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**THE INFLUENCE OF COMPANY SIZE, PROFITABILITY AND LEVERAGE ON SHARE PRICES IN FOOD AND BEVERAGE COMPANIES LISTED ON THE IDX FOR 2017-2019 PERIOD**

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**Abstract**

This study aims to determine the effect of company size, profitability and leverage on stock prices in food and beverage companies listed on the Stock Exchange for the 2017-2019 period. The sampling method used was purposive sampling method. The number of companies sampled in this study were 10 food and beverage companies listed on the IDX for the 2017-2019 period. The data used are secondary data. The data analysis method used in this research is Multiple Linear Regression. The results of this study indicate that company size affects stock prices in food and beverage companies listed on the IDX for the 2017-2019 period. Leverage Variables with DER Indicators Affect Stock Prices in food and beverage companies listed on the IDX for the 2017-2019 period. Leverage Variables with DAR Indicators Affect Share Prices in food and beverage companies listed on the IDX for the 2017-2019 period. Profitability Variables with NPM Indicators Influence Share Prices in food and beverage companies listed on the IDX for the 2017-2019 period. Profitability Variables with ROE Indicators Influence Stock Prices in food and beverage companies listed on the IDX for the 2017-2019 period. Profitability Variables with ROA Indicators Influence Share Prices in food and beverage companies listed on the IDX for the 2017-2019 period.

**Keywords:** Company Size, Profitability, Leverage and Stock Price

**I. PENDAHULUAN**

Pasar modal di Indonesia awalnya dipandang belum memiliki peranan penting bagi perekonomian Indonesia. Hal ini dikarenakan masih kurangnya pengetahuan masyarakat tentang pasar modal dan rendahnya minat masyarakat dalam berinvestasi di pasar modal. Namun dengan berjalanannya waktu mulai meningkatnya pengetahuan masyarakat terhadap investasi, dan munculnya kebijakan pemerintah mengenai investasi. Pasar modal yang sekarang berkembang di Indonesia saat ini mengalami kemajuan yang cukup signifikan, kemajuan itu terlihat dari meningkatnya volume perdagangan, dan jumlah emiten dari waktu ke waktu [1]. Menurut [2], pasar modal kini memiliki peranan penting bagi suatu negara dalam bidang perekonomiannya termasuk di Indonesia. Hal ini dikarenakan pasar modal mempunyai dua fungsi yaitu fungsi ekonomi dan fungsi keuangan. Fungsi pasar modal dalam segi ekonomi adalah pasar modal sebagai fasilitas untuk menghubungkan pihak



yang membutuhkan dana dan pihak yang kelebihan dana (investor). Sedangkan fungsi keuangan yaitu memberikan peluang dan kesempatan untuk memperoleh imbalan bagi pemilik dana sesuai dengan karakteristik investasi yang dipilih [3].

Menurut [4], menjelaskan bahwa investasi adalah komitmen atas sejumlah dana atau sumber daya lainnya pada saat ini untuk memperoleh sejumlah keuntungan di masa yang akan datang. Salah satu sarana atau tempat untuk melakukan investasi adalah pasar modal. Tempat untuk menghubungkan atau mempertemukannya dilaksanakan berdasarkan suatu lembaga resmi yang disebut dengan bursa efek. Salah satu efek yang diperjualkan belikan adalah saham. Investasi dalam bentuk saham dirasa memiliki resiko yang cukup tinggi. Investor tidak mengetahui secara pasti resiko apa yang akan dialami. Oleh sebab itu investor memerlukan informasi dan juga alat pengukur kinerja perusahaan yang tepat agar dapat memilih saham mana yang harus dipilih. Harga saham peka dengan perubahan-perubahan yang terjadi baik perubahan dalam negeri maupun luar negeri [5].

Dalam aktivitas pasar modal, harga saham merupakan faktor yang sangat penting dan perlu diperhatikan oleh para investor karena harga saham menunjukkan prestasi emiten. Harga saham juga menunjukkan nilai perusahaan, dengan semakin tinggi harga saham suatu perusahaan maka tinggi pula nilai perusahaan tersebut dan sebaliknya [6]. Karena itu untuk penilaian saham investor dapat melihat kondisi keuangan perusahaan. Salah satu tolak ukur keberhasilan suatu perusahaan adalah kondisi keuangan perusahaan secara keseluruhan. Kinerja perusahaan yang baik akan memberikan dampak positif bagi perkembangan perusahaan itu sendiri dan tentu akan menarik minat investor. Untuk menilai kinerja perusahaan dapat dengan menggunakan analisis rasio keuangan. Rasio keuangan juga dapat digunakan untuk memprediksi harga saham [7]. Harga saham dipengaruhi oleh kinerja perusahaan karena kinerja yang baik akan menaikkan nilai harga saham, dan penilaian ini dapat dilakukan dengan melakukan analisis teknikal dan fundamental.

Analisis teknikal menggunakan data perubahan harga di masa lalu sebagai upaya untuk memperkirakan harga sekuritas di masa yang akan datang. Sedangkan analisis fundamental berkaitan dengan penilaian kinerja perusahaan tentang efektifitas dan efisien perusahaan dalam mencapai sasaran. Dapat disimpulkan bahwa analisis fundamental memiliki hubungan kausalitas terhadap nilai perusahaan melalui indikator harga saham dan struktur modal perusahaan [2]. Dengan menggunakan analisis fundamental ini dapat membantu investor untuk menilai apakah saham ini layak dibeli atau tidak. Salah satu cara untuk menilai kinerja keuangan perusahaan adalah dengan melihat laporan keuangan perusahaan.

Laporan keuangan perusahaan adalah hasil laporan keuangan selama periode tertentu yang digunakan sebagai informasi bagi calon investor sebelum menanamkan modalnya. Informasi laporan keuangan yang diterbitkan perusahaan merupakan jenis informasi yang paling mudah didapatkan. Laporan keuangan sangat berguna bagi investor untuk menentukan keputusan investasi yang terbaik dan menguntungkan [8]. Untuk menganalisis laporan keuangan biasanya dengan menggunakan rasio-rasio keuangan. [9] mengungkapkan bahwa rasio keuangan dan ukuran perusahaan dapat berguna sebagai pedoman investor untuk menyediakan informasi posisi keuangan dan kinerja di masa lalu dan masa yang akan datang. Rasio keuangan terdiri dari lima jenis yaitu rasio likuiditas (liquidity ratio), rasio aktivitas (activity ratio), rasio solvabilitas (leverage ratio), rasio pasar, dan rasio rentabilitas (profitabilitas ratio).



Variabel size atau ukuran perusahaan sangat bergantung pada besar kecilnya perusahaan. Perusahaan besar lebih mudah memperoleh pinjaman karena nilai aktiva yang dijadikan jaminan lebih besar dan tingkat kepercayaan bank juga lebih tinggi. Aktiva yang dijaminkan dapat berupa aktiva tetap berwujud serta aktiva lainnya seperti piutang dagang dan persediaan [10]. Hasil penelitian [11] menunjukkan bahwa pada perusahaan-perusahaan besar, semakin banyak informasi non-akuntansi yang tersedia sepanjang tahun, pemodal dapat menginterpretasikan informasi laporan keuangan dengan baik, sehingga pada saat publikasi laporan keuangan, pengaruh laba terhadap harga saham menjadi lebih tinggi, adapun hasil penelitian [12] menunjukkan bahwa pengaruh firm size terhadap prospek saham perusahaan tidak signifikan.

Rasio profitabilitas yang umum diperhatikan investor adalah Return on Asset. ROA merupakan rasio yang mengukur kemampuan perusahaan dalam menghasilkan keuntungan atau laba dengan aktiva yang dimiliki [13]. ROA merupakan rasio profitabilitas yang lebih luas dari return on common stockholder's equity, karena rasio ini membandingkan imbalan untuk para pemegang saham dan kreditur dengan jumlah aset perusahaan [14]. Semakin besar ROA, maka semakin besar pula tingkat keuntungan yang dicapai oleh perusahaan tersebut dan semakin baik pula posisi perusahaan tersebut dari segi penggunaan asset. Semakin efektif perusahaan dalam memberdayakan aset-asetnya, akan semakin menarik minat investor untuk membeli saham perusahaan tersebut. Minat investor terhadap saham perusahaan yang semakin besar akan mendorong pada kenaikan harga saham perusahaan tersebut.

Investor tentu sangat tertarik untuk melihat tingkat pengembalian yang diberikan perusahaan atas ekuitas yang dimilikinya. Investor dapat mengukur seberapa efektif perusahaan memanfaatkan peluang investasi yang didanai oleh ekuitas dengan menggunakan Return on Equity (ROE) [1]. ROE merupakan rasio yang digunakan untuk mengukur tingkat keuntungan yang tersedia bagi pemilik perusahaan atas ekuitas yang telah diinvestasikan pada perusahaan [15]. Semakin tinggi ROE, maka secara langsung akan memberikan jaminan atas keamanan investasi di perusahaan [16]. [17] menyatakan bahwa ROE merupakan ukuran kinerja yang terbaik dilihat dari kacamata akuntansi. Semakin tinggi ROE berarti semakin baik kinerja perusahaan dalam memanfaatkan peluang investasi yang didanai oleh ekuitas pemegang saham. Dengan tingginya ROE, maka akan menarik investor untuk menanam modal di perusahaan sehingga permintaan atas saham naik dan akan meningkatkan harga saham perusahaan tersebut.

Investor juga akan melihat keamanan dan risiko modal yang mereka tanamkan pada perusahaan. Keamanan dan risiko modal dapat dilihat pada Debt to Equity Ratio. [18] menyatakan bahwa DER merupakan rasio yang digunakan untuk menilai hutang dengan ekuitas. Rasio ini diukur dengan cara membandingkan antara seluruh hutang, termasuk hutang lancar dengan ekuitas. Investor memperhatikan DER karena rasio ini dapat memberikan informasi mengenai besarnya hutang atau kewajiban yang ditanggung oleh perusahaan. Apabila DER suatu perusahaan menunjukkan angka yang tinggi, menandakan bahwa risiko investasi semakin besar dan membuat investor cenderung takut menanamkan modalnya di perusahaan, sehingga harga saham perusahaan dapat turun. Berbeda ketika DER menunjukkan angka yang rendah, berarti investor merasa lebih aman untuk menanamkan modalnya, karena perusahaan mampu untuk membayar hutang-hutangnya dengan ekuitas yang dimilikinya. Keamanan ini akan menarik minat investor sehingga harga saham bisa naik [18].



Debt to Total Asset Ratio (DAR) merupakan rasio utang yang digunakan untuk mengukur perbandingan antara total utang dengan total aktiva. Dengan kata lain, seberapa besar aktiva perusahaan dibiayai oleh utang atau seberapa besar utang perusahaan berpengaruh terhadap pengelolaan aktiva [11]. Menurut Kasmir, menyatakan bahwa Net Profit Margin (NPM) merupakan ukuran keuntungan yang membandingkan antara laba setelah bunga dan pajak dibandingkan dengan penjualan. Rasio ini menunjukkan pendapatan bersih perusahaan atas penjualan. Rasio ini juga dibandingkan dengan rata-rata industri [19]. Penggunaan rasio Profitabilitas dapat dilakukan dengan menggunakan perbandingan antara berbagai komponen yang ada di laporan keuangan, terutama laporan keuangan neraca dan laporan laba rugi. Pengukuran dapat dilakukan untuk beberapa periode operasi. Tujuannya adalah agar terlihat perkembangan perusahaan dalam rentang waktu tertentu, baik penurunan atau kenaikan, sekaligus mencari penyebab perusahaan tersebut .

Hasil penelitian yang di lakukan oleh [19] menunjukkan bahwa variabel DAR, LTDER, dan NPM secara bersama-sama berpengaruh signifikan terhadap variabel dependen yaitu harga saham. Sedangkan secara parsial hanya variabel NPM berpengaruh signifikan terhadap harga saham. Sedangkan variabel DAR, dan LTDER berpengaruh tidak signifikan terhadap harga saham pada perusahaan perbankan yang terdaftar di Bursa Efek Indonesia periode 2011-2013.

Sedangkan Hasil penelitian yang di lakukan oleh [20] ini menunjukkan bahwa (1) pengaruh Debt To Total Asset Ratio (DAR) terhadap Net Profit Margin (NPM) tidak berpengaruh negatif dan tidak signifikan, (2) pengaruh Debt To Equity Ratio (DER) terhadap Net Profit Margin (NPM) tidak berpengaruh negatif dan signifikan, (3) pengaruh Debt To Total Asset Ratio (DAR) Dan Debt To Equity Ratio (DER) Terhadap Net Profit Margin (NPM) secara simultan dengan prob 0.102514 dan F-Statistic 2.332093 tidak berpengaruh positif dan tidak signifikan (4) pengaruh Net Profit Margin (NPM) terhadap Harga Saham berpengaruh positif dan tidak signifikan. Berdasarkan hasil penelitian yang telah dilakukan oleh Kurnia dan Ariyanto (2018), diperoleh hasil bahwa Earning Per Share (EPS), Return On Asset (ROA), Return On Equity (ROE), Net Profit Margin (NPM), Debt to Asset Ratio (DAR), berpengaruh terhadap harga saham perusahaan wholesale and retail trade, sedangkan debt to equity ratio (DER) berpengaruh terhadap harga saham perusahaan wholesale and retail trade.

Perlu dilakukan adanya penelitian lanjutan yang berguna untuk mengetahui hasil temuan yang jika diterapkan pada kondisi lingkungan dan waktu yang berbeda, karena dalam fenomena di atas dan juga penelitian terdahulu masih menghasilkan temuan yang tidak konsisten. Maka dari itu dalam penelitian ini akan mengidentifikasi faktor-faktor yang berpengaruh terhadap Harga Saham dengan menggunakan periode waktu dan obyek yang berbeda dari penelitian sebelumnya , sehingga akan memberikan hasil penelitian yang berbeda pula dengan penelitian terdahulu. Tujuan penelitian ini untuk mengkaji Ukuran Perusahaan, Profitabilitas Dan Leverage Terhadap Harga Saham. Perlu dilakukan adanya penelitian lanjutan untuk melengkapi penelitian terdahulu mengenai Harga Saham yang pernah dilakukan di Indonesia. Penelitian ini menggunakan variable Ukuran Perusahaan , NPM, DER, DAR, ROA dan ROE. Penelitian ini berbeda dengan penelitian sebelumnya .Perbedaannya pada populasi, waktu dan sampel yang digunakan yaitu Perusahaan Makanan dan Minuman Yang Terdaftar Di BEI Periode 2017-2019.Dari uraian latar belakang diatas, peneliti mengambil judul **“UKURAN PERUSAHAAN, PROFITABILITAS DAN LEVERAGE TERHADAP HARGA SAHAM PADA**



### **Rumusan Masalah**

Berdasarkan uraian latar belakang yang dikemukakan diatas, adapun rumusan masalah pada penelitian ini adalah sebagai berikut :

1. Apakah Ukuran Perusahaan Berpengaruh Terhadap Harga Saham Pada Perusahaan Food and Beverage yang terdaftar di BEI periode 2017-2019?
2. Apakah Variabel Leverage dengan Indikator DER Berpengaruh Terhadap Harga Saham Pada Perusahaan Food and Beverage yang terdaftar di BEI periode 2017-2019?
3. Apakah Variabel Leverage dengan Indikator DAR Berpengaruh Terhadap Harga Saham Pada Perusahaan Food and Beverage yang terdaftar di BEI periode 2017-2019?
4. Apakah Variabel Profitabilitas dengan Indikator NPM Berpengaruh Terhadap Harga Saham Pada Perusahaan Food and Beverage yang terdaftar di BEI periode 2017-2019?
5. Apakah Variabel Profitabilitas dengan Indikator ROA Berpengaruh Terhadap Harga Saham Pada Perusahaan Food and Beverage yang terdaftar di BEI periode 2017-2019?
6. Apakah Variabel Profitabilitas dengan Indikator ROE Berpengaruh Terhadap Harga Saham Pada Perusahaan Food and Beverage yang terdaftar di BEI periode 2017-2019?

### **II. METODE**

Penelitian ini menggunakan jenis penelitian kuantitatif dengan data sekunder sebagai sumber data [21]. Data sekunder yang digunakan dalam penelitian ini adalah Laporan Keuangan tahunan Perusahaan Makanan dan Minuman Yang Terdaftar Di BEI Periode 2017-2019. Penelitian ini menganalisa dan menjelaskan Pengaruh Ukuran Perusahaan, Profitabilitas Dan Leverage Terhadap Harga Saham Pada Perusahaan Food And Beverage Yang Terdaftar Di BEI Periode 2017-2019.

#### **Indikator Variabel**

**Tabel 1 Indikator Variabel**

No	Variabel	Pengukuran	Sumber
1	UK	$Size = \ln Total Assets$	[22]
2	DER	$Debt to Equity Ratio = \frac{Jumlah Hutang}{Jumlah Modal Sendiri} \times 100\%$	[3]
3	DAR	$Total Debt to Asset Ratio = \frac{Total Hutang}{Total Aktiva} \times 100\%$	[23]
4	NPM	$NPM = \frac{Laba bersih sesudah Pajak}{Total Pendapatan Bunga} \times 100\%$	[24]
5	ROA	$ROA = \frac{Laba sebelum Pajak}{Total Asset} \times 100\%$	[25]
6	ROE	$ROE = \frac{Laba sebelum Pajak}{Modal Sendiri} \times 100\%$	[1]
7	Harga Saham	harga saham penutupan (closing price)	[26]



## **Sampel**

Perusahaan yang menjadi sampel dari penelitian ini dipilih menggunakan metode purposive sampling, dimana sampel dipilih berdasarkan pertimbangan tertentu atau karakteristik tertentu.

Kriteria dari pemilihan sampel adalah sebagai berikut :

1. Perusahaan Food and Beverage yang terdaftar di Bursa Efek Indonesia (BEI) Universitas Muhammadiyah Sidoarjo periode tahun 2017-2019
2. Menyajikan laporan keuangan lengkap pada periode tahun 2017-2019
3. Mengungkapkan laporan keuangan nya melalui web

**Tabel 2 Sampel Perusahaan**

<b>NO</b>	<b>KODE</b>	<b>NAMA PERUSAHAAN</b>
1.	ALTO	PT. Tri Banyan Tirta Tbk.
2.	CEKA	PT. Wilmar Cahaya Indonesia Tbk.
3.	ICBP	PT. Indofood Sukses Makmur Tbk.
4.	INDF	PT. Indofood Sukses Makmur Tbk.
5.	MYOR	PT. Mayora Indah Tbk.
6.	ROTI	PT. Nippon Indosari Corporindo Tbk.
7.	SKBM	PT. Sekar Bumi Tbk.
8.	SKLT	PT. Sekar Laut Tbk.
9.	STTP	PT. Siantar Top Tbk.
10.	ULTJ	PT. Ultrajaya Milk Industry and Trading Company Tbk.

## **Teknik Analisis Data**

- 1) **Statistik Deskriptif**
- 2) **Asumsi Klasik**
- 3) **Analisis Regresi Linear Berganda [27]**
- 4) **Pengujian Hipotesis**
1. **Uji t (Uji parsial)**
2. **Determinasi Koefisien [28]**

## **III. HASIL DAN PEMBAHASAN**

### **HASIL**

#### **1. Analisis Regresi Linear Berganda**

**Tabel 3 Hasil Uji Analisis Regresi Linear Berganda**

Model	Unstandardized Coefficients			Standardized Coefficients	
	B	Std. Error	Beta	t	Sig.
1	(Constant)	2483.602	9458.821		.795
	UK	306.344	347.455	.192	.007
	DER	179.734	182.179	1.577	.004
	DAR	426.032	355.225	-1.876	.003
	NPM	222.709	330.740	.200	.007
	ROA	319.955	583.916	.336	.009
	ROE	127.751	405.782	-.194	.006



Pada table tersebut mengenai hasil pengolahan SPSS, maka dapat dibuat persamaan regresi berganda sebagai berikut:

$$Y = 2483.602 + 306.344X_1 + 179.734X_2 + 426.032X_3 + 222.709X_4 + 319.955X_5 + 127.751X_6$$

Persamaan regresi linier berganda diatas dapat diartikan bahwa :

1. Konstanta adalah sebesar 2483.602. Hal ini berarti jika tidak dipengaruhi Ukuran Perusahaan, Leverage dan Profitabilitas maka besarnya Harga Saham sebesar 2483.602.
2. Koefisien variabel Leverage dengan Indikator DER sebesar 306.344. Hal ini berarti jika terjadi peningkatan DER sebesar satu satuan maka Harga Saham juga mengalami peningkatan sebesar 306.344 dengan asumsi bahwa 7actor lainnya adalah konstan atau tetap.
3. Koefisien variabel Leverage dengan Indikator DAR sebesar 179.734. Hal ini berarti jika terjadi peningkatan DAR sebesar satu satuan maka Harga Saham juga mengalami penurunan sebesar 179.734 dengan asumsi variabel lain konstan.
4. Koefisien variabel Profitabilitas dengan Indikator NPM sebesar 222.709. Hal ini berarti jika terjadi peningkatan NPM sebesar satu satuan maka Harga Saham juga mengalami penurunan sebesar 222.709 dengan asumsi variabel lain konstan.
5. Koefisien variabel Profitabilitas dengan Indikator ROA sebesar 319.955. Hal ini berarti jika terjadi peningkatan ROA sebesar satu satuan maka Harga Saham juga mengalami penurunan sebesar 319.955 dengan asumsi variabel lain konstan.
6. Koefisien variabel Profitabilitas dengan Indikator ROE sebesar 127.751. Hal ini berarti jika terjadi peningkatan ROE sebesar satu satuan maka Harga Saham juga mengalami penurunan sebesar 127.751 dengan asumsi variabel lain konstan.

## 2. Pengujian Hipotesis

### a. Uji Koefisien Determinasi ( $R^2$ )

**Tabel 4 Hasil Uji R Square**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.918 <sup>a</sup>	.868	.077	4603.946	1.866

a. Predictors: (Constant), ROE, DER, UK, NPM, ROA, DAR

b. Dependent Variable: HargaSaham

Pada table diatas diketahui bahwa nilai koefisien korelasi R adalah 0,918 atau mendekati 1. Artinya terdapat hubungan (korelasi) yang kuat antara variabel bebas yang meliputi Ukuran Perusahaan, DER, DAR, NPM, ROA, dan ROE terhadap variabel terikat yaitu Harga Saham. Adapun analisis determinasi berganda, dari tabel diatas diketahui presentase pengaruh variabel bebas terhadap variabel terikat yang ditujukan oleh nilai R square adalah 0,868 maka koefisien determinasi berganda  $0,868 \times 100\% = 86,8\%$  dan sisanya  $100\% - 86,8\% = 13,2\%$ . Hal ini berarti naik turunnya variabel terikat yaitu Harga Saham dipengaruhi oleh variabel bebas yaitu Ukuran Perusahaan, DER, DAR, NPM, ROA, dan ROE sebesar 13,2%. Sedangkan sisanya sebesar 13,2% dipengaruhi oleh variabel lain yang tidak diteliti dalam penelitian ini.



## b. Uji t (Uji parsial)

Pada uji hipotesis ini menggunakan uji t dipergunakan untuk mengukur tingkat pengaruh signifikansi secara parsial antara variabel independen yang meliputi Ukuran Perusahaan, DER, DAR, NPM, ROA dan ROE terhadap Harga Saham pada perusahaan Perbankan Konvensional. Pengujian dilakukan dengan menggunakan significance level 0,05 ( $\alpha=5\%$ ). Penerimaan atau penolakan hipotesis dilakukan dengan kriteria sebagai berikut :

a. Jika nilai signifikan  $> 0,05$  maka hipotesis ditolak (koefisien regresi tidak signifikan). Ini berarti bahwa secara parsial variabel independen tersebut tidak mempunyai pengaruh yang signifikan terhadap variabel dependen.

b. Jika nilai signifikan  $< 0,05$  maka hipotesis diterima (koefisien regresi signifikan). Ini berarti secara parsial variabel independen tersebut mempunyai pengaruh signifikan terhadap variabel dependen.

c. Dengan  $df = n - k-1$ ,  $30 - 6 - 1 = 33$  sehingga diperoleh t tabel (0,05) sebesar 1.69236 Nilai t hitung yang diperoleh dari hasil pengolahan SPSS versi 23.

Hasil perhitungan SPSS versi 23 mengenai analisis uji t (uji parsial) ditunjukkan oleh table dibawah ini

**Tabel 5 Hasil Uji Parsial (Uji t)**

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1	(Constant)	2483.602	9458.821	-.263	.795
	UK	306.344	347.455	.192	2.882
	DER	179.734	182.179	1.577	1.987
	DAR	426.032	355.225	-1.876	2.199
	NPM	222.709	330.740	.200	3.673
	ROA	319.955	583.916	.336	4.548
	ROE	127.751	405.782	-.194	2.315

1. Pengujian dengan menggunakan regresi linear berganda pada hipotesa pengaruh Ukuran Perusahaan terhadap Harga Saham menunjukkan nilai signifikansi sebesar 0,007, lebih kecil dari 0,05 dan diperoleh nilai t hitung 2.882 dan t tabel 1.69236. Karena nilai t hitung lebih besar dari t tabel yaitu  $2.882 > 1.69236$  dan tingkat signifikan  $0,007 < 0,05$  ,sehingga **H1** yang menyatakan bahwa variabel Ukuran Perusahaan secara parsial mempunyai pengaruh terhadap Harga Saham **diterima**.

2. Pengujian dengan menggunakan regresi linear berganda pada hipotesa pengaruh Leverage dengan Indikator DER terhadap Harga Saham menunjukkan nilai signifikansi sebesar 0,004, lebih kecil dari 0,05 dan diperoleh nilai t hitung 1.987 dan t tabel 1.69236. Karena nilai t hitung lebih besar dari t tabel yaitu  $1.987 > 1.69236$  dan tingkat signifikan  $0,004 < 0,05$  ,sehingga **H2** yang menyatakan bahwa variabel Leverage dengan Indikator DER secara parsial mempunyai pengaruh terhadap Harga Saham **diterima**.

3. Pengujian dengan menggunakan regresi linear berganda pada hipotesa pengaruh Leverage dengan Indikator DAR terhadap Harga Saham menunjukkan nilai signifikansi sebesar 0,003, lebih kecil dari 0,05 dan diperoleh nilai t hitung 2.199 dan t tabel 1.69236. Karena nilai t hitung lebih besar



dari t tabel yaitu  $2.199 > 1.69236$  dan tingkat signifikan  $0,003 < 0,05$  ,sehingga **H3** yang menyatakan bahwa variabel Leverage dengan Indikator DAR secara parsial mempunyai pengaruh terhadap Harga Saham **diterima**.

4. Pengujian dengan menggunakan regresi linear berganda pada hipotesa pengaruh Profitabilitas dengan Indikator NPM terhadap Harga Saham menunjukkan nilai signifikansi sebesar  $0,007$ , lebih kecil dari  $0,05$  dan diperoleh nilai t hitung  $3.673$  dan t tabel  $1.69236$ . Karena nilai t hitung lebih besar dari t tabel yaitu  $3.673 > 1.69236$  dan tingkat signifikan  $0,007 < 0,05$  ,sehingga **H4** yang menyatakan bahwa variabel Profitabilitas dengan Indikator NPM secara parsial mempunyai pengaruh terhadap Harga Saham **diterima**.

5. Pengujian dengan menggunakan regresi linear berganda pada hipotesa pengaruh Profitabilitas dengan Indikator ROA terhadap Harga Saham menunjukkan nilai signifikansi sebesar  $0,009$ , lebih kecil dari  $0,05$  dan diperoleh nilai t hitung  $4.548$  dan t tabel  $1.69236$ . Karena nilai t hitung lebih besar dari t tabel yaitu  $4.548 > 1.69236$  dan tingkat signifikan  $0,009 < 0,05$  ,sehingga **H5** yang menyatakan bahwa variabel Profitabilitas dengan Indikator ROA secara parsial mempunyai pengaruh terhadap Harga Saham **diterima**.

