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MORPHOLOGICAL AND BIOCHEMICAL ASSESSMENT OF LIVER FUNCTION IN ISCHEMIC STROKE AND ITS CORRECTIVE PATHWAYS.

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Abstract: Ischemic stroke (IS), a significant cause of mortality and long-term disability, has profound systemic effects that extend beyond the central nervous system, notably impacting liver function. This article explores the morphological and biochemical changes in the liver following an ischemic stroke, highlighting the underlying pathophysiological mechanisms and discussing potential therapeutic interventions to mitigate hepatic dysfunction. The study emphasizes the importance of understanding liver-brain interactions in stroke management and proposes strategies for correction and prevention of liver-related complications post-stroke.
Keywords: Ischemic stroke, liver function, morphological assessment, biochemical markers, hepatic dysfunction, systemic inflammation, oxidative stress, therapeutic interventions.

INTRODUCTION

Ischemic stroke (IS), characterized by the sudden loss of blood flow to the brain, initiates a cascade of pathological processes that affect not only the brain but also peripheral organs, including the liver. The liver, a vital organ responsible for numerous metabolic and detoxification processes, may suffer functional impairment due to the systemic inflammation, oxidative stress, and metabolic disturbances triggered by IS. This article aims to provide a comprehensive overview of the morphological and biochemical changes observed in the liver following an ischemic stroke, as well as to discuss potential corrective measures to preserve liver function and improve overall patient outcomes.

Methods

1. Histopathological Examination: Liver tissue samples from ischemic stroke models were examined using light microscopy and electron microscopy to identify morphological alterations such as hepatocyte necrosis, steatosis, and fibrosis.

2. Biochemical Analysis: Blood samples were analyzed for liver function tests (LFTs) including ALT, AST, ALP, bilirubin, and albumin levels. Additionally, markers of oxidative stress (MDA, GSH) and inflammation (CRP, IL-6) were quantified.
3. Clinical Correlation: The relationship between the severity of ischemic stroke and liver dysfunction was assessed by correlating clinical outcomes with liver function parameters.
4. Intervention Strategies: Various pharmacological and non-pharmacological interventions were evaluated for their efficacy in correcting liver dysfunction post-stroke. This included the use of antioxidants, anti-inflammatory agents, and lifestyle modifications.

The study variables are described by mean ± SD in case of normal distribution, or median and interquartile interval in case of non-gaussian distribution. The differences between means were tested by Student's t, while the differences between medians were assessed by Mann-Whitney's *U* test. The comparisons between 2 different times of the same variable were assessed with Student's t for paired data or with Wilcoxon's test, as appropriate. The differences between percentages were tested by χ^2. All simple correlations were assessed by Pearson's r coefficients after logarithmic transformation of the variables with non-gaussian distribution. Multivariate analysis was performed by multiple linear regressions and standardized β coefficients, with backward elimination of the non-significant associations. Also in this case the log-normal variables were previously log-transformed. P values < 0.05 were considered significant and two-tail tests were used throughout. The analyses were performed using SYSTAT 10 (SPSS Inc, Chicago, IL, USA).

Results

1. Morphological Changes: Histopathological analysis revealed significant liver damage post-stroke, characterized by hepatocyte necrosis, microvascular steatosis, and early-stage fibrosis. Electron microscopy further highlighted mitochondrial dysfunction and disruption of the endoplasmic reticulum in hepatocytes.
2. Biochemical Alterations: Stroke-induced liver dysfunction was evidenced by elevated levels of liver enzymes (ALT, AST) and bilirubin, alongside decreased albumin levels, indicating hepatic stress and impaired synthetic function. Markers of oxidative stress (MDA) were significantly elevated, while antioxidant defenses (GSH) were depleted, suggesting oxidative damage to hepatic tissues.
3. Systemic Inflammation: High levels of pro-inflammatory cytokines (IL-6, TNF-α) were detected, correlating with the severity of liver damage. These findings indicate

that systemic inflammation, triggered by ischemic brain injury, plays a crucial role in the pathogenesis of hepatic dysfunction.

4. Intervention Outcomes: Antioxidant therapy (e.g., N-acetylcysteine) showed promising results in reducing oxidative stress and improving liver function. Anti-inflammatory drugs (e.g., corticosteroids) helped mitigate systemic inflammation, thereby protecting hepatic tissues. Lifestyle interventions, including dietary modifications and physical activity, also contributed to improved liver function post-stroke.

Other liver function indices, such as aspartate aminotransferase (AST) and alanine transaminase (ALT) are glutamate-regulated enzymes that reduce glutamate levels, the most abundant excitatory neurotransmitter in the central nervous system, which has multiple physiological functions and act as a neurotoxin in pathological states. Elevated levels of ALT and AST are linked to lower infarct sizes and improved outcomes in patients experiencing the acute stage of ischemic stroke.

Discussion

The liver's response to ischemic stroke underscores the intricate relationship between the brain and peripheral organs. The observed morphological and biochemical alterations reflect the liver's vulnerability to systemic disturbances caused by cerebral ischemia. Understanding these changes is critical for developing effective therapeutic strategies. The study suggests that early intervention with antioxidants and anti-inflammatory agents, along with lifestyle modifications, can significantly improve liver outcomes in stroke patients. Further research is needed to explore the long-term efficacy and safety of these interventions in clinical settings.

Conclusion: The morphological and biochemical assessment of liver function in ischemic stroke patients reveals significant hepatic impairment, driven by systemic inflammation and oxidative stress. Corrective strategies, including pharmacological interventions and lifestyle changes, hold potential in preserving liver function and enhancing recovery in stroke patients. Integrating liver function monitoring into stroke management protocols may lead to better overall outcomes and reduce the risk of long-term complications. By tailoring our approach to individual patient characteristics, we hope to optimize stroke outcomes and advance the field of stroke treatment. Ultimately, a comprehensive understanding of the brain–liver interaction could open new avenues for stroke management and improve patient care, potentially reducing the global burden of ischemic stroke.

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THE INFLUENCE OF TRADITIONAL FOLK DANCES ON CONTEMPORARY CHOREOGRAPHY

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Annotation: This article explores the influence of traditional folk dances on contemporary choreography. It delves into how folk dance, as a cultural and historical form, provides a rich source of inspiration for modern choreographers. By blending traditional movements and rhythms with contemporary dance techniques, choreographers create innovative performances that reflect both cultural heritage and modern artistic expression. The article highlights the fusion of folk and contemporary dance, the role of music and rhythm, and the global impact of cultural exchange in the world of dance. It also addresses challenges such as cultural appropriation, emphasizing the importance of respecting and collaborating with folk traditions.
Keywords: Traditional folk dance, contemporary choreography, cultural heritage, fusion dance, dance techniques, globalization in dance, rhythmic structures, cultural appropriation, modern dance, artistic expression.

Traditional folk dances are an intrinsic part of many cultures, often reflecting the values, beliefs, and history of a community. In the realm of contemporary choreography, these dances provide a rich source of inspiration, blending age-old movements and techniques with modern dance forms. This article explores how traditional folk dances have influenced contemporary choreography, shedding light on their significance in shaping new artistic expressions.

The cultural roots of folk dance- Folk dances are a reflection of a community's traditions, often passed down through generations. These dances are typically tied to specific cultural or religious practices and are often performed during festivals, rituals, or significant life events. Each folk dance style possesses unique movements, rhythms, and formations that are influenced by the geographic, social, and historical contexts of its origin. Whether it's the fluid movements of Indian classical dances or the energetic steps of Irish jigs, these dance forms embody the identity and soul of their respective cultures.

Modern choreographers and the appeal of tradition- Contemporary choreographers are

often drawn to the depth and authenticity of traditional folk dances. While modern dance focuses on abstraction, personal expression, and breaking conventional boundaries, traditional folk dances offer a structured yet emotionally charged vocabulary. The use of folk elements allows choreographers to explore themes of identity, heritage, and collective memory, while also introducing audiences to diverse cultural narratives. For instance, in the United States, choreographers like Martha Graham and Alvin Ailey incorporated elements of Native American and African folk dances into their work, creating pieces that were both modern and deeply rooted in cultural traditions. Similarly, choreographers in Europe and Asia have embraced their folk heritage, infusing it into contemporary performances that challenge conventional norms while paying homage to their roots.

Fusion of folk and contemporary techniques- The blending of traditional and contemporary techniques has led to the creation of entirely new dance forms. Choreographers take the distinctive patterns, footwork, and gestures of folk dance and integrate them with modern techniques such as improvisation, contact improvisation, and even ballet. This fusion allows for a dynamic interaction between the old and the new, resulting in performances that are both visually striking and culturally resonant. For example, in contemporary Indian dance, artists combine Bharatanatyam or Kathak with modern dance movements, creating performances that are visually arresting and emotionally powerful. Similarly, in the Balkan region, folk dances that were traditionally performed in a communal setting are now being reinterpreted for the modern stage, incorporating contemporary music and abstract themes.

The role of music and rhythm- Music plays a pivotal role in both folk and contemporary dance, serving as a link between the two styles. Traditional folk dances often use rhythmic patterns that are unique to their culture, which can be reimagined in contemporary performances. Modern choreographers have embraced these rhythms, sometimes altering them or using them as a foundation for more abstract compositions. For instance, flamenco, with its intense footwork and syncopated rhythms, has been integrated into contemporary dance performances, with choreographers blending the traditional music of the Spanish gypsies with modern electronic sounds. Similarly, African folk rhythms, which often involve complex polyrhythms, have inspired choreographers in contemporary dance to explore innovative rhythmic structures.

The globalization of dance- In today's interconnected world, the influence of traditional folk dances on contemporary choreography is not limited to specific regions. Globalization has facilitated cultural exchange, allowing choreographers from different

parts of the world to draw inspiration from diverse folk traditions. This exchange has led to the creation of hybrid dance forms that defy categorization, blending elements of African, Asian, Latin American, and European folk dances. Choreographers such as Akram Khan, who fuses Kathak with contemporary dance, and Pina Bausch, who incorporated folk movements from around the world into her Tanztheater, have helped to broaden the scope of contemporary choreography, making it more inclusive and globally representative. Through such works, traditional folk dances continue to evolve, maintaining their relevance in a rapidly changing world.

Challenges and controversies- While the integration of traditional folk dances into contemporary choreography has led to artistic innovation, it has also sparked debates about cultural appropriation and authenticity. Some critics argue that taking elements from traditional dances without proper acknowledgment or understanding can lead to the dilution or misrepresentation of cultural practices. To address these concerns, many contemporary choreographers have made efforts to collaborate with folk dance practitioners and scholars, ensuring that their work respects the integrity of the traditional forms they draw from. By engaging in these collaborations, choreographers can create works that honor the spirit of the original folk dances while also exploring new creative possibilities.

CONCLUSION

The influence of traditional folk dances on contemporary choreography is a testament to the enduring power of cultural heritage in the arts. By merging the old with the new, choreographers are able to create performances that are not only innovative but also deeply rooted in history and tradition. As globalization continues to bring different cultures closer together, the fusion of folk and contemporary dance will likely continue to evolve, offering exciting new possibilities for artistic expression.

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GRADUATE SCHOOL OF WESTMINSTER INTERNATIONAL UNIVERSITY IN TASHKENT PROFESSORSHIP OF STATISTICS AND ECONOMETRICS

Bootstrap standard errors and intervals under different sample size in OLS

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Abstract

Linear regression is one of the widely used statistical methods in social sciences. The core part of the regressions are coefficients which bring some inference. Yet, we rely on hypothesis testing or confidence intervals and certain assumptions underlying linear models such as sample size being large enough. In this study, we suggest alternative way of constructing confidence intervals using bootstrap which is expected to work well even when the sample size is smaller than required per OLS assumptions. We find that even in small samples, bootstrap confidence intervals can perform better than traditional interval estimations

***Key words**: sample size, linear model, confidence Interval, bootstrap, accuracy, interval size*

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INTRODUCTION

Linear regression is quite broadly used methodology to explain relationships between different variables in many domains. Linear model (often referred as OLS model) is used primarily for two purposes. First, this model can explain the relationship between two or more factors. Second, linear models are often used to make simple and still efficient forecasting. Linear models are very popular due to the fact that they are relatively easy to learn, build and interpret. Yet, we almost never meet a perfect linear relationship between two or more factors in real life, thus linear regression is almost always an approximation of real life relationships. Linear regression, sometimes referred to as OLS, has a set of assumptions that should be met in order to make the outcomes of the OLS model reliable. These assumptions are:

1. Homoscedasticity (or no heteroscedasticity)
2. Stationarity or no autocorrelation of residuals (in case of time series data)
3. No strong multicollinearity between explanatory variables
4. No severe outliers
5. Sample size to be larger than 30 observation
6. Linearity in relationship
7. Normality of residuals

Violations of one or more of the above assumptions can lead to inaccuracy or even bias in the estimation. Interested readers are encouraged to explore more details of each assumption, but in this study we will discuss in more detail the presence of heteroscedasticity, how OLS estimates can suffer and how bootstrap can be a remedy in absence of homoscedasticity.

Literature Review

Bootstrap method is a resampling method of a given dataset to build a sampling distribution of a specific statistic. Bootstrapping has become popular because it has proven to provide reliable inferences in many cases even when underlying assumptions are not satisfied. This also applied to cases of heteroscedastic residuals which is first

discussed in papers of Efron (1979). Since then, theoretical foundations have been concentrated on justifying validity and efficiency of bootstrap confidence intervals with non-constant variance of errors (Davison and Hinkley, 1997).

In the context of linear models, there have been primarily two types of bootstrapping used for estimating point and interval estimates, bootstrapping residuals and bootstrapping pairs (Chernick and LaBudde, 2011).

Bootstrapping residuals: This method of bootstrapping was first introduced by Efron (1982). Imagine we have the following model

$Y_i = g_i(\beta) + e_i$, for $i=1,2,....,n$

where $g_i(\beta)$ is a function with a known form. To estimate β, we minimize distance between our true dependent variable Y_i and estimated function $g_i(\beta)$. These distances are expressed in terms of residuals $\hat{e_i} = Y_i - g_i(\hat{\beta})$. The idea behind Wild bootstrap is to take the distribution of residuals each having probability of *1/n* for $i=1,2,....,n$ and sample *n* times from this distribution to get bootstrap sample of residuals which can be denoted as $(e_1, e_2, e_3, \dots, e_n)$. Afterwards, bootstrap dependent variable can be generated using $Y_i^* = g_i(\hat{\beta}) + e_i^*$. Now, as we have our bootstrap dataset, we use simple OLS method to estimate β^*. We repeat the above procedure *B* times to get a distribution of β_j^* estimates for $j=1,2,....,B$. One can get standard deviation of β^* to build bootstrap confidence intervals.

Bootstrapping pairs: bootstrapping pairs is a rather simple but powerful approach proposed first by Freedman (1981). Under this approach, we resample independent and dependent variables from the original sample which results in a bootstrap sample. We then use usual OLS method to estimate β^* from the bootstrap sample. This procedure is repeated B times in order to get distribution of coefficients β_j^* estimates for $j=1,2,....,B$. This distribution in turn can give bootstrap standard deviation.

