aspects are absent from the original foundations of creativity; thirdly, any creative activity is conditioned by the need for intellectual search. In our opinion, the creativity of a student is the ability to correlate the acquired knowledge with facts and phenomena in practice, to correctly evaluate and analyze the results obtained, to generalize them with previously acquired ones.

Creative activity is complicated by the lack of psychological readiness of the teacher and students to this process. Systematic reliance on certain methods, forms, means – leads to the inability to adapt to new situations, the inability to act in unforeseen situations. It as a psychological state can manifest itself in various forms, including: complete rejection of other people's opinions and judgments; strict defense of the generally accepted point of view; the use of old methods in relation to new content and means; the preservation of old methods in new methods; the use of traditional methods in solving a completely new issue, etc. When organizing students ' creative activities, two interrelated tasks should be taken into account. The first of them is determined by the development of students ' independent thinking in creative activities, the desire to acquire knowledge, the formation of a scientific worldview; the second is the

training of the ability to independently apply the acquired knowledge in school and practice. Visual and creative activity is a type of activity that serves to ensure the strength and perfection of the knowledge acquired by students, the formation of their qualities of an active and independent thinking personality, the development of intellectual abilities. This position plays an important role, especially in mastering the basics of science for future specialists, and then in introducing peer-to-peer, based on professional creativity, in the implementation of direct management of this process. The analysis of the experience of advanced teachers showed that in the learning process for the development of creativity, students need a system of educational tasks, as well as questions of creativity, in which logical operations are formed and developed using the above classifications and principles. Factors in the development of students ' visual and creative activity each subject should be the basis of educational activity in each lesson. Since creativity encompasses all aspects of teacher and student activity, its effective organization serves to ensure the quality of the entire educational process.

In our country, the necessary conditions and large-scale targeted measures are being implemented to educate the younger generation, to realize the creative and intellectual potential of young people, to educate the youth of our country as comprehensively developed individuals who are able to fully meet the requirements of the XXI century.

Among the scientists and philosophers of our country on the formation of the teacher's personality in the higher education system, the formation of future specialists of national pride, patriotism, vigilance and self-sacrifice, civil culture,M. Khairullaev,E. Yusupov, M. Imamnazarov,J. Tulenov,O. Otamurodov,S. Shermukhamedov,A. Yalalov,A. Lyubovtsev, T. Makhmudov,N. Juraev, sociologists,M. Bekmurodov, A. Begmatov, N. Alikori, Kh.Akhmedovs,cultural scientists M. Abdullayev, Kh.Abdullayev, M. Mirsupova, U. Tashtemirov, A. Alimukhammedov, Z. Sobirova, Kh.Karimov.Ruzieva,M. Aripova, Sh.To a certain extent, this is reflected in the research work of the Rakhimovs.

The study of pedagogical theory and practice covers the problems that arise in the process of preparing future teachers for visual and creative activities, the study of which shows that special attention is paid to professional and personal, professional and cultural relations, visual and creative abilities, professional formation and pedagogical skills of future teachers.

Such activities as the development of aesthetic thinking, which is an important component of the education of a harmonious personality in future specialists, the improvement of creative abilities and skills in the visual arts, is one of the important tasks facing professors and teachers of modern higher educational institutions.

A modern teacher should be a "director", not an "actor" in the course of the lesson. He needs to organize the creative attitude of his students to the subject, to form their traits of curiosity, as well as to organize a lesson using new pedagogical technologies. To do this,it is necessary that the teacher knows new methods and techniques of teaching, and effectively uses them in the course of the lesson.

The great changes taking place in society set the school the task of solving the problems associated with the formation of the creative student's personality in all areas of educational activity. The development of creative abilities in solving these problems is one of the main factors.

The teacher of today needs to focus on the application of teaching methods and techniques that contribute to the more effective development of these abilities in working with children, ensuring the activation of the mental and practical competence of students. To do this, it will be advisable for the teacher to make more extensive use of the conditions and their own opportunities in the educational institution.

When preparing future teachers for visual and creative activities, it is necessary to focus on the development of pedagogical innovative technologies, the organization of creative exhibitions of works of fine art, the training of specialists with theoretical and practical knowledge, skills, and skills of visual and creative activity. An important basis for future teachers will also be the use of mechanisms

that ensure cultural behavior, ethics, contribute to the improvement of professional qualifications, the assimilation of socio-pedagogical knowledge, the implementation of spiritual and educational activities, scientific, pedagogical and methodological support aimed at ensuring the effectiveness of this process.