6. Pengujian dengan menggunakan regresi linear berganda pada hipotesa pengaruh Profitabilitas dengan Indikator ROE terhadap Harga Saham menunjukkan nilai signifikansi sebesar  $0,006$ , lebih kecil dari  $0,05$  dan diperoleh nilai t hitung  $2.315$  dan t tabel  $1.69236$ . Karena nilai t hitung lebih besar dari t tabel yaitu  $2.315 > 1.69236$  dan tingkat signifikan  $0,006 < 0,05$  ,sehingga **H6** yang menyatakan bahwa variabel Profitabilitas dengan Indikator ROE secara parsial mempunyai pengaruh terhadap Harga Saham **diterima**.

**Table 6, Hasil Pengujian Hipotesis**

No.	Uraian	Hasil	Keterangan
1	Ukuran Perusahaan Berpengaruh Terhadap Harga Saham	Diterima	$2.882 > 1.69236$ $0,007 < 0,05$
2	Variabel Leverage dengan Indikator DER Berpengaruh Terhadap Harga Saham	Diterima	$1.987 > 1.69236$ $0,004 < 0,05$
3	Variabel Leverage dengan Indikator DAR Berpengaruh Terhadap Harga Saham	Diterima	$2.199 > 1.69236$ $0,003 < 0,05$
4	Variabel Profitabilitas dengan Indikator NPM Berpengaruh Terhadap Harga Saham	Diterima	$3.673 > 1.69236$ $0,007 < 0,05$
5	Variabel Profitabilitas dengan Indikator ROE Berpengaruh Terhadap Harga Saham	Diterima	$4.548 > 1.69236$ $0,009 < 0,05$
6	Variabel Profitabilitas dengan Indikator ROA Berpengaruh Terhadap Harga Saham	Diterima	$2.315 > 1.69236$ $0,006 < 0,05$

## Pembahasan

### 1. Ukuran Perusahaan Berpengaruh Terhadap Harga Saham

Hasil pengujian Regresi Linear Berganda variabel Ukuran Perusahaan Berpengaruh Terhadap Harga Saham pada perusahaan Makanan dan Minuman periode 2017-2019 menunjukkan tingkat signifikansi sebesar  $0,007$  dibawah tingkat signifikansi  $0,05$  (5%). Dengan demikian dapat dikatakan bahwa hipotesis Ukuran Perusahaan Berpengaruh Terhadap Harga Saham **diterima** dan mempengaruhi perusahaan dalam meningkatkan Harga Saham.



Hasil pengujian yang dilakukan dapat mendukung hipotesis yang diajukan.

Perusahaan yang berukuran besar memiliki basis pemegang kepentingan yang lebih luas, sehingga berbagai kebijakan perusahaan besar akan berdampak lebih besar terhadap kepentingan publik dibandingkan dengan perusahaan kecil. Bagi investor, kebijakan perusahaan akan berimplikasi terhadap prospek cash flow di masa yang akan datang. Sedangkan bagi pemerintah akan berdampak terhadap besarnya pajak yang akan diterima, serta efektifitas peran pemberian perlindungan terhadap masyarakat secara umum.

Hasil penelitian ini sesuai dengan hasil penelitian yang dilakukan oleh [29] dan [10] yang menyatakan bahwa Ukuran perusahaan berpengaruh terhadap harga saham. Ukuran perusahaan yang besar menunjukkan perusahaan mengalami perkembangan sehingga investor akan merespon positif dan nilai perusahaan akan meningkat. Tingkat nilai perusahaan semakin besar dalam persaingan menunjukkan daya saing perusahaan lebih tinggi dibandingkan dengan perusahaan yang berukuran kecil, investor akan merespon positif sehingga nilai saham akan meningkat. Harga saham merefleksi keseluruhan atau rata-rata keyakinan yang dimiliki oleh investor atas nilai perusahaan

## 2. Variabel Leverage dengan Indikator DER Berpengaruh Terhadap Harga Saham

Hasil pengujian Regresi Linear Berganda variabel Leverage dengan Indikator DER Berpengaruh Terhadap Harga Saham Berpengaruh Terhadap Harga Saham pada perusahaan Makanan dan Minuman periode 2017-2019 menunjukkan tingkat signifikansi sebesar 0,004 dibawah tingkat signifikansi 0,05 (5%). Dengan demikian dapat dikatakan bahwa hipotesis Leverage dengan Indikator DER Berpengaruh Terhadap Harga Saham **diterima** dan mempengaruhi perusahaan dalam meningkatkan Harga Saham. Hasil pengujian yang dilakukan dapat mendukung hipotesis yang diajukan.

Leverage merupakan rasio yang mengukur seberapa besar penggunaan utang dalam pembelanjaan suatu perusahaan [30]. Rasio ini merupakan perbandingan antara total kewajiban (total utang) dengan total modal sendiri (equity), karena rasio ini menunjukkan jaminan yang diberikan modal sendiri atas utang yang diminta perusahaan [31]. Leverage dalam penelitian ini diukur menggunakan debt to equity ratio. Hasil penelitian yang dilakukan oleh [32] dan [33] menyatakan bahwa leverage yang diperaksikan menggunakan DER berpengaruh terhadap harga saham.

Perusahaan yang memiliki leverage tinggi, maka akan berdampak pada timbulnya resiko keuangan yang lebih besar. Salah satu risiko keuangan yang akan berdampak pada perusahaan yaitu tingkat hutang yang semakin tinggi, sehingga beban bunga yang ditanggung oleh perusahaan akan semakin besar, yang berarti akan mengurangi tingkat keuntungan. Adanya informasi peningkatan DER perusahaan yang diterima oleh pasar akan dianggap sebagai sinyal dan memberikan masukan bagi investor dalam pengambilan keputusan untuk membeli saham [22].

Perusahaan dengan DER yang tinggi memiliki kesempatan untuk mendapat laba yang lebih besar dengan cara perusahaan dapat mengolah penggunaan hutang untuk membeli asset. Perusahaan yang dianggap mampu mengelola hutangnya dengan baik akan mendapatkan kepercayaan investor untuk menanamkan dananya, sehingga dengan adanya kepercayaan investor membuat permintaan dan harga saham perusahaan tersebut akan meningkat.



### 3. Variabel Leverage dengan Indikator DAR Berpengaruh Terhadap Harga Saham

Hasil pengujian Regresi Linear Berganda variabel Leverage dengan Indikator DAR Berpengaruh Terhadap Harga Saham pada perusahaan Makanan dan Minuman periode 2017-2019 menunjukkan tingkat signifikansi sebesar 0,003 dibawah tingkat signifikansi 0,05 (5%). Dengan demikian dapat dikatakan bahwa hipotesis Leverage dengan Indikator DAR Berpengaruh Terhadap Harga Saham **diterima** dan mempengaruhi perusahaan dalam meningkatkan Harga Saham. Hasil pengujian yang dilakukan dapat mendukung hipotesis yang diajukan.

DAR menjabarkan perbandingan jumlah liabilitas yang dimiliki serta aset milik perusahaan [34]. Semakin tinggi nilai DAR maka jumlah dana yang berasal dari pinjaman yang digunakan oleh emiten akan semakin bertambah untuk melakukan investasi terhadap aktiva sehingga mampu mendatangkan keuntungan bagi perusahaan [25]. Penelitiannya terhadap harga saham memperoleh hasil penelitian DAR terdapat hubungan signifikan positif dengan harga saham [35]. Penelitian terhadap nilai perusahaan yang dijabarkan dengan menggunakan pengukuran harga saham penutupan menjabarkan bahwa capital structure dengan DAR memiliki hubungan signifikan negatif dengan harga saham. Kondisi ini menggambarkan bahwa DAR yang tinggi akan mengakibatkan penurunan nilai perusahaan atau harga saham sebuah perusahaan. Pertumbuhan pendapatan serta peningkatan biaya hutang akan dihambat oleh proporsi hutang yang sangat tinggi sehingga hal ini akan menjadi keraguan bagi para investor untuk berinvestasi ([36]; [37]; [38]; [39])

### 4. Variabel Profitabilitas dengan Indikator NPM Berpengaruh Terhadap Harga Saham

Hasil pengujian Regresi Linear Berganda variabel Profitabilitas dengan Indikator NPM Berpengaruh Terhadap Harga Saham pada perusahaan Makanan dan Minuman periode 2017-2019 menunjukkan tingkat signifikansi sebesar 0,007 dibawah tingkat signifikansi 0,05 (5%). Dengan demikian dapat dikatakan bahwa hipotesis variabel Profitabilitas dengan Indikator NPM Berpengaruh Terhadap Harga Saham **diterima** dan mempengaruhi perusahaan dalam meningkatkan Harga Saham. Hasil pengujian yang dilakukan dapat mendukung hipotesis yang diajukan.

Net Profit Margin (NPM) merupakan rasio yang menggambarkan besarnya persentase keuntungan bersih yang dihasilkan oleh perusahaan untuk setiap penjualan [2]. Semakin tinggi NPM kemampuan perusahaan dalam menanamkan laba juga tinggi begitupun sebaliknya. Dengan semakin besar laba yang dihasilkan maka dapat menarik minat investor dan akan berdampak positif terhadap harga saham. Hasil penelitian ini sesuai dengan hasil penelitian yang telah dilakukan oleh [19], [40] dan [10] yang menyatakan bahwa NPM berpengaruh terhadap Harga Saham.

Dengan meningkatnya NPM maka harga saham juga akan meningkat, dan akan menarik bagi investor karena NPM yang tinggi menandakan bahwa laba yang diterima oleh pemegang saham juga tinggi. Hal ini sehingga berdampak positif dengan naiknya harga saham. Ini sesuai dengan penelitian yang dilakukan oleh [11]. Hal tersebut sesuai dengan Signaling Theory (Teori Signal) yang memberitahukan bahwa perusahaan yang baik akan dengan sengaja memberikan sinyal berupa informasi, dengan demikian investor dapat mengetahui perusahaan mana yang kualitas yang baik.



## 5. Variabel Profitabilitas dengan Indikator ROE Berpengaruh Terhadap Harga Saham

Hasil pengujian Regresi Linear Berganda variabel Profitabilitas dengan Indikator ROE Berpengaruh Terhadap Harga Saham pada perusahaan Makanan dan Minuman periode 2017-2019 menunjukkan tingkat signifikansi sebesar 0,009 dibawah tingkat signifikansi 0,05 (5%). Dengan demikian dapat dikatakan bahwa hipotesis Profitabilitas dengan Indikator ROE Berpengaruh Terhadap Harga Saham **diterima** dan mempengaruhi perusahaan dalam meningkatkan Harga Saham. Hasil pengujian yang dilakukan dapat mendukung hipotesis yang diajukan.

Return On Equity adalah perbandingan antara laba bersih perusahaan dengan ekuitas yang dimiliki oleh perusahaan. ROE merupakan rasio yang digunakan untuk mengukur seberapa banyak keuntungan yang menjadi hak pemilik modal sendiri (saham). Semakin besar nilai ROE maka tingkat pengembalian yang diharapkan investor juga besar, semakin besar nilai ROE maka perusahaan dianggap semakin menguntungkan. Menurut [22], Return On Equity (ROE) yaitu tingkat pengembalian saham biasa menunjukkan rata – rata perhitungan pengembalian atas investasi pemegang saham yang diukur dengan membandingkan pendapatan bersih terhadap ekuitas saham biasa. Return On Equity (ROE) adalah mengukur daya untuk menghasilkan laba pada investasi nilai buku pemegang saham dengan membandingkan laba bersih setelah pajak dengan ekuitas yang telah diinvestasikan pemegang saham di perusahaan.

Hasil penelitian yang di lakukan oleh ([41]; [4]; [33]; [32]; [42]; [22]) menunjukkan bahwa ROE berpengaruh terhadap harga saham. ROE yang tinggi akan mencerminkan penerimaan perusahaan atas peluang investasi yang baik dan manajemen biaya yang efektif maka akan menarik investor untuk menanam modal di perusahaan sehingga permintaan atas saham naik dan akan meningkatkan harga saham perusahaan tersebut.

## 6. Variabel Profitabilitas dengan Indikator ROA Berpengaruh Terhadap Harga Saham

Hasil pengujian Regresi Linear Berganda variabel Profitabilitas dengan Indikator ROA Berpengaruh Terhadap Harga Saham pada perusahaan Makanan dan Minuman periode 2017-2019 menunjukkan tingkat signifikansi sebesar 0,006 dibawah tingkat signifikansi 0,05 (5%). Dengan demikian dapat dikatakan bahwa hipotesis Profitabilitas dengan Indikator ROA Berpengaruh Terhadap Harga Saham **diterima** dan mempengaruhi perusahaan dalam meningkatkan Harga Saham. Hasil pengujian yang dilakukan dapat mendukung hipotesis yang diajukan.

ROA didefinisikan sebagai rasio untuk mengukur bagaimana kemampuan dan kapasitas perusahaan dalam pemakaian aset milik perusahaan dalam rangka memperoleh keuntungan (Purnamawati, 2016). Hasil dari pelaksanaan penelitian menjabarkan bahwa ROA terdapat hubungan positif dengan harga saham. Semakin tinggi ROA menunjukkan bahwa kinerja manajemen perusahaan dalam menggunakan total aset perusahaan secara efisien sehingga mampu menghasilkan laba yang maksimal. Pada akhirnya akan meningkatkan daya tarik investor dalam melakukan penanaman modal yang akan menghasilkan pada kenaikan harga saham.

Hasil penelitian yang dilakukan oleh ([41], [43], [26]) menunjukkan bahwa ROA berpengaruh terhadap harga saham.



Semakin besar ROA, maka semakin besar pula tingkat keuntungan yang dicapai oleh perusahaan tersebut dan semakin baik pula posisi perusahaan tersebut dari segi penggunaan asset. Semakin efektif perusahaan dalam memberdayakan aset-asetnya, akan semakin menarik minat investor untuk membeli saham perusahaan tersebut. Minat investor terhadap saham perusahaan yang semakin besar akan mendorong pada kenaikan harga saham perusahaan tersebut.

## IV. KESIMPULAN

Penelitian ini meneliti tentang Harga Saham yang dipengaruhi oleh Ukuran Perusahaan, DAR, DER, NPM, ROA dan ROE. Analisis dilakukan dengan menggunakan regresi linear berganda dengan menggunakan program SPSS 23. Data sampel penelitian sebanyak 10 Perusahaan Perbankan Makanan dan Minuman yang terdaftar di Bursa Efek Indonesia (BEI) pada periode 2017-2019. Berdasarkan hasil pengujian dan pembahasan pada bagian sebelumnya dapat disimpulkan sebagai berikut:

1. Ukuran Perusahaan Berpengaruh Terhadap Harga Saham pada perusahaan makanan dan minuman yang terdaftar di BEI periode 2017-2019
2. Variabel Leverage dengan Indikator DER Berpengaruh Terhadap Harga Saham pada perusahaan makanan dan minuman yang terdaftar di BEI periode 2017-2019
3. Variabel Leverage dengan Indikator DAR Berpengaruh Terhadap Harga Saham pada perusahaan makanan dan minuman yang terdaftar di BEI periode 2017-2019
4. Variabel Profitabilitas dengan Indikator NPM Berpengaruh Terhadap Harga Saham pada perusahaan makanan dan minuman yang terdaftar di BEI periode 2017-2019
5. Variabel Profitabilitas dengan Indikator ROE Berpengaruh Terhadap Harga Saham pada perusahaan makanan dan minuman yang terdaftar di BEI periode 2017-2019
6. Variabel Profitabilitas dengan Indikator ROA Berpengaruh Terhadap Harga Saham pada perusahaan makanan dan minuman yang terdaftar di BEI periode 2017-2019

## Keterbatasan Penelitian

Keterbatasan penelitian dalam penelitian ini adalah

1. Sampel penelitian hanya terbatas pada perusahaan Perbankan Makanan dan Minuman saja sehingga hasil dari penelitian ini tidak dapat di generalisasikan ke perusahaan lain
2. Penelitian ini hanya menggunakan 6 variabel Independen dan 1 variabel dependen
3. Penelitian ini hanya mengambil 3 periode saja dari tahun 2017-2019, dan
4. Penelitian ini hanya menggunakan objek 1 negara yaitu Indonesia

## Saran

Adapun saran yang dapat di berikan oleh peneliti untuk penelitian dimasa mendatang adalah

1. Penelitian selanjutnya dapat memperluas sampel dengan mengikuti sertaikan industri-industri LQ45, manufaktur, Perbankan, Farmasi, dan sector lainnya , sehingga kesimpulan penelitian lebih dapat digeneralisasi,
2. Penelitian selanjutnya dapat mempertimbangkan menggunakan variabel independen lain yang mungkin mempengaruhi Harga saham,seperti BOPO, NIM dan CAR



3. Memperpanjang periode penelitian sehingga dapat melihat kecenderungan yang terjadi dalam jangka panjang sehingga menggambarkan kondisi yang sesungguhnya terjadi dan
4. Penelitian selanjutnya dapat mempertimbangkan objek lebih dari 1 negara

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**ANALYSIS OF THE EFFECT OF CAPITAL STRUCTURE VARIABLES ON FINANCIAL  
PERFORMANCE IN FOOD AND BEVERAGE MANUFACTURING COMPANIES  
REGISTERED IN INDONESIA STOCK EXCHANGE FOR 2015-2019**

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**Abstract**

This research aims to determine whether there is an effect of capital structure variables as measured by Debt to Equity Ratio (DER), Debt to Assets Ratio (DAR), and Equity to Assets Ratio (EAR) on financial performance as measured by Return on Equity (ROE) in food and beverage sector manufacturing companies listed on the Indonesia Stock Exchange for the 2015-2019 period. This research uses quantitative data types with a population of food and beverage manufacturing companies listed on the Indonesia Stock Exchange for the period 2015-2019. The research samples were 14 companies. The sampling technique was purposive sampling. The research used multiple regression analysis method. The data analysis used is descriptive statistical analysis, classical assumption test analysis in the form of normality test, multicollinearity test, heteroscedasticity test and autocorrelation test, and hypothesis test in the form of t-statistical test with a significance level of 5% and a test of determination ( $R^2$ ). The results and conclusions that can be drawn from this research are the capital structure variable measured by the Debt to Equity Ratio (DER) affects financial performance as measured by Return on Equity (ROE), the capital structure variable measured by the Debt to Assets Ratio (DAR) affects financial performance as measured by Return on Equity (ROE), the capital structure variable as measured by Equity to Assets Ratio (EAR) affects financial performance as measured by Return on Equity (ROE).

**Keywords:** Debt to Equity Ratio, Debt to Assets Ratio, Equity to Assets Ratio, Return on Equity.

**I. PENDAHULUAN**

Perekonomian berkembang secara pesat sehingga persaingan bisnis semakin kuat diperlukan upaya untuk meningkatkan profitabilitas dan keberlangsungan perusahaan. Modal kerja merupakan penunjang utama dalam melakukan kegiatan operasional perusahaan untuk mencapai tujuan yang telah ditetapkan. Perubahan struktur modal akan mempengaruhi tingkat risiko dalam perusahaan sehingga pihak manajemen melakukan struktur modal secara optimal. Struktur modal yang optimal



adalah struktur modal yang mengoptimalkan keseimbangan antara risiko dan pengembalian sehingga memaksimumkan harga saham [1]. Struktur modal adalah perimbangan antara modal asing (eksternal) dengan modal sendiri (internal). Modal asing seperti hutang jangka panjang maupun hutang jangka pendek. Sedangkan modal sendiri terbagi atas laba ditahan dan penyertaan kepemilikan perusahaan. Oleh karena itu, perusahaan perlu mempertimbangkanbagai variabel yang berpengaruh terhadap penetapan struktur modal [2].

Struktur modal yang optimal terjadi pada leverage keuangan tingkat tertentu. Leverage keuangan adalah penggunaan dana perusahaan dalam mengeluarkan biaya tetap, serta perimbangan penggunaan hutang dengan modal sendiri. Penggunaan hutang yang besar akan memperbesar pembayaran angsuran dan bunga, serta akan meningkatkan risiko ketidakmampuan cash flow perusahaan dalam memenuhi kewajiban tersebut [3].

Persaingan bisnis terjadi tidak terbatas oleh lingkup perusahaan saja namun menarik pihak investor yang akan menanamkan modalnya ke perusahaan. Salah satu strategi agar investor tertarik menanamkan modalnya dengan cara meyakinkan investor dengan laporan keuangan perusahaan yang stabil. Peran investor dalam perkembangan perusahaan sangat penting karena dana yang diperoleh dari pihak investor dapat digunakan untuk memperoleh laba dimana tujuan utama dari proses bisnis adalah memperoleh laba [4].

Perusahaan manufaktur yang bergerak di bidang makanan dan minuman adalah salah satu sub sektor perusahaan yang memiliki prospek yang bagus karena produk perusahaan diperlukan masyarakat dalam kebutuhan sehari-hari sehingga profit yang dihasilkan perusahaan meningkat dan stabil [5]. Oleh karena itu investor tertarik untuk menanamkan modalnya pada perusahaan tersebut [6]. Kinerja keuangan yang tidak stabil dapat diukur dari laporan keuangan perusahaan [7]. Salah satu pengukuran kinerja keuangan menggunakan rasio-rasio keuangan diantaranya rasio profitabilitas [8]. Rasio profitabilitas adalah salah satu rasio yang diperhatikan oleh investor karena nilai Return On Equity (ROE) untuk mengetahui tingkat pengembalian investasi pada perusahaan [9]. Perusahaan memiliki kinerja keuangan yang baik sehingga calon investor tertarik untuk menanamkan modalnya [10]. Salah satu perusahaan manufaktur sub sektor makanan dan minuman yang mengalami kesenjangan pada laba bersih yaitu laba bersih 2019 PT. Sekar Bumi Tbk sebesar Rp. 723.649.337,- sedangkan laba bersih 2018 PT. Sekar Bumi Tbk sebesar Rp. 17.482.116.543,- sehingga laba bersih mengalami penurunan sebesar 24%. Laba bersih menurun karena adanya hutang perusahaan yang meningkat dari Rp. 730.789.419.438,- menjadi Rp. 784.562.971.811,- [11].

Return on Equity (ROE) merupakan rasio yang digunakan untuk mengukur kemampuan perusahaan dalam menghasilkan laba dari investasi yang telah dilakukan oleh pemegang saham perusahaan (Sawir, 2014). ROE menunjukkan seberapa efisiensi penggunaan modal sendiri. Apabila rasio ini semakin tinggi maka semakin baik karena pengembalian modal pemilik perusahaan semakin kuat, begitu pula sebaliknya (Kasmir, 2013) [12].

Debt to Equity Ratio (DER) merupakan rasio yang digunakan untuk mengetahui jumlah dana yang disediakan oleh kreditor dengan pemilik perusahaan serta untuk mengetahui modal sendiri yang dijadikan sebagai jaminan hutang (Kasmir, 2014). Apabila rasio ini semakin tinggi maka jumlah modal pinjaman yang digunakan untuk menghasilkan laba akan semakin meningkat, begitu pula sebaliknya (Syamsudin, 2011) [13].



Debt to Assets Ratio (DAR) merupakan rasio yang digunakan untuk mengukur aktiva perusahaan yang dibiayai dengan hutang perusahaan. Apabila rasio ini semakin tinggi maka jumlah modal pinjaman dalam membiayai aktiva perusahaan yang digunakan untuk menghasilkan laba akan semakin meningkat, begitu pula sebaliknya. Serta perusahaan dapat dikatakan solvable yaitu perusahaan memiliki aktiva dalam menghasilkan laba sehingga dapat membayar hutangnya (Syamsudin, 2011) [14].

Equity to Assets Ratio (EAR) merupakan rasio yang digunakan untuk mengetahui jumlah modal sendiri yang tergabung dalam jumlah aktiva perusahaan. Apabila rasio ini semakin tinggi maka pemilik terdapat keterikatan dengan usahanya terutama dalam hal aset, begitu pula sebaliknya (Mamduh M Hanafi dan Abdul Halim, 2012) [15].

Berdasarkan teori Trade-off bahwa struktur modal yang optimal memasukkan beberapa faktor antara lain pajak, biaya keagenan (agency costs) dan biaya kesulitan keuangan (financial distress). Tingkat hutang yang optimal adalah penghematan pajak (tax shield) mencapai jumlah yang maksimal terhadap biaya kesulitan keuangan (costs of financial distress). Profitabilitas yang tinggi akan mengurangi pajak dengan cara meningkatkan rasio hutangnya [16]. Namun berdasarkan teori Pecking Order bahwa perusahaan lebih memilih sumber dana internal berupa modal sendiri atau laba ditahan yang dihasilkan dari operasional perusahaan. Sedangkan, pendanaan eksternal jika diperlukan maka perusahaan lebih memilih sumber dana eksternal berupa resiko hutang yang paling rendah [17].

Adapun beberapa penelitian yang mengkaji mengenai variabel struktur modal terhadap kinerja keuangan. Hasil penelitian dari Monica, dkk (2018) mengenai pengaruh struktur modal terhadap Return On Equity (ROE) pada perusahaan makanan dan minuman yang terdaftar di BEI periode 2014-2016 yang menjelaskan bahwa variabel DER berpengaruh terhadap ROE. Sedangkan hasil penelitian dari Indah Astry Wahyuni Sagala, dkk (2020) mengenai pengaruh Debt to Equity Ratio (DER), Current Ratio (CR), Total Asset Turnover (TATO) terhadap Return On Equity (ROE) pada perusahaan sektor Consumer Goods Industry yang terdaftar di BEI periode 2013-2018 yang menjelaskan bahwa variabel DER tidak berpengaruh dan tidak signifikan terhadap ROE [18].

Menurut penelitian Riska Thedy (2020) mengenai pengaruh struktur modal terhadap profitabilitas (studi empiris pada perusahaan manufaktur yang terdaftar di BEI periode 2016-2018) yang menjelaskan bahwa variabel DAR berpengaruh terhadap ROE. Sedangkan hasil penelitian dari Bernadus Suhartawan (2020) mengenai analisis pengaruh struktur modal terhadap kinerja keuangan perusahaan (studi empiris pada perusahaan manufaktur subsektor makanan dan minuman yang terdaftar di BEI tahun 2014-2018) yang menjelaskan bahwa variabel DAR tidak berpengaruh dan tidak signifikan terhadap ROE [19].

Dalam penelitian Romadhoni, dkk (2018) mengenai pengaruh struktur modal terhadap kinerja keuangan perusahaan manufaktur sektor makanan dan minuman yang terdaftar di BEI tahun 2013-2016 yang menjelaskan bahwa variabel EAR berpengaruh terhadap ROE. Sedangkan hasil penelitian dari Andreas Michael Holiwono (2016) mengenai pengaruh struktur modal terhadap kinerja keuangan perusahaan sektor manufaktur sub sektor makanan dan minuman yang terdaftar di BEI periode 2010-2014 yang menjelaskan bahwa variabel EAR tidak berpengaruh dan tidak signifikan terhadap ROE [19]. Berdasarkan penjelasan diatas, penulis tertarik untuk melakukan penelitian dengan judul **“Analisis Pengaruh Variabel Struktur Modal Terhadap Kinerja Keuangan Pada Perusahaan”**



## Manufaktur Sektor Makanan dan Minuman Yang Terdaftar Di Bursa Efek Indonesia Periode 2015-2019”.

### Rumusan Masalah

1. Apakah variabel struktur modal (DER) berpengaruh terhadap kinerja keuangan (ROE) ?
2. Apakah variabel struktur modal (DAR) berpengaruh terhadap kinerja keuangan (ROE) ?
3. Apakah variabel struktur modal (EAR) berpengaruh terhadap kinerja keuangan (ROE) ?

### II. METODE

#### A. Pendekatan Penelitian

Jenis penelitian ini menggunakan penelitian kuantitatif . Sumber data menggunakan data sekunder yang diperoleh dari website BEI, website perusahaan yang bersangkutan, dan hasil penelitian pihak lain.

#### B. Variabel Penelitian dan Definisi Operasional

1. Debt to Equity Ratio (DER) merupakan rasio yang dipakai untuk mengukur hutang dengan ekuitas. Rasio ini dihitung dengan cara membandingkan antara seluruh utang, termasuk utang lancar, dengan seluruh ekuitas perusahaan..