Efron and Tibshirani (1986) conclude that two approaches are equivalent when the model is correctly specified, but they can perform differently when the sample is small. Flachaire (2003) compared bootstrapping residuals and bootstrapping pairs when the model is correctly specified and when heteroscedasticity is present in the linear models. Flachaire (2003) concludes that when a proper transformation to the residual term is applied (wild bootstrap), residuals bootstrap performs better than bootstrapping pairs. Chernick and LaBudde (2011) conclude however that bootstrapping vectors are less sensitive to violations of model assumptions and can still perform well if those assumptions are not met. This can be explained by the fact that the vector method does not depend on model structure while bootstrapping residuals do.

Other approaches are stationary bootstrap (Politis and Roman, 1994), and the percentile-t bootstrap (Diciccio and Efron, 1992) each used under different scenarios of non-constant variance of the residuals.

This study tries to shed further light into implementing bootstrapping pair in the context of linear models with heteroscedastic residuals and test bootstrap interval performance under different sample sizes.

Linear regression models

First of all, let's look into how linear models are built and how coefficients as well as their intervals are estimated. As mentioned earlier, the linear model evaluates the impact of one or more variables (explanatory variables) to another variable (explained or dependent variable). This is done by estimating coefficients of estimates of each explanatory variable. For instance, imagine that we want to evaluate whether your year of education affects your income and by how much. If we build our simple OLS model where income is dependent "Y" variable, and year of education is "X_1" explanatory variable, then coefficient of "years of educations" (β_1) shows the size and direction (positive or negative) of the impact.

$$Y = \beta_0 + \beta_1 * X_1 + e$$

Where

$Y -$ dependent variable,

β_0 – intercept,

$\beta_1 -$ coefficient of first explanatory variable

$X_1 -$ explanatory or independent variable

$e -$ error or residual term

The above model is the simplest one variable example of linear regression and usually most studies take into account more explanatory variables that will improve the model (there are metrics to evaluate whether a model is improving or not, e.g. adj. R squared, AIC, MSE).

Estimation of coefficients in the above model is done with the method of least squares commonly known as OLS (ordinary least squares). Least squares estimate of β_1 is given by:

$$\hat{\beta}_1 = \frac{\sum_{i=1}^{n} (X_i - \underline{X})(Y_i - \underline{Y})}{\sum_{i=1}^{n} (X_i - \underline{X})^2}$$

where

$n -$ number of observations

X_i – value of the independent variable for the i-th observation

Y_i – value of the dependent variable for the i-th observation

$\underline{X}$ – mean of the independent variable X

$\underline{Y}$ – mean of the independent variable Y

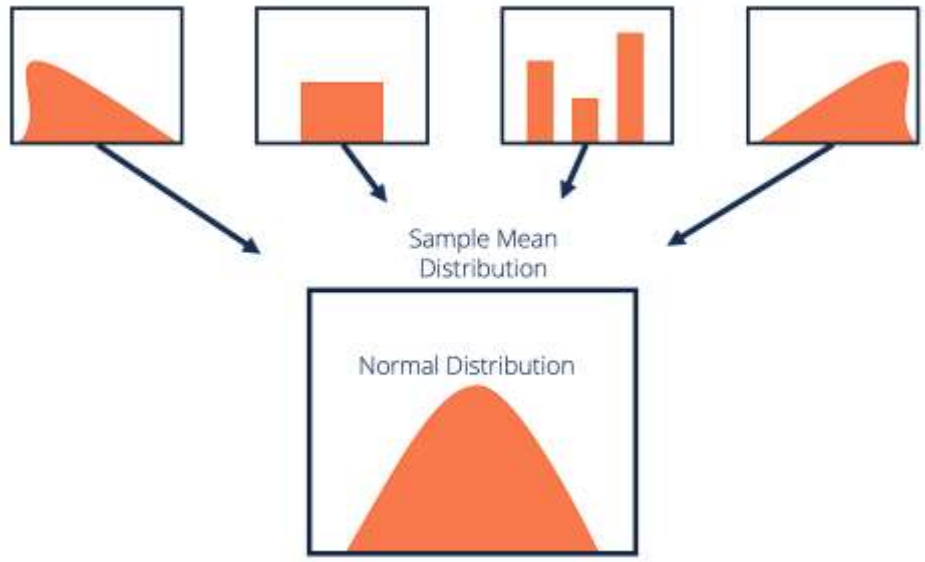
Traditional Confidence intervals

Researchers are often interested not only in point estimates of coefficient, but also interval estimations. This is because point estimates of coefficients are always an approximation to true population value. In contrast, interval estimations, commonly known as confidence intervals, have a set of advantages. Firstly, it gives a range of values where true population value can be located. Secondly, confidence intervals will indicate whether the true population parameter might be equal to 0. In other words, whether the effect of that specific explanatory/independent variable to dependent variable is insignificant. Currently, all statistical softwares provide both point and interval estimates by default. Below, we will look at the theoretical side of building confidence intervals of coefficients of linear models.

Central Limit Theorem

Central Limit theorem (CLM) is the core concept of statistics that is employed also in building confidence intervals. The theory says that irrespectful of the true population dataset, if one derives many sample averages from many samples generated from the same population, then the distribution of sample averages is approximately normal (also referred as Gaussian, see graph below) (Lind et al, 1967). The midpoint of resulting distribution of sample averages will be equal to the true population mean (see Figure 1). This is a very strong finding that can also be applied in confidence interval construction.

Figure 1



In practice, we often cannot take many samples from the same population and very often left to work with only one sample. Nevertheless, one can still make some estimation regarding the population value (e.g. mean, coefficient) using the central limit theorem even when the distribution of the population dataset is not known.

Confidence interval based on CLT

Consider we have only one sample from the population data. Firstly, we can estimate the sample coefficient using the method of ordinary least squares (discussed in previous chapter). Afterwards, we can estimate standard error of the estimated coefficient using the following formula also arising from the method of least squares.

$$se(\hat{\beta}_1) = \frac{s}{\sqrt{\sum_{i=1}^{n} \left(X_i - \underline{X}\right)^2}}$$

where

s – standard deviation of the residuals (residual standard error)

n – number of observations

X_i – value of the independent variable for the i-th observation

$\underline{X}$ – mean of the independent variable X

As distribution of $\hat{\beta}_1$ coefficient is approximately normal distribution based on central limit theorem, we employ properties of standard normal distribution (z-distribution) and build 90%, 95% or 99% confidence intervals.

$$\hat{\beta}_1 \pm z_{\frac{\alpha}{2}} * se(\hat{\beta}_1)$$

where

$\hat{\beta}_1$- is sample coefficient estimate

$z_{\frac{\alpha}{2}}$ – is a value from the standard normal distribution the give an area of $\frac{\alpha}{2}$

$se(\hat{\beta}_1)$ - sample variance of the coefficient

The above interval estimation is interpreted in the following way. 97% interval indicates that if we construct 100 confidence intervals from 100 random samples generated from the true population, then 97 of those confidence intervals will contain true population coefficient β_1. Also, employing this confidence interval you can verify whether population coefficient is insignificant. If estimated confidence interval contains zero, then one can suspect that the true population parameter can be equal to zero (Gujarati, 2004)

However, one can see that estimation of the standard error of the same coefficient depends on the normality of the residual term. In the presence of heteroscedasticity, standard deviation of the error term can be inflated which will result in inaccuracies in confidence interval constructions using the CLT approach (Gujarati, 2004).

Heteroscedasticity can arise from various sources, such as:

1. Omitted variables
2. Measurement error
3. Non-linearity of the relationship of dependent and independent variable
4. Outliers
5. Residual variance that deviates with time
6. Endogeneity
7. Model misspecification

If no remedy is applied to heteroscedasticity in residuals, it will make the standard error of the residuals biased and can lead to wrong conclusions in hypothesis testing. Academia suggested a set of way on how heteroscedasticity, such transforming variables, weighted least squares, including important variables and many others (Greene, 2021)

Below, we suggest another way, bootstrap, of handling heteroscedasticity in residuals for construction of our confidence intervals for coefficients.

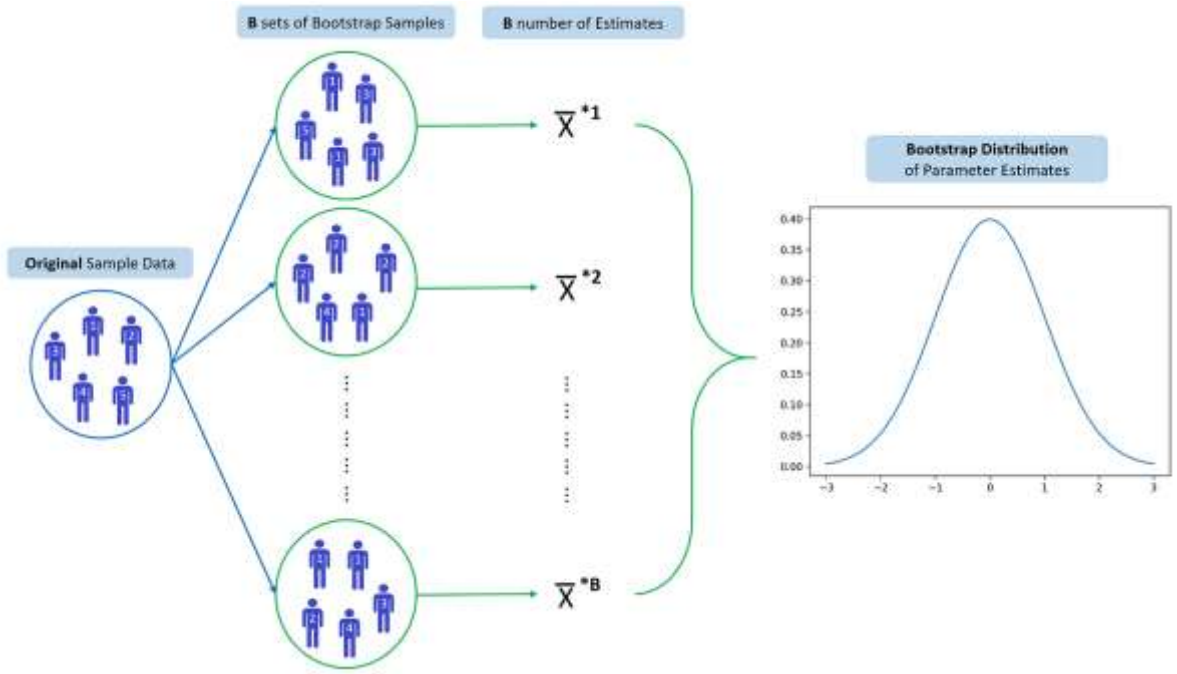
Bootstrap confidence interval estimation

In the first place, it is necessary to explain the concept of bootstrapping. Bootstrap is a relatively easy resampling technique that can offer alternative ways of building confidence intervals. Bootstrap implies selecting one sample and generating many other different samples from this single original sample and estimating your parameter of interest in each newly created sample. Under the bootstrap approach, the original

sample is considered as a population and we generate many other samples (known as bootstrap samples) out of it. When a large number of bootstrap samples are created, we estimate sample parameters (e.g. coefficient) from every bootstrap sample. Consequently, we will have a distribution of bootstrap sample estimates.

This distribution of bootstrap sample estimates can be used to construct our confidence intervals. For example, if we want to construct a 95 percent interval, we take 2.5th and 97.5th percentiles from bootstrap distribution. Figure 2 explains visually the method of bootstrapping.

Figure 2



Simulation

In order to evaluate performance of bootstrap confidence intervals when heteroscedasticity is present, it is necessary to carry out a simulation of a linear model. Simulation is necessary for two reasons. First, we need to know the true population coefficient β_1 and in practice we rarely know the true population parameter. Secondly, we need to evaluate performance of estimated confidence intervals in presence of heteroscedasticity. Although real data can have heteroscedasticity of residuals, we do not know the true form of residuals distribution. For these two reasons we need to model our linear model with heteroscedastic residuals. We select the simplest form of linear model with one explanatory variable that is correlated with the error term.

$$Y = \boldsymbol{\beta}_0 + \boldsymbol{\beta}_1 * X1 + X1^2 * \varepsilon$$

where

$X1 \sim N(5, 4)$

$\mathcal{E} \sim N(0, X1)$

where intercept (β_0) and β_1 are defined by us. Independent variables (X_1) come from normal distribution with mean of 5 and standard deviation of 4. Error term ($X1^2 * \mathcal{E}$) is simulated following the approach suggested by Flachaire (2003). Under this scenario, error term is correlated with explanatory variable and its variance grow as the value of $X1^2$ grows.

We check the performance of bootstrap confidence intervals in different sample sizes. Thus, we have a first sample size of 30 and then we increase it by 10 observations up to 200 observations. All of the simulations are carried out in R software.

We take the following steps for simulation of linear model with heteroscedasticity with different sample sizes

Step 1: set intercept $\boldsymbol{\beta_0}$= 4 and coefficient $\boldsymbol{\beta_1}$=5

Step 2: Set sample size to n=30

Step 3: generate *X1 ~ N(5, 4)* starting with sample size n

Step 4: generate *Y* with $Y = \boldsymbol{\beta_0} + \boldsymbol{\beta_1} * X1 + X1^2 * \mathcal{E}$

Step 5: estimate confidence intervals using traditional and bootstrap methods in repeated simulations (1000 times). Here we construction 95 percent confidence intervals

Step 6: evaluate how many times (out of 1000), true parameters were within estimated OLS and bootstrap confidence intervals

Step 7: repeat step 2 to step 8 by adding 10 observations to sample size (n=n+10). Finish when sample size reaches 200 observations

Traditional and bootstrap confidence intervals estimations are discussed in above sections. For traditional intervals, we use the following formula which is estimated in any statistical package when we construct our linear model.

$$\hat{\beta}_1 \pm t_{\frac{\alpha}{2}} * se(\hat{\beta}_1)$$

Bootstrap confidence intervals are built taking values in certain percentiles of parameter distributions that were generated as a result of bootstrapping.