When preparing future teachers for inventive and creative activities, it is necessary to focus on the development of pedagogical innovative technologies, the organization of creative exhibitions of works of fine art, the training of specialists with theoretical and practical knowledge, skills, skills of inventive and creative activity. An important basis for future teachers will also be the use of mechanisms that provide cultural education, ethics, promote professional development, assimilation of socio-pedagogical knowledge, conduct spiritual and educational activities, scientific, pedagogical and methodological support aimed at ensuring the effectiveness of this process.

The education of spiritual and moral perfection in the process of forming a free civil society, raising the level of education and enlightenment, and raising a new generation that meets international standards is one of the priorities of state policy.

The education of spiritual and moral perfection in the process of forming a free civil society, raising the level of education and enlightenment, and raising a new generation that meets international standards is one of the priorities of state policy.

The use of modern teaching methods leads to the achievement of high efficiency in the learning process. These methods should be selected based on the didactic task of each lesson. Enriching it with a variety of methods that activate the activity of students while maintaining the traditional form of the lesson, leads to an increase in the level of assimilation by students.

Today, in a number of developed countries, interactive methods are understood as methods that form the basis of extensive experience in the use of modern pedagogical technologies that guarantee the effectiveness of the educational process. Interactive teaching methods are currently the most common and widely used in educational institutions of all types. At the same time, there are a large number of types of interactive teaching methods that are suitable for the implementation of almost all tasks of the educational process. In practice, they can be applied accordingly, highlighting the appropriate ones for certain purposes. This circumstance has given rise to the problem of choosing the right methods of interactive learning for the implementation of certain goals.

The use of interactive methods in the process of learning in fine art classes has its own specifics. Careful study and practical application of each interactive method used in educational practice expands the horizons of students and positively affects the search for the right solution to the problem. Increases the creativity and activity of students. The expansion and deepening of students ' knowledge, skills and abilities is achieved by analyzing various theoretical and practical problems using interactive methods. From the above, it becomes obvious that there is a need for an adequate analysis of interactive learning methods and their classification on this basis. When classifying these methods, they can be divided into interactive methods, interactive learning strategies, and interactive graphic organizers. Currently, the most popular interactive learning methods are:

1. Interactive methods:"case-stage" (or "training cases"), "Blist-survey", "modeling", "creative work", "problem-based learning", etc.

"Keys-study" - the method comes from the English words "case-study". At the same time, "case" – a box, box, case, folder, "study" – means to learn, to explore, to do science, to study science, to take lessons, to learn. This method is indicated by the English expression "case-true life", that is," keys – real life", according to which keys is a"piece" of real life. Accordingly, this method is also called the "method of teaching practical situations".

The plan of work performed on each problem or topic studied by the case-stage method, the details of their implementation, the generalization of the results and conclusions make up a separate case. This method is aimed at using life situations in the learning process.

This is one of the most pressing problems in the field of education today.

Stages of implementation of the " case method"

Stages of work	Form of activity and content
Stage 1: Introduction to the case and its information support	- individual audiovisual work; - familiarity with keywords(in text, audio, or media form); - summary of information; - information analysis; identifying the main problems
Stage 2: Clarifying the case and setting the training task	- individual and group work; - determination of the relevance of social problems; - statement of the main problem situation
Stage 3: finding a solution to the educational problem by analyzing the main problem in the case, developing ways to solve it	- individual and group work; - development of alternative solutions; - analysis of opportunities and obstacles for each solution; - choice of alternative solutions
Stage 4:formulation and justification of the decision of the case presentation.	- individual and group work; - justification of the possibility of applying alternative options in practice; - preparation of a creative project presentation; - final conclusion and coverage of practical aspects of solving the situation

The method of "blitz surveys". With this method, it helps students develop skills such as the ability to independently determine the sequence of actions outlined in handouts, first individually, in small groups, to convey their opinions to others or to remain in their opinions, to be like-minded with others.

The "simulation" method.The realization of objects of knowledge with the help of their models, the construction of models of existing objects and phenomena, the modeling method is widely used in modern science. It facilitates the process of scientific research, and in some cases becomes the only means of studying complex objects. Abstract subject, remote objects are also used when studying objects of very small size and to determine their specific properties and relationships.

2. Interactive learning strategies. "Brainstorming", "Boomerang", "Gallery", "Zig-Zag", "ladder-Ladder", "museum", "Rotastia", "round snow".

Organizing a "brainstorming session" is somewhat easier, and also very convenient in finding solutions to your problems. First, a group gathers and a task is set for them. All participants express their opinion on the solution to this problem. At this stage, no one has the right to attack or evaluate the ideas and thoughts of their comrades. This means that it is possible to generate dozens of ideas in short minutes by brainstorming.