**Tabel 1.** Indikator Debt to Equity Ratio (DER)

No	Indikator
1	Total Hutang / Total ekuitas x 100%

Sumber : [7]

2. Debt to Asset Ratio (DAR) merupakan rasio hutang yang digunakan untuk mengukur perbandingan antara total hutang yang dimiliki dengan total aktiva perusahaan. Dapat juga dikatakan bahwa rasio ini untuk menilai jumlah aktiva perusahaan yang bercampur dengan hutang..

**Tabel 2.** Indikator Debt to Asset Ratio (DAR)

No	Indikator
1	Total Hutang / Total Aset x 100%

Sumber : [8]

3. Equity to Asset Ratio (EAR) merupakan indikator finansial yang menilai keterikatan pemilik usaha atas kelangsungan usahanya karena perbandingan ini bisa dijadikan sebagai pertimbangan untuk mengetahui seberapa besar pemilik usaha dirugikan jika bisnisnya mengalami kebangkrutan, maka rasio ini juga dimasukkan dalam analisis rasio solvabilitas / leverage..

**Tabel 3.** Indikator Equity to Asset Ratio (EAR)

No	Indikator
1	Total Ekuitas / Total Aset x 100%

Sumber : [9]



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4. Return on Equity (ROE) digunakan untuk mengukur laba bersih setelah pajak dengan modal sendiri. Rasio ROE ini menunjukkan efisiensi penggunaan modal sendiri.

**Tabel 4.** Indikator Return on Equity (ROE)

No	Indikator
1	Laba Bersih Setelah Pajak / Ekuitas Pemegang Saham x 100%

Sumber : [10]

## C. Populasi dan Sampel

Populasi penelitian ini adalah perusahaan manufaktur sub sektor makanan dan minuman yang terdaftar di BEI dan sebanyak 14 perusahaan dan laporan keuangan selama periode tahun 2015-2019. Berikut daftar nama perusahaan

**Tabel 5.** Daftar nama perusahaan

No	Kode	Nama
1	CEKA	PT. Wilmar Cahaya Indonesia, Tbk
2	ICBP	PT. Indofood CBP Sukses Makmur, Tbk
3	INDF	PT. Indofood Sukses Makmur, Tbk
4	MYOR	PT. Mayora Indah, Tbk
5	ROTI	PT. Nippon Indosari Corpindo, Tbk
6	SKBM	PT. Sekar Bumi, Tbk
7	SKLT	PT. Sekar Laut, Tbk
8	STTP	PT. Siantar Top, Tbk
9	ULTJ	PT. Ultra Jaya Milk Industry, Tbk
10	AISA	PT. Tiga Pilar Sejahtera Food, Tbk
11	ALTO	PT. Tri Banyan Tirta, Tbk
12	DLTA	PT. Delta Djakarta, Tbk
13	MLBI	PT. Multi Bintang Indonesia, Tbk
14	PSDN	PT. Prasidha Aneka Niaga, Tbk

Sumber : [11]

## D. Teknik Analisis, Uji Hipotesis, dan Uji Koefisien Determinasi ( $R^2$ )

### 1. Teknik Analisis

Teknik analisis yang digunakan dalam proses pengolahan data dalam penelitian ini menggunakan SPSS. Metode analisis data dalam penelitian ini melalui berbagai tahapan uji instrument penelitian yaitu :

a. Statistik Deskriptif

Statistik deskriptif digunakan untuk memberikan gambaran data yang dapat diketahui dari nilai minimum, maksimum, rata-rata dan standar deviasi pada masing-masing variabel penelitian.

b. Uji Normalitas

Apabila nilai sig > 0,05 maka data dapat dikatakan berdistribusi secara normal.

c. Uji Multikolineritas



Apabila nilai tolerance > 0,10 dan nilai VIF < 10

d. Uji Heterokedastisitas

Apabila titik menyebar dan bentuk suatu pola maka tidak terjadi heteroskedastisitas

e. Uji Autokorelasi

Apabila Nilai DW antara 1,55 sampai dengan 2,46 maka tidak ada autokorelasi

## 2. Uji Hipotesis

a. Uji Parsial (uji t)

Penggunaan uji parsial (uji-t) adalah agar pengaruh masing-masing variabel bebas terhadap variabel terikat bisa diketahui ada atau tidak. jika nilai sig < 0,05 maka terdapat pengaruh antara variabel bebas dengan variabel terikat.

b. Analisis Regresi Linear Berganda

Persamaan regresi yang digunakan sebagai berikut :

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

$$Y = a + b_1 \text{XDER} + b_2 \text{XDAR} + b_3 \text{XEAR} + \varepsilon$$

Keterangan :

Y : Return on Equity

a : Konstanta dari persamaan regresi

b<sub>1</sub> : Koefisien regresi X<sub>1</sub>

b<sub>2</sub> : Koefisien regresi X<sub>2</sub>

b<sub>3</sub> : Koefisien regresi X<sub>3</sub>

X<sub>1</sub> : Debt to Equity Ratio

X<sub>2</sub> : Debt to Assets Ratio

X<sub>3</sub> : Equity to Assets Ratio

e : eror

## 3. Uji Koefisien Determinasi (R<sup>2</sup>)

Koefisien determinasi (KD) merupakan kuadrat dari koefisien korelasi digunakan mengetahui berapa persentase pengaruh variabel bebas (X) yang mempengaruhi variabel terikat (Y). Apabila nilai KD kecil maka kemampuan dari masing-masing variabel bebas (X) berpengaruh terhadap variabel terikat (Y) adalah terbatas.



### III. HASIL DAN PEMBAHASAN

#### A. Hasil Uji Analisis Data

##### 1. Hasil Uji Analisis

###### a. Statistik Deskriptif

**Tabel 6.** Hasil Uji Stastistik Deskriptif

	N	Minimum	Maximum	Mean	Std. Deviation
DER_X1	70	-2.13	3.34	.8235	.79156
DAR_X2	70	.14	2.90	.5284	.45681
EAR_X3	70	-1.90	.86	.4732	.45677
ROE_Y	70	-.97	1.57	.5996	.35043
Valid N (listwise)	70				

Sumber : Data sekunder yang diolah, tahun 2021

###### 1) Debt to Equity Ratio (DER)

Variabel DER terendah adalah -2,13 dimiliki oleh PT Tiga Pilar Sejahtera Food Tbk pada tahun 2019. Variabel DER tertinggi adalah 3,34 dimiliki oleh PT Prasidha Aneka Niaga Tbk pada tahun 2019. Sedangkan nilai mean sebesar 0,8235 dengan nilai standar deviasi sebesar 0,79156 menunjukkan simpangan data yang nilainya lebih kecil dibandingkan dengan nilai mean sehingga menunjukkan bahwa data variabel DER sudah normal.

###### 2) Debt to Asset Ratio (DAR)

Variabel DAR terendah adalah 0,14 dimiliki oleh PT Ultra Jaya Milk Industry Tbk pada tahun 2018. Variabel DAR tertinggi adalah 2,90 dimiliki oleh PT Tiga Pilar Sejahtera Food Tbk pada tahun 2018. Sedangkan nilai mean sebesar 0,5284 dengan nilai standar deviasi sebesar 0,45681 menunjukkan simpangan data yang nilainya lebih kecil dibandingkan dengan nilai mean sehingga menunjukkan bahwa data variabel DAR sudah normal.

###### 3) Equity to Asset Ratio (EAR)

Variabel EAR terendah adalah -1,90 dimiliki oleh PT. Tiga Pilar Sejahtera Food Tbk pada tahun 2018. Variabel EAR tertinggi adalah 0,86 dimiliki oleh PT. Ultra Jaya Milk Industry Tbk pada tahun 2018. Sedangkan nilai mean sebesar 0,4732 dengan nilai standar deviasi sebesar 0,45677 menunjukkan simpangan data yang nilainya lebih kecil dibandingkan dengan nilai mean sehingga menunjukkan bahwa data variabel EAR sudah normal.

###### 4) Return to Equity Ratio (ROE)

Variabel ROE terendah adalah -0,97 dimiliki oleh PT. Tiga Pilar Sejahtera Food Tbk pada tahun 2019. Variabel ROE tertinggi adalah 1,57 dimiliki oleh PT. Tiga Pilar Sejahtera Food Tbk pada tahun 2017. Sedangkan nilai mean sebesar 0,5996 dengan nilai standar deviasi sebesar 0,35043 menunjukkan



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simpangan data yang nilainya lebih kecil dibandingkan dengan nilai mean sehingga menunjukkan bahwa data variabel ROE sudah normal.

## b. Uji Normalitas

**Tabel 7. Hasil Uji Normalitas Hasil Uji One-Sample Kolmogorov-Smirnov**

		DER	DAR	EAR	ROE
N		70	70	70	70
Normal Parameters <sup>a,b</sup>	Mean	.8235	.5284	.4732	.1996
	Std. Deviation	.79156	.45681	.45677	.35043
Most Extreme Differences	Absolute	.159	.334	.332	.296
	Positive	.079	.334	.199	.296
	Negative	-.159	-.198	-.332	.144
Kolmogorov-Smirnov Z		1.333	2.792	2.781	2.475
Asymp. Sig. (2-tailed)		.097	.080	.799	.567

Sumber : Data sekunder yang diolah, tahun 2021

Hasil uji normalitas data memiliki nilai Sig (Asymp. Sig. (2-tailed) dari seluruh variabel lebih besar dari 0,05. Dapat disimpulkan bahwa seluruh variabel berdistribusi normal.

## c. Uji Multikolineritas

**Tabel 8. Hasil Uji Multikolineritas**

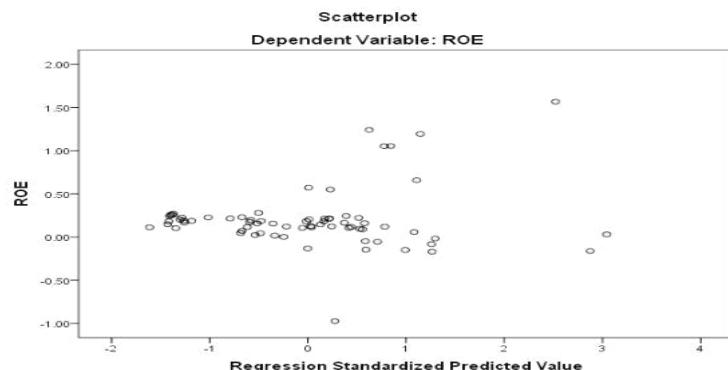
Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
DER_X1	.847	1.181
DAR_X2	.901	5.255
EAR_X3	.706	6.668

Sumber : Data sekunder yang diolah, tahun 2021

Hasil uji diatas bahwa tidak terjadi multikolineritas dikarenakan seluruh variabel memiliki nilai tolerance > 0,10 dan VIF < 10.

## d. Uji Heteroskedastisitas

**Gambar 1. Hasil Uji Heteroskedastisitas**



Sumber : Data sekunder yang diolah, tahun 2021



Hasil uji heteroskedastisitas bahwa scatterplot terlihat titik-titik menyebar secara acak dan tidak ada kecenderungan untuk membentuk pola tertentu, maka tidak terjadi heteroskedastisitas.

## e. Uji Autokorelasi

**Tabel 9.** Hasil Uji Autokorelasi

Model	Std.				
	R	Adjusted R Square	R Square	Error of the Estimate	Durbin-Watson
1	.845 <sup>a</sup>	.921	.723	.35452	1.995

Sumber : Data sekunder yang diolah, tahun 2021

Hasil uji autokorelasi memiliki nilai DW sebesar 1,995. Dimana nilai DW antara 1,55 sampai dengan 2,46 maka tidak terjadi autokorelasi.

## 2. Hasil Uji Hipotesis

### a. Uji Parsial (Uji t)

**Tabel 10.** Uji Parsial (uji t)

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	.997	3.039		3.328	.744
DER_X1	.047	.059	.106	2.801	.006
DAR_X2	.782	3.035	-1.019	2.258	.008
EAR_X3	.893	3.037	-1.164	3.294	.000

Sumber : Data sekunder yang diolah, tahun 2021

Berdasarkan tabel diatas uji parsial (uji t) dapat dijelaskan sebagai berikut :

- Untuk variabel DER nilai (t hitung > t tabel = 2,801 < 1,66827 dan nilai sig (0,006 < 0,05) hal ini menunjukan bahwa DER berpengaruh terhadap ROE.
- Untuk variabel DAR nilai (t hitung > t tabel = 2,258 < 1,66827 dan nilai sig (0,008 < 0,05) hal ini menunjukan bahwa DAR berpengaruh terhadap ROE.
- Untuk variabel EAR nilai (t hitung > t tabel = 3,294 < 1,66827 dan nilai sig (0,000 < 0,05) hal ini menunjukan bahwa EAR berpengaruh terhadap ROE.



## b. Analisis Regresi Linear Berganda

$$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + e$$
$$Y = 0,997 + 0,047 X_1 + 0,782 X_2 + 0,893 X_3 + e$$
$$ROE = 0,997 + 0,047 DER + 0,782 DAR + 0,893 EAR + e$$

1. Konstanta adalah sebesar 0,997. Hal ini berarti jika tidak dipengaruhi DER, DAR dan EAR maka besarnya ROE sebesar 0,997.
2. Nilai Koefisien variabel DER sebesar 0,047. Hal ini berarti jika terjadi peningkatan DER sebesar satu satuan maka ROE juga mengalami peningkatan sebesar 0,047 dengan asumsi bahwa faktor lainnya adalah konstan atau tetap.
3. Koefisien variabel DAR sebesar 0,782. Hal ini berarti jika terjadi peningkatan DAR sebesar satu satuan maka ROE juga mengalami peningkatan sebesar 0,782 dengan asumsi bahwa faktor lainnya adalah konstan atau tetap.
4. Koefisien variabel EAR sebesar 0,893. Hal ini berarti jika terjadi peningkatan EAR sebesar satu satuan maka ROE juga mengalami peningkatan sebesar 0,893 dengan asumsi bahwa faktor lainnya adalah konstan atau tetap.

## B. Pembahasan

### 1. Pengaruh Debt to Equity Ratio (DER) terhadap Return on Equity (ROE)

Berdasarkan hasil hipotesis dari uji t untuk variabel DER nilai t hitung  $> t$  tabel  $= 2,801 > 1,66827$  dan nilai signifikan  $0,006 < 0,05$ , maka dinyatakan  $H_1$  diterima. Hal ini menunjukkan bahwa DER berpengaruh terhadap ROE. Hasil penelitian ini sesuai dengan penelitian yang dilakukan oleh Monica, dkk (2018) menjelaskan bahwa variabel DER memiliki pengaruh terhadap ROE karena struktur modal (DER) yang tinggi maka akan meningkatkan profitabilitas (ROE).

### 2. Pengaruh Debt Asset Ratio (DAR) terhadap Return on Equity (ROE)

Berdasarkan hasil hipotesis dari uji t untuk variabel DAR nilai t hitung  $> t$  tabel  $= 2,258 > 1,66827$  dan nilai signifikan  $0,008 < 0,05$ , maka dinyatakan  $H_2$  diterima. Hal ini menunjukkan bahwa DAR berpengaruh terhadap ROE. Hasil penelitian ini sesuai dengan penelitian yang dilakukan oleh Riska Thedy (2020) menjelaskan bahwa variabel DAR memiliki pengaruh terhadap ROE karena struktur modal (DAR) yang tinggi maka akan meningkatkan profitabilitas (ROE).

### 3. Pengaruh Equity to Asset Ratio (EAR) terhadap Return on Equity (ROE)

Berdasarkan hasil hipotesis dari uji t untuk variabel EAR nilai t hitung  $> t$  tabel  $= 3,294 > 1,66827$  dan nilai signifikan  $0,000 < 0,05$ . Hal ini menunjukkan bahwa EAR berpengaruh terhadap ROE. Hasil penelitian ini sesuai dengan penelitian yang dilakukan oleh Romadhoni, dkk (2018) menjelaskan bahwa variabel EAR memiliki pengaruh terhadap ROE karena struktur modal (EAR) yang tinggi maka akan meningkatkan profitabilitas (ROE).



## IV. KESIMPULAN

1. Debt to Equity Ratio (DER) berpengaruh terhadap kinerja keuangan perusahaan (ROE). Artinya setiap perubahan yang terjadi pada variabel DER meningkat maka kinerja keuangan perusahaan (ROE) akan meningkat karena kemampuan perusahaan untuk menghasilkan laba bersih yang besar akan menghemat pajak dengan meningkatkan rasio hutang.
2. Debt Asset Ratio (DAR) berpengaruh terhadap kinerja keuangan perusahaan (ROE). Artinya setiap perubahan yang terjadi pada variabel DAR meningkat maka kinerja keuangan perusahaan (ROE) akan meningkat pendanaan karena kemampuan perusahaan untuk menghasilkan laba bersih yang besar akan menghemat pajak dengan meningkatkan rasio hutang.
3. Equioity to Asset Ratio (EAR) berpengaruh terhadap kinerja keuangan perusahaan (ROE). Artinya setiap perubahan yang terjadi pada variabel EAR meningkat maka kinerja keuangan perusahaan (ROE) akan meningkat. Hal ini disebabkan karena kemampuan ekuitas yang memadai untuk menjalankan aktivitas perusahaan sehingga kinerja perusahaan meningkat.

## Keterbatasan Penelitian

1. Data penelitian adalah data sekunder mengambil data dari BEI secara online sehingga penelitian tidak dilakukan secara langsung ke perusahaan yang bersangkutan.
2. Sampel penelitian hanya 14 perusahaan manufaktur yang bergerak di bidang sektor makanan dan minuman dengan laporan keuangan selama 5 (lima) tahun periode 2015 – 2019 sehingga hasil penelitian belum dapat merefleksikan keadaan perusahaan dalam jangka panjang.
3. Teknik analisis penelitian yang digunakan regresi linear berganda sehingga pengujian penelitian bersifat sederhana.

## Saran

1. Penelitian selanjutnya, hendaknya memperhatikan jumlah sampel penelitian, variabel penelitian, jangka waktu penelitian yang kemungkinan berpengaruh terhadap kinerja keuangan perusahaan.
2. Pihak investor, hendaknya mempertimbangkan perusahaan ketika akan berinvestasi karena mempengaruhi tingkat kemampuan menghasilkan laba perusahaan.
3. Pihak manajemen perusahaan, hendaknya memperhatikan dalam menentukan struktur modal optimal yang dapat mempengaruhi kinerja keuangan perusahaan secara baik

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**RANCANG BANGUN GAME SURVIVAL 3D “FUN SCIENCES ADVENTURE**

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**Abstract**

The purpose of this study was to design and build a 3D survival game "fun sciences adventure" using Unity 3D. The game is functioned to support the science learning process by utilizing game technology that is currently developing in the form of implementing artificial intelligence in it. In this study, the method used is the waterfall method (Somerville, 2011) which has 5 stages of research and the implementation of the finite state machine method to design the game in detail so that the manufacturing process runs optimally. The results of this study have developed a "fun sciences adventure" game that is suitable to be played and applied in science learning by obtaining testing criteria in the visual aspect of 90%, the objective aspect of 85%, and the user-friendly aspect of 88%. The conclusion in this research is that the game fun sciences adventure runs well, where this game can be used as a fun alternative learning tool for basic science for fifth grade elementary school students.

**Keywords** - Survival Games; Science; Unity 3D; Artificial Intelligence; Learning

**I. Pendahuluan**

Menurut sumber Kemendikbud, Jumlah siswa SD Indonesia berkisar diangka 25,2 juta siswa dengan persentase paling banyak dibandingkan dengan siswa-siswi jenjang atas. Jawa Barat merupakan provinsi dengan jumlah siswa SD terbanyak hingga mencapai 4,5 juta siswa, disusul provinsi Jawa Tengah dan provinsi Jawa Timur diposisi ke-3 dengan 2,8 juta siswa [1]. Dalam penerapan kurikulum baru yakni K13 bagi siswa SD, kurikulum 2013 memiliki sisi positif dalam hal planning oriented, action oriented, dan result oriented sehingga dapat menghasilkan insan Indonesia yang kreatif, inovatif, serta efektif melalui penguatan keterampilan, sikap, dan pengetahuan yang terintegrasi [2]. Sedangkan dalam sisi negatif, kurikulum dibuat melalui konsep pembelajaran model tematik yakni tergabungnya beberapa mata pelajaran dalam 1 tema seperti Bahasa Indonesia, IPA, IPS, PPKn, dan Seni Budaya, sehingga memberatkan siswa karena bertambahnya jam pelajaran serta terbatasnya siswa dalam memaksimalkan waktu konsentrasi belajar terkhususnya bagi siswa kelas V SD yang diharuskan memantapkan pengetahuan akan mata pelajaran Ilmu Pengetahuan Alam (IPA) guna menghadapi Ujian Nasional setahun mendatang.



Pembelajaran Ilmu Pengetahuan Alam akan lebih menarik serta tidak mudah bosan bagi siswa SD kelas V dan dapat bermakna dalam pemanfaatannya apabila diintegrasikan melalui media pembelajaran yang senang dan mudah untuk dipelajari. Terlebih dengan ditambahnya situasi pandemi COVID 19 yang berakibat pembelajaran tingkat SD baik guru ataupun murid diharuskan mengakses pembelajaran via online atau daring. Salah satunya, dikemas melalui konsep game survival yang berbasis edukasi. Game berbasis edukasi ini cocok sebagai media penerapan pembelajaran yang mampu dimanfaatkan guru dalam mendukung kegiatan belajar, karena game sendiri memiliki daya tarik yang membuat user kecanduan dalam memainkan [3]. Dalam penerapan game, platform PC menjadi platform game yang berdampingan kualitasnya dengan android, alasannya dalam PC game memiliki grafis permainan yang lebih menawan, dan pastinya multifungsi.

Penelitian sebelumnya yang dilakukan Hizkia Dewa Agung tahun (2019) mengambil tema pembelajaran IPA yang dikhkususkan dalam mengenalkan materi “Peristiwa Alam di Indonesia” bagi siswa kelas V SD. Game yang dibuat masih mengusung konsep 2D dan dibuat masih menggunakan Adobe Flash Player. Dalam arti lain,

software pembuatan yang digunakan masih terbilang sederhana dan penelitian ini hanya fokus ke dalam 1 pokok bahasan saja [4].

Game survival “Fun Sciences Adventure” dirancang serta dibangun menggunakan grafis 3D berguna untuk mengembangkan dan mengenalkan mata pelajaran IPA dasar bagi kelas V SD. Model permainan yang mengusung tema survival ini dapat dimainkan secara berpetualang dengan pemberian studi kasus yang harus diselesaikan untuk bisa masuk kedalam level permainan berikutnya. Bukan hanya itu, dalam permainan ini user akan disuguhkan tampilan gameplay yang menarik dengan adanya zombie (bot komputer) yang telah diimplementasikannya artificial intelligence bertugas untuk menghalau user dalam menyelesaikan tantangan dalam game ini. Pemain yang memainkan karakter utama dalam game ini akan diberikan health bar di posisi atas karakter.

Untuk menambah kesan edukasi, peneliti juga membuat quiz tambahan seputar mata pelajaran IPA yang akan muncul ketika sudah selesai dalam memecahkan soal studi kasus sebelumnya. Game quiz tersebut menyuguhkan bab-bab mata pelajaran IPA dasar yang ada didalam beberapa buku tematik kelas V SD. Konsep game quiz ini dibuat dengan mengambil tema permainan drag and drop dengan gambar utama sebagai acuan soal yang akan diselesaikan. Sehingga secara tidak langsung, game ini dapat memberikan minat serta rasa penasaran siswa SD kelas V untuk mencoba langsung sekaligus belajar mata pelajaran IPA ( Ilmu Pengetahuan Alam ) dasar secara menyenangkan dan efektif. Game survival 3D “fun sciences adventure” ini dirancang dengan memanfaatkan teknologi game yang berkembang di era sekarang melalui artificial intelligence guna menghadirkan game yang menarik untuk dimainkan serta mampu memberikan sisi edukasi mengenai ilmu pengetahuan alam dasar melalui konsep pembelajaran game survival.

## II. Metode

### A. Metode Pengembangan Waterfall

Menurut Presmaan, R.S (dalam Sasminto: 8) berpendapat bahwa metode waterfall atau model ADDIE merupakan salah satu metode/model pengembangan sistem informasi yang sekuensial dan sistematis. Dalam penelitian ini, peneliti menerapkan metode pengembangan waterfall untuk membantu



menyelesaikan game survival 3D ini. Kelebihan dalam metode ini yakni pengaplikasiannya yang simple dan memiliki tahapan yang runtut. Mulai dari Requirements Definition – System and Software Design – Implementation and Unit Testing – Integration and System Testing – Operation and Maintenance sehingga meminimalis kesalahan yang terjadi dalam proses pembuatan game ini [5].

## B. Flowchart

Flowchart juga memiliki kegunaan untuk berkomunikasi antara programmer yang bekerja dengan tim suatu proyek dengan klien dalam merancang sebuah aplikasi baru atau mengembangkan sebuah aplikasi lama. Flowchart membantu dalam hal mengkomunikasikan jalannya suatu aplikasi/program ke orang lain dengan lebih mudah [6]. Flowchart implementasi game survival 3D “fun sciences adventure” diawali dengan “start” yang berarti memunculkan tampilan splashscreen yang berisi loading bar progress dengan background sekolah dasar dan disertai dengan text awal permainan. Kemudian sistem akan menampilkan menu utama game yang nantinya user bisa memilih menu-menu yang tersedia. Dalam hal ini, terdapat 5 menu yang dapat diakses, diantaranya: menu play, menu help, menu about, menu setting, dan menu exit. Ke-5 menu tersebut merupakan button yang dapat di-click untuk memasuki perpindahan antar scene dalam game survival 3D “fun sciences adventure”.

## C. Use Case

Menurut Prabowo Widodo (2011) berpendapat bahwa use case menggambarkan external view yang akan kita buat modelnya dari sistem yang akan dibangun serta diagram tidak terlalu identik dengan model, karena model use case cakupannya lebih luas dari diagram [7]. Sedangkan menurut Nurmoslim (2016) bahwa use case adalah salah satu diagram UML (Unified Modelling Language) dengan fungsi sebagai gambaran umum dari suatu aplikasi/program terhadap fungsionalitas yang pada dasarnya melibatkan sebuah sistem [8]. Use case diartikan sebagai gambaran fungsi utama dari suatu aplikasi yang didalamnya terdapat sebuah sistem yang berinteraksi dengan user secara sederhana [9].

## D. Finite State Machine

Finite State Machine (FSM) merupakan sebuah metodologi perancangan kontrol yang fungsinya yakni dapat menggambarkan prinsip kerja dari sebuah sistem yang ada dengan menggunakan 3 hal berikut, diantaranya: state (keadaan), event (kejadian), dan action(aksi). Keuntungan menggunakan finite state machine yakni kemampuannya dalam mendekomposisi beberapa aplikasi yang ukurannya relatif besar dengan menggunakan sejumlah kecil item state. Selain itu, metode ini sangat cocok digunakan dalam perancangan software pengendalian secara basic yang memiliki sifat realtime dan reaktif [10].

Lokasi penelitian bertempat di Bimbingan Belajar Dusun Simorejo RT. 16 RW. 05 Desa Kesambi, Kecamatan Porong dan laboratorium multimedia UMSIDA. Dilaksanakan mulai bulan Agustus 2020 hingga Januari 2021.