Results

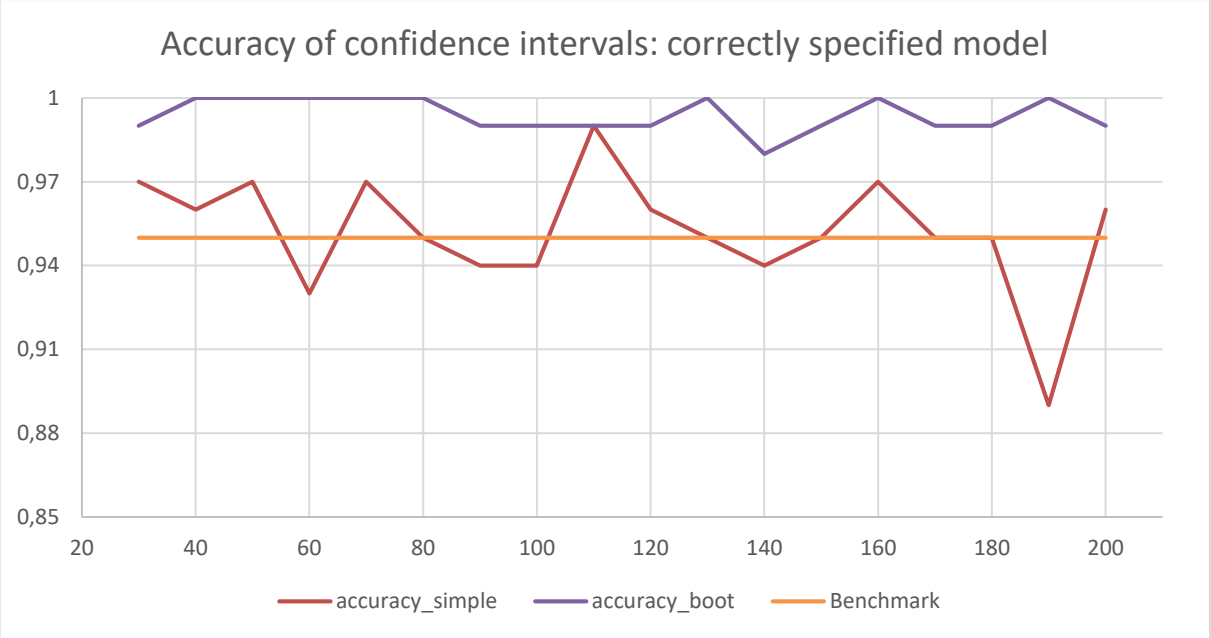
In this part, we will look into two results of the simulation. One is with homoscedastic residuals and second is with different size. We also take a look at how estimated intervals change as we change our sample size.

Correctly specified model

First of all, we want to see how traditional CLT based and bootstrap confidence intervals perform when no violations of OLS assumptions are present. We expect that both approaches will do relatively good work in building interval estimates. In other words, for 95 percent confidence intervals, we expect true parameters to fall within estimated intervals at least 95 per cent of cases.

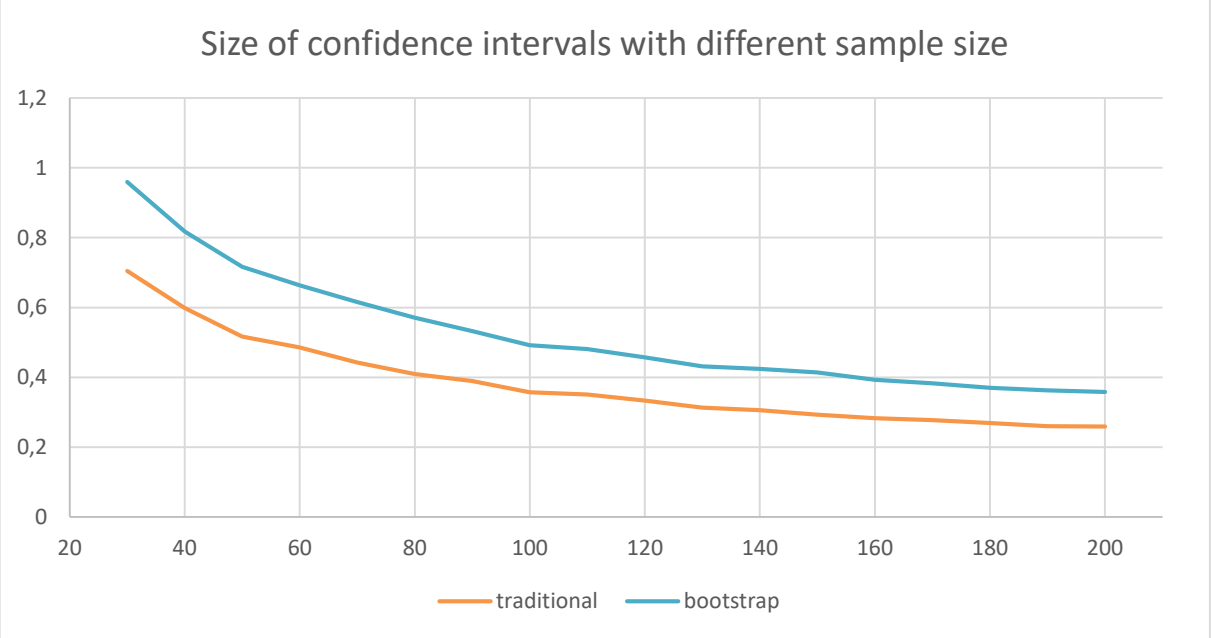
The first graph below shows often true coefficients fall within estimated confidence intervals built using traditional and bootstrap methods. One can see that both methods are doing relatively well, that is constructed intervals are containing true coefficient at least The chart clearly shows that both traditional and bootstrap confidence intervals contain true parameter in 90-100 percent of the cases which is expected outcomes (see Figure 3)

Figure 3



Bootstrap confidence intervals contain true coefficients more often compared to traditional OLS intervals. This is explained in the second graph which shows that bootstrap intervals are larger in width compared to OLS intervals across all sample sizes (see Figure 4)

Figure 4



CONCLUSION

In this paper, we carried out a simulation study of building bootstrap confidence intervals in linear models when variance of residuals is constant. We first looked at existing literature on this topic and then looked at the theoretical side of linear models with heteroscedasticity. We explained that traditional confidence intervals might be biased when heteroscedasticity is present in data and therefore suggested using bootstrapping pairs for building confidence intervals which do not have any assumptions of residual distribution. Our simulation study shows that bootstrap confidence intervals outperform traditional ones though they are still not reaching targeted 95 percent coverage rate. In contrast, traditional intervals are highly inaccurate as they contain true coefficients in less than 80 per cent of the cases compared to targeted 95 per cent.

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ORNITONIM TARKIBLI TURG‘UN BIRIKMALARNING DISKURSDA VOQEALANISHINING LINGVOMADANIY JIHATLARINI

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ANNOTATSIYA

Ushbu maqolada ornitonim komponentli turg‘un birikmalarning diskursda voqealanishining lingvomadaniy jihatlarini va ularning nazariy va qiyosiy talqini tasvirlangan.

Kalit so’zlar: ornitonim,lingvomadaniy,leksik,semantic,ekspressiv

Аннотация

В данной статье описаны лингвокультурологические аспекты встречаемости в дискурсе устойчивых соединений с орнитонимическим компонентом и их теоретическая и сопоставительная интерпретация.

Ключевые слова: орнитоним, языковой, культурный, лексический, семантический, экспрессивный.

Annotation

This article describes the linguistic and cultural aspects of the occurrence of stable compounds with an ornitonymous component in discourse and their theoretical and comparative interpretation.

Key words: ornitonym, linguistic, cultural, lexical, semantic, expressive

Hozirgi tilshunoslik so‘zni tovushli jihat bilan mazmunning ajralmas birligi, gap ushbu birligining til tuzilmasining boshqa elementlari bilan turli-tuman aloqalarda namoyon bo‘ladigan leksik grammatik shakllarning murakkab majmui sifatida talqin qiladi.

Tildagi so‘zlar ajralgan holda amal qilmaydi, balki boshqa so‘zlar bilan har xil munosabatlarga kirishib, muayyan guruhlar yoki tizimlarni hosil qiladi. Ular bir-biri bilan leksik ma’noning umumiyligi negizida (leksik semantik guruhlar), grammatik ma’nolarning umumiyligi asosida (leksik grammatik sinflar yoki nutq bo‘laklari), genetik umumiylik negizida (etimologik guruhlar) birlashishi mumkin. Xulosa sifatida shuni qayd etish mumkinki, leksik-semantik guruhlarni ajratib ko‘rsatishda tilshunoslar har xil tadqiqot metodlarini qo‘llashga harakat qilish, jumladan, komponentli tahlil usullari asosida amalga oshiriladigan bir xillashtirish metodi keng ishlatiladi (ko‘p bosqichli definitsion tahlil, lug‘aviy definitsiyalar tahlili). Birxillashtirish metodi

birinchi marta Sh.Balli tomonidan joriy etilgan. U "faqat o‘zida jam bo‘lgan g`oyani eng sodda, eng obyektiv va eng mavhum shaklda ifodalaydigan, so‘z bilan birxillashtirish mumkin, deb yozgan edi.[1] Bir xillashtiruvchi (identifikator) so‘zlar leksik – semantik guruhlar birlashgan so‘zlarning umumiy kategoriyali ma’nolarni o‘z ichiga oladi.

Quyidagi ayrim ornitonim komponentli turg‘un birikmalarning diskursda voqealanishining lingvomadaniy jihatlarini ko‘rib o‘tsak.

1. *The cattle sniffed and sighed, pangling their bells and then, and the chickens in the coop stirred uneasily as if overhelted*. (H. Garland, p.H)

Jonivorlar maysalarni hidlashar va pishqirib qo‘yishar, vaqti – vaqti bilan bo‘ynidagi qo‘ng‘iroqlar jing‘irlar va tovuqxonadagi jo‘jalar xuddi qizib ketganday qimirlab qolishdi.

Bu misolda jo‘jalar hech qanday konnotativ ma’no yoki ekspressivlikni ifodalamaydi. Ular atrof – muhit hovli va ayniqsa tovuqxonadagi vaziyatni ifodalashga xizmat qilishadi. Bu yerdagi metaforizatsiya jo‘jalarning tovada yog‘da qovurilayotgan paytidagi holat va harakatini tasvirlashga bag‘ishlangan, chunki katta olovda qovurilayotgan jo‘ja xuddi tovaning issig‘idan qochib boshqa tomonga uchirilayotgan, salqinroq joy topishga uringanday ko‘rinadi. Avtor xuddi shu kabi holatni tovuqxonada kuzatar ekan, bu harakatlar jonivorlar, qoramollarning pashshalarini quvish uchun bosh silkitishi va pishqirishiga hamohang ravishda yaratilganini tasvirlab beradi.

2. *Canton – flanned gulls flew near and far*. (S. Crane. P.H)

Qattiq hayajonlanishi tuklarining xurpayishidan ko‘rinib turgan oq chorloqlar yaqin va uzoqlarda uchib yurishardi.

Bu yerda canton – flanned ta’rifi “*tuki xurpaygan dag‘al junli mato*” ma’nosini beradi. Qushlarning suvda namlangan bo‘lsa-da yopishib silliqlanib qolmagan patlari xurpayib turishar va bu narsa S.Kreynga cho‘milib chiqqanda artinadigan pahmoq sochiqning materialini eslatardi. Albatta, bu yerda oq chorloqlarning suvdan baliqni yemish sifatida tutib oziqlanishi tasvirlangan bo‘lib, uning patlari namlanmaslik va birbiriga yopishib qolmaslik hossasiga ega, natijada chorloqlar to‘lqin atrofida to‘lqinlar bilan baliqlar uchun olishar va namlanib, og‘irlashib ketishdan qo‘rqmasdi.

3. Ekspressiv ma’noda ishlatilmagan ornitonimlar ko‘chma ma’noda ishlatilgan bo‘lishi mumkin. Bu holat ko‘proq qiyosiy qurilma va oborotlarda kuzatilishi mumkin. Masalan:

Stephano: Here swear then how though escapeds.

[1] Балли Ш. Французская стилистика / Пер. с фр. Долинина К.А. - М., 1961.

Trinaeto: swam ashore, man like a duck I can swim like a duck, I'll be swoom (W. Shakespaeare, Tempest atz Sc.z)

Stefano: Xo'sh qanday qochishni eplading?

Trinkulo: Misli o'rdak suzib chiqdim qirg'oqqa men,

Men o'rdakday suza olaman, ont ichaman bu rost.

Bu ikki do'stning suhbatida Trinkuloning qanday qilib qirg'oqqacha suzib chiqqani, omon qolganini bilmoqchi bo'ladi. Muallif bu maqsadlarda yuzma-yuz kela olishi va kerak bo'lsa jo'shqin, notinch to'lqinlar ustidan uchib ham o'ta olishini ham ko'rsatar va buning uchun " o'rdakdey " degan so'z ishlatilgan.

Ayrim holatlarda bir qushning belgilari boshqa qushning belgilariga o'xshatilishi kuzatiladi. Bu kabi qiyosiy qurilmalar badiiy diskursda uchraydi.

Masalan:

The bird flew parallel to the boat and did not circle, but made short sidelong jumps in the air in chicken fashion. (S. Crane the open boat. pH)

Qush qayiqqa paralel uchib borgan, lekin aylanmay uchardi, ba'zan esa xuddi jo'ja kabi go'yo yon tomonga qisqa sakrashlar qilganday uchib borardi.

Mualliflarning qushlar uchishi va ularning osmonda qiladigan harakatlar haqida yaxshi bilish kerakligi ushbu misolda namoyon bo'lgan.

Ornitonimlar yordamida ekspressivlikni ifoda qilish juda kam uchraydigan hodisa emas. Bu kabi ekspressivlik his – hayajon to'yingan kontekstda uchraydi. She'riyatda bu kabi "qush" simvoli ifodalangan kontekstlar ko'plab uchraydi. Masalan:

And the desire that hope makes to be to still.

By the fear flying beside it or above.

A falcon fledged to follow a fledging dore.

(A.C.Swineburne. Apologial English Sonnet).

Tarjimasi:

Agar bu qo'rquv bo'lmasa, dahshat emas, yana qanaqa?

Mana qirg'iy va kaptar, kim kimni maxv etar!

Bu kontekstda biz ehtirosning (*desire-istak*) qo'rquvga (*fear*) zidlanishi yordamida bir vaziyat namoyon qilinmoqda-ki, kuch – qudratga to'lgan yovvoyi qush – *qirg'iy* (*falconfledged*) – tarjimasi "*qanot chiqargan lochin*" qo'rquv hali yosh tarjibasiz, endigina qanot yoza boshlagan kaptar bolasini quvlab uchmoqda (*fledging dove – endigina uchishni o'rganib olgan kaptar*) – uyg'onib kelayotgan ehtiros razm bo'lib xizmat qilmoqda.

Yana bir misolni ko'raylik.

The merry cuckow, vessenger of Spring,
His frompet shrill both thrise already sounded
(E.Spenser, From Amoretti)
O‘rmon kakkusining quvnoq sayrashi
Bahorning kelganini uch bor xabarladi.

Bu she’rda qo‘llanilgan cuckow – kakku bahorning kelganidan darak beruvchi qush ramziy ma’nosini beradi. (*Messenge of spring*). Bu konnotatsiya “ *merry*” epiteti bilan kuchaytirilgan. Bu so‘zning ma’nosi esa bu kontekstda og‘zaki nutqdagi xushchaqchaq, quvnoq ma’nolarini bildiradi.