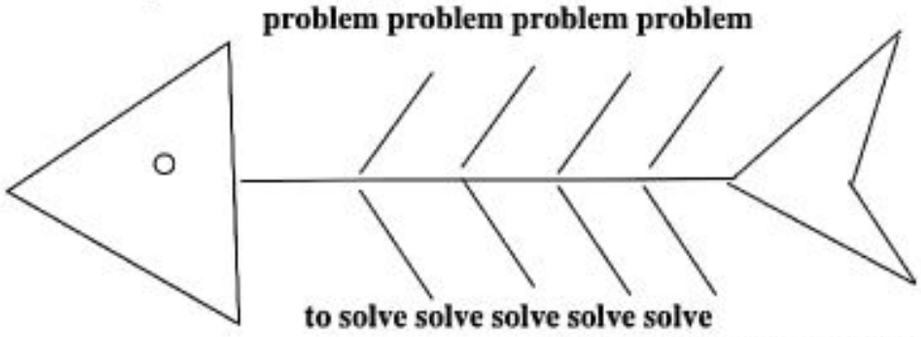
In fact, getting the number of ideas is not the main goal, they are only the basis for the rational development of a solution to the problem. One of the conditions of this method is that each of the participants must be an active participant without any external influence. The essence of the "brainstorming" training method is to divide the problem-solving processes in time into the stages of generating ideas, developing them in a critical and constructive state on the basis of collective cooperation.

Method" Zig-Zag." The students of the class are divided into 7 groups, and the groups are called. In groups, the text covering the essence of the new topic is divided into parts, and the groups are tasked with familiarizing themselves with the content of the selected parts. Students carefully study and tell the texts. In order to save time, leaders are assigned from among the group members, and the assigned task is performed by them. The opinions of the managers can be supplemented by the members of the group. After the

students of all groups have told about the content of the text transmitted to them, the texts alternate between the groups, and the previous activity is repeated. The groups contain several texts. Thus, once the contents of all of the texts studied groups, students identify the main idea in the topic, identify their logical relations with each other based on the ideas developed thematic scheme. Then, on the basis of the acquired knowledge, the students themselves are asked to develop such schemes.

3. Interactive graphic organizers:"fish skeleton", "BBB", "concept table", "Venn diagram", "T-table", "insert", "cluster", " why?", " How? and arcs.

Fish Skeleton-this model of problem statement and solution allows you to describe and try to solve a number of problems.



This scheme reflects the relationship of problems, their complex nature. It may be difficult to formulate problems.

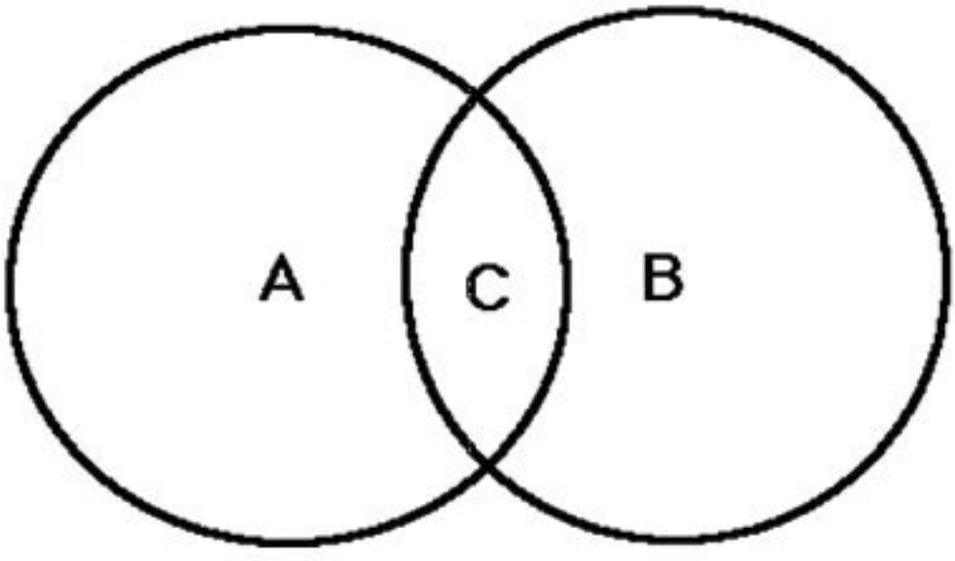
1. On a sheet of white paper (watman or sheet A-3), draw the skeleton of a fish (head, cartilage, ribs).

2. In the upper" bone " is written the formulation of the problem, and in the lower- the facts proving the existence of this problem (or ways to solve it, depending on the goal set by the teacher).