### 1) Bahan Penelitian

Bahan yang digunakan dalam penelitian meliputi:

- a. Data siswa/i SD kelas V yang melakukan bimbingan belajar di Dusun Simorejo RT. 16 RW. 05
- b. Bahan referensi tentang game survival yang berlandaskan materi ilmu pengetahuan alam



## 2) Analisis Kebutuhan Penelitian

Dalam penelitian game survival 3D “fun sciences adventure” memerlukan kebutuhan secara fungsional dan non-fungsional. Kebutuhan fungsional dalam game ini berisikan fitur dan metode yang akan diimplementasikan dalam sistem seperti menu-menu game dan gameplay utama. Sedangkan untuk kebutuhan non-fungsional dalam game fun sciences adventure mengacu pada spesifikasi minimal hardware dan software yang diperlukan. Dalam kebutuhan non-fungsional, game berbasis desktop ini dibuat menggunakan laptop yang memiliki processor AMD A9-9420 RADEON R5 dengan memory 4 GB. Sedangkan untuk menjalankan game ini diperlukan spesifikasi minimal processor AMD Radeon Graphics dengan OS Windows 10 64 bit. Game ini juga dibuat menggunakan Unity 3D Versi 2017.4.7f1 dengan text editor berupa Visual Studio 2019 serta Adobe Illustrator CC 2017 yang digunakan untuk mendesain sebuah komponen game seperti button menu, character berupa vektor 2D, dan lainnya yang mampu dipahami oleh siswa/i kelas V SD

## 3) Teknik Pengumpulan Data

Dalam penelitian ini terdapat beberapa metode yang digunakan dalam mengumpulkan data sebagai sumber yang berguna untuk memperkuat penelitian. Metode tersebut meliputi:

### a. Observasi

Observasi dalam penelitian ini dilakukan dengan mendatangi tempat bimbingan belajar Dusun Simorejo RT. 16 RW. 05, Desa Kesambi, Kecamatan Porong.

### b. Wawancara

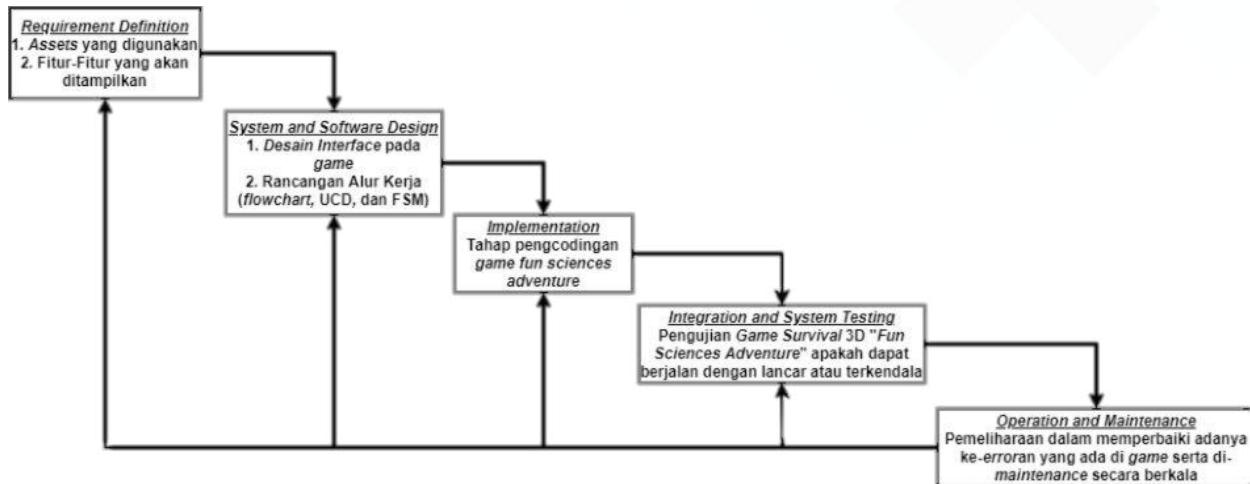
Peneliti melakukan wawancara dengan guru les mengenai bentuk pembelajaran Ilmu Pengetahuan Alam bagi kelas V SD serta mewawancarai beberapa anak kelas V SD dalam memahami pembelajaran mata pelajaran Ilmu Pengetahuan Alam (IPA) dasar. Berdasarkan hasil wawancara yang dilakukan peneliti di tempat bimbingan belajar, didapat bagaimana guru SD saat ini mengimplementasikan pembelajaran yang menarik, bisa melalui pembelajaran visual berupa gambar dan suara. Serta dari siswa kelas V SD, kurang bisanya memahami semua mata pelajaran yang disampaikan khususnya mata pelajaran IPA. Sehingga, media game merupakan pembelajaran yang dirasa mampu mendorong gairah bagi guru dalam mengembangkan serta mengajarkan IPA dasar secara menyenangkan. Karena terdapat komponen pendukung seperti gambar dan suara. Sedangkan bagi siswa kelas V SD, diharapkan syaraf motorik mampu menyerap model pembelajaran yang dibuat interaktif melalui sebuah game fun science adventure.

### c. Studi Literatur

Dalam penelitian ini, peneliti menggunakan beberapa buku pembelajaran IPA (Tematic kelas V semester 1 dan semester 2), jurnal ilmiah, skripsi, serta internet yang menyediakan segala informasi-informasi terkait topik penelitian yang akan dikerjakan.

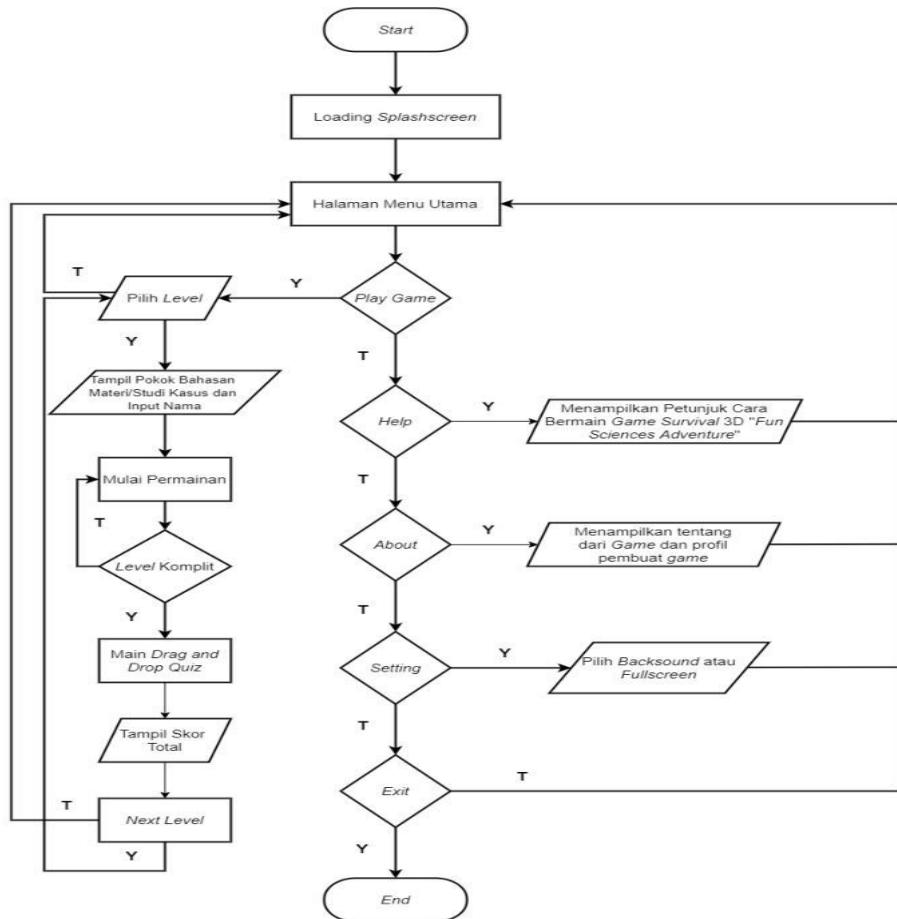


4) Tahap Perancangan Pembuatan Game Survival 3D “Fun Sciences Adventure”  
a. Metode Pengembangan Waterfall

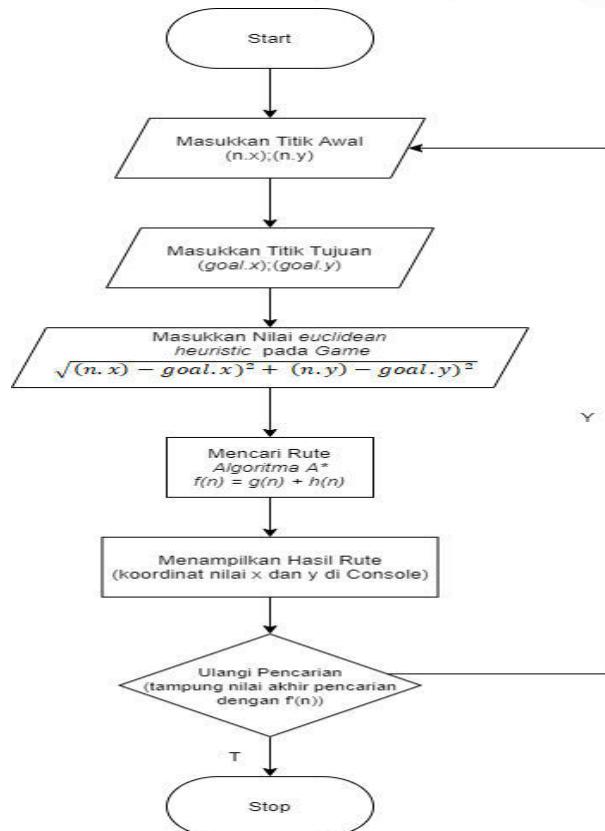


**Gambar 1.** Metode Waterfall Game Fun Sciences Adventure

a. Flowchart

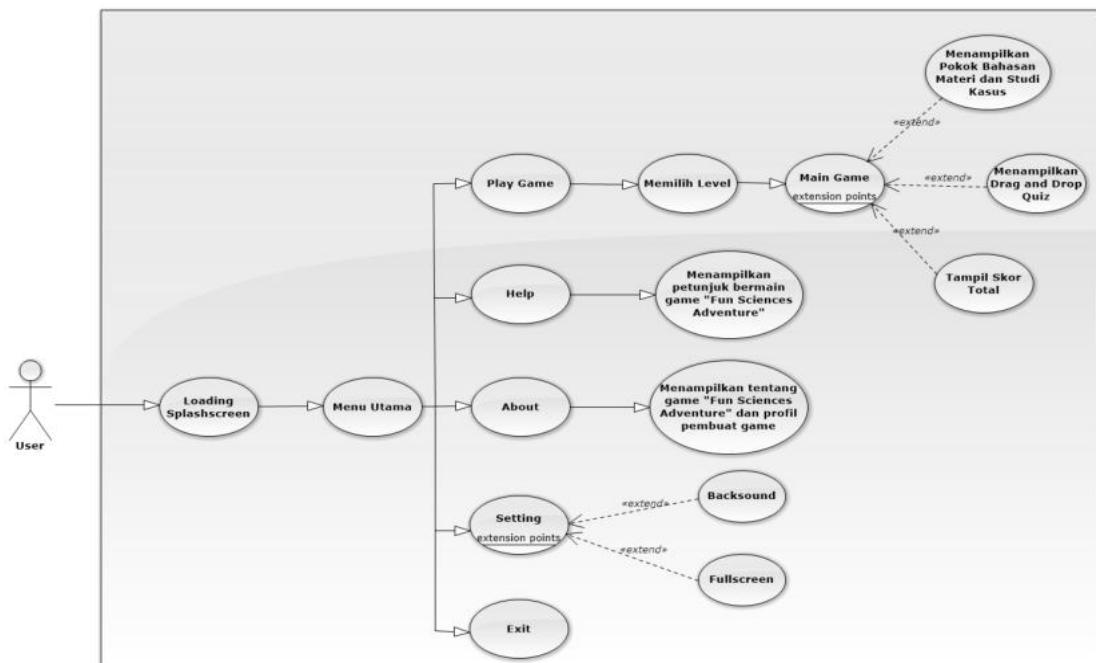


**Gambar 2.** Flowchart Game Survival 3D “Fun Sciences Adventure”



**Gambar 3.** Flowchart Penerapan Metode Algoritma A\* pada Game

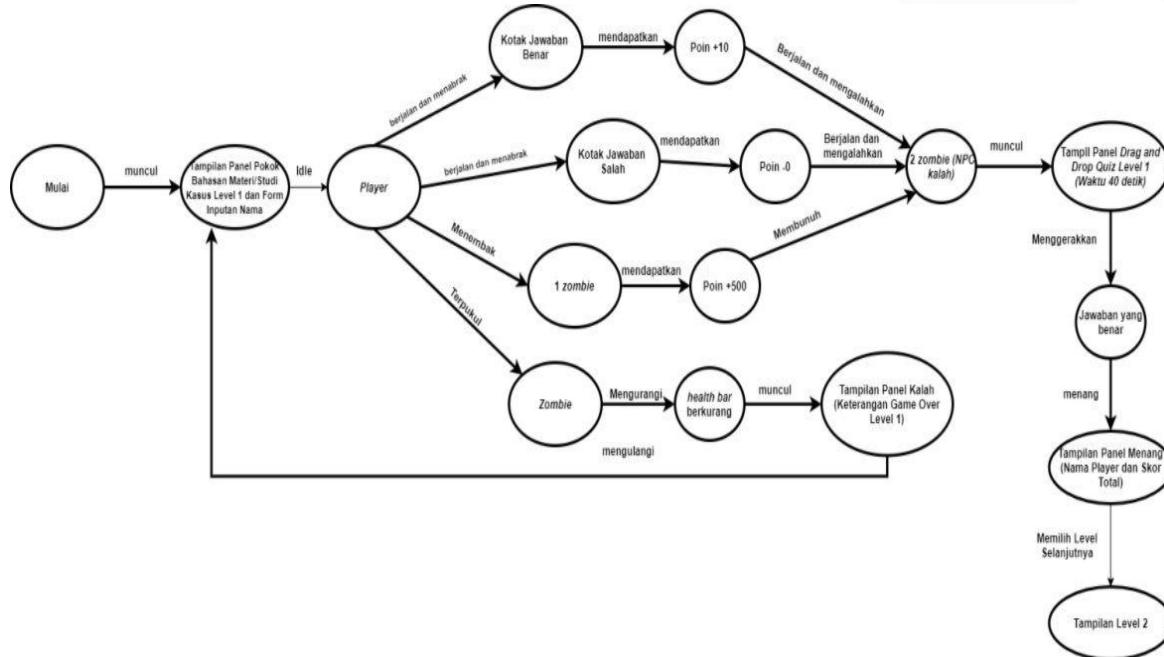
a. Use Case



**Gambar 4.** Use Case Diagram Game Survival 3D “Fun Sciences Adventure”



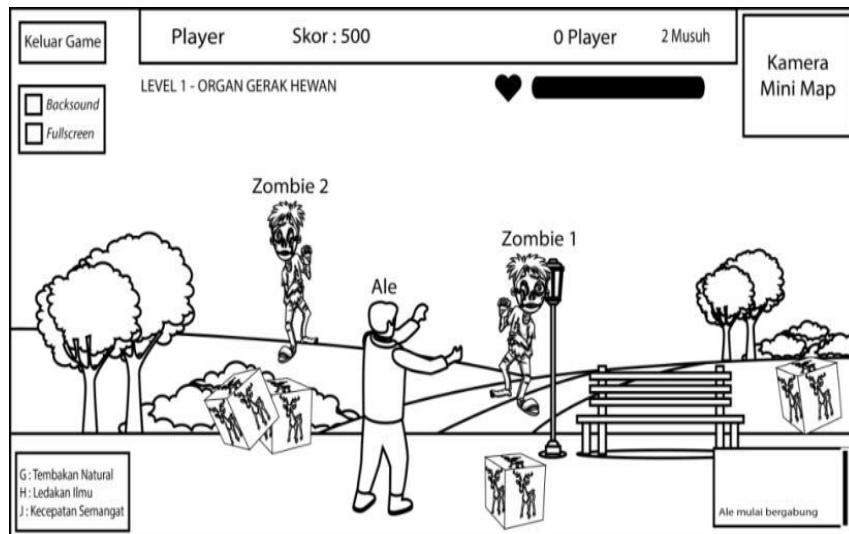
## b. Finite State Machine



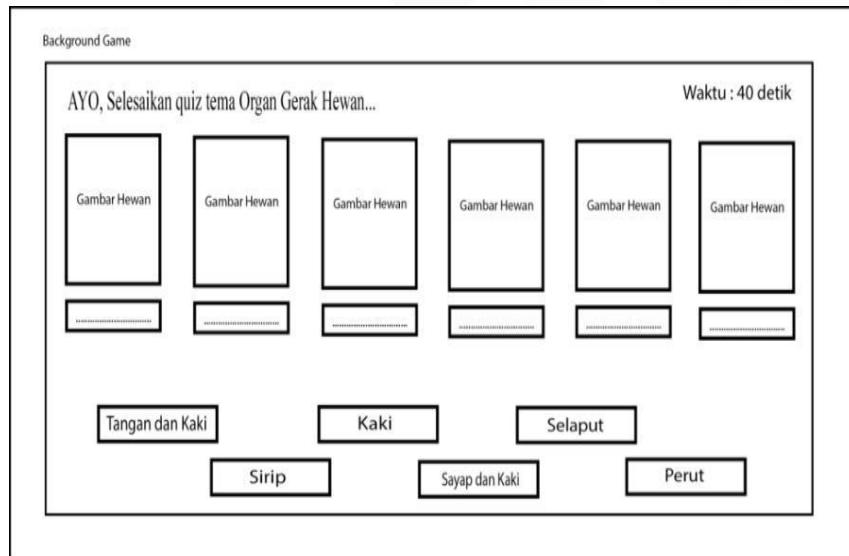
**Gambar 5.** Finite State Machine Game Survival 3D “Fun Sciences Adventure”

## 5) Desain Tampilan Antarmuka

Dalam game survival 3D “fun sciences adventure” memiliki tampilan menu dan gameplay yang berbeda-beda ditiap level stage.



**Gambar 6.** Rancangan Menu Gameplay Level 1



**Gambar 7.** Rancangan Menu Quiz Level 1

#### 6) Rancangan Pengujian Sistem

Game survival 3D “Fun Sciences Adventure” merupakan jenis game survival yang dikolaborasikan dengan game edukasi menggunakan grafis 3D. Pengujian game ini menggunakan sistem blackbox testing, metode yang memungkinkan pengembangan software guna menghimpun kondisi input, syarat-syarat fungsional suatu program serta mengetahui adanya kesalahan yang terjadi. Hasil yang diuji setelah membuka game yakni mencoba semua button-button antar scene game dan menu pop-up bila diklik akan menuju ke tampilan selanjutnya, serta melakukan percobaan dengan memainkan gameplay disetiap level stage jika button/gameplay yang diuji benar maka lanjut ke tahap selanjutnya sedangkan jika tidak maka akan dilakukan pembetulan. Jika sudah sesuai maka akan diujikan pada siswa SD kelas V sebagai objek sasaran dalam penelitian ini. Adapun kuisioner penelitian yang nantinya akan diisi oleh responden objek penelitian dan responden ahli guna menentukan layak atau tidaknya game ini secara aspek visual, aspek tujuan, dan aspek user-friendly melalui perhitungan skala likert.

### III. Hasil dan Pembahasan

Hasil penelitian serta pembahasan terkait perancangan dan pembangunan game survival 3D dengan pemanfaatan teknologi yang berkembang saat ini mampu diimplementasikan melalui game “Fun Sciences Adventure” dengan bantuan game engine yakni Unity 3D. Pemanfaatan teknologi saat ini mampu diimplementasikan secara maksimal dengan memanfaatkan berbagai macam perangkat yang up to date serta dipadukan dengan fungsi-fungsi yang terdapat dalam bahasa pemrograman C#, fungsi-fungsi tersebut telah terakomodir dalam game engine Unity 3D. Game yang mengambil konsep petualangan dan edukasi ilmu pengetahuan alam ini juga mengimplementasikan artificial intelligence atau kecerdasan buatan, yang mana AI tersebut terletak pada NPC zombie. Penulis menanamkan AI pada karakter zombie dengan memanfaatkan algoritma A\* yang difungsikan agar karakter zombie mampu mendekati player melalui node-node secara otomatis yang terbentuk melalui perhitungan algoritma A\* melalui script. Karakter pemain diharuskan menyelesaikan misi dan memainkan drag and

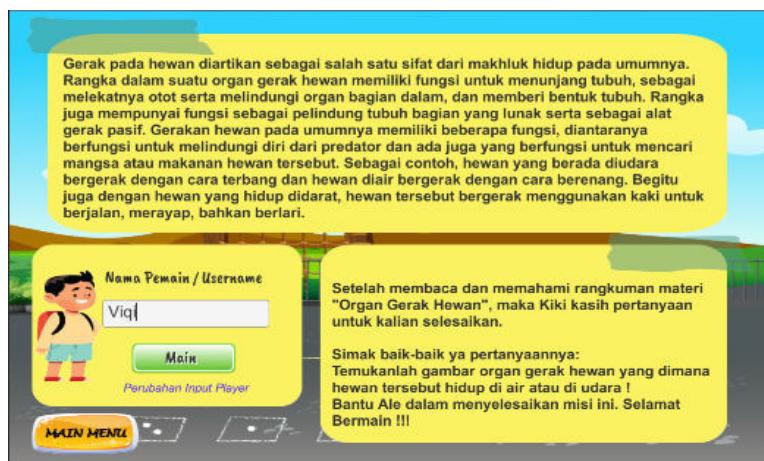


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drop quiz agar menang dan berhak untuk lolos ke level organ gerak hewan, bagaimana tubuh mengolah makanan?, komponen ekosistem, dan usaha pelestarian lingkungan.



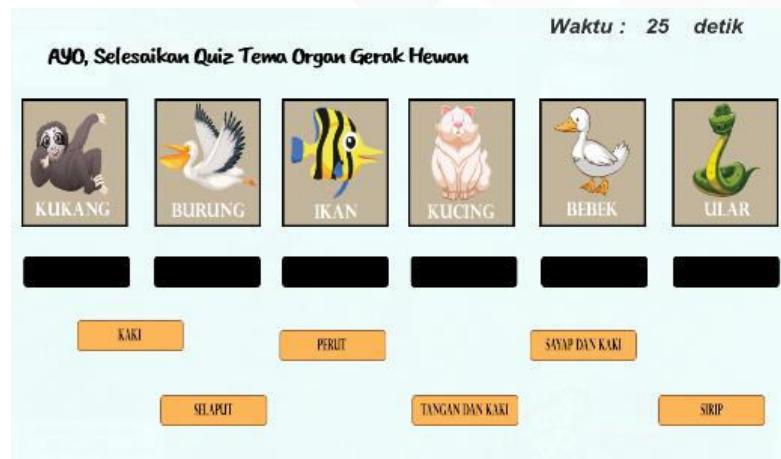
**Gambar 8.** Halaman Menu Utama



**Gambar 9.** Halaman Menu Level 1



**Gambar 10.** Tampilan Menu Gameplay Level 1



**Gambar 11.** Tampilan Quiz Level 1

## 1) Pengujian Sistem Menggunakan Black-Box Testing

Black box testing akan menguji dengan melakukan pengamatan dari hasil eksekusi melalui data uji dan cek fungsional software.

**Tabel 1.** Uji Black Box Testing Halaman GamePlay

N o	Skenario Pengujian	Hasil yang diharapkan	Kesimpul an
1	Jika user mengambil kotak jawaban benar atau salah level 1	Skor total akan diakumulasikan	Valid
2	Jika user dapat mengalahkan 2 monster/zombie pada level 1	<ul style="list-style-type: none"><li>• Masuk ke menu drag and drop quiz level 1</li><li>• Mendapat skor akumulasi 1000</li></ul>	Valid
3	Jika user dikalahkan monster/zombie pada level 1	Healtbar berkurang sebanyak 25 %	Valid
4	Jika level 1 menampilkan menu drag and drop quiz	<ul style="list-style-type: none"><li>• Muncul soal berupa gambar, dan jawaban berupa teks</li><li>• Waktu penggerjaan selama 40 detik</li></ul>	Valid

Setelah melakukan pengujian sistem dengan balckbox testing maka disimpulkan bahwa hasil yang didapat sudah sesuai harapan.

## 2) Pengujian Algoritma A\* Pada NPC

Perhitungan Algoritma A\* jika diketahui posisi titik awal n.x:32, n.y=18 serta posisi titik tujuan Goal.x:12, Goal.y:10, maka dapat diperoleh hasil perhitungan melalui rumus:

$$g(32,18) = 1$$



$$\begin{aligned} h(n) &= \sqrt{(n.x) - goal.x)^2 + (n.y) - goal.y)^2} \\ h(32,18) &= \sqrt{(32 - 12)^2 + (18 - 10)^2} \\ h(32,18) &= \sqrt{(20)^2 + (8)^2} \\ h(32,18) &= \sqrt{400 + 64} \\ h(32,18) &= \sqrt{464} \\ h(32,18) &= 21,54 \\ f(n) &= g(n) + h(n) \\ f(32,18) &= 1 + 21,54 = 22,54 \end{aligned} \tag{1}$$

Untuk mencari rute terpendek NPC dalam menemui karakter game membutuhkan 36 langkah dari titik NPC berdiri ke titik karakter dengan simpul yang diperiksa yaitu 66 simpul. Adapun perhitungan secara otomatis untuk menentukan titik-titik NPC mendekati player melalui tab console pada software Unity 3D.

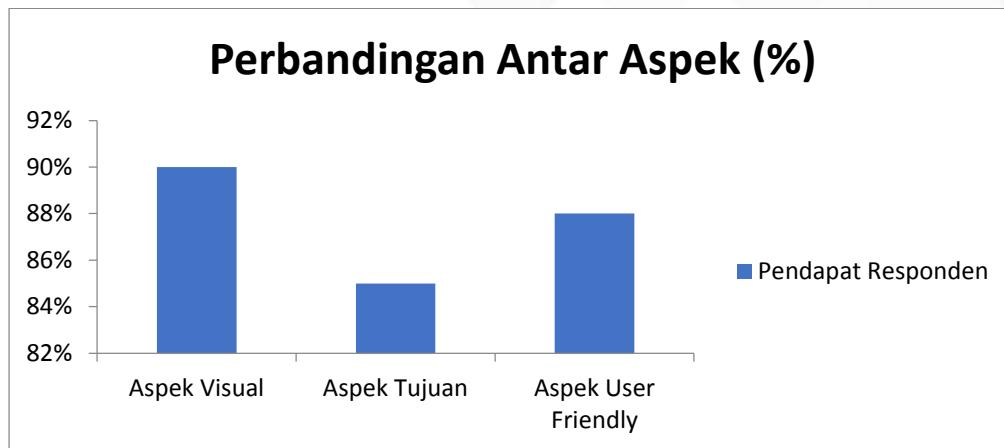
### 3) Pengujian Sistem

Untuk mengetahui dampak manfaat dalam menggunakan game survival 3D “fun sciences adventure” dapat dilakukan dengan beberapa tingkat pemahaman aspek-aspek. Pengujian ini dilakukan pengumpulan data survei terhadap 20 responden yang ditujukan kepada siswa/i kelas V SD Bimbingan Belajar di Dusun Simorejo RT. 16/RW.05 Desa Kesambi, Kecamatan Porong. Dimana hasil data tersebut sudah dilakukan proses perhitungan menggunakan skala likert dari hasil pernyataan/pertanyaan dalam kuisioner. Hasil tersebut dapat dilihat pada tabel 2.

**Tabel 2.** Hasil Persentase Kuisioner

N o	Aspek	Persentase Total	Keterangan n
1	Aspek Visual	90 %	Sangat Baik
2	Aspek Tujuan	85 %	Sangat Baik
3	Aspek User-Friendly	88 %	Sangat Baik

Berdasarkan hasil perhitungan dan tabel persentase keseluruhan kuisioner terhadap 20 responden, Penulis menyimpulkan bahwa game survival 3D “fun sciences adventure” dapat diterima serta mampu memberikan manfaat kepada target pemain yakni siswa/i SD kelas V terkait pembelajaran IPA dasar yang menyenangkan dan efektif. Berikut hasil perbandingan antara aspek-aspek yang terdapat pada kuisioner.