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MAKTABGACHA TA’LIM TASHKILOTLARI DIREKTORLARINI BOSHQARUV FAOLIYATIGA TAYYORLASHDA KEYS-METOD METODLARIDAN FOYDALANISH

Maraimova Muxtabar Pulatovna
Toshkent shahar Mirobod tumani, Maktabgacha va maktab ta’limi bo‘limi boshlig‘i

Avstraliyaning Sidney universitetida o’tkazilgan ta’lim dasturi doirasida maktabgacha ta’lim ashkilotlarilari rahbarlari o’rtasida keys o’qitish metodlaridan foydalangan holda boshqaruv ko’nikmalarini rivojlantirishga qaratilgan loyiha amalga oshirildi. Dastur butun dunyo bo’ylab turli ta’lim tashkilotlarilaridan 15 ta real boshqaruv holatlari tahlilini o’z ichiga olgan. Har bir holat o‘ziga xos boshqaruv muammosini, jumladan, byudjet masalalarini, kadrlar nizolarini, innovatsion ta’lim texnologiyalarini integratsiyalashuvini taqdim etdi va ishtirokchilardan strategik yyechim ishlab chiqishni talab qildi. Kurs ishtirokchilari 5-6 kishidan iborat guruhlarda ishladilar, ma’lumotlarni tahlil qilishdi va muammolarni hal qilishning mumkin bo‘lgan strategiyalarini muhokama qilishdi. Har bir holat uchun moliyaviy hisobotlar, xodimlarning sharhlari va boshqa tegishli ma’lumotlarni o‘z ichiga olgan batafsil ish tavsiflari berilgan. Masalan, ishlarning birida byudjet taqchilligi 20% bo‘lgan tashkilotlaridagi vaziyat o‘rganildi, bu erda direktor ta’lim xizmatlari sifatini pasaytirmasdan xarajatlarni optimallashtirish choralarini taklif qilishi kerak edi.

Har bir guruh muammoning yechimini taqdim etdi, so‘ngra ta’lim jarayoniga ta’sir ko‘rsatish, tashkilotlarining moliyaviy barqarorligi va xodimlarning qoniqish mezonlari asosida baholandi. Dastur natijasida 300 dan ortiq noyob yechimlar to‘plandi va tahlil qilindi, bu ishtirokchilarga maktabgacha ta’lim tashkilotlarilarini boshqarishning turli jihatlari bo‘yicha chuqur bilim olish imkonini berdi.

Dasturdan keyingi tadqiqot shuni ko‘rsatdiki, amaliy mashg‘ulotlardan o‘tgan ishtirokchilar boshqaruv samaradorligining asosiy ko‘rsatkichlari bo‘yicha an’anaviy treningdan o‘tgan nazorat guruhiga qaraganda 40% yaxshiroq ishladilar. Bu ta’lim tashkilotlarilari rahbarlarini tayyorlashda keys metodlari samaradorligini tasdiqlaydi, chunki ular murakkab boshqaruv muammolarini hal etishda amaliy mashg‘ulotlar o‘tkazadi, tanqidiy fikrlash va tahliliy ko‘nikmalarni rivojlantirishga yordam beradi.

Mentorlik dasturlari: Tajribali direktorlarni intiluvchan rahbarlar bilan bog‘laydigan dasturlar bilim va tajribani uzatish uchun eng qimmatli manbalardan biridir. Mentorlar o‘z amaliyotidan hayotiy misollar keltirishi, qiyin muammolarni hal qilish bo‘yicha maslahatlar berishi va kasbiy rivojlanishda yordam berishi mumkin. Mentorlik,

shuningdek, professional tarmoqni shakllantirish va ta’lim hamjamiyatidagi aloqalarni mustahkamlashga yordam beradi.

Maktabgacha ta’lim tashkilotlarilari direktorlari uchun murabbiylik dasturlarining ilmiy namunasi

Mentorlik dasturlarini muvaffaqiyatli amalga oshirishdan biri bu Shvetsiya Ta’lim vazirligi tomonidan boshlangan loyiha bo‘lib, uning maqsadi maktabgacha ta’lim tashkilotlarisi direktorlarini boshqarish ko‘nikmalarini oshirish edi. Dastur tajribali direktorlarni yangi tayinlangan rahbarlar bilan bog‘lab, ularga hayotiy misollar orqali boshqaruvning ilg‘or tajribalarini o‘rganish uchun noyob imkoniyatni taqdim etdi.

Har bir yangi tayinlangan direktorga ta’lim sohasida kamida 10 yillik boshqaruv tajribasiga ega bo‘lgan murabbiy tayinlandi. Murabbiylar o‘z ustozlari bilan muntazam uchrashuvlar o‘tkazib, boshqaruvning joriy vazifalari, tashkilotlarini rivojlantirish strategiyasi va yuzaga kelayotgan muammolarni hal etish yo‘llarini muhokama qildilar. Mentorlar, shuningdek, yangi direktorlarga byudjetni rejalashtirish, xodimlarni boshqarish va ta’lim dasturlarini amalga oshirish orqali rahbarlik qilishdi. Dastur doirasida nafaqat yakka tartibda uchrashuvlar, balki seminarlar va ishchi guruhlar tashkil etish, unda ishtirokchilar o‘zaro tajriba va ilg‘or tajriba almashishlari mumkin edi. Bu professional tarmoqni yaratishga va maktabgacha ta’lim tashkilotlarilari rahbarlari o‘rtasidagi aloqalarni mustahkamlashga yordam berdi. Dastur samaradorligini miqdoriy va sifat jihatidan o‘rganish ishtirokchilarning boshqaruv ko‘nikmalarida sezilarli yaxshilanishlarni ko‘rsatdi. Dastur natijasida yangi direktorlarning 85 foizi o‘zlarining boshqaruv qobiliyatlariga bo‘lgan ishonch ortganini, 90 foizi esa strategik rejalashtirish va xodimlarni boshqarish sohasidagi bilimlari sezilarli darajada yaxshilanganini tasdiqladilar. Ushbu natijalar ota-onalar va xodimlarning baholashlari bilan tasdiqlandi, ular dastur ishtirokchilari rahbarligida o‘quv jarayoni sifatining yaxshilanishi va tashkilotlarilarni umumiy boshqarish samaradorligining oshishini qayd etdilar.

Ushbu misol mentorlik dasturlari maktabgacha ta’lim tashkilotlarilari rahbarlarining kasbiy rivojlanishi va boshqaruv kompetensiyasiga qanday samarali hissa qo‘shishi va umuman maktabgacha ta’lim sifatini oshirishga muhim hissa qo‘shishi mumkinligini ko‘rsatadi.

Uzluksiz kasb-hunar ta’limi: muvaffaqiyatli dasturlar ko‘pincha direktorlarning bilim va ko‘nikmalarini muntazam ravishda yangilab turadigan tarkibiy qismlarni o‘z ichiga oladi. Buni doimiy modulli kurslar, onlayn o‘qitish va professional konferentsiyalar va seminarlarda qatnashish orqali amalga oshirish mumkin.

Maktabgacha ta’lim tashkilotlarilari direktorlari uchun uzluksiz kasb-hunar ta’limi dasturini amalga oshirish misoli

Uzluksiz kasb-hunar ta’limi dasturini amalga oshirishning muvaffaqiyatli misollaridan biri bu Kanada ta’lim vazirligi tomonidan bir nechta universitetlar bilan hamkorlikda boshlangan tashabbusdir. Dastur onlayn kurslar, modulli treninglar va milliy va xalqaro konferentsiyalarda ishtirok etishni o‘z ichiga olgan keng qamrovli ta’lim yondashuvini taqdim etdi.

Dasturning asosiy komponentlari:

Modulli kurslar: dastur strategik menejment, moliyaviy rejalashtirish, ta’lim sohasidagi yangiliklar va liderlik qobiliyatlari kabi mavzularni o‘z ichiga olgan bir qator modulli kurslarni o‘z ichiga olgan. Kurslar onlayn va shaxsan o‘tkazildi, ishtirokchilar uchun qulay vaqt va o‘rganish tezligini tanlashda moslashuvchanlikni ta’minladi.

Onlayn ta’lim: qulaylik va qulaylik uchun treningning katta qismi onlayn tarzda o‘tkazildi. Bunga vebinarlar, interaktiv ma’ruzalar va hamkasblar va mutaxassislar bilan muhokama qilish uchun forumlar kiradi.

Professional konferentsiyalar va seminarlar: direktorlarga milliy va xalqaro konferentsiyalarda qatnashish uchun grantlar berildi, bu esa tajriba almashish va professional tarmoqni kengaytirishga yordam berdi.

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КВАНТОВЫЕ ВЫЧИСЛЕНИЯ: БУДУЩЕЕ ВЫЧИСЛИТЕЛЬНОЙ ТЕХНИКИ

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Аннотация: *Квантовые вычисления представляют собой одну из самых перспективных и быстро развивающихся областей науки и технологий. С учетом растущих потребностей в вычислительных мощностях для решения сложных задач в различных отраслях, таких как криптография, медицина и искусственный интеллект, квантовые технологии могут стать ключевым инструментом для достижения новых высот в вычислительной технике.*
Ключевые слова: *Квантовые вычисления, кубиты, суперпозиция, запутанность, квантовые алгоритмы, декогеренция, практическое применение.*

ВВЕДЕНИЕ

Квантовые вычисления основываются на принципах квантовой механики и предлагают новые подходы к обработке информации. В отличие от классических компьютеров, которые используют биты для представления данных, квантовые компьютеры используют кубиты, которые могут находиться в состоянии суперпозиции. Это позволяет им выполнять множество вычислений одновременно, что открывает новые горизонты для решения задач, которые ранее считались неразрешимыми. В последние годы наблюдается значительный прогресс в разработке квантовых технологий, что делает их актуальными для научного сообщества и промышленности. Квантовые вычисления могут не только ускорить обработку данных, но и привести к созданию новых алгоритмов, которые изменят подход к решению задач в таких областях, как криптография, оптимизация и моделирование сложных систем.

Методы исследования

В данной статье использованы методы анализа литературы, включая систематический обзор научных публикаций, патентов и отчетов ведущих исследовательских лабораторий. Также проведен сравнительный анализ существующих квантовых алгоритмов, таких как алгоритм Шора и алгоритм Гровера, с классическими аналогами. Методы исследования показали, что квантовые алгоритмы могут значительно превосходить классические в

определенных задачах, таких как факторизация и поиск в неструктурированных базах данных. Кроме того, анализ текущих достижений в области квантовых вычислений позволил выявить ключевые проблемы, такие как декогеренция и ошибки в вычислениях, которые необходимо решить для достижения практического применения квантовых технологий.

Результаты и их обсуждение

Результаты исследования показывают, что квантовые вычисления могут значительно ускорить решение задач, таких как факторизация больших чисел и моделирование молекул. Например, алгоритм Шора позволяет разложить число на множители за полиномиальное время, что невозможно для классических алгоритмов. Алгоритм Гровера, в свою очередь, демонстрирует квадратичное ускорение поиска в неструктурированных базах данных. Однако, несмотря на многообещающие результаты, существуют серьезные вызовы, такие как декогеренция и ошибки в вычислениях, которые необходимо преодолеть для практического применения квантовых технологий. Важно отметить, что текущие квантовые компьютеры все еще находятся на стадии разработки, и их практическое применение требует дальнейших исследований и улучшений.

Применение квантовых вычислений

Квантовые вычисления находят применение в различных областях, включая:

- Криптография: Квантовые алгоритмы могут угрожать безопасности современных криптографических систем, но также могут привести к созданию новых, более безопасных методов шифрования.
- Медицина: Квантовые вычисления могут помочь в разработке новых лекарств и моделировании сложных биологических процессов.
- Искусственный интеллект: Квантовые алгоритмы могут улучшить обучение машин и оптимизацию процессов.

Проблемы и вызовы

Несмотря на многообещающие результаты, квантовые вычисления сталкиваются с рядом проблем:

- Декогеренция: Потеря квантовой информации из-за взаимодействия с окружающей средой.
- Ошибки в вычислениях: Необходимость в разработке методов коррекции ошибок для обеспечения надежности квантовых вычислений.

Перспективы развития

Будущее квантовых вычислений выглядит многообещающим. Ожидается, что к 2030 году квантовые технологии станут более доступными и широко применяемыми. Прогнозируется рост инвестиций в эту область, что приведет к созданию новых индустрий и рабочих мест.

Практическая значимость

Квантовые вычисления имеют потенциал изменить подход к решению сложных задач в различных областях, включая криптографию, где они могут угрожать безопасности современных систем, и в медицине, где могут помочь в разработке новых лекарств. Разработка квантовых алгоритмов и технологий может привести к созданию новых индустрий и рабочих мест.

Заключение

Квантовые вычисления представляют собой будущее вычислительной техники, открывая новые возможности для решения сложных задач. Несмотря на существующие вызовы, прогресс в этой области обещает значительные изменения в различных отраслях. Необходимы дальнейшие исследования и разработки для реализации полного потенциала квантовых технологий.

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THE ORIGINAL TURKISH WORDS IN THE EPOS OF «ǴÁRIP-ASHÍQ»

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Abstract: At the present time, a number of changes and developments are observed in the field of science. In addition, new chapters in the knowledge of the black language, learners began to learn. The linguistic diversity of the population is studied in the section of linguistic folkloristics. In this article , we will focus on lexical differences and thematic clusters in the epos of «Ǵárip-ashıq» . We have decided to define the original Turkic word for «Ǵárip-ashıq» in terms of its rich semitic variations.

Familiar words: The language of the people: lexicon, semantics, stylistics, vocabulary, linguistics, folklore, poetry, artistic text.

Karakalpak linguistic folklore is a new chapter of Karakalpak language knowledge. The linguistic diversity of the population is studied in the section of linguistic folklore .. Extensions in the knowledge of the Kazakh language of the linguistic-folkloristic orientation. The artistic imagery of proverbs by D. Eshbayev and Nasyrov's article'" Terms used in the narration of the battles of the army in the battles of the Karakalpakh heroes'" is considered [1]. 72 to 77].

One of the most important contributions to Karakalpak language is the publication of the Arabic-Persian lexicon of the Kaharman epic and its historical-linguistic characteristics by the candidate of philological sciences Orazak Bekbaulov . Historical and linguistic notes on the Arabic-Persian lexicon in the Karakalpak heroic epics are presented in the cursive part of this work . In this session, a historical and linguistic description of the Arabic-Persian lexicon was given, opinions on the etymology of distinctive words were expressed.

The monograph on the language of Karakalpak folklore was published in the independence years. Initially the work of SH.Abdinazimov[3], later known as A. Abdiyev defended his doctoral dissertation.[4] and some articles related to this topic were published.

In this work, we will disscuss the epos of «Ǵárip-ashıq» ‘s lexical difference and the division of thematically groups. The original Turkish words of the Ǵárip-ashıq» are very rich and complex. In determining the historical eastern layers of the epos lexicon, we speak it in close connection with other related languages of the Karakalpak language, such as Turkish and Uzbek languages.

The oldest layer of its vocabulary is the common layer of the Altai languages . In the vocabulary of the epos , the first stage of the evolution of the Turkic languages is marked by a large number of words pertaining to the Altai massacre.