3. Presentation of the completed scheme.

In the natural and exact sciences, when using the problem-based method of teaching.

"Vienna diagram -" a diagram in the form of two circles intersecting with each other, used to compare facts, events, ideas, historical heroes. Pie chart.



Gaps in each round are used to record differences; the total area formed at the intersection of the circles, is used to write the common aspects of the two compare phenomena (facts, concepts, etc.)

The method of "clustering" is a teaching strategy that helps students to delve into the subject, teaching them to freely and openly communicate a specific concept or idea related to the subject, with consistency. This method can serve to speed up and expand the mental

activity of students before an in-depth study of a topic.

It also encourages students to consolidate, assimilate well, summarize and express their vision of the topic in the form of drawings.

In such trainings, when selecting interactive graphic organizers, it is assumed that the main points are expressed in writing in various graphic forms. The fact is that working with graphic organizers is also more related to interactive learning methods, there are no other differences between them.

To do this, the methodology of teaching fine arts requires that the lesson process is rationally organized, the teacher constantly stimulates the interest of students and their activity in the educational process, breaks the educational material into smaller fragments, uses such techniques as brainstorming, working in small groups, discussion, problem situation, reference text, project, role-playing games, encourages students to independently perform practical exercises.

When choosing interactive methods of teaching fine arts, the methodology takes into account the purpose of education, the number and capabilities of students, the educational and material conditions of the educational institution, the duration of training, the pedagogical skills of the teacher, etc.

In the methodology of teaching fine arts, it is necessary to form the ability to act and be successful in the conditions of modern society. Therefore, it is worth thinking about a more effective organization of the educational process.. Since the lessons of visual art teaching methods are built in a visual sequence, using the capabilities of multimedia equipment makes it easier for the teacher to prepare for a frequent visual lesson. Immerse yourself in the world of art, take on the role of an artist, designer, architect, do not require children to sometimes inaccessible materials. It is important to remember that the computer does not replace the teacher, but only complements him.

The use of multimedia technologies in the classroom is primarily perceived by students at the game level and gradually involves them in serious creative work that develops the student's personality.

As a result, you can determine the forms of computer use in art classes:

1. As a source of information;
2. With the help of a teacher;
3. Organization of the student's project activities;
4. The use of graphic programs as a means of artistic activity.

In accordance with the requirements of the law" On Education " and the education system, the methodology of teaching fine arts in general education schools needs new approaches to education. This largely determines the success of the revival of national culture, folk traditions, and works of fine art within the regional component.

The lesson will be more effective, as it includes:

- the attractiveness of the educational material with the use of pedagogical techniques that increase interest in the subject being studied;

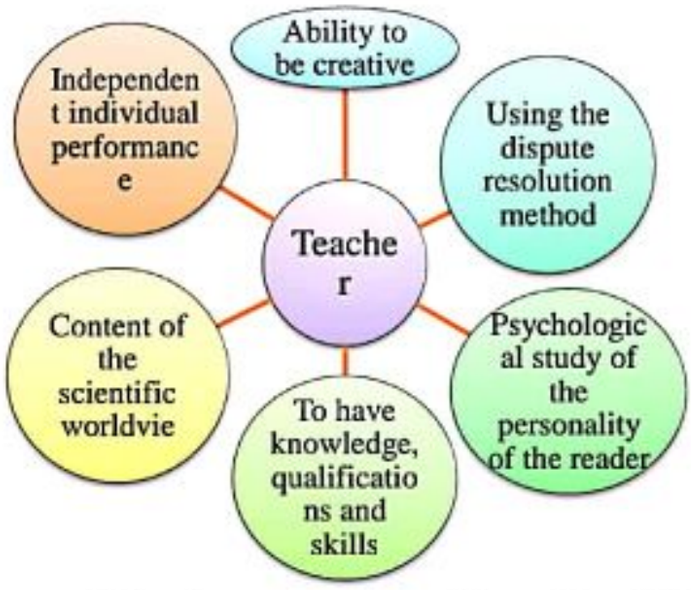
- the principle of creating a teacher and students to gain in-depth knowledge and apply the information received;
- conducting a class with multimedia performance;
- homework and independent work of students;

Depending on the typology of the lesson, different films are used-presentations, slide films, or test tasks.

Slide film-used in all lessons, can be included in any stage of the lesson. When watching a slide movie, students usually get to work right away. Perfect for step-by-step drawing lessons.

Information technologies in combination with properly selected educational technologies require quality, variability, differentiation and individualization of training and education. Among the didactic possibilities of using information technologies in art lessons, the following can be distinguished. Extracts:

- fragmentary use of information technology, depending on the purpose of the lesson stage;
- individualization of training, orientation to a specific student;
- combining classes with a game; managing the independent activities of students at different stages of learning.