**Gambar 12.** Diagram Perbandingan Antar Aspek

## VII. Kesimpulan

Dalam hasil penelitian mengenai rancang bangun game survival 3D “fun sciences adventure” ada beberapa kesimpulan diantaranya: Terciptanya game survival “fun sciences adventure” dengan graphis 3D sebagai sarana alternatif pembelajaran Ilmu Pengetahuan Alam (IPA) dasar bagi siswa/i SD kelas V yang dapat dibuktikan melalui pengujian aplikasi kepada responden siswa/i SD kelas V dan responden ahli dengan persentase 90 %, aspek tujuan aplikasi yang memperoleh persentase 85 %, serta aspek user-friendly dengan perolehan sebesar 88 %, Gameplay survival dan quiz pendukung mampu diimplementasikan di setiap level stage dengan tingkat kesulitan berbeda-beda yaitu dengan jumlah NPC dalam gameplay dan waktu pengerjaan drag and drop quiz yang berbeda antara 4 level stage, serta penerapan Artificial Intelligence (AI) dalam karakter zombie berupa Algoritma A\* dapat mendeteksi serta menentukan jalan terdekat melalui node-node yang di-scripting secara otomatis menuju karakter Ale (utama). Untuk lebih menyempurnakan aplikasi game survival 3D “fun sciences adventure” ini, peneliti memberikan beberapa saran yakni Game fun sciences adventure dapat dikembangkan dengan menambah level stage lebih banyak lagi dengan user interface serta user experience yang berbeda-beda dan lebih menarik untuk dimainkan.

## Ucapan Terima Kasih

Dengan demikian, pada kesempatan kali ini izinkan saya sebagai penulis untuk menghaturkan terimakasih dan penghargaan yang sebesar sebesarnya kepada yang terhormat :

1. Kedua orang tua yang selalu memberikan dukungan sepenuhnya kepada saya
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Serta kerabat dekat dan rekan rekan seperjuangan yang tak bisa kami tulis satu persatu. Semoga Allah SWT memberikan balasan atas kebaikan yang sesuai dan setimpal.

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## WOMEN'S EMPLOYMENT IN INCREASING THE WELL-BEING OF THE POPULATION IN THE CONDITIONS OF A PANDEMID IN UZBEKISTAN

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### Abstract

The article examines the place and role of women in the labor market, as well as other groups of the population, determines the need for employment, the level of competition, the level of qualifications, profession, work schedule, form of ownership, as well as the system of social protection in the labor sphere.

The aim of the study is to scientifically substantiate what and in what direction, to what extent and what changes will occur in the employment of women in the transition period, how it depends on their initial state of employment, the most important socio-economic characteristics of women. The article analyzes the current role of women in the labor market and the existing problems in this area, as well as provides relevant practical recommendations for their solution.

Scientific novelty of the research:

1. To improve understanding of gender equality issues, conduct advocacy to eliminate misconceptions about women's employment and amend labor laws to empower women to choose their own way and type of work;
2. It is desirable to increase the use of technologies that make it easier for women to work and do their homework, increase self-confidence, generate income, change existing stereotypes about their role in production and allow them to move from one type of work to another;
3. Protect maternity, provide parental leave, distribute and ease the burden of household chores, introduce flexible work schedules, including voluntary and part-time parenting, and provide quality childcare at low cost. provide institutional support that allows parents to work and fulfill family responsibilities at the same time through the creation of service educational institutions;
4. The labor market information system should be strengthened, *inter alia*, by collecting and calculating relevant data and indicators on employment, unemployment and wages, and disseminating labor market information, in particular information on available jobs outside the formal market;
5. All analytical and statistical data should indicate the number of women and men in order to monitor the real opportunities of women in the labor market.

**Key words:** labor market, employment, women's labor market, low-income, unemployment, women's entrepreneurial activity.



## Introduction

The impact of COVID-19 on women in all areas, from health to the economy, from security to social protection, is further complicated by their gender:

- Increased economic impact is particularly affecting women and girls who tend to work in low-income, low-income and high-risk jobs or live in poverty.
- Although it has been found that male mortality due to COVID-19 is slightly higher than female mortality, the issue of reproductive health remains relevant.
- As a result of serious problems in children's attendance at school, the growing number of people in need of care, women have a great responsibility.

While the COVID-19 pandemic has exacerbated economic and social tensions, there has been a sharp increase in the number of various adverse effects (violence, sexual assault) on women. All of these effects are exacerbated in the context of instability, conflict, and emergencies.

Since the level of economic activity of women ensures efficiency and equality in society, it is interpreted as an important factor for the socio-economic development of society. The increase in the level of women's participation in the labor market has two consequences, namely, socio-economic development and the expansion of women's rights and opportunities. This can reduce poverty and expand opportunities for economic growth by ensuring equality and effective use of human potential [1].

According to the International Labor Organization, although there are differences across different countries, there are still significant differences in the participation of women and men in the labor market worldwide. In 2019, the economic activity rate for women worldwide was 48%, while for men it was 75%, i.e. 3.5 billion in the world. 3 out of 5 of the workforce are men [2]. In Norway, for example, the average level of economic activity for women is 61 percent. Currently, there are 524,241 unemployed women in the country.

In particular, the highest rate is in Fergana (83400), Andijan (78777), Samarkand (62487), Kashkadarya (59111), Surkhandarya (50995), Bukhara (30210) regions. In the remaining provinces, the average number of unemployed women is 25,000. 8017 unemployed women are registered in Tashkent. Under the influence of the processes of industrialization and globalization, attitudes towards women around the world are changing and their role in the labor market is also changing. However, despite the modernization of socio-economic life, the women's labor market segment still has distinctive features from other segments. Examples of this are the instability of the employment rate and the high risk of unemployment, differences in the level of wages, non-compliance with labor legislation in employment and dismissal.

Ensuring the rights and interests of women, increasing their economic, social and political activity has been identified as an important direction of state policy in our country. Although much work has been done in this regard over the years, it is important to develop an effective mechanism that serves to realize the potential and interests of women. The purpose of this study is to develop proposals and recommendations to support women in the country based on the analysis of the level of economic activity in the labor market.

For more than a year, the whole world has been living in an intensified quarantine environment. In this difficult period, the main problem in all countries remains to support the needy and provide income.



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Of the unemployed in Uzbekistan, 732,000 are young people and 834,000 are women.

The participation of women in entrepreneurship is growing significantly, and American researchers R. Peterson and K. Vermeyer called this phenomenon the "Peaceful Revolution on a Global Scale."

Indeed, there is no denying that in recent years, women's entrepreneurship has become widespread around the world, making a significant contribution to the global economy. For example, in the United States and Canada, one-third of small businesses are in the hands of women, in France, women entrepreneurs are three times more than male entrepreneurs, and in developed countries as a whole, women entrepreneurs account for 50.2-70.5% of entrepreneurs. In this regard, special attention is paid to the development of small business and family entrepreneurship among women in our country, and a wide range of opportunities is opened. However, small business and family entrepreneurship are not well established in all regions.

A vertical system has been set up at the Ministry of Neighborhood and Family Support to work with women. It was stressed that it is important to address the problems of young people and women, and we need to identify areas that need special attention in this regard.

In the Republic of Uzbekistan, the number of women entrepreneurs who ceased their activities in 2019-2020 is higher than the number of women who started their own businesses. This is due to the fact that no systematic work has been done on the establishment of women's entrepreneurship in order to create business plans based on the needs of the region and the country, and in the future to produce export products. Existing problems have not been studied in depth and effective measures have not been developed to address them. As a result, a total of 108,782 business entities were established by women in the country in 2019-2020 [2]. During this period, 115,920 women entrepreneurs were forced to suspend their activities. In addition, 2,063 vulnerable women, 75,920 families in need of social protection, 6,213 women living in difficult living conditions, targeted social assistance, social support plans have not been sufficiently implemented.

Given that 76.5% of the world's poor live in rural areas, it is possible to reduce global poverty by developing family businesses and expanding access to them for women. Therefore, it is expedient to study these issues, as the development and effective use of family business of rural women in our country is of great strategic socio-economic importance. One of the urgent tasks is to develop scientifically and practically based conclusions and recommendations to address the above-mentioned problems in the regions.

### Level of study of the topic

Since the end of the last century, the increase in the participation of women in the labor market as a result of globalization has spread to all countries. The World Bank has published an information and analysis bulletin entitled *Gender Equality as a Smart Economy*, which emphasizes that economic empowerment for women is an important factor in development.

Globally, various aspects of women's participation in the labor market are being explored. Research is being conducted to improve effective mechanisms for women's employment in the following priority areas: women's employment and the challenges faced in this area; theoretical and methodological aspects of discrimination against women in the labor market; regional differences in the level of economic activity of women and their causes; the relationship between women's participation in the labor market and their reproductive functions; increasing the adaptation of the female workforce to



changes in the structure of modern jobs; development of effective and fast innovative ways of introducing virtual jobs; organization of a system of advanced training in accordance with the requirements of employers in professional development, improvement of the scientific basis for the use of strategies to provide additional social guarantees, taking into account the life cycle model of women related to childbirth and their upbringing, etc.

According to Nobel Laureate S. Kuznets, as economic development progresses, the labor force will move first from agriculture to industry, and then from industry to services. Under such conditions, the level of economic activity of women occurs in a U-shaped form. That is, women's employment in agriculture will be higher in the agrarian economy, women's employment will decrease in the industrial economy, primarily due to the nature of the industry, and women's economic activity will increase as the tertiary sector of the economy dominates [3].

Shunghee Nam [4] divides the scientific literature into two: 1) modernization and 2) the world system, based on the study of the theoretical aspects of the impact of the level of economic development on the level of economic activity of women in developing countries. Scientific literature in the field of modernization (Heckman [5], Standing [6]) shows that economic development and modernization of the labor market due to changes in occupations in the workforce, increased access to education, which in turn reduces the number of children and, consequently, family responsibilities. affects the increase in activity. In contrast, research in the Global System approach explains the increase in economic activity within the framework of the theory of comparative advantage of international economic trade. While developing countries specialize in their comparative advantage, in most cases this occurs in areas that do not require high skills, which increases the demand for unskilled labor, creating a basis for increasing women's economic activity, given the predominance of unskilled women.

Since the 1970s, as women's economic activity has increased, this process has become the object of research. The first school to study women's issues in the framework of neoclassical theory became supporters of the "Human Capital Theory". The work of G. Becker, T. Schultz and his followers revolutionized the labor economy. The theory of human capital has shed light on the system of distribution of personal income, the dynamics of income by age, the difference in payments for labor between men and women, the reasons for migration, and many other issues. Due to this theory, education investment, which is not inferior to ordinary investment in terms of efficiency, has been considered as a source of economic growth [7].

In the 21st century, there is a need for new theories that take into account new research. The theory of preference is one of the historically based, empirically proven perspective new theories that explains the modern woman's choice between employment or family. This theory implies the multipolarity of work-life balance as a result of the diversity of women's preferences and three different models of roles in the family. The theory argues that in modern developed societies, a woman's advantage that determines the choice between having children and family life or employment and career preference in the public sphere becomes central.

Family models and people's preferences can only be determined through person-centered research. According to a study in the United States and the United Kingdom, women make a choice between three different lifestyles, which are family-oriented, work-oriented, and flexible [8]. Such a distribution was observed among those with all levels of education and all social strata. Although the number of women



studying management in higher education is increasing, there is a shortage of women who prefer work only, even in developed countries. These are mainly concentrated in sports, politics, or culture, where family life is adapted to their work activities and they are usually childless even if they live in a family. Flexible women are a category that combines family and work activities, they form the largest group and are observed in many professions. In particular, school education is the most comfortable profession, and the opportunity to work part-time allows you to maintain the optimal balance between family and work.

The third group is women who prefer to be busy with household chores, and in the western world the share of such is almost imperceptible. But it is such women who choose to study in socio-humanitarian fields such as the arts, which allow them to gain cultural capital but have low potential for high incomes. Preference theory explains the reason for the differences in employment between women and men differently. According to her, men are more active in their efforts to advance their careers than women, while women are more likely to work shorter hours than increase wages.

## Research methodology

Scientific abstraction, analysis and observation were used effectively throughout the research. In particular, the research of scientists working in this area in the study of the labor market was studied and analyzed using the method of scientific abstraction. In Uzbekistan, the methods of analysis and synthesis were effectively used in the analysis of the activities of the Ministry of Mahalla and Family Support, women's employment and making recommendations.

## Analysis and results

Employment, the creation of conditions for decent work is a pressing issue facing every government. The organization of the effective functioning of the labor market is relevant, first of all, because of its unique role in strengthening the principles of equality, tolerance, stability and social cohesion in society. Given that paid employment is the sole source of income for most people around the world, there is no doubt about how important the situation in the labor market is.

According to a survey conducted by the International Labor Organization and Gallup among 149,000 respondents in 142 countries to determine the attitude of women to employment, 70% of women and 66% of men support women's paid work, 29% of women work. working in a paid job, 41% reported working in a paid job and carrying out family responsibilities in harmony, and 27% said women preferred to stay at home. It was found that 28% of men in the family were supportive of their women's performance, 20% preferred to stay at home, and 38% did not mind both. Women from South Asia (42%) preferred to stay at home and 42% from Northern, Southern, and Western European countries (13%).

The specificity of the women's labor market has historically existed, and differences in the level of participation of women and men in the labor market are largely determined by women's reproductive functions, differences in female and male responsibilities in the family, structural barriers, and cultural constraints. In modern society, the burden of family responsibilities on the shoulders of women is heavier than that of men, so their success in the external labor market is much slower than that of men. A woman's emergence as an uncomfortable employee for the employer in relation to household responsibilities, child rearing, adult care responsibilities, etc., naturally reduces her competitiveness compared to men in the labor market.



Table 1. In some countries of the world, the distribution of average time spent per day for unpaid work by gender [10]

STATE	Women	MALE
AUSTRALIA	5 hours 15 minutes	2 hours 51 minutes
CANADA	3 hours 44 minutes	2 hours 28 minutes
FRANCE	3 hours 44 minutes	2 hours 15 minutes
GERMANY	4 hours 2 minutes	2 hours 30 minutes
INDIA	5 hours 52 minutes	52 minutes
JAPAN	3 hours 44 minutes	41 minutes
MEXICO	6 hours 23 minutes	2 hours 17 minutes
GREAT BRITAIN	4 hours 9 minutes	2 hours 20 minutes
United States	4 hours 4 minutes	2 hours 26 minutes

The data in the table below show that even in the most developed countries and countries where gender equality has been achieved to some extent, according to international estimates, women outnumber men in terms of time spent in unpaid work within the family. It is known that this difference is at least two to five to six times, in some countries such a difference is up to ten times.

Based on the above, the following specific features of the modern labor market can be distinguished:

- high participation of men in the labor market compared to women;
- Worldwide, the level of economic activity of women of working age has increased significantly in the last century, but has declined slowly over the last twenty years;
- Women around the world spend most of their time in activities that are not defined as economic activities.

Income women play an important role in their families, contribute to the family budget as an economic agent, and influence the development of society and the economy. The results of a social survey showed that 26% of women worldwide consider their income to be the main source of the family budget and 30% an important source. This view varies from country to country, with the lowest percentage being in East Asian countries (35%) and the highest percentage in Northern, Southern and Western European countries (75%) and South Asian countries (75%). 73% were observed [11].

The existence of certain differences in the wages of women and men is observed on a global scale. Differences in human capital (Altonji and Blank, 1999) [12], differences in risk and negotiation skills (Dohmen et al., 2011; Buser et al., 2014) [13], differences in psychological characteristics (Blau) and Kahn, 2017) [14], but the most important reason, as noted above, is determined by the role of motherhood, i.e. child care. According to an empirical study of Danish statistics, in 1980, 40% of the gender pay and income gap in Denmark was explained by motherhood, and by 2013, about 80% was explained by parenting.

Even at the end of the last century, education emerged as one of the leading factors of gender differences in employment. Today, the issue of childbearing and childcare is emerging as a key factor in the gender pay gap, with education becoming increasingly universal and the removal of barriers to education for



women as well. With each childbirth, a woman loses a certain amount of health and time. The results of a study in the United States and the United Kingdom also dramatically reduced the participation of mothers in the labor market, suggesting that its effects would last for several years after childbirth [16]. This difference varies from country to country, with the difference between women and men in hourly work being 16% and the difference in monthly work being on average 22% worldwide [17]. In the United States, for example, a woman's salary per \$ 1 was \$ 0.84, meaning that women's annual income averaged 84% of men's annual income [18]. Given the strong role and influence of trade unions in the labor market in developed European countries, in particular, regulated working hours for women with young children to coordinate family and work, government subsidies for child care, etc. makes the difference between the two not so great.

In developed countries, where all the conditions for women's economic activity have been created and there are no cultural and traditional barriers, the main source of differences in labor market participation, wages and income is related to childbearing and childcare. However, the situation is different in developing countries, where the legal framework for women's rights in the labor market is weak, the informal sector of the economy is dominant, and public services and guarantees for young children are underdeveloped.

In most developing countries, women's employment in the informal labor market is higher than men's. This has led to a predominance of the proportion of older women living in poverty among men as a result of problems such as low wages and the lack of social guarantees such as old-age pensions.

While the role of education as a key factor in gender disparities in labor market participation and employment in developed countries has declined significantly, access to education, especially access to higher education for women, remains important for developing countries where it is still problematic. Currently, only 35% of STEM students worldwide are women [19], and 22% of artificial intelligence professionals are women [20].

Women's family responsibilities are cited as the first reason that prevents them from working in management positions. In many countries of the world, especially in developed countries, the aging process of the population, which places many demands on the social protection system as a feature, also affects the participation of women in the labor market. With the exception of young children, the responsibilities of caring for the growing older generation in families often fall on women again. This, in turn, has a negative impact on the level of economic activity of women.

At the same time, the economy based on temporary employment based on short-term contracts, freelance, on-line, on-call to developed countries is expanding. According to estimates, research in the United States has shown that women's participation in this type of employment is lower than that of men [21].

Based on the above, it can be noted that the state policy aimed at supporting the family is an important support that serves to increase the level of activity of women in the labor market.

To date, practical measures have been developed to support and develop family businesses in all sectors of the economy. The Law of the Republic of Uzbekistan "On Family Business", adopted on April 26, 2012, serves as a legal basis for the effective implementation of family business. As defined by this Law, a family business is a voluntary basis for the production of goods (works, services) and sales by its participants, the common property owned by the participants of the family business, as well as the



property of each member of the family business. is a small business entity established on the basis of property. The activity of a family business is based on the personal labor of its participants. Also, if the family business uses the residence for the production of goods (works, services) while living in it at the same time, the payment for utility infrastructure services (electricity, water supply, sewerage, gas supply and heating) is fixed for the population. tariffs and conditions.

The analysis shows that women entering the labor market can be divided into two completely different groups. These are a group of people who are really in need of a job and who may give up active employment partially or even altogether if appropriate social security (or assistance) is available. The most acute situation prevails in the labor markets in the provinces, and special measures are required to help solve the problem of women's employment in this market and to control the labor market itself. In the current conditions in these areas, the main problem for most women is job retention. Many of them are also willing to give up work in order to maintain a guaranteed income and access to social services provided by the workplace. Men often resign voluntarily in the hope of finding a better job, while women continue to work on a part-time basis.

Thus, there are various processes taking place in the country, which are influenced by demographic and socio-economic factors, which have large regional characteristics related to unemployment among women.

Unemployment among women today is exacerbating the situation by placing single-parent and single-parent women with many children, preschoolers and mothers with disabled children under the protection of vulnerable groups. However, efforts to eliminate unemployment among women are bearing fruit, as the competition in the labor market intensifies day by day, the results of which will be seen later.

In recent years, significant work has been done to ensure the rights and interests of women, to strengthen the family in all respects. It should be noted that in order to effectively implement the state policy in this area, a vertical system is being created, which includes the lowest link - the neighborhood and the apartment.

Recently, a national working group headed by the Federation of Trade Unions of Uzbekistan, the Ministry of Mahalla and Family Support was formed to identify the problems of women in all regions. A completely new system - the "women's notebook" - has been introduced to address these issues. The problems of 80,000 women included in this "notebook" have been solved. 32,000 women in need of social protection and difficult living conditions were employed. The Crisis Fund provided practical assistance to nearly 17,000 women.

About 126,000 women have been provided with soft loans under the "Every Family is an Entrepreneur" program alone. More than 6 trillion soums have been allocated to about 215,000 families for the development of family business. About 55,000 women were trained by business and vocational centers, involved in handicrafts and home-based work.

As part of the "Five Important Initiatives", sewing workshops have been set up in remote areas and 10,000 women have been employed.

About 2,250 soums were paid initial payments of 1,250 soums for the purchase of housing.

In addition, in 2021, 210 billion soums will be allocated from the budget to provide housing for women in difficult living conditions and girls raised by single mothers.



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Another 211 billion soums will be allocated to provide homeless women with "social housing" on a rental basis. In addition, an additional 110 billion soums will be provided for the financial assistance of women who have lost their breadwinners and need the care of others, and for the treatment of women in need of qualified medical care.

At the same time, an additional 600 billion soums will be allocated from the budget to ensure women's employment, vocational training and support for entrepreneurial initiatives.

Experiences in addressing the issue of women's unemployment in different countries show that traditional approaches to promoting women's employment cannot always be successfully applied to the problem of unemployment among low-income women.

In order to achieve an effective solution to this problem, it is first necessary to ensure that the information of interest to women in this category, including information about jobs where unusual work schedules can be established, is complete and reliable. This is because it is observed that among the majority of women with childhood there is a high demand for employment that can be defined as part-time work (45%), variable work schedule (33%), part-time work week (21%). An analysis of statistical data shows that while over the last 20 years, the level of economic activity of women in average and individual regions around the world has been gradually declining, although it has varied on the example of individual countries (Figure 3). In general, despite the differences in different countries, there has been a clear decline in the level of economic activity between both sexes globally over the last 25 years. In particular, between 1990 and 2019, the level of economic activity for women decreased from 50.9% to 47.7%, while for men it decreased from 80.2% to 74.7% (Figure 1) [22]. The strongest declines are observed in the group of East Asia and the Pacific, Latin America and the Caribbean. However, it should be noted that the level of economic activity among women in both regions is much higher than the world average.

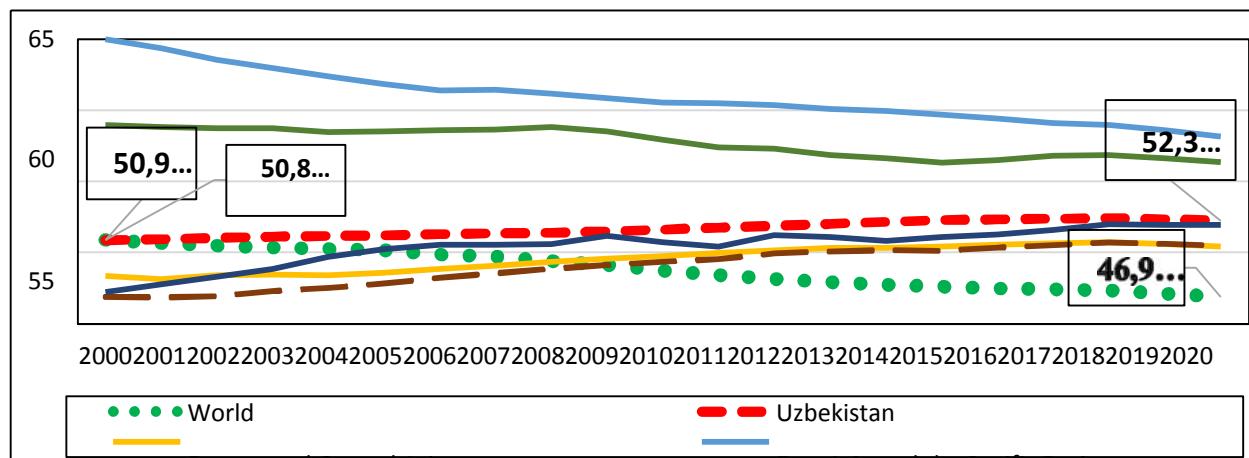


Figure 1. Level of economic activity of women in Uzbekistan and some regions of the world (according to ILO estimates, %) [25]

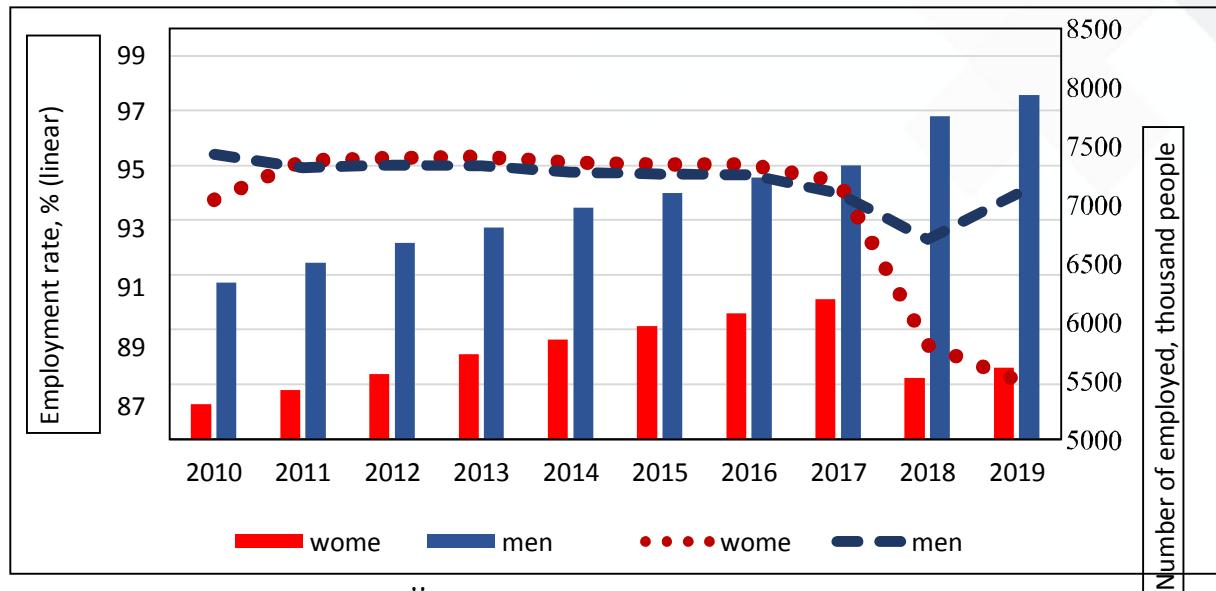
Note: According to the ILO methodology, the level of economic activity of women is calculated as the share of employed and job-seeking women in the total number of women over 15 years of age.

In contrast to the average trend in the world, the situation in our country is the opposite. It is observed that the level of economic activity of women has a tendency to increase during 2000-2020. During this period, the average global level of economic activity of women decreased from 50.9% to 46.9%, and in



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our country, respectively, from 50.8% to 52.3%.



2-расм. 2010-2019 йилларда Ўзбекистонда иш билан бандлар сони ва иш билан бандлик даражаси [25]

Analysis of employment indicators in the country showed that the number of employed women in 2010-2017 increased steadily and sharply decreased in 2018 and 2019.