Despite the fact that the Karaqalpak language is spoken in terms of words, the elements of the Mongolian, Buryat, Kalmyk languages are intermingled, but they must be considered in the framework of their own vocabulary..

a) Words referring to the Altai massacre in epos. Determining the lexical composition of the Altai language family is of great importance in determining the relationship of these languages, determining the nature of the historical connections of the peoples speaking these languages and encouraging the writing of a comparative historical grammar of the languages studied.

In the epos, there are many lexical units common to the Turkic, Mongolian and Tungusic-Manchu languages. We will be guided by the theoretical opinions of prominent linguistic scholars who defined the genocide of poison in the dictionary form of the Turkmen people’s epos’“ Ǵárip-ashıq “. The word structure of the story is divided into the following thematic sections:

Names of human bodies The names of the human parts in the vocabulary of any language are one of the oldest strata of that language. Words in the Ǵárip-ashıq that refer to human organs in a special place. Let’s look at some examples related to the word ’’Bawır“. This is the word for karakalpak language: bawır, in Mongolian: бөөр, in the Vuryat language: beera.

The word «búyir» in the Mongolian language was coined by the scientist Sh .Abdinazimov says that the word «búyir» in the Karakalpak language is close to the sound structure, both in its meaning.[5] In the story, the hero's words are a parable, a metaphorical maniac, whose back often speaks of a man's sad situation. For example: Hám júrekten, hám bawırdan ǵam nishteri ótip tur (138); Men jılarman qara bawırım daǵlap (27 b); Atamnıń jábrinen baw ırım daǵlıdur (26 b); Ayralıqtıń daǵı bawırımdı tilip (26 b); Qara bawırı qandı keltirer (51b); Júregine ot túsip, bawırına qurt tústi (103 b); Xalıń kórip bawırım kábap bolıp tur. (25 b).

In this examples we identify that the phraseological word for «bawırın daǵlaw» means «jaramaw», and the words bawırın tiliw, bawırın jırtıw describes the bad events.«Bawırına qurt túsiw»-means "tınıshsızlanıw", bawırı qan bolıw means búliniw. In addition in this epos we can face the word "júrek" (heart). in Karakalpak language it will be júrek,in mongolish zyurx e/n, in manchjur yúrege, in japanese Kokora[6]. There is also similarity between languages , for example,in Japanese word «kakaro» means «kókirek» in Karakalpakish and similar in semantic and sound sides.

The reason is the heart and the chest are situated closer in the organism. Ashıq bolǵanlardıń janar júregi (43b); Júregine ot tusip (105 b); Qapa pálektiń jábirinen, Júregimde daǵlar qaldı (43 b). these are the phraseological units which mean being sad, not being quiet. In addition to these, the words knee, back, eye, and brows are also Turkic words that represent human organs.

Some names of human organs often have metaphorical and metanomic properties. For example: *Dizeń* búgiwli tur, mertilip beliń (105 b); *Kózimniń* ráwshanı sonda náyleyin (1051 b); Aqshıl aldı ala *kózli* bir pári (89 b); *Bası joq, janı joq*, qurı lash qaldı (73 b); Qalım, *kózim* hám jalǵızım (73 b); Eki kózim qanlı jası (62 b); Iyesine berip, shiyrin janımdı (56 b).

In these examples the words such as “dizesi búgiliw” means “boldırıw”, as well as “beli mertiliw” describes as a “jaramsız”. Bası joq, janı joq means háreketsiz qalıw (without moving). Qurban bolay *qaslarıńa*, kózińe. Dal *boyıńa*, *qáwmetińe*, júzińe (42b); Qandır *lábińdegi* palǵa sáwdigim. *Qasıń* miyrabına *basım* qoymısham (43 b); *Kóz qarasıń* qoyıp miyrim qanmısham, Ash qoynındı, sal *moynıma bilegiń* (43b); *Qol* ótkersem názik belge, *sáwdigim,* Súrme bolǵıl *kózim* menen *qasıma* (43b); Dushpanlardıń *júzi* bolsın qarada, *Kózim* giryan yar dártinen (44 b); Qoy *lábime*-lábiń, *dodaq*-dodaqqa, *Tiller* kórsin-paldıń tamashasını (44 b); *Siyneleri* daǵlı, kózi lám bolıp (44 b); Sáwer yardıń shiyrin tili, Gúl *júzi shashı* súmbili (163 b); Shaxsanemniń *tırnaǵı* shelli kórmedi (157 b).

In these words brows (qas), eyes (kóz), tall (boy), shape (qáwmet), neck (moyin), wraist (bilek), limps (láb), hair (shash), face (júz),nails (tırnaq), tongue(til), arm (qol), leg (ayaq), head (bas), back (bel) these words means human bodies in the epos of «Ǵárip-ashıq» which are used as a common words for Altay language groups.

Qaman *qaslarına*, jallad kózińe
Qara *shashlarına*, shiyrin sózińe
Badam *qabaǵıńa*, gúldey júzine (166 b).

Above examples the words qas (brow), kóz (eyes), shash (hair), júz (face) are used as direct meaning

Words used to express kinship. V.I.Tsintsus and P.A.Pokrovskaya are the scientists who investigated the kinship related word in Altay language groups and said that these kind of words are rare. Most of them have polyseomic characteristics. In the vocabulary of «Ǵárip-ashıq» language , there is a small number of terms describing the common kinship relationship between the two Altaic languages. Ǵárip meniń *tuwısqanım* dep oylaytuǵın edim (18 b); Shasanem *qarındasım* dep oylaytuǵın edim (18 b); *Ana* meniń dártimni jandırma endi (198 b); Ulım ne sebepli qapa bolarsań (24 b); *Atamnıń* jábirinen bawırım daǵlı (268 b); Diyarbákir sháhárinde qaldı *ata* bilen anam (60 b); *Aǵam* joq, inim joq, sóyler sózim joq (1065 b).

In these examples, the words brother, sister, father, brother, son, and sister refer to a relationship.

Above examples the word «*ana*» (mother) refers to Mongolian language «*eke*» qalmaq language «ek» in manchjur «*emá*», in evenik «*en-e*», in byurat eji, in nivx language «*um-chu*», in yukagir «*amma*», in Korean language «*eji*».

In the Karakalpak language, as well as in the Turkic languages, the word “ana” is used in relation to the elderly women in the sense of mother, as well as it is used to refer the mother-in law in some contents.

While the word relatives means closer person in blood, The word "sister" is used to refer to a girl of the small age than her. However , in the example below , the word " sister " is used as an adjective meaning " brother " in epos subscribed. Qarındasım barlıq eller (88 b) In this example , the word " sister " has been effected by the Uzbek language. In the Turkmen language , the word “ğardaş”is used to explain the word relative . For example :Uyqılap atırǵan jerinde *qawmı-ǵardashların* hám qırq-kánizin kórdi (115).

It is worth mentioning that the problem of studying the literary events of Karakalpak has been extensively studied, a lot of scientific work has been done, but it is worth mentioning that the problem of studying the languages of Karakalpak in the linguistic, folkloric, linguistic, poetic and linguistic-cultural aspects is on the way to the development of linguistic knowledge. The study of the linguistic differences of folklore events in Karakalpak language requires a lot of research.

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USEFUL ASPECTS OF USING PROVERBS IN ORAL AND WRITTEN SPEECH

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Annotation. This article delves into the multifaceted role of proverbs in communication, analyzing their cognitive and cultural significance within both oral and written discourse. We explore how proverbs function as potent tools for conveying complex ideas, fostering shared understanding, enhancing persuasion, and enriching the overall impact of language. The article examines the unique advantages of proverbs in both spoken and written contexts, highlighting their contributions to clarity, engagement, and cultural connection.
Keywords: Proverbs, Oral Communication, Written Communication, Cognitive Function, Cultural Significance, Persuasion, Communication Enhancement, Clarity, Engagement, Powerful tools.

Аннотация. В этой статье рассматривается многогранная роль пословиц в коммуникации, анализируется их когнитивное и культурное значение как в устном, так и в письменном дискурсе. Мы изучаем, как пословицы функционируют как мощные инструменты для передачи сложных идей, содействия общему пониманию, усиления убеждения и обогащения общего воздействия языка. В статье рассматриваются уникальные преимущества пословиц как в устном, так и в письменном контексте, подчеркивая их вклад в ясность, вовлеченность и культурную связь.
Ключевые слова: пословицы, устная коммуникация, письменная коммуникация, когнитивная функция, культурная значимость, убеждение, улучшение коммуникации, ясность, вовлеченность, мощные инструменты.

INTRODUCTION:

Proverbs, those concise and often metaphorical sayings that encapsulate wisdom and experience, have long been a cornerstone of human communication. Beyond their aesthetic appeal, proverbs hold a unique position in language, serving as powerful tools for conveying complex ideas, fostering cultural connection, and enhancing the

overall effectiveness of both oral and written discourse. This article investigates the cognitive and cultural dimensions of proverb usage, examining their impact on communication across various contexts.Proverbs, those pithy sayings that encapsulate wisdom and experience, are more than just catchy phrases. They are potent tools that enhance both oral and written speech, adding layers of meaning, depth, and impact.

1)The Cognitive Power of Proverbs: Bridging Complexity and Comprehension

Proverbs function as cognitive shortcuts, allowing us to express complex ideas and concepts in a succinct and easily digestible form. Their metaphorical nature and reliance on shared cultural knowledge enable efficient communication:

a) *Concise Expression:* Proverbs condense complex thoughts into memorable, easily grasped phrases. “A stitch in time saves nine” succinctly illustrates the value of proactive problem-solving.

b) *Metaphorical Thinking:* Proverbs utilize figurative language, drawing on metaphors and analogies to convey abstract concepts. “Don’t count your chickens before they hatch” warns against premature celebration.

c) *Cultural Memory:* Proverbs draw upon collective experiences and wisdom, acting as cultural repositories of knowledge. “Early to bed and early to rise makes a man healthy, wealthy, and wise” reflects societal values.

2) Cultural Significance: Building Bridges of Shared Understanding

Proverbs are powerful agents of cultural transmission, serving as markers of identity, fostering a sense of belonging, and facilitating communication within and across cultures:

1) Shared Values: Proverbs reflect the values, beliefs, and experiences of a specific cultural group. “A bird in the hand is worth two in the bush” emphasizes pragmatism and present-day satisfaction.

2) Social Norms: Proverbs can reinforce social norms and expectations within a community. “Respect your elders” is a common proverb in many cultures, emphasizing filial piety.

3) Cross-Cultural Communication: Understanding proverbs from different cultures enables deeper cross-cultural communication and understanding.

3. Persuasion and Impact: Leveraging Proverbs for Effective Communication

Proverbs possess an inherent persuasive power, influencing attitudes, behaviors, and decision-making:

a) Credibility Enhancement: Using a well-known proverb lends authority and wisdom to arguments, increasing credibility.

b) Emotional Resonance: Proverbs often evoke strong emotions and associations, making messages more memorable and impactful.

c) Action Inspiration: Proverbs like “Rome wasn’t built in a day” can inspire perseverance and motivate listeners or readers to take action.

4. The Unique Advantages of Proverbs in Oral Communication

In spoken language, proverbs serve as powerful tools for engagement, connection, and persuasion:

Audience Engagement: Proverbs add spice and interest to conversations, keeping listeners engaged and attentive.

Point Illustration: Proverbs provide vivid and memorable illustrations for arguments, enhancing clarity and understanding.

Rapport Building: Using relevant proverbs can create a sense of connection and shared understanding with the audience.

5. The Impact of Proverbs in Written Communication

Within written discourse, proverbs elevate the impact and depth of language:

Nuance Enhancement: Proverbs inject layers of meaning and complexity, enriching the overall texture of writing.

Clarity and Persuasion: Well-chosen proverbs enhance clarity, impact, and persuasiveness, strengthening arguments.

Memorable Impression: Proverbs contribute to lasting impressions, making writing more memorable and thought-provoking.

The example of proverbs :

1) A bad man is better than a bad name. (Yomon nom tez tarqaladi)

2) A bad workman quarrels with his tools. (Yomon ishchi asboblari bilan ayblanadi ya’ni shu sababli mahoratsiz deyiladi)

3) A burnt child dreads the fire. (Og’zi kuygan qatiqniyam puflab ichadi)

4) Seven neighbourhoods for one child, both father and mother (Bir bolaga yetti maahalla ota ona

5) Soup from big, water from small (Osh kattadan, suv kichikdan)

6) Seek knowledge from cradle to grave (Beshikdan qabrgacha ilm izla)

7) Early to bed and early to rise (Erta turgan kishini , Xudo o’nglar ishini)

Speakers can use proverbs to impaart knowledge , offer advice, teach or reinforce morals, make an argument, relive interpersonal tensions, aid in understanding, or to console or inspire other.

The nature of proverbs is imperative, it saves the speaker from making any direct remark, while also making his stand clear.

The book of Proverbs is a collection of wise sayings and poems tied to King Solomon. Although not all the material is written by Solomon. Israel's wisdom tradition begins with him.

Conclusion: Proverbs are more than just quaint sayings; they are cognitive and cultural bridges that enhance both oral and written communication. Their ability to condense complex ideas, foster shared understanding, and inspire action makes them invaluable tools for speakers and writers alike. By integrating proverbs into our vocabulary, we tap into a rich reservoir of wisdom, cultural knowledge, and persuasive power, elevating the impact and effectiveness of our communication.

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INDIVIDUALITY OF PROVERBS

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ANNOTATION

The following article deals with information about the diversity of proverbs that reflect the uniqueness of today's people. There are also opinions about the differences between quotations and folk sayings and their uniqueness in every nation. Further, it is undoubtedly true that individuality of every proverb is guaranteed because the fact that each nation has key characteristics in its history.

Keywords: Uzbek folk proverbs, English folk proverbs, scholars, metaphor, quotations.

It would not be unreasonable to argue that one of the key characteristics that express the individuality of any nation is the examples of folklore that go back to its ancient past and reveal it. The particular richness and colorfulness of each language is represented in its spiritual tradition, including: proverbs. Proverbs are incredibly powerful communication tools in human interactions, political discourse, the media, and even in advertising and cartoons. They also appear to be very easy to hear, read, and apply.

Proverbs are concise, memorable sayings that convey universal truths or life lessons. Often rooted in cultural traditions, they serve as guides for behavior and decision-making. These nuggets of wisdom distill complex ideas into simple phrases, making them easy to remember and share. Many proverbs emphasize the value of experience, like “A stitch in time saves nine,” highlighting the importance of addressing problems early to avoid bigger issues later. Others focus on the human condition, such as “Actions speak louder than words,” reminding us that what we do often carries more weight than what we say.