Many students are proficient in computer technology, and the visual arts teacher needs them. Links to educational resources on the Internet will help you expand and deepen your theoretical knowledge and find communication partners. Presentations can be used to implement the program of methods of teaching fine arts, the unity of theory and practice, the formation of a basic experience of communicating with the works of professional artists and folk masters of national and world art culture. The use of Microsoft Power Point electronic presentations contributes to a diverse and interesting presentation of educational material, increases the level of perception of the information presented in the lesson. The teacher thinks through the sequence of the lesson and fixes it on the slides of the presentation.

The introduction of information and communication technologies optimizes the educational process, changes the traditional forms of providing information, and provides convenience and comfort. Digital photos and videos form the basis for developing presentations for lessons. Computer educational programs in the form of a game allow you to plunge into the subtleties of the work of artists, composers, architects, sculptors, making virtual visits to museums, art galleries, concert halls. Internet resources allow you to "visit" the most interesting places on the planet and find answers to questions that arise when studying theoretical disciplines. The use of digital educational resources allows you to significantly reduce the time for presenting new material, get more income from the work of children in the learning process, organize extracurricular activities, instill interest in the subject, and organize project activities.

A computer is a tool with which learning can be more interesting and simple, and the knowledge gained can be more profound and generalized.

The use of multimedia technologies is based on approaches that are natural for children's interest and a means of satisfying this interest.

The advantages of using computer technology in art classes are obvious. They open up new opportunities in the work of a teacher, allow you to solve various educational tasks.

Expanding the range of educational activities of students (searching for information on the topic on the Internet and processing information).

Visiting museums, exhibitions, galleries, etc. via the Internet becomes a natural environment for the student's personal development.

The artistic training of future primary school teachers to teach the subject of "Fine Arts" in primary school, along with the main subjects, should be carried out by increasing the practical component of the artistic training of future primary school teachers in the process of teaching visual activities. The basis of the content of artistic training of future primary school teachers is the formation of their practical skills and skills of visual activity.

Artistic training of future primary school teachers is carried out in the process of teaching visual activity within the framework of the model, the essence of which is to identify the functional elements of visual activity and their role in the artistic training of the future primary school teacher, and is divided into stages:

a) information-developing;

b) visual-developing

c) professionally-oriented.

For the effective organization of educational activities, it is necessary to optimize classical and information technology techniques and teaching methods. The success of training depends on the correct definition of its goals and content, as well as the ways to achieve the goals, that is, the methods of training.

In the lesson, the student is invited not only to describe the phenomenon, but also to convey their attitude to this phenomenon. To enhance the emotional impact, new pedagogical technologies and forms of education are used. Correct and well-organized, technically competent use of modern technologies, forms and methods of teaching the lesson fine art promotes increase of efficiency of process of training, education and development, promotes the activity, the interest of students.

References

1. Мажидов Ж. Мактабда тасвирий санъат бўйича ўкув тарбиявий ишларни ташкил этиш Т.1995.

2. Ҳасанов Р.Х. Мактабда тасвирий санъат машғулотларини такомоллаштириш йўллари. Т. 1981.

3. Даниэль С.М. Искусство видеть Л., Искусство, 1990

4. Баранов С.П, Сластенин В.А. Педагогика. М, Просвещение, 1988.

5. Возрастная и педагогическая психология. Под ред. Петровского А.В. М, Просвещение, 1973

6. Avliyakulova, N. X. "Modern technologies of education." *T.,-2001,-68 p* (2001).

7. Авлиякулова Н. М. и др. РОЛЬ КУЛЬТУРЫ И ИСКУССТВА В ПОДГОТОВКЕ БУДУЩИХ УЧИТЕЛЕЙ К ТВОРЧЕСКОЙ ДЕЯТЕЛЬНОСТИ //European science. – 2021. – №. 2 (58). – С. 95-97.

8. Mamurova D. I. Application of Advanced Information Technologies of Training at Drafting Lessons //Eastern European Scientific Journal. – 2018. – №. 6.

9. Islamovna M. D. The value of using the autocad program in the works of machine-building drawings for building fastening parts //Proceeding of The ICECRS. – 2019. – Т. 3.

SOCIAL AND PSYCHOLOGICAL CHARACTERISTICS OF FAMILIES ON THE VERGE OF DIVORCE

Abdusamatov Khasanboy[1], Nuraliyeva Dildora[2]

[1]Scientific Secretary of the Mahalla and Family Research Institute Doctor of Philosophy in Psychology, PhD, Associate Professor habdusamatob@bk.ru