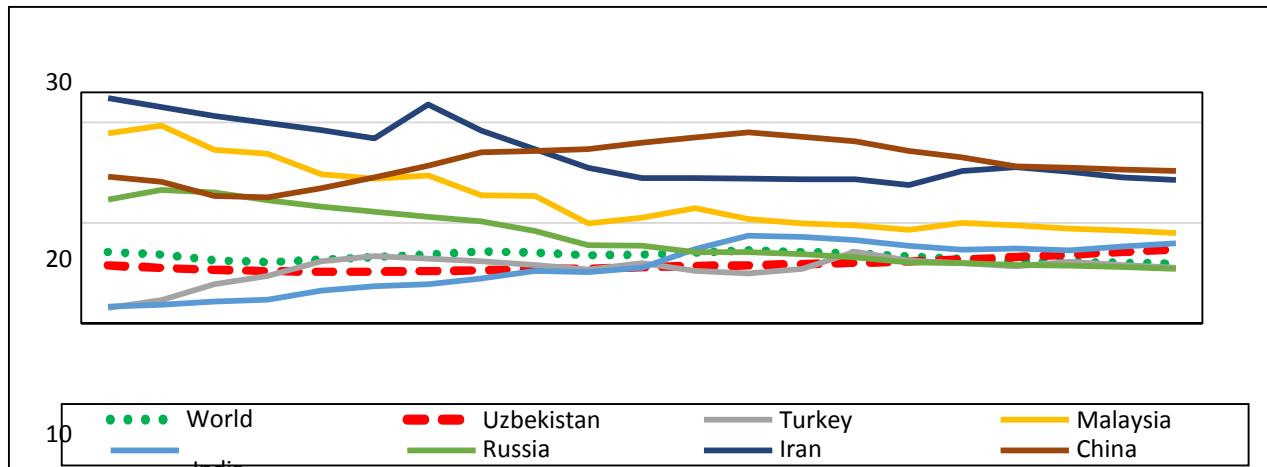


Figure 3. The level of industrial employment of women in Uzbekistan and some countries (% of total employed women) [25]

It is clear that the distribution of the labor force by sectors is determined primarily by the structural structure of the national economy. Based on the data in Figures 3, 4 and 5, it can be seen that the employment rate of women in Uzbekistan in key sectors of the economy, ie in agriculture, industry and services, is close to the world average. Among the countries shown in Figure 3, the highest levels of employment in the industrial sector for women are in China (25.1%) and Iran (24.3%). According to the World Bank, about 15.5% of women in Uzbekistan are employed in industry. Figure 6 shows that the



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share of women engaged in agriculture in our country is fully in line with average global trends.

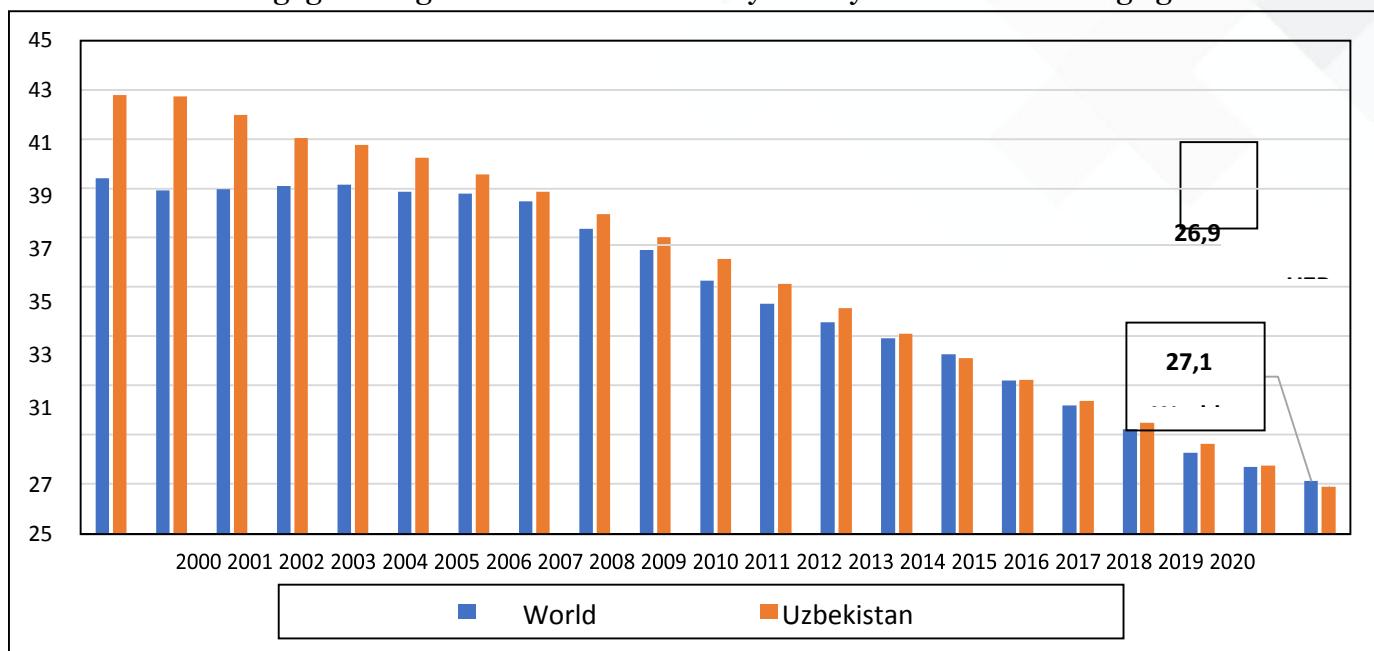
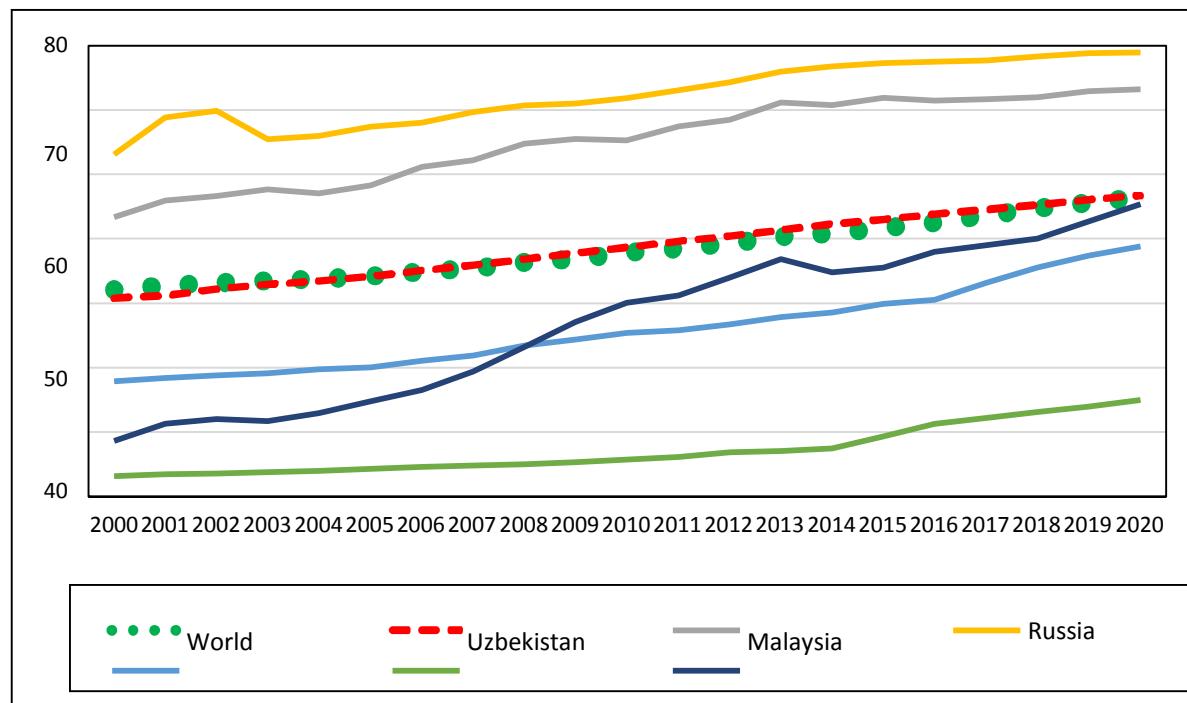


Figure 4 Employment of women in agriculture in Uzbekistan and around the world rate (% of total employed women, %)



5-picture. Employment rate of women in the service sector in Uzbekistan and some other countries (% of total employed women) [25]



The modern stage of socio-economic development is characterized by the penetration of information technology into all spheres of life and their rapid development, leading to the development of the services sector in connection with the intangible economy. Accordingly, the level of employment in the services sector is growing. For example, in Malaysia, the employment rate of women in the service sector has risen from 53.3% to 75% in the last 20 years, and in Russia from 63.1% to 80.7%. As of 2020, 95% of women in the UAE and 90% in the U.S. and Canada were employed in the service sector. According to the World Bank, 58.7% of Uzbek women are employed in the service sector. Based on these data, it is clear that there are still great opportunities for the development of services in the country.

## Conclusions and suggestions

Thus, the following measures are required to ensure that women are fully involved in the labor market and have equal opportunities with men in terms of employment:

Based on the research, it should be recognized that flexible forms of employment in family businesses - part-time employment, division of labor, flexible work schedules, flexible and virtual workplaces are an effective way to provide decent employment to economically active population. the situation will help to change the direction of production, the number and composition of employees in the short term, depending on market conditions.

Recognizing the importance of measures taken in recent years to increase the economic activity of women in the country, it is proposed to carry out the following work in the future:

- Continuous increase in monthly salaries in the areas where the majority of women are employed, ie in education and health. This event will not only serve to increase the economic well-being of women, but also lay the foundation for the qualitative formation of national human capital, which will determine the future of the country. The low level of wages in the education system sharply reduces its attractiveness for qualified personnel;
- further expansion of opportunities for women to engage in entrepreneurial activities, especially in rural areas;
- taking into account the reforms in the education system, ie the expansion of financial and territorial opportunities for women to receive secondary special and higher education in connection with the transition to an 11-year system of general compulsory education;
- In order to facilitate the adaptation of women to the labor market after childcare leave under 3 years of age, as well as the creation of conditions for the harmonization of education and family responsibilities by employment agencies in the form of vocational training and additional vocational training programs, including public distance services both;
- Restoration of the system of monthly benefits for the care of children under 2 years of age for unemployed mothers in order to provide social protection and financial support to women on maternity leave;
- Recognizing the unique role of the family, especially mothers, in the formation of national human capital, develop measures to allow working women with children under 14 to reduce their working hours by 2 hours without changing wages. It is recommended that this measure prevent the negative



impact on the level of competitiveness of women with children in the labor market, the introduction of tax and other benefits for employers who employ women in this category.

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## CHALLENGES OF INSTRUCTIONAL SUPERVISION IN NIGERIAN EDUCATIONAL SYSTEM AND THE WAY FORWARD

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### ABSTRACT

Education is a veritable commodity for any meaningful development in any society or nation that desire to measure up to international standard. For this reason it is pertinent that the process and product of education supposed yield results that can stand the test of time. In order to achieve this, government of most nations through the ministry of education in their educational policies endeavor to put in place machineries to see that qualitative and quantitative education is provided to its citizenry. They do this through supervision of educational activities. This paper is focusing on the concepts of instructional supervision, supervision, basis for supervision, principles of instructional supervision, purpose of instructional supervision, procedures and techniques for instructional supervision, qualities of an instructional supervisor, challenges of supervision, the way forward, recommendations and conclusion. Data for the paper is sourced from secondary data.

**KEYWORDS:** Principles, Procedures. Instructional Supervision

### 1.0 Introduction

The importance of supervision at all levels of education cannot be over emphasized. This is because, effective and efficient administration and management of education can only be done through adequate supervision which is the yardstick that checks and balances the management of teaching and learning process as well as quality control in our educational institutions. The issue of supervision has been a frequently discussed matter by the general public in recent times. Worry is expressed by relevant education stake holders especially on the aspect of staff ineffectiveness, poor handling and conduct of examinations, poor maintenance of existing school facilities, indiscipline among staff and students, financial misappropriation etc. The Nigerian educational system consists of the primary school education, junior secondary school education, senior secondary school education, higher education and



the other formal and informal education forms. Prominent among these educational institutions are the primary school education, secondary school education and the higher institutions. All these educational institutions seem to face similar problems of poor quality of education. World-Bank (2017) observed that the quality of basic education, measured in terms of student learning outcomes, is low in Nigeria. According to international standards, children who have completed grade 3 are expected to be fully literate. In Nigeria only 66 percent of public school students can read at least one of three words and 78 percent can add single digits after completing grade 4 (2015 NEDS). In terms of variation across the States, a test administered to grade 4 pupils as part of the 2013 Service Delivery Indicator (SDI) Survey produced an overall low score of 32 percent, with the two southern states leading the ranking (59 and 54 percent) and the two northern states with significantly lower scores (23 and 20 percent). In addition, pupils in private schools significantly outperformed those in public schools.

At the senior secondary school is a similar challenge of poor standard of education. The academic performance of students at the senior secondary school is poor. World-Bank (2017) reports that poor learning also results in low pass rates at the end of secondary school: 31 and 39 percent of registered students passed the 2014 and 2015 West Africa Senior School Certificate Examination (WASSCE), respectively. At the higher institutions, Noun (2011) submits that concern has been raised about the decline in the quality of education in Universities, Polytechnics and Colleges of Education. According to Saint, Hartmet and Strassner (2003) the Nigerian university system is performing poorly in the area of teaching and learning in terms of labour market absorption and employers' assessment of graduates while Mohammed and Gbenu (2007) and Obayan (1999) observed that the quality of education offered by higher education institutions in the recent times has deteriorated substantially. Many stakeholders in education agrees that this problem is linked to poor supervision of instruction in the Nigerian educational system. Moja (2000) submits that planning, supervision and monitoring of the entire educational system is weak and ineffective. Based on this submission, this paper will discuss the procedures, principle, purpose problems of instructional supervision in Nigeria and suggest the way forward.

## 2.0 LITERATURE REVIEW

### 2.1 CONCEPT OF INSTRUCTION

Oxford Dictionary of Current English (2006) defines instruction as the act of instructing, teaching, or furnishing with information or knowledge. Akudolu in Offorma (2004) defines instruction as the planned interaction between the learners and the learning activities. Instruction means all the activities engaged in by the teacher with the aim of facilitating change in the learners' behaviour. This definition clearly explains that, for instruction to occur someone must engage in several activities to facilitate change in learners' behaviour and the facilitator of the change is called an instructor.

According to Ochai (2012) instruction refers to the interaction between persons, materials, ideas, performances, and objects of the contrived curriculum environment. He further states that instruction is the activities or interactions between the learner and the teacher as part of the school environment, which includes human as well as material variables, so that while the teacher may not be physically present, instruction through materials or other group experiences can go on within or outside the school.



In view of these definitions examined above, one can state that the term “instruction” means an interaction between the teacher, learners and subject matter in a school environment aimed at achieving desired and positive change in learners’ behaviour.

## 2.2 SUPERVISION:

Education is a social service that is provided for the general public in all countries of the world not only for the purpose of educating and providing enlightenment for the people but, also for national development. Through education, skills are acquired, and this enables a country to grow, develop and advance. To be able to effectively provide education, there is need to ensure that the educational system is reliable. Reliability in terms of the educational system can only be enhanced through supervision (Peretomode, 1998). The Oxford Dictionary of Current English (2006) recognizes that; to supervise means to watch, direct, monitor the performance, activities of a task or the work of a person. The choice of words in this definition suggests that something crucial is at stake and that which is crucial requires to be watched, directed and monitored for improved performance and attainment of the goals and objectives set in the educational system. According to Nwankwo (1984) supervision can be divided into two categories. These are instructional and personnel supervision. He defines instructional supervision as a set of activities which are carried out with the purpose of making teaching and learning better for the learner where as personnel supervision on the other hand, deals with the set of activities which are carried out by the supervisor with the basic aim of sensitizing, mobilizing and motivating staff in the school towards performing their duties optimally in terms of the achievement of the stated aims and objective of the educational system.

Asemah (2010) defines supervision as a way of advising, stimulating, guiding, improving, refreshing, encouraging and overseeing their operations in order for the supervisors to be successful in their task of supervision. Adepoju (1999) opines that the term “supervision” is derived from the Latin word “super video” meaning to oversee. Ezeocha (1990) observes that supervision deals mainly with improvement in teachers’ performance since it helps in teaching and learning. It enables teachers to recognize and accept their achievement. Nwaogu (2000) views supervision as playing essential role in deciding the nature and content of curriculum and selecting materials to facilitate teaching. Another brilliant and noteworthy definition of supervision is that given by Abah and Odeh (2012) which defines or sees supervision as an interaction between two persons for the improvement of an activity. It is a combination or integration of processes, procedures and conditions that are consciously designed to advance the work of effectiveness of individuals or groups. It is a process of stimulating and a means of helping teachers to help themselves.

## 2.3 BASIS FOR SUPERVISION:

Peretomode (1998) highlighted the following six points as the basis for supervision in the educational system.

1. Supervision should be geared towards the improvement of teaching and learning situation for the benefit of both teachers and learners.



2. Supervision should help in the identification of areas of strength of teachers which should be further developed. Areas of weakness should be identified and the teacher should be in an understanding manner to overcome them
3. Supervision should be democratically conducted so as to give recognition to the teachers and create a cordial working atmosphere based on good relations.
4. Supervision should be tailored towards ensuring that the general guidelines as provided in the curriculum are followed by the teachers.
5. There should be follow-up activities that should be directed at the improvement of identified areas of teachers' weaknesses.
6. Supervision should help the teachers in terms of self discovery particularly in the areas of improvisation and the use of modern teaching aids as a basis for improving teaching strategies. Supervisors could help to introduce teachers to a variety of audio and visual materials that help to facilitate good teaching.

Harris (1975) listed ten tasks of supervision which are instruction related as the following;

- a) **Developing Curriculum:** Designing or redesigning what to be taught by whom, when, where and what pattern, developing curriculum guide, establishing standard, planning instruction units and instituting new courses.
- b) **Providing staff:** Assuming the availability of instructional staff members are inadequate and without appropriate competence for facilitating instruction, recruitment, selection and screening can be recommended.
- c) **Providing Facilities:** Designing or redesigning and equipping facilities for instruction, development of space and equipment specification.
- d) **Providing materials:** Selecting and obtaining appropriate material for use in implementing curricular design. Previewing, evaluating, designing and otherwise finding ways to provide appropriate materials.
- e) **Arranging for in-service education:** Planning and implementing learning experience that will improve the performance of the staff instruction related ways. This involves workshop, consolidation, field trips and training sections as well as formal education.
- f) **Orienting staff members:** Providing staff members with basic information necessary to carry out assigned responsibilities. This includes getting new staff members acquainted with facilities and also involves keeping the staff informed of organizational development.
- g) **Relating special pupils' service:** Arranging for careful co-ordination of services to children to ensure optimum support for the teaching process. This involves developing policies, assigning priorities and defining relationship among service personnel to maximize relationship between service offered and instructional goals of the schools.
- h) **Developing pupils' relation:** Providing for a free flow of information on matters of instructions to and from the pupils while securing optimum levels of involvement in the promotion of better instructor.

**Evaluating instruction:** planning, organizing and implementing procedures for gathering, analyzing, interpretation and decision making for improvement of instruction



## 2.4 INSTRUCTIONAL SUPERVISION:

Instructional supervision is one of the indispensable functions for the effective operation of a good school system. Abama (2002) refers to instructional supervision as “that phase of school administration which focuses primarily upon the achievement of the appropriate expectations of the educational system”. Alfonso et al (1975) views instructional supervision as behaviour as officially designed by the organization that directly affects teacher behaviour in such a way to facilitate pupils’ learning and achieve the goals of the organization. The position of these authors regarding instructional supervision is that, it is basically concerned with supporting and assisting teachers to improve instruction through changing their behaviour.

Idoko (2005) defines instructional supervision as a process of formerly making provision to change one behaviour to improve learning. He maintains that behaviour can include administrative, counseling, supervisory and students’ behaviour. Nwaogu in Idoko (2005) opines that instructional supervision is a process of bringing about improvement in instruction by working with the people who are working with pupils. The perception of Oluwole (2007) regarding instructional supervision is that the whole essence is all about,

- a. Improving the quality of teaching and learning for the benefit of both the learner and the teacher and to ensure that every teacher in the school is performing the duties assigned to him effectively;
- b. Assisting teachers in developing needed competencies and;
- c. Assists in assessing teachers’ effectiveness in classroom management.

The instructional supervisor, as Aderounmu and Ehielmetor (1985) rightly pointed, “does much than inspect”. Instructional supervision is “a service activity that exists to help teachers do their job better” (Wiles, 1975). It is very important to clarify that inspectors, as the name implies, go to schools to inspect (oversee, view, close scrutiny) examine materials and equipment, buildings and grounds, discipline, administration of school, school records, visit to a school to investigate a particular matter as a result of reports reaching the ministry of education. This explains why Peretomode (1998) agrees with Aderounmu and Ehielmetor (1985) that inspectors “are more like the watch dogs of teachers and schools, and do not directly enhance teachers’ instructional effectiveness or improvement” as instructional supervisors do.

## 2.5 PRINCIPLES OF INSTRUCTIONAL SUPERVISION:

Principles of instructional supervision are statements of fundamental truth that serve as guide to activities which are designed by designated officials to improve instruction and consequently to facilitate the teaching and learning process at all levels of the school system. There are a number of guiding principles which govern the operation of instructional supervision. These principles can be gleaned from the works of Burton (1938), Burton and Brueckner (1985), Wiles (1975), Harris (1975) and Nwaogu (1984). They include the following:

1. Supervision of instruction is directed towards both maintaining and improving the teaching and learning process of the school. Supervision is highly instruction related.
2. The instructional supervisor’s role is that of supporting, assisting and sharing, rather than directing.



3. Good instructional supervision is based on philosophy and science. This implies that supervision has to (a) be sensitive to the ultimate aims and values, to policies, with special reference to their adequacy in education, and (b) should be permeated with the experimental attitude, and engage constantly in re-evaluation of aims and values of policies, materials and methods.

4. Good instructional supervision is based upon the democratic philosophy. This entails:

a. Respect for personality and individual differences between personalities and seeking to provide opportunities for the best expression of such unique personality

b. Basing supervision upon the assumption that teachers are capable of growth and accepting idiosyncrasies, reluctance to corporate, and antagonism as human characteristics, just as it accepts reasonableness, cooperation and energetic activity.

c. Providing full opportunity for the cooperative formulation of policies and plans.

d. Stimulating initiative, self-reliance and individual responsibility on the part of all persons in the discharge of their duties.

e. Cooperatively, determining functional groupings of the staff with flexible regrouping as necessary and inviting specialists when advisable.

5. Good instructional supervision will employ scientific methods, attitudes, utilize and adapt to specific situations, scientific findings concerning the learner, the learning process, the nature and development of personality.

6. Good instructional supervision, either by scientific method or through orderly thought processes will constantly derive and use data and conclusions which are more objective, more precise, more sufficient, more impartial, more expertly secured, and more systematically organized than are the data and conclusions of uncontrolled opinion.

7. Good instructional supervision will be creative and not prescriptive.

8. Good instructional supervision is judged by the result it secures.

9. Good instructional supervision will enlist the co-operation of all staff members in serving their own needs and those of the situation; will provide ample, natural opportunities for growth by all concerned in the correction and prevention of teaching difficulties, and growth in the assumption of new responsibilities

10. Supervision is flexible. This principle demands that instructional supervision should be flexible and adaptive and adopt and eclectic rather than adhering to a single technique in the supervision of instruction.

11. Good instructional supervision strives to enhance the job satisfaction of teachers and also improve their morale.

12. Good instructional supervision proceeds by means of an orderly, cooperatively planned and executed series of activities.

## **2.6 PURPOSE OF INSTRUCTIONAL SUPERVISION:**

The purposes of instructional supervision include:

I. To directly influence the behaviour of teachers and the teaching processes employed to promote pupils' learning.



- II. To ensure that each individual teacher within the school system has been performing the duties for which he was scheduled.
- III. To cooperatively develop favourable climate for effective teaching and learning. Others that have been identified by Ogunsaju (1988) are:
  - IV. To know the performance of the teachers recruited to teach in the school system.
  - V. To determine whether a teacher should be transferred, promoted, retrained or dismissed.
  - VI. To improve the incompetent teacher.
  - VII. To discover special abilities or qualities possessed by teacher in the schools.
  - VIII. To provide a guide to staff development.
  - IX. To know the effectiveness of classroom management.
  - X. To assess the “tone” of the school and identify some of its most urgent needs (pp. 12-15).

## **2.7 PROCEDURES AND TECHNIQUES FOR INSTRUCTIONAL SUPERVISION:**

There is an array of procedures that a skillful instructional supervisor can employ to bring about desirable effect in teacher behaviour for achieving teaching effectiveness. Harris (1975), Goldhammer, Anderson and Krajewski, (1980) and Ogunsaju (2008) listed several procedures for instructional supervision. These procedures include the following:

1. **Classroom Observation:** Observing in classroom is one of the most commonly used procedures of instructional supervision. This procedure involves the systematic live observation of a teacher and analyzing his or her classroom practices and the teaching and learning process. It is a situation where the teacher is working directly with the learners and the supervisor is present as a witness to observe systematically classroom events. During observation, the supervisor also looks for planning and preparation, lesson presentation, teacher's personality and student-teacher interactions or relationship.

2. **Demonstration:** Demonstration is one of most effective techniques of stimulating teachers' growth. It involves the presentation of prearranged series of events to a group for their viewing. To be effective however, the demonstration should be realistic, practicable and devoid of any form of artificiality.

3. **Teacher Visitation:** This activity which is also referred to as “intervisiting” involves one teacher visiting and observing another teacher in action in another class within the same school (inter-class visitation) or in a class in another school (inter-school visitation). This procedure gives opportunity to various categories of teachers to visit others in another school and watch them teach. This procedure is particularly helpful if the beginning or inexperienced teacher watches experienced teacher in action, thus helping him to learn how to organize and manage students in the classroom, and to plan effectively and in the effective utilization of resources.

4. **Workshop:** This is another very useful procedure in instructional supervision. The activity involves a small group of people that is temporarily formed to discuss a specific topic, or work on common problem, and trying to find solutions to a specific problem. A workshop may be organized at



a particular time during the year to meet a particular need. In workshops, maximum emphasis upon interaction and an optimum amount of critical analysis of ideas related to the problem or topic at hand is encouraged in a permissive topic-centered, face-to-face situation (Harris, 1975; Ogunsanju, 2006).

5. **Micro-teaching:** This activity is very essential for the training of both pre-service and in-service teachers. Ike (2008, p.12) provides a concise description of micro-teaching as a procedure that could be utilized by supervisors. He stated that micro-teaching is a teaching situation which is scaled down in terms of time, class size, and teaching complexity to allow the teacher focus on a selected teaching strategy. It is designed to develop new skills and refine old ones.

6. **Listening to tape, radio, or recordings:** This supervisory procedure according to Harris (1975), involves using sound recordings to present ideas to one or more listeners in such a way as to help develop understanding or skill. Tape recordings of selected portions of a class meeting have been successful in stimulating group discussions and consequently changes in teacher behaviour that enhances teaching effectiveness. The use of visual presentations through the media of film, television or videotape is increasingly important in the supervisory process.

7. **Guided practice:** This supervisory procedure involves individualized or small group manipulative activities. It is an approach in which doing is emphasized rather than talking.

8. **Research:** Research is the systematic and objective collection and analysis of data in order to find solutions to identified problems. It could be used as a procedure for instructional supervision. In this regard, the supervisor has to work with and through teachers to finding solutions to problems of teaching and learning that confronts them instead of dictating solutions to or autocratically setting educational problems relating to teaching and teachers.

## 2.8 QUALITIES OF AN INSTRUCTIONAL SUPERVISOR:

There are a number of qualities or dimensions of the supervisory job that experts look for. For example, Bittel (1980 p.1), identified seven important dimensions of the supervisory job as technical know-how, administrative skill, ability to develop a plan to meet department goals, ability to deal with the manager to whom you report, communication skills, ability to deal with people inside and outside the operating unit and ability to deal effectively with people who report to you. Bittel (1980) explains that other researchers after various studies also identified success-related qualities of a supervisor as creativity, stress tolerance, initiative, independence, problem analysis, decisiveness, flexibility, risk taking and use of delegation. Also, in a study (Ofo, 2008 p.202) on teachers attributes as perceived by administrators, teachers and pupils, the “expertise” factor was rated higher than any other test factor. Some important attributes noted under the expertise factor were; interesting presentation of lesson, ability to plan, organize and have good work habits, and a thorough knowledge of subject matter.



### **3.0 CHALLENGES OF SUPERVISION OF INSTRUCTION IN NIGERIA.**

There are many challenges facing instructional supervision in Nigerian educational institutions. Some of the challenges are discussed below according to Noun (2007):

#### **(i) The dearth of qualified and trained personnel:**

Most of the personnel used as supervisors of instruction in most states in Nigeria do not have the prerequisites teachers' qualification and experience.