Different cultures have their own unique proverbs, reflecting local values and beliefs. For instance, the African proverb “It takes a village to raise a child” underscores community responsibility in nurturing and supporting the next generation. In a fast-paced world, proverbs remain relevant, offering timeless advice and encouraging

reflection. They remind us that despite our diverse backgrounds, many of our experiences and lessons are shared, connecting us through the wisdom of generations. Proverb study is interesting from a literary perspective, according to doctor of philology Tora Mirzayev, who states the following regarding proverbs: “Public speakers have always focused on using proverbs to ensure the fluency of the artistic language and to increase the artistry of the work.” We will ensure that numerous proverbs are included in the works of Yusuf Khos Hajib, Ahmed Yassavi, Rabguzi, Lutfi, Alisher Navoi, Babur, Abulgozi Bahadirkhan, Munis, Ogahi, Nadira, Muqumi, Furqat, Avaz, Hamza, Sadriddin Aini, Fitrat, Cholpon, Abdullah Qadiri, Aybek, Gafur Ghulam, and numerous other scholars.

These conventional sayings are necessary for people to add metaphorical color to their speech and writing, which allows them to express a lot of meaning in a short sentence. Proverbs serve as a ready-made formula for the expression of a variety of societal issues and human ideals, including friendship, goodness, loyalty, and patriotism, while also serving as a vehicle for animosity, evil, selfishness, and betrayal. “Proverbs serve as helpful guidelines since they are founded on numerous observations and experiences that are a part of daily life in the workplace, in the family, and during any kind of idea exchange. Proverbs have long been ingrained in various people’s speech patterns. Humanity is born with the ability to reason about and make decisions regarding the environment, society, politics, education, economy, and medical field.” (Juraev) Such findings are, in reality, a practical way to prevent individuals from committing errors, slipping into the trap of sin, and doing harm to themselves, others, and the environment.

Proverbs are similar to frequently used quotations in many aspects. Of course, their creation and prior histories are what separate them the most. While the creator of most proverbs is unknown, the person behind well-known phrases is nearly always identified. Both genres have the characteristic of being freely employed in written and oral discourse as brief phrases with several meanings. Proverbs are used without any further information, whereas quotations typically include the name of the author, because the people are its authors. However, some quotes eventually turn into proverbs. Their frequent use is the cause of this.

“The value of a blessing is known when it is lost,” says Abu Rayhan Beruni in response to this. Or the wise words of Alisher Navoi, “He who starts you to do evil is your enemy.” These can serve as a wonderful illustration. The book Devoni Lugatit-Turk by Mahmud Kashgari also includes a number of

proverbs that serve as illustrations of courage, hard labor, solidarity, patriotism, and loyalty. These proverbs demonstrate that our people's developing nation is indeed a nation. (Ikromova) In the words of Lord John Russell, “A proverb is the wit of one, and the wisdom of many.” In other words, a proverb is the result of many people's wisdom combined with the eloquence of one person.

Without a doubt, in summary, the proverb is a little gem that condenses into a few succinct phrases the collective experience of many centuries of people.

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СТРОЕНИЕ И ХИМИЧЕСКИЕ СВОЙСТВА МОЛЕКУЛЫ ФИБРОИНА

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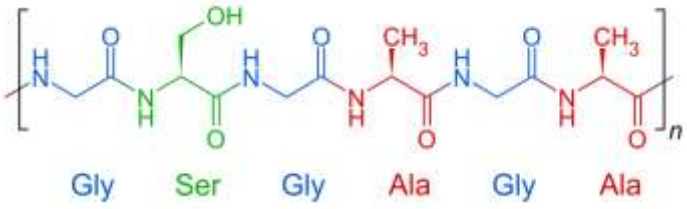
Наличие аминогрупп в белковой молекуле фиброина обеспечивает основные кислотные свойства. Это свойство называется амфолитическим. При воздействии щелочей фиброин гидролизуется до аминокислот. При гидролизе полипептидные связи разрываются. Один из методов разрушения фиброина в щелочной среде был разработан бывшим союзным министром Корчагиным М.В. В этом методе фиброин растворяют в швейцарском реактиве. Установлено, что последовательность аминокислот в фиброине следующая [1].



Если сульфат фиброина прокипятить с раствором кислоты, а затем обработать щелочью, можно наблюдать разрывы его молекулярной цепи и образование небольших фрагментов, например, аланина, тирозина и других пептидов и трипептидов.

Молекула белка фиброина соответствует общей формуле $(C_{15}H_{23}N_5O_6)n$. Он проявляет типичные свойства белков и аминокислот [2].

Когда белки обрабатываются H_2O_2, H_2O_2 реагирует в основном с Gly-Ser, Gly и Met. Если окисление проводят в присутствии d-металлов, то могут окисляться и боковые заместители Try и Tyr. При воздействии 3%-ного раствора H_2O_2 при температуре 60°C в течение 72 часов гидролитический процесс в полипептидной цепи ускоряется: фибрион полностью растворяется. Под влиянием других неорганических пероксидов (персульфата, перкарбоната, пербората и др.) наблюдается также распад полярных заместителей аминокислотных групп, а также частичное разрушение полипептидной цепи.

Гидратация белков, вызванная их кипением и плавлением, преобладает над процессом гидролиза. Гидратация ионизированных групп полимерной подложки представляет собой ионизацию диполей молекул воды, ориентированных в электрическом поле ($-COO^-$; NH_4^+ и др.); гидратация полярных заместителей происходит за счет образования водородных связей

вследствие ориентации молекул воды. Можно предположить, что молекула воды, связанная гидратом с белком, представляет собой монослой, окружающий полярные и ионизированные группы полипептида. При этом гидрофобные радикалы создают эффект «гидрофобного эффекта» и остаются свободными от воды. Таким образом, в гидратном слое белковой макромолекулы возникают «островки» уникальной структуры. Связанная с белками вода составляет преимущественно 15-35% (масс.). В результате взаимодействия с полипептидами диполярная ориентация (ориентация) воды приводит к уменьшению энтропии системы ΔS.

Фибрион – бесцветное твердое кристаллическое вещество. Это белок с плохой растворимостью в воде. Фиброин нерастворим в спирте, эфире, бензоле, ацетоне, сульфиде углерода(IV) и других органических растворителях. Соли кальция, стронция, бария, образующие раствор в нейтральной среде, и галоидоводородные кислоты, реактив Швейцера, в щелочных растворах образуют коллоидные системы. Растворяется в концентрированных фосфатах, сульфатах, соляной кислоте и жидком аммиаке при низкой температуре (9-11°C) [1]. Он также растворяется в концентрированном растворе $ZnCl_2$ и растворах гидроксида никеля(II) в аммиаке [2].

Фиброин хорошо растворим в растворах глицерата меди(II) и этилендиамина меди(II) дихлоруксусной и муравьиной кислот [1]. В растворах можно получать золи фиброина с концентрацией от 0,7% до 1%. Образование раствора N-метилморфолин-N-оксида возможно при температуре 74-76°C [4].

Температуры Тш-стекла фиброина и серицина очень близки: 173-175°C и 169-172°C. Фиброин растворяется в гидротронных растворителях, например, иодидах и роданидах Li^+, K^+, Na^+; Ca^{2+}, галогениды и роданиды Zn^{2+}; ди- и трихлор (или фтор) растворимы в уксусной кислоте.

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XO‘RAKI KO‘K NO‘XATNING F2 DURAGAY AVLODLARINING 1000 DONA URUG‘ OG‘IRLIGINING IRSIYLANISHI

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Annotasiya. Ushbu maqolada ko‘k no‘xatni duragay kuchatzorida ekib o‘rganilgan F2 duragay avlodlarining 1000 dona urug‘ og‘irligining irsiylanish darajasi aniqlanganligi haqida ma‘lumotlar keltirilgan.
Kalit so‘zlar. Don, dukkak, F2 duragay avlod, chatishtirish, mahsuldorlik, nav, namuna, liniya, tadqiqot, irsiylanish, boshlang‘ich matireal.

Kirish. Yildan yilga aholi sonining keskin oshib borishi qishloq xojaligi ekinlariga bo‘lgan talabni oshib borishiga olib kelmoqda. Bu talabni qondirishda ko‘k no‘xat alohida ahamiyatga ekin sifatida qaraladi. Sababi bu ekin juda qisqa muddat ichida yuqori va sifatli oziq-ovqat mahsuloti berishi bilan birga tuproq unimdorligini oshirish imkonini beradi hamda chorvachilikda yem xashak muommosini hal qiladi. Shu sababli xo‘raki ko‘k no‘xatnining sug‘oriladigan yerlarga mos yuqori va sifatli don berish imkoniga ega yangi navlarini yaratish muhim hisoblanadi.
Yangi navlarni yaratishda seleksiya jarayonida eng qudratli usullardan biri hisoblangan duragaylash ishlaridan foydalanildi.
Tadqiqotning maqsadi va vazifalari. Zarafshon vohasi sug’oriladigan yerlarida xo‘raki ko‘k no‘xatning serhosil, don sifati yuqori bo‘lgan boshlang’ich manbalarini yaratish hisoblanadi. Xo‘raki ko‘k no‘xat kolleksiyasida mavjud nav namunalari va duragay liniyalarida hosildorlik ko‘rsatkichi buyicha kuzatish olib borish, yuqori hosildorlik natijalarini namoyon qilganlarini tanlab olish va ulardan boshlang’ich manbalar sifatida foydalanish vazifa qilib belgilandi.
Tadqiqot o‘tkazish metodikasi va uslublari. Ko‘k no‘xatning “O‘simliklar genetik resurslari” ilmiy-tadqiqot instituti, “Janubiy dehqonchilik” ilmiy-tadqiqot instituti, “Don va dukkakli ekinlar” ilmiytadqiqot instituti, “Lalmikor dehqonchilik” ilmiy-tadqiqot institutidan olib kelingan hamda Rassiya va Janubiy Kareadan olib kelingan

60 ta kolleksiya nav namunasi Samarqand viloyatining Jomboy tumanida joylashgan “FARBOMA SELEKT” ilmiy urug’chilik fermer xo‘jaligini o‘tloq bo‘z tuproqlar sharoitida ekib o‘rganildi. Tadqiqotlarimizda ko‘k no‘xat nav namunalari o’zaro chatishtirilib duragay avlodlar olindi.

Ko‘k no‘xat o‘simligining F2 duragay avlodlari ko‘chatzorida 16 ta duragay avlodlari ekilib 1000 dona urug‘ og‘irligi belgilarining irsiylanish Mahmod and Kramer formulasi yordamida tahlil qilindi. Duragay avloddan olingan belgi va xususiyat natijalari Robinson va b.lar tomonidan yaratilgan uslubda irsiylanish qobilyati baholandi. Bunda shkala bo‘yicha irsiylanish qobilyati past (0-30%), irsiylanish qobilyati o‘rta (30-60%), irsiylanish qobilyati yuqori (60-100%) ko‘rsatkichlarga ajratilib baholandi.

Natijalar va ularning muhokamasi Duragaylash uchun ota-ona shakllarini tanlashda asosan mahsuldorlik ko‘rsatkichlariga etibor qaratish alohida o‘ringa ega. Qimmatli-xo‘jalik belgilariga ko‘ra F2 duragay avlodlarida tanlash ishlarini to‘g‘ri olib borish seleksiya jarayonida yaxshi samara beradi.

O‘rganilgan duragay avlodlarda 1000 dona urug‘ og‘irligi belgisining irsiylanish qobilyati 8 ta kombinasiyada (60-100%) yuqori bo‘lganligi aniqlandi. ♀Surpriz x ♂KP-18-2014/01 duragay avlodida 1000 dona urug‘ og‘irligi 210 gr, variasion o‘zgaruvchanlik koeffisienti V=3.9, belgining irsiylanish qobilyati h^2=74, ♀Osiyo-2001 x ♂Usatiy86 duragay avlodida 1000 dona urug‘ og‘irligi 170.1 gr, variasion o‘zgaruvchanlik koeffisienti V=5.1, belgining irsiylanish qobilyati h^2=70, ♀ Moroz x ♂Osiyo 2001duragay avlodida 1000 dona urug‘ og‘irligi 167.5 gr, variasion o‘zgaruvchanlik koeffisienti V=4.2 belgining irsiylanish darajasi h^2=67, ♀Osiyo-2001 x ♂Uzbekiston-2001duragay avlodida 1000 dona urug‘ og‘irligi 169 gr, variasion o‘zgaruvchanlik koeffisienti V=3.6, belgining irsiylanish qobilyati h^2=67, ♀Jasur-98 x ♂Osiyo 2001 duragay avlodida 1000 dona urug‘ og‘irligi 208,6 gr, variasion o‘zgaruvchanlik koeffisienti V=3.9, belgining irsiylanish qobilyati h2=66, ♀KP-18-2014/01 x ♂Yunior duragay avlodida 1000 dona urug‘ og‘irligi 194.6 gr, variasion o‘zgaruvchanlik koeffisienti V=3.7, belgining irsiylanish qobilyati h^2=62, ♀KP-18-2014/01 x ♂Usatiy duragay avlodida 1000 dona urug‘ og‘irligi 190 gr, variasion o‘zgaruvchanlik koeffisienti V=3.7, belgining irsiylanish qobilyati h^2=62, ♀Usatiy-1 x ♂Moroz duragay avlodida 1000 dona urug‘ og‘irligi 170,3 gr, variasion o‘zgaruvchanlik koeffisienti V=3.7, belgining irsiylanish qobilyati h^2=60 bo‘lganligi bilan yuqori baholandi.

1-jadval

F2 duragay avlodlarida 1000 dona urug‘ og‘irligining irsiylanishi.

		F2 duragay avlodlarida 1000 dona urug‘ og‘irligining irsiylanishi.			
				ẍ±	
	♀Osiyo-2001 x ♂Usatiy86				
	♀Jasur-98 x ♂Usatiy				
	♀Aksayskiy-usatiy x ♂Jasur-98				
	♀KP-18-2014/01 x ♂Yunior				
	♀Usatiy-1 x ♂Moroz				
	♀KP-18-2014/01 x ♂Usatiy				
	♀Sputnik x ♂Surpriz				
	♀Usatiy x ♂Osiyo-2001				
	♀Faeton x ♂Moroz				
	♀Surpriz x ♂KP-18-2014/01				
	♀Moroz x ♂Jasur-98				
	♀Osiyo-2001 x ♂Uzbekiston-				

	♀Uzbekiston 2011 x ♂Knnv15				
	♀Proval 1234 x ♂Knnv15				
	♀ Moroz x ♂Osiyo 2001				
	♀Usatiy x ♂Yunior				
	♀Jasur-98 x ♂Osiyo 2001				
	O‘rtacha qiymat				

Tahlil natijalariga ko‘ra xo‘raki ko‘k no‘xat F2 duragay avlodlarida 1000 dona urug‘ og‘irligining irsiylanishi ♀Usatiy x ♂Yunior (V=4.3, h^2=17), ♀Faeton x ♂Moroz darajada bo‘lganligi kuzatildi. (1-jadvalga qarang).

. Ko‘k no‘xatning F2 duragay avlodlarida 1000 dona urug‘ og‘irligining irsiylanishi asosan ajralish bu belgida yaqqol namoyon bo‘ldi. O‘simlik bo‘yi belgisining irsiylanishi h^2=60,0 dan yuqori bo‘lgan F2 duragay avlodlari tanlab olindi.