#### **(ii) Inadequate funds for supervision of instruction:**

Funding has been a major challenge facing not only supervision of instruction but also education in general. The available fund to the inspectorate unit in the ministry of education is not sufficient to carry out the enormous task given to them.

It is becoming increasingly impossible for inspectorate unit of the education ministries to service and repair vehicles needed for supervision exercises and even to pay duty tour allowance (DTA) of supervisors where need be.

#### **(iii) Lack of relevant supervisory competencies:**

Nigerian supervisors of education are deficient in relevant supervisory skills because there is no pre-professional or pre-practice training for the supervisors. School heads need to be trained in order to acquire the relevant skills for performing the supervisory functions.

#### **(iv). Styles of supervision adopted by supervisors:**

Some supervisors still adopt autocratic, fault-finding styles of inspection. This makes the school head and teachers become apprehensive. This set of supervisors always assumes mastery of the subjects and expect the teacher to be subservient to hem. They assume that supervisors have the knowledge and regard the teachers as inferior workers who should take instruction from them without questioning; this will always breed disdain and contempt instead of cooperation.

#### **(v). Low teachers' morale:**

School supervisors, school heads and the supervisees do not receive corresponding or much incentive to enable them to be totally committed to their jobs. The general belief by Nigerians is that teaching profession is of low esteem. More than half of the teachers on the job are bidding their time to get alternative employment and opt out of teaching because they are dissatisfied with the job. It is difficult for such a teacher with the mind-set that teaching is a stepping stone to be totally committed to their job and this could greatly have negative influence on their teaching, thereby making supervisor work more tedious.

#### **(vi) Inadequate transport facilities:**

Supervisors of education have often complained of inability to cover most of their areas of operation. This is compounded by inaccessibility of some areas e.g. riverine, nomadic and rural areas where



schools are located. The problem of transportation cannot be separated from poor funding of the inspectorate unit in the ministry of education and the state of all Nigerian roads.

### **(vii) Pre-occupation of school head with administrative duties:**

School heads are sometimes occupied with administrative duties to the extent that they have no time for academic leadership. They are more occupied with obtaining information from the ministry of education; attend parent teachers' association meetings, maintaining community – school relationship at the detriment of supervision of instruction which is one of their primary duties. School heads prefer to travel most time because of self-gain in traveling. This situation makes them toe the grip of the situation in their schools.

### **(viii) Attitude of ministry of education officials:**

During the colonial and postcolonial era, funding of schools was based on the submitted reports by the supervisors of education about the development of the schools. Funding schools in contemporary times does not depend on school performance in examinations. Supervisor's report is now worthless at the ministry because the reports are not being taken seriously by the ministry of education officials in the recent past as they were in the colonial period.

### **(ix) Policy instability:**

This has to do with frequent change in educational policy without adequate knowledge of the supervisors which often leads to confusion or uncertainty. The supervisors are not carried along when policies affecting education are to be changed/amended. For example, change of school calendar, abolition and re-establishment of bodies like NPEC, abolition and re-introduction of private universities etc (Noun 2007).

## **4.0 WAY FORWARD:**

To ensure effective instructional supervision in the Nigerian educational institutions, the following were recommended:

- a) The government should increase the funding of school supervision;
- b) The government should employ more qualified professional supervisors and deploy them to ministries and agencies handling supervision across the country;
- c) More working materials should be provided for supervisors to carry out their function;
- d) Training and retraining programme should be organized for all supervisors in the country;
- e) The government should ensure stable educational policies.
- f) The government should provide adequate transport facilities to aid movement of supervisors of supervision
- g) The government should motivate the supervisors by increasing their salaries and other allowance.

## **5.0 CONCLUSION**

In this paper, the difference between instruction and supervision was identified and explained in line with the views and opinion of experts. The writer cited and examined various definitions given by



different authorities in the field of education regarding supervision and instructional supervision. Discussions were made on instructional supervision, principles of instructional supervision, procedures and purposes of instructional supervision and problems facing instructional supervision in Nigeria. Finally, the writer examined and identified a number of qualities of an instructional supervisor as given by ( Bittel,1980, and Ofo, 2008) based on studies conducted by experts so that supervisors can offer supervisory roles to the supervisee to enhance teaching and learning process. All the recommendations raised need an urgent attention of the government at all levels.

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## PSYCHOLOGICAL ANALYSIS OF THE FORMATION OF A PERSON'S CREATIVE ABILITY

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National University of Uzbekistan Psycholog (By type of activity) 1st year master's degree the fourth largest industry in the world today the engine of civilization is the mover the power is creativity.

### Annotation

The article presents views on the results of research and ideas on creative thinking, the psychological and pedagogical characteristics of creative thinking ability, as well as the psychological analysis of creative ability.

**Keywords:** creativity, creative thinking, creativity, fluency, flexibility, originality, component, approach.

Shaxsda kreativlik sifatlarini rivojlantirish uchun dastlab bu tushunchaning mazmunini bilish psixologik jihatdan anglash lozim. Kreativlik so'zi (inglizcha "creative" - yaratuvchanlik, ijodkorlik) so'zidan olingan bo'lib, inson shaxsining ijodkorlikka bo'lgan qobiliyati, ijodkorlik iste'dod darajasi, individning an'anaviylik yoki odat tusiga kirgan fikrlash sxemasidan uzoq bo'lgan, prinsipial yangi g'oyalarni yaratishga tayyorlikni xarakterlovchi, shuningdek, muammolarni o'zgacha tarzda bartaraf etish, iqtidorning mustaqil faktori sifatida qabul qilingan ijodiy qobiliyatidir. Kreativlik deganda insonning yangilik yaratish, o'zgacha hisoblangan g'oyalalar ishlab chiqish, muammolarni yechishga qaratilgan ijodiy qobiliyati tushuniladi. Uning tubzamirida originallik, amaliylik, noodatiylik va erkinlik yotadi. Shuningdek, kreativ fikrlash muayyan masala yuzasidan kompleks fikrlash, bir nuqtaga turli xil tomonidan yondashishni anglatadi Amerikalik olim D. Veksler "Kreativlik fikrlashning shunday turiki, u shaxsga bir muammo yoki masala yuzasidan birdaniga bir nechta yechimlar paydo bo'lishini taqozo etadi va shablonli, zerikarli fikrlashdan farq qilib, narsa va hodisalar mohiyatidagi o'ziga xoslik, noyoblik sifatlarini anglashga yordam beradi" - deb ta'rif beradi. Kreativlik shaxsni yaxlit holda yoki uning muayyan xususiyatlarini, zehni o'tkirlikni tavsiflaydi. Shuningdek, kreativlik iqtidorning muhim omili sifatida aks etadi. Amerikalik psixolog P. Torrens fikricha, kreativlik muammo yoki ilmiy farazlarni ilgari surish; farazni tekshirish va o'zgartirish; qaror natijalarini shakllantirish asosida muammoni aniqlash; muammo echimini topishda bilim va amaliy harakatlarning o'zaro qarama-qarshiligiga nisbatan ta'sirchanlikni ifodalaydi. Boshqa har qanday sifat (fazilat) kabi kreativlik ham birdaniga shakllanmaydi. Kreativlik muayyan bosqichlarda izchil shakllantirib va rivojlantirilib boriladi. Kreativlik sifatlariga ega bo'lishi uning shaxsiy qobiliyatlari, tabiiy va ijtimoiy quvvatini kasbiy faoliyatni sifatli, samarali tashkil etishga yo'naltiradi.

V. Arteymning izlanishlarida ijodkorlik uning mahsuli bo'lgan ob'ektga qarab baholanmaydi, de b aniq munosabat belgilanadi. Uning fikricha: «Kreativlik bilim, faoliyat va istakning uyg'unligi». Ko'rinib turganidek, kreativlik masalasi ilmfanda asosan psixologik tushuncha (kategoriya) sifatida ta



hlil etilgan hamda uning bevosita inson psixikasi bilan bog`liq ekanligi e`tirof etilgan. Agarda til va a nutq inson psixikasining mahsuli sifatida namoyon bo`ladigan bo`lsa, uning shakllanishi va rivojlanishi pedagogik muammosifatida ham tahlil etishni taqozo etadi. Kreativlik shaxsni rivojlantiruvchi kategoriya sifatida inson tafakkuri, ma`naviyatining ajralmas qismi hisoblanadi, u shaxs ega bo`lgan bilimlarning ko`pqirrali ekanligida emas, balki yangi g`oyalarga intilish, o`rnatilgan stereotiplarni isloh qilish va o`zgartirishda, hayotiy muammolarni yechish jarayonida kutilmagan va noodatiy qarorlar chiqarishda namoyon bo`ladi. Kreativ bo`lish bizning nazarimizda esa, kreativ shaxs bo`lish bugungi kundan bir qancha afzalliklarga ega bo`lish, masalan, jamiyatdagi boshqa shaxslardan ajralib turish, boshqalarga qaraganda o`zgacha muloqotdosh bo`lish, hayot qiyinchilikllarida oson ikki tomonlama manfaatli, nooadatiy holatda yechim topa olishlik orqali kreativlik qobiliyati namoyon bo`lishi lozim. Patti Drapeauning fikricha, bir shaxsning, ayniqsa, o`qituvchining kreativligi boshqa (talaba)larni ijodiy jarayonni tashkil etishga ruhlantiradi. Endilikda kreativ fikrlash va ko`nikimalari mohiyatiga batafsil to`xtalsak. Har bir tushunchani kelib chiqish zamiri sohibi bo`lgani singari kreativlik tushunchasini ham otasi mavjud. “Kreativlik otasi” mashhur Pol Torrans hisoblanadi. U to`rtta kreativlik ko`nikmasini aniqlagan (1987a). Uning olib borgan tadqiqotlari shundan dalolat beradiki, mazkur kreativ ko`nikmalarni shakllantirish va ularni baholash mumkin:

**1. Ravonlik.** Ko`plab g`oyalarni o`ylab topish ko`nikmasi ko`p degan so`zga asoslanadi. Kreativ ravonlikning asosiy maqsadi bo`lajak har bir kasb egasida emas, balki bir nechta g`oyalarni o`rtaga tashlash ko`nikmasini shakllantirishdan iborat. Masalan: Ko`p hollarda o`qituvchilar bo`lajak pedagoglarda ravonlik ko`nikmasini shakllantirish uchun “aqliy hujum” strategiyasidan foydalanadilar. Bu mashq og`zaki yoki yozma (g`oyalarni qog`ozga yozib, keyingi talabaga qo’shimcha g`oyalalar kiritish uchun uzatishi lozim) tarzda bajarilishi mumkin. “To’xta va boshla” mazmundagi “Aqliy hujum” mashqida Bo`lajak pedagoglar g`oyalarni o`rtaga tashlab, ularni tahlil qiladilar va baholaydilar, so`ngra bu yana bir bor qaytariladi.

**2. Moslashuvchanlik.** Turli g`oyalarni o`ylab topish ko`nikmasi o`zgartirish degan so`zga asoslanadi. O’quvchilar keng fikr yurita olsalar, vaziyat va muammoga ham bir qancha va turli echim topadilar. Kreativ shaxslar ham moslashuvchanlikni ular turli nuqtai - nazar va fikrlarni inobatga olganlari va ularni tahlil qilganlarida, turli fikrlarni bir-biri bilan solishtirganda va ularning o’xshash va farqli tomonlarini topganlarida va nihoyat muvafaqqiyatga erishib, yaxshi natijalar ko’rsatayotganlarida kuzatish mumkin. Moslashuvchanlik kreativ ko`nikmalarni shakllantirishda analiz-sintez va taqqoslash orqali aqliy taraqqiyotda ahamiyatga ega.

**3. O’ziga xoslik.** Boshqalarga o’xshamagan, ajralib turuvchi g`oyani o`ylab topish ko`nikmasi noyob degan so`zga asoslanadi. O’ziga xoslik noodatiy g`oyalalar o`ylab topish ko`nikmasidir. Masalan: o’quvchilar o’zlarida avval moslashuvchanlik va ravonlik ko`nikmalarini shakllantirib, so’ng nooodatiy, original g`oyalarni kashf etish ko`nikmasini hosil qilishlari lozim. Ravon fikrlash ko`nikmasi o’quvchilarda originallikni rivojlantirishda boshlang’ich va asos soluvchi qadam bo’lib xizmat qiladi. Agarda talaba ko`p g`oyalarni o`rtaga tashlasa, ulardan bir yoki ikkitasi albatta boshqa talabaning g`oyasi ham bo`ladi (Simonton, 1999). Bundan ko’rinib turibdiki kreativlik o’ziga xoslik ko`nikmasini shakllanishida ham muhim hisoblanadi. Misol o’rnida Google kompaniyasi tarixiga yondashsak; IBM prototipi hisoblangan Kompyuter-Tabuling-Yozish Kompaniyasi (CTR) 1911 yilda Charlz Flint tomonidan tashkil etilgan bo’lib, u biznesni birlashtirish istagi tufayli “ishonuvchilarning otasi” sifatida



tanilgan. Flintning yirik tashkilotlarni afzal ko'rishi asossiz emas edi: bunday korxonalarini boshqarish katta foyda keltirdi va biznesni kengaytirishga olib keldi.

Bu yerda o'ziga xoslik kerakli joyda va vaqtida so'ngi qarorni qabul qilishlikdadir.

**4. Yaratuvchanlik.** "Yaratuvchanlik" tushunchasi boshqa bir g'oyani rivojlantirish va uni kengaytirishga asoslanadi, ya'ni berilgan vazifalar anu shu g'oya asosida bajariladi. Bir g'oyani kengaytirish uchun bo'lajak pedagoglar mavzu, muammo yoki vazifa mazmunini chuqur anglab yetishlari va talab etilgan darajada bilimga ega bo'lishlari lozim. Shunisi ahamiyatli, yaratuvchanlik har qanday soha rivojida global darajaga chiqadi. Chunki, yuksalishda, ma'lum bir taraqqiyot zonasida pozitsiyani egallashda e'tibor beriladigan asosiy masala sifat va miqdor hamda uning so'ngi natijasi hisoblanadi. Masalan, "1880-yillarda The Tabulating Machine Company-ning yaratuvchisi Herman Xollerit punch-karta uskunalarini ixtiro qildi. Yorliqlar deb nomlangan bunday qurilmalar ma'lumotlarni hisoblash bilan bog'liq ko'plab operatsiyalarni bajarishga qodir edilar. Bollimor Sog'liqni saqlash boshqarmasida Xollerit tomonidan yaratilgan talablardan muvaffaqiyatli foydalanish, shuningdek, harbiy bo'limning bosh jarrohi Xolleritni ro'yxatga olish jarayonida kelajakda foydalanish uchun asboblarni tanlash bo'yicha tanlovda ishtirok etishga undadi. Musobaqa davomida ma'lum bo'lishicha, ko'rsatilgan hisob-kitoblarni amalga oshirishda, Xolleritning uskunalari raqiblarining qurilmalariga qaraganda ancha kam vaqt sarflagan, natijada yaratuvchi bilan shartnomaga tuzilgan. Hollerit tomonidan ixtiro qilingan tabulyatorlar 1890 yilda AQSh aholisini ro'yxatga olishda foydalanish uchun tanlangan". Bu yerda yaratuvchanlikni asosiy komponenti bugun va kelajak o'rtasidagi muvofiqlik va uyg'unlikni anglay olishidadir.

Rivojlanish zonasida har qanday sifatlarni yuzaga chiqishini chekllovchi omil mavjud. Muayyan omillar shaxsda kreativlik sifatlari, malakalarini rivojlantirishga to'sqinlik qiladi. Shaxs kreativligini psixologik tahlil qilishda shu negativ ahamiyatga ega omillarga alohida e'tibor qaratish lozim. Quyida keltirilgan omillar shaxsda kreativlikni rivojlantirishga to'sqinlik qiladi:

- 1) O'zini tavakkaldan olib qochish;
- 2) Fikrlash va xatti-harakatlarda qo'pollikka yo'l qo'yish;
- 3) Shaxs fantaziysi va tasavvurining yuqori baholanmasligi;
- 4) Boshqalarga tobe bo'lish;
- 5) Har qanday holatda ham faqat yutuqni o'yash .

Shaxs yuqoridagi keltirilgan sifatlardan cheklansa uning faoliyati kreativlikni ijobiy sifatlari bilan boyitilsa yaratuvchanlik hususiyatlari Sechenov tabiri bilan "Shartli refleks" larga aylanib boradi. So'ngra faoliyatda albatta, o'z ta'sirini ko'rsatadi.

Kreativlik qobiliyati shakllanishida ma'lum bir psixik komponentlar ta'sir o'tkazadi. Bular yaratuvchanlikni yuzaga kelishi va rivojlanishida ahamiyatli fundament bo'lib xizmat qiladi. Ilmiy adabiyotlarni tahlil qilish quyidagi o'zaro bir-biriga bog'liq kreativlik tarkibiy komponentlarini ajratish imkonini beradi:

1. Intellektual (aqliy);
2. Ahloqiy (o'z-o'zini boshqarish);
3. Motivatsion (maqsadiy);
4. Emotsional (his hayajonli).



Har bir shaxsning kreativligi, bu uning qat'iy, chegaralangan yoki sust chegaralangan sharoitlarda har xil original g'oyalarni izlab topish layoqatidir.

## **Kreativ layoqat quyidagi o'zaro bir-biriga bog'liq bo'lgan qismlardan iborat**

Kreativlik maqsad	Kreativ ifodali akt
Ijodiy intilish	Kreativ o'z-o'zini boshqarish
Kreativ (ustanovka) qurish	Kreativ faollik
Kreativ yo'nalish	Kreativ intilishlar darajasi

Kreativlik potentsiali uning umumiyl xususiyati sifatida aks etadi. U ijodiy faoliyatning dastlabki sharti va natijasi sanaladi. Mazkur sifat shaxsning o'z-o'zini namoyon qilish layoqatiga egalikni va tayyorlikni ifodalaydi.

Qolaversa, kreativ potentsial negizida har bir mutaxassisning shaxsiy qobiliyatları, tabiiy va ijtimoiy quvvati yaxlit holda namoyon bo'ladi. Kreativ potentsial bilish jarayoniga yo'naltirilgan ijodkorlik bilan chambarchas bog'liq. Kreativlik potensialini misol o'rnida pedagoglarda olishimiz mumkin. Pedagogning kreativ potentsiali an'anaviy tafakkur yuritishdan farqli ravishda quyidagilarda namoyon bo'ladi:

- tafakkurning tezkorligi va egiluvchanligi;
- yangi g'oyalarni yaratish qobiliyati;
- bir qolipda fikrlamaslik;
- o'ziga xoslik;
- tashabbuskorlik;
- noaniqlikka toqat qilish;

## **Pedagog kreativlik potentsialiga ega bolishi uchun esa kasbiy faoliyatida quyidagilarga e'tiborini qaratishi zarur:**

- kasbiy faoliyatiga ijodiy yondashish;
- yangi g'oyalarni yaratishda faollik ko'rsatish;
- ilg'or pedagogik yutuq va tajribalarni mustaqil o'rganish;
- hamkasblar bilan pedagogik yutuqlar xususida fikr almashish.

Har bir shaxsning o'zini - o'zi rivojlantirishi va o'zini - o'zi namoyon eta olishi bevosita uning kreativlik qobiliyatiga egaligi bilan bog'liq.

Odatda shaxsning kreativlik qobiliyatiga ega bo'lishlari pedagogik va psixologik muammolarni hal qilishga intilish, ilmiy-tadqiqot ishlari yoki ilmiy loyihalarni amalga oshirish va o'zaro ijodiy hamkorlikka erishishlari orqali ta'minlanadi. Har qanday kreativlik zamirida ma'lum bir potensiya yotadi. Xususan, shaxsning kreativ potentsiali quyidagi tarkibiy asoslarni o'z ichiga oladi:

**Maqsadli-motivli yondashuv** (ijodiy faoliyat qadriyat sanaladi va u pedagogning qiziqishlari, motivlari, faoliyatni tashkil etishga intilishida ko'zga tashlanadi); **Mazmunli yondashuv** (o'zida pedagogik, psixologik, maxsus va innovatsion xarakterdagi BKMni aks ettiradi);

**Tezkor faoliyatli yondashuv** (o'zida ma'lum fikriy-mantiqiy fikrlashga doir harakatlar, shuningdek, amaliy (maxsus, texnik, texnologik) faoliyat usullarini ifodalaydi);



**Refleksiv baholash** (bunda shaxsiy ijodiy faoliyat mohiyatini anglash, o'z- o'zini tahlil qilish va o'z- o'zini baholash ko'zga tashlanadi);

"Kreativlik ko'chuvchanlik xususiyatiga egadir. Kreativ bo'lish uchun shaxs ko'proq kreativ insonlar bilan muloqot qilishi va hamisha izlanishda bo'lishi lozim. Har qanday ko'nikmani shakllantirish mumkin bo'lganiday, kreativ fikrlash qobiliyati yoki ko'nikmasini ham rivojlantirish mumkin. Bu har bir shaxs fenomeniga taalluqli bo'lib, kreativlik ustida ishlash kelajak insonlarini noodatiy tarzda fikrlashga yordam beradi. Kreativlik bo'yicha olib borilgan tadqiqotlar va kreativlik nazariyotchilarining ishlari kelajak shaxslarida kreativlik ko'nikmasini shakllantirishda dastur sifatida xizmat qiladi.

Tomas Edison "Kreativlik — g'ayriixtiyoriy jarayon", deydi. Lekin har kuni ko'plab mutaxassislar muammolarga noodatiy yechim topishga zaruriyat sezadi. Ular mana shu g'ayriixtiyoriy jarayonni ixtiyoriylashtirishi mumkinmi? Tabiatda yangi fikrlarni yuzaga keltiruvchi "sehrli tayoqcha" yo'q, biroq har qanday mutaxassisning kreativ o'ylashiga ko'maklashadigan ko'plab usullar mavjud. Buning uchun ijodiy fikrlashga vaqt ajratish, ijodiy salohiyatni anglash lozim. Jorj Bernard Shou hazillashib shunday deydi: "Ko'pchilik yiliga ikki-uch marta o'laydi. Mening butun dunyoga mashhurligim sababi — haftada bir yoki ikki marta o'ylaganim". Demak, xayolga kelgan yangi fikrlarni e'tiborsiz qoldirmaslik, o'ylash uchun imkon yaratish muhim. Keltirilgan psixologik tahlil natijalaridan hulosa qilish mumkinki, kreativlik bugungi kunda har bir shaxsdan talab qilinadigan kriteriya sanaladi.

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## THE OPINION OF MOTHERS AS ONE OF THE FACTORS IN THE PREVENTION OF ANEMIA

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### Abstract:

A survey of 50 mothers was carried out for their awareness of anemia: an insufficient level of awareness of mothers was revealed. A lack of knowledge was identified in the following issues: the causes of anemia, the effect of food on the development of anemia, a set of foods, especially those rich in iron, the effect of anemia on the health and development of the child.

**Key words:** WHO - World Health Organization, IDA - iron deficiency anemia, unbalanced diet, healthy lifestyle - healthy lifestyle, respondents

**Актуальность.** Приоритетным направлением здравоохранения признана проблема охраны материнства и детства. В последние годы проблема охраны материнства и детства остается одной из важнейших проблем в медицине мира, среди болезней особое место занимает анемия у женщин в период фертильности, у беременных, а также у детей и подростков. Чаще у детей всего (в 90% случаев) встречается **железодефицитная** анемия. До 60% детей, рожденных от многоплодной беременности и младенцы на первом году жизни, также страдают от недостатка железа.

Медицинская статистика по данным ВОЗ: анемией страдают около 1,9 млрд. человек во всем мире. А скрытый недостаток железа (сидеропению) можно обнаружить у 3,8 млрд. человек. Главная причина железодефицитной анемии, по ВОЗ — это несбалансированная диета, бедная железом. В Андиканской области анемия чаще встречается у беременных и у кормящих матерей.

**Цель исследования.** Изучить знания матерей на предмет их информированности по вопросам анемии.

**Материал и методы исследования.** Проведено анкетирование 50 матерей на предмет их информированности по вопросам ЖДА. Анкета состояла из 15 вопросов.

**Результаты и их обсуждение.** По результатам проведенного опроса был составлен обобщенный портрет респонденток: возраст от 22 до 42 лет; высшее или средне-специальное образование (65%); имеет 2 и более детей (78%); возраст ребенка до 3-х лет (55%).



## Academicia Globe: Inderscience Research

Результаты анкетирования оценивались методом подсчета индикаторов правильных ответов, которые выбрали участники опроса. На вопрос: «Что такое анемия?» (рис.1) 41 респондентка (82%) дала правильный ответ - малокровие, 9 человек (18%) ответили - кровотечение.

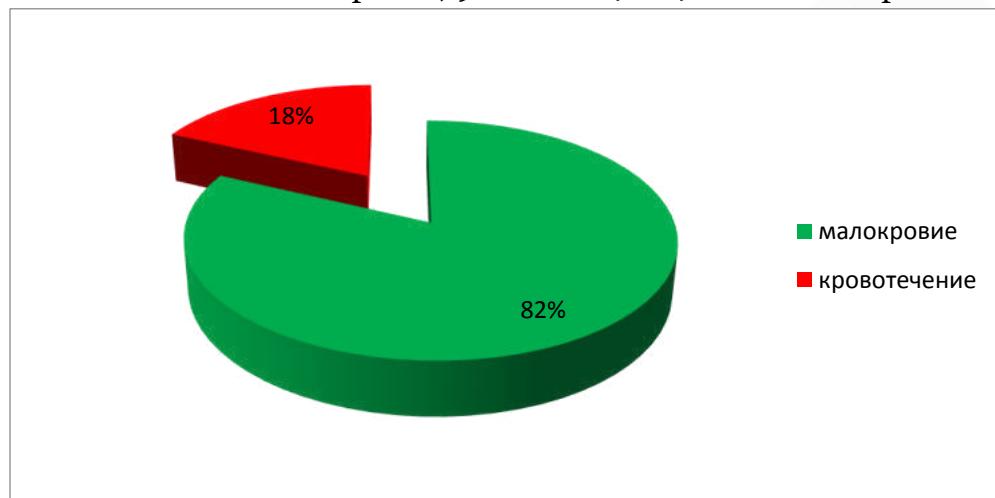


Рис.1

На вопрос о причинах анемии (рис. 2) большинство опрашиваемых основной причиной назвали неправильное питание (42%), 9 (18%) матерей выбрали только кровопотери, 16 (32%) участников опроса указали несколько причин (заболевания желудочно-кишечного тракта, обильные менструации, неправильное питание) и 8% не знают причины анемии.

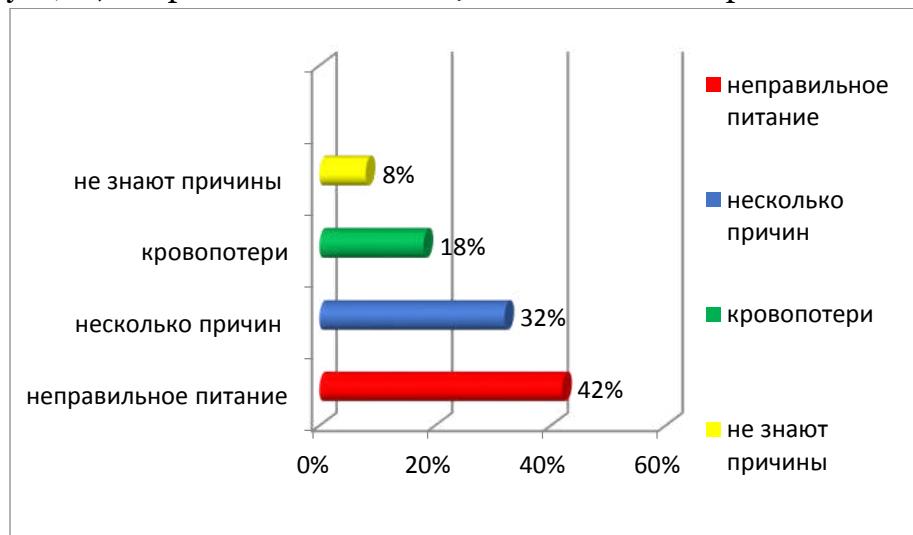


Рис. 2 Причины анемии по мнению респонденток

При ответе на вопрос: «В каком возрасте у детей чаще всего возникает анемия у детей?» (рис.3), большинство респонденток (52%) считают, что возраст не имеет значения, 10 (20%) человек назвали грудной возраст, 5 матерей (10%) – младший школьный возраст и 9 (18%) человек не знают ответ на данный вопрос.