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CHARACTERISTICS OF TURBULENT FLOW

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ABSTRACT

Turbulent flow is a complex and chaotic movement of fluid that occurs when a fluid moves at high velocities or interacts with solid boundaries. This phenomenon is critical in a wide range of scientific and engineering applications, such as in weather systems, industrial processes, and aerodynamics. This paper aims to explore the fundamental characteristics of turbulent flow, including its underlying mechanisms, mathematical descriptions, and practical implications. The study also delves into the transition from laminar to turbulent flow, key parameters like the Reynolds number, and turbulence modeling techniques.

Keywords: Turbulent flow, Reynolds number, velocity fluctuations, energy cascade, eddies, mixing, fluid dynamics, flow regime, chaos, turbulence modeling.

INTRODUCTION

Turbulence plays a significant role in fluid dynamics and is observed in both natural and man-made systems. Unlike laminar flow, where fluid particles move in parallel layers, turbulent flow is highly disordered. This disordered motion leads to enhanced mixing, momentum transfer, and energy dissipation. Understanding turbulent flow is essential for optimizing various engineering processes, predicting environmental phenomena, and designing efficient transportation systems.

Transition from Laminar to Turbulent Flow

Flow in a fluid can be characterized as either laminar or turbulent based on the Reynolds number (Re), a dimensionless quantity that represents the ratio of inertial forces to viscous forces in a fluid flow. Low Reynolds numbers indicate laminar flow, characterized by smooth, orderly fluid motion. However, as Re increases (typically above a threshold of around 2,000 for flow in a pipe), the flow transitions into turbulence. During this transition, small disturbances in the fluid grow and eventually break down into chaotic eddies and vortices, signaling the onset of turbulence.

The critical Reynolds number for the transition depends on factors such as geometry, surface roughness, and flow conditions. The path to turbulence is not instantaneous

but involves complex processes like vortex shedding, instability growth, and interactions between velocity gradients.

Characteristics of Turbulent Flow

1. Irregularity and Randomness

Turbulent flows are inherently irregular, exhibiting random fluctuations in velocity and pressure. The chaotic nature of turbulent flow makes it impossible to predict the exact motion of individual fluid particles. However, statistical tools, such as the mean velocity field and root mean square fluctuations, can describe turbulent flow in a time-averaged sense.

2. Vorticity and Eddies

Turbulent flows are dominated by the presence of eddies, or swirling vortices of different sizes. These eddies span a wide range of scales, from large energy-containing structures to small dissipative vortices. Large eddies break down into smaller eddies, leading to a cascade of energy transfer down to the smallest scales. This process is often referred to as the energy cascade, with energy eventually dissipated by viscosity at the smallest scales, known as the Kolmogorov scale.

3. Enhanced Mixing

Turbulent flows exhibit far greater mixing compared to laminar flows. The chaotic motion of fluid particles enhances the diffusion of momentum, heat, and mass, leading to a much higher rate of mixing. This property is beneficial in various industrial processes like chemical reactors, combustion engines, and environmental systems.

4. Reynolds Number Dependence

The degree of turbulence in a flow is heavily influenced by the Reynolds number. Higher Reynolds numbers indicate greater turbulence intensity and larger variations in fluid velocity. In many cases, turbulence is inevitable in practical applications where high flow velocities or large-scale fluid motion are present.

5. Isotropy and Homogeneity

In fully developed turbulence, small-scale eddies tend to become isotropic, meaning they have no preferred direction. Additionally, turbulence can be homogeneous, where statistical properties of the flow are uniform across different spatial locations. However, in many real-world scenarios, turbulent flows are neither fully isotropic nor homogeneous due to the presence of boundaries, obstacles, or varying flow conditions.

Mathematical Description of Turbulence

1. Navier-Stokes Equations

The Navier-Stokes equations govern fluid motion, and their non-linear form describes turbulent flow. However, solving these equations directly for turbulent flows is extremely challenging due to the chaotic nature of turbulence. The high degree of nonlinearity in the convective term makes finding analytical solutions nearly impossible. As a result, approximations and models are often employed to predict turbulent behavior.

2. Turbulence Modeling

Several turbulence models have been developed to approximate turbulent flows. Common models include:

Reynolds-Averaged Navier-Stokes (RANS): This approach involves time-averaging the Navier-Stokes equations to simplify the representation of turbulence, introducing additional terms that account for turbulent fluctuations.

Large Eddy Simulation (LES): LES resolves the larger scales of turbulence directly, while modeling the smaller scales. This method is more accurate than RANS but requires more computational resources.

Direct Numerical Simulation (DNS): DNS solves the Navier-Stokes equations without any turbulence models, capturing all scales of turbulence. It is computationally expensive and feasible only for small Reynolds numbers or highly idealized cases.

Practical Implications of Turbulent Flow

1. Engineering Applications

Turbulence plays a critical role in numerous engineering applications. In aerospace engineering, it affects drag and lift on aircraft surfaces, requiring accurate turbulence prediction for aircraft design. In chemical engineering, turbulence is leveraged to enhance mixing and reaction rates in reactors.

2. Environmental Implications

Turbulent flow governs many natural processes, including atmospheric circulation, ocean currents, and river flow. Understanding and predicting turbulent behavior is essential for accurate weather forecasting, climate modeling, and environmental impact assessments.

3. Turbulence in Pipes and Channels

Turbulence in confined systems, such as pipes or channels, introduces additional challenges. It leads to higher frictional losses and pressure drops, necessitating stronger pumps and increased energy consumption in industrial systems.

Understanding how to mitigate or control turbulence is critical in optimizing fluid transport systems.

Conclusion

Turbulent flow remains one of the most challenging and important aspects of fluid dynamics. Its complexity, irregularity, and energy-dissipating nature make it both fascinating and practically significant. From industrial design to environmental sciences, understanding the fundamental characteristics of turbulence is essential. Further research in turbulence modeling and computational fluid dynamics will continue to improve our ability to predict and manage turbulent flows in real-world applications.

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ДАВЛАТ БОШҚАРУВИДА ГЕНДЕР ТЕНГЛИГИНИ ТАЪМИНЛАШНИНГ ҲУҚУҚИЙ МЕХАНИЗМЛАРИ

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Ўзбекистон Республикаси Президенти ҳузуридаги Давлат хизматини ривожлантириш агентлиги бош инспектори; Юридик фанлари бўйича фалсафа доктори (PhD)

Аннотация: Мақолада гендер тенглигини таъминлашда Ўзбекистон Республикаси давлат бошқарувидаги ҳуқуқий механизмлар таҳлил қилинган. Гендер тенглиги мамлакат тараққиётининг муҳим омили сифатида қаралиб, гендер сиёсатининг ҳуқуқий асослари, давлат органларидаги хотин-қизларнинг улушини оширишга қаратилган чора-тадбирлар ёритилган. Шунингдек, гендер тенгликка эришишдаги халқаро стандартлар, Ўзбекистоннинг бу борадаги қонунлари ва давлат дастурларига урғу берилган. Мамлакатда хотин-қизларни раҳбарлик лавозимларига тайёрлашга қаратилган махсус дастурлар орқали гендер тенглигини амалга оширишдаги натижалар сарҳисоб қилинган.
Калит сўзлар гендер тенглиги, давлат бошқаруви, инсон ҳуқуқлари. ҳуқуқий механизм, хотин-қизлар ҳуқуқлари, раҳбар аёллар, гендер сиёсат, тенг имкониятлар, гендер стратегияси.

Демократик давлатнинг асосий белгиси – инсон ҳуқуқларини таъминлаш, давлат бошқарувида ва ижтимоий ҳаётда барча учун бирдек имкониятларни тақдим этишдан иборат. Шу маънода, гендер сиёсати - инсон ҳуқуқларини ажралмас қисми бўлиб, бу ҳар бир шахснинг ҳуқуқ ва эркинлари ҳамда қонуний манфаатларини таъминлашни бирдек кафолатланишида намоён бўлади.

Ўзбекистон Республикаси Конституциясида барча фуқаролар бир хил ҳуқуқ ва эркинликларга эга бўлиб, жинси, ирқи, миллати, тили, дини, эътиқоди, ижтимоий келиб чиқиши, ижтимоий мавқеидан қатъи назар, қонун олдида тенг эканликлари белгиланган.

Шунингдек, бош қомусимизнинг 58-моддасида: “Хотин-қизлар ва эркаклар тенг ҳуқуқлидирлар. Давлат хотин-қизлар ва эркакларга жамият ҳамда давлат ишларини бошқаришда, шунингдек жамият ва давлат ҳаётининг бошқа

соҳаларида тенг ҳуқуқ ва имкониятларни таъминлайди”, - деган норма мустаҳкамлаб қўйилган.

Шу асосда, барча қонунлар ва қонуности ҳужжатларига ҳам гендер сиёсатини акс эттирувчи “тенглик”, “ижтимоий адолат” принциплари сингдирилган.

Қайд этиш жоиз, сўнги йилларда соҳага оид 40 дан ортиқ қонунчилик ҳужжатлари ва муҳим концептуал дастурлар қабул қилинди.

Мазкур ҳужжатлар доирасида хотин-қизлар ва эркаклар учун тенг ҳуқуқ ҳамда имкониятлар яратилиши, аёлларнинг давлат ва жамият бошқарувидаги ўрнининг мустаҳкамланиши, уларнинг таълим олишлари, касб-ҳунар ўрганишлари учун зарур шароит яратилганлиги, бандлигини таъминлаш, муносиб меҳнат шароитларини яратиш ҳамда аёлларнинг иқтисодий ҳаётдаги фаоллигини ошириш, турли тазйиқ ва зўравонликлардан ҳимоя қилиш борасида муҳим чоралар кўрилаётганлигининг ҳуқуқий асоси бўлиб хизмат қилади.

Хусусан, “Аёллар ва эркаклар учун тенг ҳуқуқ ҳамда имкониятлар кафолатлари тўғрисида”ги қонун – жинс бўйича камситишининг олдини олиш ва давлат бошқарувида барчанинг тенг иштирок этишни таъминлашни назарда тутади. “Аёлларни тазйиқ ва зўравонликдан ҳимоя қилиш тўғрисида”ги қонун аёлларга нисбатан зўравонликнинг турли шаклларига барҳам бериш ва жабрланувчиларни ҳимоя қилиш ва ёрдам кўрсатиш механизмларини ўрнатади.

Ўзбекистон Республикаси Олий Мажлиси Сенатининг 2021 йил 28 майдаги қарори билан тасдиқланган “Ўзбекистонда 2030 йилга қадар гендер тенгликка эришиш стратегияси” қарорлар қабул қилиш ва ижро этишнинг барча соҳаларида ҳамда даражаларида хотин-қизлар ва эркаклар ўртасида тенглик тамойилини татбиқ этишга кенг қамровли ёндашувни назарда тутади. Шунингдек, Стратегия эркаклар ва аёлларнинг тенг ҳуқуқлари ва имкониятларини рўёбга чиқариш учун шарт-шароит яратиш ҳамда инсоннинг фундаментал ҳуқуқларига риоя қилиш мақсадида иқтисодий, сиёсий ва ижтимоий ҳаётда гендер тенглик тарғиб қилинишини таъминлашга хизмат қилмоқда.

Шу туфайли, Мамлакатимизда гендер сиёсати жамият ва давлат тараққиётининг муҳим омилига айланди. “гендер тенглиги”, “гендер ва тараққиёт”, “гендер мувозанати”, “хотин-қизларнинг ижтимоий-сиёсий ҳаётдаги ўрни” каби тушунчалар давлатимиз дастурий ҳужжатлари ва барча меъёрий ҳуқуқий ҳужжатларни ишлаб чиқишда ўз ифодасини топмоқда.

Амалда эса натижалар янада салмоқли. Хусусан, гендер сиёсати сабаб – сўнгги етти йилда Ўзбекистонда хотин-қизларнинг давлат бошқарувидаги улуши 27 фоиздан 35 фоизга кўтарилди. Бу ҳақида, Ўзбекистон Республикаси Президенти Шавкат Мирзиёев Бирлашган Миллатлар Ташкилоти Бош Ассамблеясининг 78-сессиясидаги нутқида мамлакатимизда гендер тенгликка эришиш борасидаги тизимли ишларни сарҳисоб қилиб, хотин-қизларнинг давлат бошқарувидаги улуши биринчи марта 35 фоизга етганини, алоҳида қайд этди.

Шунингдек, мамлакатимизда Олий Мажлис Қонунчилик палатаси депутатларининг 32 фоизи, Сенат аъзоларининг 25 фоизини аёллар ташкил этмоқда. Тадбиркор аёллар сафи икки баробарга кўпайиб, ўз бизнесини йўлга қўйган аёллар сони 205 мингдан ошди. Юз минглаб аёллар касб-ҳунар ва тадбиркорликка ўқитилди. Соғлиқни сақлаш ва таълим соҳасида банд бўлган аҳоли ўртасида хотин-қизлар улуши 77 фоизни, иқтисодиёт ва саноат соҳасида 46 фоизни ташкил этмоқда. Олий таълим муассасаларида таълим олаётган қизлар сони 6 баробарга кўпайиб таълим олаётган талабаларнинг ярмидан ортиғини хотин-қизлар ташкил этмоқда.

Ўзбекистон гендер тенглиги билан боғлиқ асосий халқаро инсон ҳуқуқлари шартномалари ҳамда конвенцияларини ратификация қилган. Мамлакатимиз 1995 йилда аёлларга нисбатан камситишнинг барча шаклларига барҳам бериш тўғрисидаги конвенцияга (CEDAW) қўшилди ва камситишни бартараф этиш ҳамда аёлларнинг тўлиқ ривожланиши ва фаровонлигини таъминлаш мажбуриятини олди. Ўзбекистон шунингдек, гендер тенглигига эришиш учун стратегик мақсадларни белгилаб берувчи Пекин декларацияси ва Ҳаракат платформасини ҳам тасдиқлаган ҳамда тегишли мажбуриятларни самарали бажариб келмоқда.

Шу сабабли, бу борада олиб бораётган тизимли чора-тадбирлар халқаро ҳамжамият томонидан ҳам муносиб эътироф этилмоқда. Хусусан, Жаҳон банки индексида Ўзбекистон гендер тенглик соҳасида дунёдаги энг тез ривожланаётган 5 та мамлакат қаторида қайд этилди.

Бундан ташқари, “Open Data Watch” ташкилотининг Очиқ гендер маълумотлари индексида Ўзбекистон 69,7 балл билан 195 та давлат орасида 18-ўринни қайд этиб, “Топ-20” таликдан жой олди.

Давлат хизматида гендер тенгликни таъминлаш сиёсатида - давлат бошқарувида хотин-қизлар салмоғини ошириш, хусусан салоҳиятли раҳбар аёллар корпусини шакллантириш масалалари устувор аҳамият касб этади.

Таъкидлаш керак, Давлат хизматини ривожлантириш агентлиги томонидан очиқ танловлар йўлга қўйилганидан сўнг амалда барча учун бир хил талаблар белгиланди. Иш берувчи, кадрлар бошқармаси вакиллари ва номзодлар ўртасидаги инсон омили чекланди. Барча учун тенг имкониятлар кафолатланди.

Бу албатта, хотин-қизларнинг давлат хизматига кириш имкониятларини янада кенгайтирди. Рақамларда фикримизни асослайдиган бўлсак, аввалларии аёллар давлат хизматига кирганларнинг 5-8 фоизни ташкил этган бўлса, энди танлов ғолибларининг қарийб 34 фоизини хотин-қизлар ташкил этмоқда.

Аниқроқ қилиб айтадиган бўлсак, бугунги кунга қадар очиқ танловларда 2,1 миллион нафар номзодлардан аризалар келиб тушган бўлса, улардан 20 фоизини аёллар ташкил этди. Мазкур танловларда 56 500 нафар фуқароларимиз ғолиб бўлган бўлса, уларнинг 19 670 нафари (35 фоиз) хотин-қизлардир.

Кадрлар сиёсатидаги гендер тенгликни таъминлашнинг биринчи йўналиши – энг салоҳиятли хотин-қизларни давлат хизматига жалб қилиш, улар учун давлат хизмати жозибадорлигини ошириш бўлса, иккинчи катта бир йўналиш, давлат хизмати бошқарувида юқори қобилиятли - “HiPo” (High potential) эгалари бўлган аёл кадрларни тизимли равишда раҳбарлик лавозимларига тайёрлаб, “Салоҳиятли раҳбар аёллар” корпусини шакллантиришдан иборат.

Кўплаб психолог ва социологларнинг фикрига кўра, профессионал раҳбар – бу жинсидан қатъий назар муваффақиятли бошқарув учун муайян хусусиятларга эга бўлган шахсдир. Самарали бошқарув ва менежмент учун раҳбарнинг гендер муносабатлардаги ўрни эмас, балки масалани ҳал этишда устуворликларни тўғри белгилай олиши, жамоани йўналтира олиши, ресурсларни рационал тақсимлаш асосида мақсадларга тўлиқ эришиши каби касбий компетенцияларининг мавжудлиги муҳим аҳамиятга эга ҳисобланади.

Бироқ вертикал сегрегация яъни, юқори турувчи лавозимларда хотин-қизлар салмоғининг камлиги ва “ойнали шифт” - лавозимда ўсишда кўринмас мавжуд тўсиқлар муаммоси мавжудлиги туфайли аёлларимиз амалиётда кўпроқ ўрта ва қўйи бўғин раҳбарлик лавозимларида фаолият юритишига тўғри келмоқда. Бундай ҳолатга сабаб сифатида эса раҳбарлик мажбуриятининг юқорилиги ва бунинг учун аёлларнинг профессионал малакаси, билим ва салоҳиятининг

тегишли раҳбарлик лавозимига мувофиқ эмаслигини кўрсатиб ўтишимиз мумкин.

Мутахассисларни яхши раҳбар кадр қилиб шакллантириш учун эса уларда кадрлар билан самарали ишлаш ва бошқарувда оптимал қарорлар қабул қилиш, инсон ресурсларини ривожлантириш, инновацияларни йўлга қўйиш, танқидий ва тизимли фикрлаш ҳамда раҳбарлик компетенцияларида зарур юмшоқ кўникмаларни (soft skills) шакллантириш талаб этилади.

Шу боис, Агентлигимиз томонидан Оила ва хотин-қизлар қўмитаси ва Давлат бошқаруви академияси билан ҳамкорликда давлат органларида фаолият олиб бораётган энг салоҳиятли хотин-қизларни раҳбарликка тайёрлашга қаратилган “Раҳбар аёллар мактаби” ўқув дастури йўлга қўйилди.

Ҳозирги кунга қадар ушбу дастур асосида давлат бошқарувининг турли соҳаларида фаолият олиб бораётган юқори касбий салоҳиятга эга, ташаббускор ва ислоҳотларни амалга оширишда фаол иштирок этаётган 145 нафар хотин-қизларнинг малакаси оширилди.

Шу ўринда қайд этиш жоизки, Ўзбекистон Республикаси Президентининг 2022 йил 1 мартдаги ПФ-81-сонли Фармони билан барча шаҳар, шаҳарча, қишлоқ ва овуллардаги ҳар бир маҳаллада хотин-қизлар фаоли лавозими жорий этилди. Ўз навбатида, бу орқали Президентимиз раҳбар аёлларни шакллантиришнинг амалий мактабини яратиб бердилар. Ҳозирда қўйи бўғинда қарийб 9 400 нафар маҳаллада хотин-қизлар фаоли, ўрта бўғинда эса 207 нафар аёллар ҳоким ўринбосарлари – оила ва хотин-қизлар бошқарма ва бўлимлари бошлиқлари лавозимларида фаолият юритишмоқда.

Давлат хизматини ривожлантириш агентлиги томонидан уларнинг фаолият самарадорлиги, яъни KPI тизими бўйича энг юқори натижаларга эришганлари Миллий кадрлар захирасига киритилиб, юқори раҳбарлик лавозимлари учун мақсадли тайёрланмоқда.

Бугунги гендер тенгликни таъминлаш сиёсати негизида амалга оширилаётган, юқорида сарҳисоб қилинган чора-тадбирлар натижасида мамлакатимизда хотин-қизларни раҳбарликка тайёрлашнинг ўзига хос миллий модели шаклланмоқда.

Хулоса қилиб айтганда, мамлакатимизда гендер тенгликни таъминлаш сиёсатининг кучли ҳуқуқий базаси шаклланган, ушбу нормаларнинг ҳаётга

тўлиқ ва тўғри татбиқ этилиши натижасида – йўналиш доирасида халқаро ҳамжамият эътироф этаётган ютуқларга эришмоқдамиз. Шу асосда қайд этиш мумкинми, Ўзбекистонда гендер сиёсати - инсон ҳуқуқларини таъминлашнинг муҳим мезони бўлиб хизмат қилади.

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ДАСТЛАБКИ ТАЙЕРГАРЛИК БОСҚИЧИДА НАЗОРАТ ГУРУХИ ФУТБОЛЧИЛАРНИНГ ТЎП УЗАТИШ ХАРАКАТЛАРИНИНГ ТАХЛИЛИ.

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АННОТАЦИЯ

Мақолада ёш футболчиларнинг техник-тактик харакатлариниг натижалари тахлили келтирилган. Натижалар асосан футболчиларнинг тўп узатиш аниқлиги, нечта аниқ ва нечта ноаниқ туп узатгани кўрсатилган. Адабиётлар ва тажрибалар тахлили шуни кўрсатдики ўйиндаги аниқ тўп узатишлар самарадорлиги канча баланд бўлса ғалабага олиб келиш эхтимоли шунча юқори бўлади.

Калит сўзлар: Техник-тактик харакатлар, натижалар тахлили,туп узатишлар самарадорлиги, аниқ тўп узатиўларо, ғалаба.

АНАЛИЗ ТЕХНИЧЕСКИХ И ТАКТИЧЕСКИХ ДЕЙСТВИЙ ЮНЫХ ФУТБОЛИСТОВ НА НАЧАЛЬНОМ ЭТАПЕ ПОДГОТОВКИ.

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Аннотация

В статье представлен анализ результатов технико-тактических действий юных игроков. Результаты в основном показывают точность передач игроков, количество отличных передач и количество промахов. Анализ литературы и опыта показал, что чем выше эффективность точных передач в игре, тем выше вероятность победы.

Ключевые слова: Технико-тактические действия, анализ результатов, эффективность передач, точные передачи, победа.

ANALYSIS OF TECHNICAL AND TACTICAL ACTIONS OF YOUNG FOOTBALL PLAYERS AT THE INITIAL TRAINING STAGE.

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ANNOTATION

The article presents an analysis of the results of technical and tactical actions of young players. The results mainly show the players' pass accuracy, how many clear and how many misses they made. The analysis of literature and experience has shown that the higher the efficiency of accurate passes in the game, the higher the probability of winning.

Key words: Key words: Technical-tactical actions, analysis of results, effectiveness of passes, clear passes, victory.

Тадқиқотнинг долзарблиги. Футболчиларни тайёрлашнинг янги ва ҳаётий усуллари, айниқса, бутун дунё бўйлаб ҳар қандай мураббий ва спортчилар билан шартнома тузиш ва уларни жалб қилиш қобилияти ҳақидаги ахборот оқимининг тезлиги футбол ўйинлари даражасига таъсир кўрсатди. Бу нафақат Европа ёки Жанубий Америка мамлакатларига, балки Африка, Осиё, Шимолий Америка ёки Австралия терма жамоаларига ҳам тегишли.

Бугун футбол жадал ривожланаётган бир даврда илмий изланишлар ҳар қачонгидан ҳам муҳим аҳамият касб этмоқда. Улар "глобал" футболчини тайёрлашнинг кўплаб қизиқарли усуллари, дастурлари ва усулларини аниқлаш, асослаш ва амалиётга татбиқ этиш имконини беради. Олим ва мураббийлар ёш ва илғор футболчиларнинг ҳаракатчанлик кўникмаларини, техник ва тактик кўникмаларини ошириш, ўйинларини яхшилашнинг янги усулларини излашда давом этмоқда. Ҳар йили спортдаги ўзгаришлар илмий кашфиётлар таъсирида, масалан, генетика, физиология ёки кинесиология соҳасида тобора кўпроқ сезиларли бўлиб бормоқда. Бугунги кунда мураббийнинг тажрибаси, профессионал фаолияти ёки шунчаки мураббийлик инстинктларига таяниши етарли эмас. Ўйинчиларингиз ҳақида ишончли маълумотларга эга бўлиш жуда муҳим ва футбол ўйинини педагогик таҳлил қилиш ёрдам беради. Бу бизга маълумот учун озиқ-овқат беради. Футболдаги энг муҳим омиллардан бири –

тўп узатмаларнинг аниқлиги. Агар жамоа ҳар бир ўйинда катта фоиз самарали узатмаларни амалга оширса, бу жамоа яхши натижага эришиши мумкин.

Тадқиқотнинг мақсади: Олиб борилган тадқиқотнинг мақсади бошланғич тайёргарлик гурухидаги футболчиларни аниқ тўп узатишлар, ноаниқ тўп узатишлар ва уларнинг сони, самарадорлик коэффициенти, самарасизлик коэффицентлари тахлил қилинган ва аниқланган.

Тадқиқотнинг вазифаси: 1)Дастлабки тайёргарлик босқичида ёш футболчиларнинг техник-тактик харакатларини тахлил қилиш. 2)Тажрибадан олдин ва тажрибадан кейинги натижаларни тахлил қилиш ва хулоса чиқариш.

Тадқиқотнинг усуллари: Педагогик тахлил, илмий адабиётлар ўрганиш, инструментал методларидан фойдаланилди.

Тадқиқотнинг натижалари: Хулоса қилиб шуни такидлаш керакки тажрибадан кейин ўтказилган натижалар шуни кўрсатдики аниқ тўп узатишлар сони ўртача 151 тадан 238 тага, ноаниқ тўп узатишлар сони 70 тадан 73 тага кўпайди, самарадорлик коэффициенти 68% дан 76% га ўсди, самарасизлик коэффициенти эса 32% дан 24% гача камайди. Барча тўп узатишлар сони 221 тадан 310 тагача кўпайди.

1-жадвал

Қиёсий тахлил (Тўп узатишлар)

Локомотив. Болалар лигаси (2016 й)	**1 тур**	**2 тур**	**3 тур**	**4 тур**	**5 тур**	**6 тур**	**7 тур**	**8 тур**	**9 тур**	**10 тур**	Ўйин учун ўртача
	10.09. 2023 Feniks 3-1	17.09. 2023 Lokmotiv B 4-1	24.09. 2023 Paxtakor Akademiya 0-2	01.10. 2023 Bunyodkor A 2-2	08.10. 2023 Paxtakor Kids B 1-2	15.10. 2024 Dostlik Akademiya 3-1	22.10. 2023 Odil Junior 1-4	29.10. 2023 Lider 3-1	04.11. 2023 Dostlik 1-1	12.11. 2023 Qo'qon 3-3	
Аниқ	151	158	152	140	160	139	153	160	142	151	**151**
Ноаниқ	73	60	69	57	73	73	72	76	76	71	**70**
Барча	**224**	**218**	**221**	**197**	**233**	**212**	**225**	**236**	**218**	**222**	**221**
Самарадорлик коэффициенти, %	**67,4%**	**72,5%**	**68,8%**	**71,1%**	**68,7%**	**65,6%**	**68,0%**	**67,8%**	**65,1%**	**68,0%**	**68%**
Самарасизлик коэффициенти, %	32,6%	27,5%	31,2%	28,9%	31,3%	34,4%	32,0%	32,2%	34,9%	32,0%	**32%**

2-жадвал
Қиёсий тахлил (Тўп узатишлар)

Локомотив. Болалар лигаси (2016 й)	**11 тур**	**12 тур**	**13 тур**	**14 тур**	**15 тур**	**16 тур**	**17 тур**	**18 тур**	**19 тур**	**20 тур**	Ўйин учун ўртача
	10.03. 2024 Feniks 1-1	17.03. 2024 Lokmotiv B 3-0	24.03. 2024 Paxtakor Akademiya 1-1	31.03. 2024 Bunyodkor A 1-1	07.04. 2024 Paxtakor Kids B 2-2	14.04. 2024 Dostlik Akademiya 4-2	21.04. 2024 Odil Junior 2-4	28.04. 2024 Lider 3-0	04.05. 2024 Dostlik 1-2	12.05. 2024 Qo'qon 2-1	
Аниқ	227	254	239	287	260	244	210	243	212	199	**238**
Ноаниқ	75	73	79	80	71	66	68	69	76	69	**73**
Барча	**302**	**327**	**318**	**367**	**331**	**310**	**278**	**312**	**288**	**268**	**310**
Самарадорлик коэффиценти, %	**75,2%**	**77,7%**	**75,2%**	**78,2%**	**78,5%**	**78,7%**	**75,5%**	**77,9%**	**73,6%**	**74,3%**	**76%**
Самарасизлик коэффиценти, %	24,8%	22,3%	24,8%	21,8%	21,5%	21,3%	24,5%	22,1%	26,4%	25,7%	**24%**

Хулосалар: Хулоса қилиб шуни айтиш керакки ўтилган машғулотар берилган методика ўз самарасини берди. Ёш футболчилар аниқ тўп узатишлар сони анча миқдорга ўсди ноаниқ тўп узатишлар сони камайди. Самарадорлик коэффиценти анча ўсди, самарасизлик коэффиценти анча миқдорда камайди. Бу ўз навбатида ёш футболчиларни техник-тактик харакатларини кўпайишига ва аниқ тўп узатишлар сони жадал ўсишига опкелди. Барча тўп узатишлар сони анча миқдорга кўпайди. Жамоанинг яқин масофага, ўрта масофага ва узоқ масофага тўп узатиш самарадолиги анча ошди бу ўз навбатида яхши натижа кўрсатишга замин яратди.

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