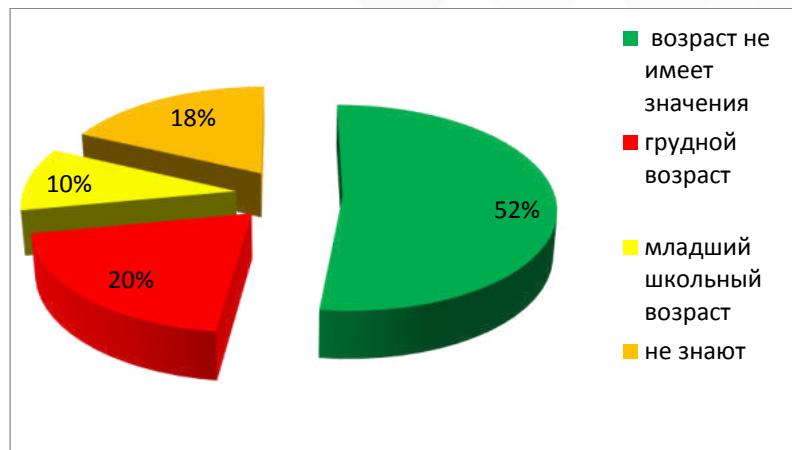


Рис. 3. В каком возрасте у детей возникает анемия

Абсолютное большинство респонденток (64%) назвали препараты железа основными в лечении анемии (рис.4), 10 (20%) матерей считают, что продукты, богатые железом являются главными в лечении и 8 (16%) матерей назвали препараты железа в сочетании с питанием.

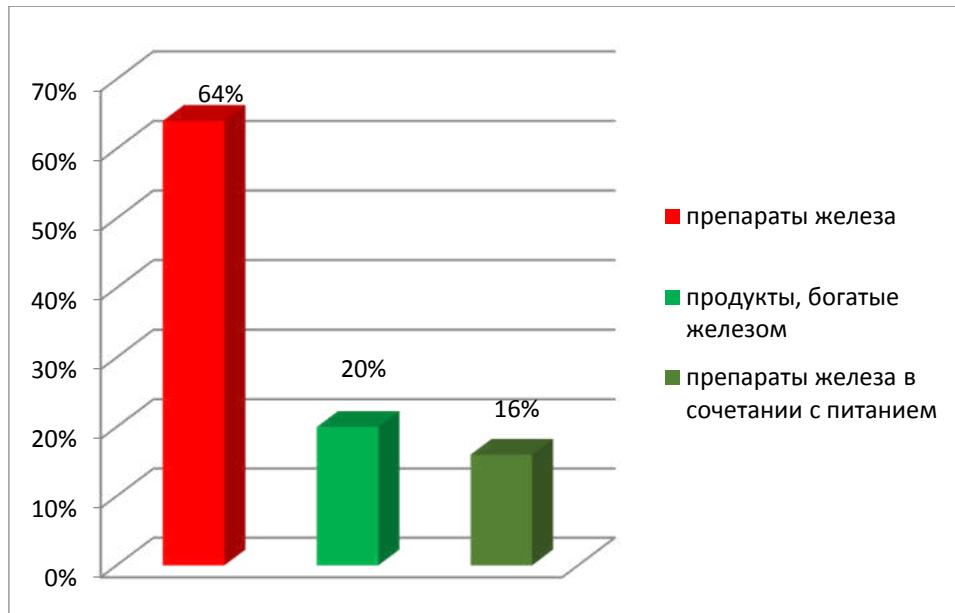


Рис.4 Лечение анемии по мнению матерей

Среди продуктов богатых железом (рис.5) 30 (60%) матерей выбрали мясные продукты, среди которых есть говядина, баранина, курятину, субпродукты, 15 (30%) матерей не знают, что мясные продукты являются основным источником железа для детей, считают, что нужно больше употреблять овощей и фруктов, и 5 (10%) матерей не знают точный ответ на этот вопрос.

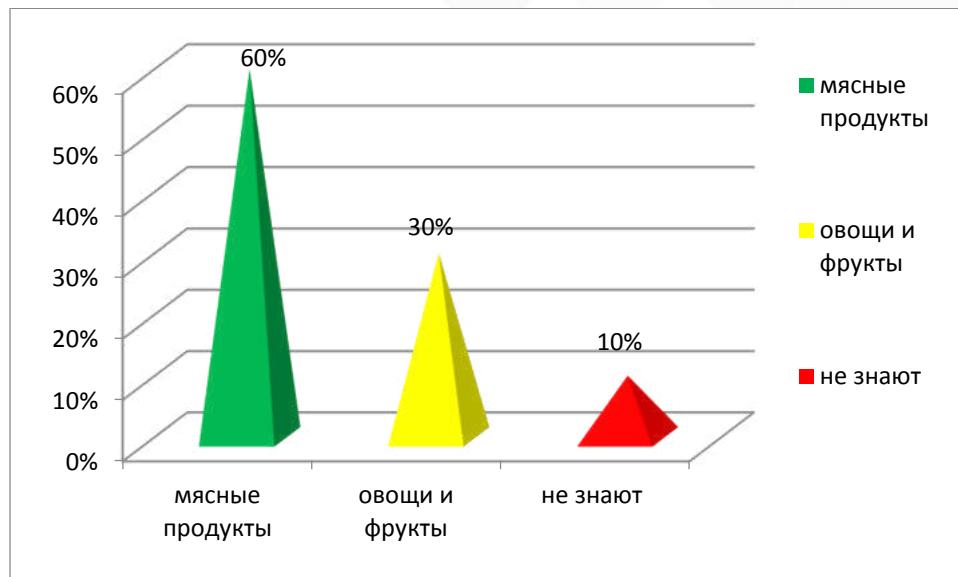


Рис.5 Продукты богатые железом

При ответе на вопрос, влияет ли анемия на здоровье и развитие ребенка (рис.6), подавляющее большинство опрошенных матерей (80%) дали положительный ответ, 4 (8%) матерей считают, что анемия не влияет на качество жизни детей и 6 (12%) матерей не знают точный ответ на данный вопрос.

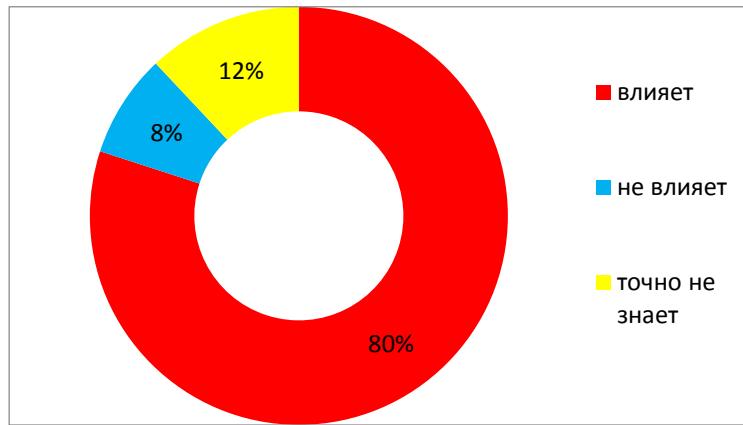


Рис.6 Влияние анемии на здоровье и развитие ребенка

На основании анализа анкетных данных, выявлен недостаточный уровень осведомленности матерей по вопросам ЖДА. Большой дефицит знаний у матерей выявлен в следующих вопросах: причины анемии, влияние продуктов питания на развитие анемии, набор продуктов, особенно богатых железом, влияние анемии на здоровье и развитие ребенка. Необходимо медработникам проводить пропаганду ЗОЖ с родителями по устранению дефицита их знаний по вопросам анемии, а также здорового адекватного питания.



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## IMPROVEMENT RESEARCH COMPETENCE OF FUTURE STUDENTS IN HIGHER EDUCATIONAL INSTITUTION

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### ABSTRACT

The present day specifies more requirements for a person's ability for selfimprovement and self-development, and professional and social mobility, to the level of intellectual development as these qualities determine human value as a personality and as an expert in modern society (Biktagirova & Valeeva, 2013). Therefore the system of higher education has to provide for the development of these qualities to ensure the university graduates' life-long self-improvement. This goal may be realized through the competency-based approach which the Federal law "About education in the Russian Federation" has defined as the major practical method of higher education modernization in regard to the increase of its quality and labor market requirements. Many scientific works (e.g. Pidkasisty, Belyaev, & Khutorskoi, 2013) are devoted to the issues of theoretical substantiation of education modernization and students' training system improvement for professional activity in the context of present-day conditions.

Nowadays, scientists express various opinions in regard to competency-based approaches in education. At the same time, the analysis of sources allows us to draw a conclusion that there is no uniform, standard definition of the concept "competence", besides, there is a different interpretation of the terms "competence" and "competency". To differentiate the semantic meaning of these concepts we will consider Khutorskoi's point of view, who understands competence as "some aloof, beforehand set requirement to a learner's educational training, and competency as already accomplished personal quality (set of qualities) and the minimum experience in relation to the activity in the designated sphere" (Khutorskoi, 2013). In many works (e.g. Khutorskoi, 2011; Komarova, 2008; Shadrikov, 2006; Skornyakova, 2013), various approaches to the concept of research competence are singled out: It is considered as a personality's integrative quality; as a personality's special property; and as an ability for research activity. Its fundamental elements are Research competence development of students © 2015 iSER, Mathematics Education, 10(3), 137-146 139 the body of knowledge, skills and habits that the student has in a certain subject sphere, and the ability for independent cognitive activity. Some authors (Khutorskoi, 2009; Lebedev, 2009) propose the classification of educational competences according to three levels that correspond to the content of education; subject, all-subject, and Meta subject; which all relate to the general education content.

**Research competence** – is a complex, stable, multi-formation in the psyche of the individual, which is acquired during a specially crafted learning process, which allows her to know objective reality through scientific instruments, and have more or less reliable information about it. *Competence* means that you have the ability to do something well. You are capable of performing a task or job effectively.



## Academica Globe: Inderscience Research

Competence can include the knowledge and skills needed to solve a quadratic equation. Or, it can comprise the much larger and more diverse clusters of skills, or *competencies*, needed to lead a multinational corporation.

The concept of competence is creeping into our lives, pervading our thinking about developing people of all ages – from new babes to weathered professionals. We find it in modern human resources departments in our workplace, and in innovating schools experimenting with competence-based education.

But where is this concern with competence coming from?

Is it the right way forward, or just another buzzword?

In fact, *competence* has been around for some time now. The roots of competence lie in a debate about general intelligence – IQ or *g*.

David McClelland of Harvard wrote a classic paper on the issue: *Testing for Competence Rather than Intelligence*. He published it in the journal *American Psychologist* in 1973. Forty years later, it's still as punchy and pertinent as ever. Let me tell you about my favorite line of his argument...

The research competence is an example of meta-subject competence. It includes the whole complex of educational competences directly connected with thought, search, logic, and creative processes of students' knowledge mastering. Some authors (e.g. Edwards & Osipova, 2011) pay attention to the converting nature of research competence and represents it as an integrated personal quality. This is expressed as the readiness and ability to master and receive systems of new knowledge independently, as a result of the transfer of an activity semantic context, from functional to converting, on the basis of already available knowledge, abilities, skills and ways of activity. In our opinion, spontaneous teaching of some skills of research activity during traditional training sessions and extra curricula work cannot serve the basis for competence formation of the designated competence. Only systematic use of opportunities of several modern pedagogical technologies (research, design, information and communication, etc.) may provide the solution to the objective. Many scientists speak about the availability of a huge potential in the research competence development on the material of different areas in mathematics. To solve the issue of research competence development of students trained in the mathematical direction it is necessary to do the following:

1. Change the system analysis of the research competence structure to select methodological and methodical justification of its development process;
2. Define the body of student's research competences and their characteristics within professional and mathematical training in higher education institutions;
3. Construct the model of research competence development where goals, tasks, structure, logic, content, methods, forms, and means of implementation are the body of this process;
4. Select traditional and innovative technological strategies to involve students in research activity;
5. Develop techniques aimed to develop research competence based on the modeling of educational researches and arrangement of independent research activity;
6. Develop a compendium of research projects that unite content and technological aspects of the research activity on the material of specific mathematical disciplines;
7. Formulate criteria to assess the level of students' research competence;



8. Develop the technology to realize the model and to verify experimentally its efficiency in regard to students' motivational increase in educational and research activity, and their involvement into the research process.

The experiment was applied to verify the efficiency of the developed technology to realize the model of students' motivation increase in the research activity and their involvement in the research process. The requirements to the level of research competences development are presented in FSES of higher education in Russia. The analysis of FSES of higher education on the training directions "Physics", "Mathematics and computer sciences", and "Applied mathematics and informatics" allowed to bring about research competences which we have expressed through the following abilities:

1. To increase professional competence in the area of performed scientific research (the latest theories, interpretations, methods and technologies);
2. To reveal and formulate relevant scientific problems in the sphere of future professional activity of the mathematical profile;
3. To work out a plan and program of educational/scientific research;
4. To apply techniques and technologies from adjacent fields of knowledge in order to carry out research in the field of mathematics;
5. To interpret scientific research results and to reveal their practical importance;
6. To generalize scientific research results and to present them in the form of articles, reports, and abstracts;
7. To report scientific research results in public with the presentation of the report. 60 students of the specified training directions took part in the experiment. The assessment of the research competence development level was carried out on a three-point scale: perfect mastery – 3, mastery – 2, mastery is poorly expressed – 1, does not master – 0. The correlation of the indicator with the criteria of competence developed level: 75–100% –optimum, 55–74% –admissible, 25–54% –critical, 24% and below – inadmissible level. According to the results of the experiment, the following data shown in Table 3 was obtained. From analyzing these tables, we were able to correlate them to the criteria of research competence development level.



## INTERCULTURAL APPROACH TO TEACHING FOREIGN LANGUAGES

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### ABSTRACT

In the modern global world contacts between people are unavoidable and become more active and more dynamic and are established by different we communication. This leads to increasing the interest in the language - culture relation and in the problems of the language person in accordance with the socio-cultural processes as well. The person in the contemporary society is a subject that influences the language and culture and an object of studying the culture. The national mentality, the soul of the nation, and its character are demonstrated in and through language.

**Key words:** language culture, intercultural approach, nation's language, different levels, skills.

An intercultural approach to language teaching supports learners in acquiring cultural skills as they develop proficiency in the traditional four skills (reading, writing, listening, and speaking) (Corbett, 2003 2017), the term of "Culture", "Intercultural Communication" are main part of modern developing society. Without these skills, individuals from different cultures will risk misunderstanding one another, even if they are fluent speakers of the same language. An intercultural approach to language teaching supports learners in acquiring cultural skills as they develop proficiency in the traditional four skills (reading, writing, listening, and speaking) (Corbett, 2003 2017), the term of "Culture", "Intercultural Communication" are main part of modern developing society. The term "culture" plays a major role when the theories of international relations, which explain and analyze international issues and problems so there is special consideration to the role of culture in international relations, in other words to Intercultural Communication, outstanding aspect of social life has been involved in a systematic study.

The experience of the nation is reflected in language and that way the language guarantees preservation of the knowledge of the nation's culture and traditions. In his life-long realization, the person interacts with cultural facts, acquires and denotes them by means of the language and the phenomena of culture itself, influences him by transforming him to a new quality. Thus the person and culture complement one another. Our President Islam Karimov at the opening ceremony of international conference ("Fostering A Well Educated and Intellectually Advanced Generation- Critical Prerequisite for Sustainable Development and Modernization of Country stated that "In the system of education we attach a great importance to teaching pupils not merely liberal arts and vocational skills, but also required learning of foreign languages, for this is critical for them to maintain pro-active communication with their counterparts abroad, get extensive knowledge of everything that is going on around the globe, and command the august world of intellectual treasure", which prove once more that the demand for teaching and Teaching foreign languages is very vital in the sphere of education in our country In reality, communicativeness is expressed by means of texts; the cultural potential of language units of different levels is revealed mainly through the text. The national- cultural semantics of language units is displayed in the text. When we read foreign-language texts, there are two trends:



-Reading the text in order to extract information on the nation's language and pupils not merely liberal arts and vocational skills, but also required learning of culture;

- Apprehension of the text as a cultural phenomenon and by means of the text -getting acquainted with the language and culture.

The cultural organization of the text is displayed not only in its structural- compositional organization, but also in the purposeful selection of national-cultural stereotypes and in the inner organization of the semantic structure of the word. The existence of different components of cultural meaning in this structure enables the author to emphasize one component of cultural meanings and make others insignificant by creating different contextual conditions. The culturally organized language material in the text is a thorough system of language elements and ways of their organization, which contributes to producing of a certain cultural model.

The common outlook of human mentality makes it possible the inter-language and inter-cultural communication. There are common, universal values of all nations - life, bread, home, and family that have practical meaning of the intercultural dialogue. Finding balance, establishing equilibrium in this system is related to producing national-cultural commentaries, certain minimum, related to the language and cultural information of the texts. It is achieved by comparative- contrastive studies of two or more lingual-cultural communities.

In this case, it is advisable to examine the matrix of coincidences and lack of coincidences of language, cultural and behavioral level. Outlining a cultural centre in the tissue of the text leads to complete- perception and understanding of its presented information.

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## BOSHLANG'ICH SINFLARDA INGLIZ TILINI O'QITISHNING SAMARALI USULLARI VA YO'LLARI'

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### Annatatsiya:

Ushbu maqolada ingliz tilini yosh avlodga maktabgacha ta'lim va boshlang'ich sinflardan o'rgatib borishning turli xil usullari va yo'llari haqida fikr yuritiladi va o'rganilgan. Yosh avlodga ularning bolalik chog'laridanoq chet tillaridan saboq berishning ko'plab afzalliklari mavjud. Ular bolalik chog'ridanoq tilga mehr qo'yishi va til o'rganishga bo'lgan qiziqishlarini uyg'otishimiz eng muhim omillardan biri hisoblanadi.

**Kalit so'zlar:** o'rta ta'lim mакtablar, boshlang'ich ta'lim, til bilish, "Daraxt" metodi, "Eng tezkor" metodi

Boshlang'ich ta'limdagi eng asosiy va ijobiy o'zgarishlarga sabab bo'lgan qarorlardan biri bu O'zbekiston Respublikasi Birinchi Prezidentining 2012-yil 10-dekabrdagi "Chet tillarini o'rganish tizimini yanada takomillashtirish chora tadbirlari to'g'risida" PQ-1875-sonli Qaroridir. Ushbu qaror asosida chet tillarini, asosan, ingliz tilini o'rganish umumiyl o'rta ta'lim maktablarining 1-sinflarida o'zin tarzidagi darslar va og'zaki nutq darslari shaklida 2-sinfdan boshlab esa alifbo, o'qish, yozish va grammatikani o'qitish bosqichma-bosqich boshlanadi.

Hozirgi kunda davr talabi bo'lgan ingliz tilini yosh avlodga maktabgacha ta'lim va boshlang'ich sinflardan o'rgatib borishning turli xil usullari va yo'llari haqida ko'plab metodlar ishlab chiqilmoqda va hayotga tadbiq etish masalalari ustida ko'plab izlanishlar olib borilmoqda. Bunday izlanishlar samarasi o'z natijasini ko'rsatishi tayin. Yosh avlodga ularning bolalik chog'laridanoq chet tillaridan saboq berishning ko'plab afzalliklari mavjud. Ular bolalik chog'ridanoq tilga mehr qo'yishi va til o'rganishga bo'lgan qiziqishlarini uyg'otishimiz eng muhim omillardan biri hisoblanadi. Chunki ular chet tilini o'rganishi mobaynida o'sha xalqning nafaqat tili, balki millati, qadriyatlari va aholisining yashash tarzi bilan ham tanishib boradi. O'z- o'zidan o'quvchi ongida dunyo haqida tushuncha va taassurotlar paydo bo'la boshlaydi.

Til bilish ko'plab keng imkoniyatlar yaratadi. Dunyo kezishga, biznesga, ilm olishga, dunyoqarashiga ijobiy ta'sir ko'rsatadi, albatta. Chet tillari mакtab o'quvchilariga ya'ni, boshlang'ich sinf o'quvchilariga bosqichma – bosqich o'rgatilishi yo'lga qo'yilgan. Bu jarayonda 1-sinf o'quvchilariga o'zlariga mos tarzda, asosan, multimediali va og'zaki o'rgatish metodlaridan foydalanish yaxshi samara beradi. 1-sinf o'quvchilarida o'zlarining ona tilisi haqida to'lliq



tushuncha va bilim hosil qilmasdan turib ularga ingliz tili alifbosi va yozuv malakasini mutlaqo noto'g'ri hisoblanadi. Shuning uchun ham ingliz tilidan ularga ilk saboqlar o'yinlar, multimedia vositalari va og'zaki usulda o'rgatiladi, so'ngra o'quvchilar 2-sinfga o'tishgach ularda savod o'rgatish davri to'lliq yakunlangan bo'ladi va shu davrdan boshlab ularga ingliz alifbosi va yozuv malakalarini o'rhatish va o'quvchilar bilimini shakllantirishni yo'lga qo'yish darkor. Shu tariqa ularda chet tilini shakllantirish va rivojlantirish amalga oshirish mumkin. Ingliz tili o'zining ko'plab jihatlari va qiziqarli xususiyatlari bilan o'quvchining qiziqishiga va bu tilni jiddiy o'rgasnishga olib keladi.

Umumiy o'rta ta'lif maktablarida 2013-2014- o'quv yilidan boshlab 1-sinflardan ingliz tilini o'zin tarzidagi mashg'ulotlari va og'zaki nutq darslari shaklida uzlusiz o'rgatish yo'lga qo'yildi. 2-sinfdan esa grammatikani o'zlashtirishga qaratilgan boshqa ta'limiy o'yinlarni ham tashkil etish mumkin. Masalan, "Daraxt", "Dictionary", "Eng tezkor" va shu kabi ko'plab metodlardan fodalanish mumkin.

"Daraxt" metodi haqida gapiradigan bo'lsak bo'lsam, bu metod, asosan, bolalarga o'zin tarzida olib boriladi. Katta oq qog'oz (plakat) ga chiroyli daraxt rasmi chiziladi. O'quvchilarga esa gullarga savollar yozib tarqatiladi yoki mevalarga savollar yozish ham mumkin. So'ngra o'quvchilar savollarga to'g'ri javob berishsa, o'sha gulni (mevani) daraxtga yopishtirishadi. Shu tariqa o'quvchilar o'zlarining "bilim daraxti" ni yasashadi.

"Dictionary" – bu metodda esa asosan taqqoslash va solishtirish asosiy o'rinda turadi. Ya'ni, o'quvchilarni 2guruuhga bo'lib, 1-guruuhga elekronniy lug'atdan, 2-guruuhga esa kitob variantdagi lug'atlardan foydalangan holda so'zlarni, matnni kim birinchi tarjima qilish vazifasi beriladi. Bu ususlida, albattaki, 1-guruh tezkorlik bilan shartni bajarishadi. Ammo, 2-huruhning xotirasida so'zlar ko'proq va uzoqroq vaqtga saqlanib qoladi. Chunki, ular har bir so'zni qiynalib va mehnat qilib qidirib topishadi. Yana shu tariqa guruhlar lug'atlarning bu ikki xil variant haqida ko'plab foydali va samarali usullarin tomonlarini aytib o'tishadi.

"Eng tezkor" metodi haqida esa quyidagicha tushuntirib o'taman. Bu metodda o'quvchilarga kichik qog'ozlardan futbolkachalar yasab tarqatiladi. O'quvchilar esa qog'ozga o'zlari bilgan so'zlarni yozib to'ldirishadi. Kim ko'p so'z yozsa va birinchi bo'lib to'ldirib bo'lsa, o'sha eng tezkor o'quvchi hisoblanadi. Shu va shu kabi ko'plab metod hamda o'yinlardan foydalangan holda bolalarning ingliz tilini yaxshi va mukammal o'rganishlarini ta'minlash mumkin. Bu metodlarning samarasi juda ham yaxshi foyda berishi aniq.

Xulosa o'rnida shuni aytish mumkinki, yosh avlodga chet tillarini (ingliz tilini) maktablarning boshlang'ich sinflaridan boshlab o'rgatishning ko'plab foydali tomonlari mavjud. Va ayni shu usul bilan ularning bilimini va ko'nikmalarini rivojlantirishimiz mumkin. Ular boshlang'ich sinflarda olgan bilimlari asosida yuqori sinfga o'tishgach bemalolo qiynalmasdan ingliz tilini yanada chuqurroq o'rganishlari hamda bu tilde og'zaki so'zlashish imkoniga ham ega bo'ladilar. Shuning uchun ham ularga yoshlik chog'laridanoq tillarni puxta o'rganish kerakligini o'rganish onglariga singdirib borish darkor. O'quvchilarga uy sharoitida ham alohida vaziyatlarni yaratib, dars qiladigan xonasini ingliz tiliga moslab jihozlash kerak. Misol uchun ingliz tilini eslatib turadigan inhliz alifbosini olib berish, Buyuk Britaniya yoki dunyo xaritasini ilib qo'yish, turli



xil multimediali ilovalardan foydalanishi uchun televizor olib berish va shu kabi sharoitlarni qilib berish zarur. Har bir qilingan harakat o'z samarasini berishi tayin.

Boshlang'ich sinf o'quvchilariga til o'rgatish majburiyat sifatida emas, qiziqarli mashg'ulot tarzida olib borilishi, bir nechta samarali usullardan foydalanib dars o'tish ularning kelajakda oladigan bilimlari uchun poydevori bo'lib xizmat qilishi mumkin. O'quvchilarga chet tillarini o'rganish qanchalar muhimligini tabiiy sharoitlar orqali to'g'ri tushuntirib borilishi darkor. Chunonchi, buyuk mutafakkir Forobiy ham ko'plab xorijiy tillarni mukammal bilgan, hamda shu tillarda ijod qilgan. Bunday imkoniyat allomaning dunyo ilm-fanini o'rganishga, buyuk ishlarni amalgaloshirishiga turtki bo'lgan. Zero, Navoiy bobomiz aytganlaridek, " Til bilgan –el biladi".

## **Foydalanilgan adabiyotlar ro'yxati:**

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## MARKETING AGENCIES

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### Annotation:

There are three main types of customers of marketing agencies' services within the company. First, the owners or directors – this case is often found in micro and small businesses, as well as in solving strategic issues. Secondly, the functional managers / responsible persons in the field of marketing and sales. Finally, the third option is when the order of services is carried out by specialists in the field of procurement, which, as a rule, is associated with the regular acquisition of relatively standard services for a given company (usually a large one) on the basis of outsourcing. Each type of customer is guided by its own considerations and logic when choosing a service provider, which does not exclude the importance of a comprehensive understanding of the market of marketing agencies.

**Key words:** Advertising agencies , marketing agencies, functional managers, marketing, market. To make an effective purchase of a marketing service, you need to be well-versed in the suppliers of such a "product" and their assortment policy

Why is it difficult to compare marketing agencies with a full-time marketing service?

The question of selecting a marketing agency to perform a certain task (as a project, limited in time) or to assign a certain marketing function (as a regular activity) arises as a result of an internal need for the company, the expression of which can be both the head of the enterprise and the first person in marketing. However, in any case, first of all, the possibility of meeting such a need at the expense of the company's internal resources, which can be either available or acquired in the labor market for a new line of activity or project, is considered.

Hence, the objective task is to compare two solutions-to outsource the marketing function or to expand the staff of the marketing service (to increase the load on existing employees).

The seemingly simple economic task of calculating and comparing two "efficiencies" turns out to be very non-trivial in practice.

If you make a simple intersection, then there are four possible situations:

- 1) the project task-the load on the staff increases,
- 2) project task-an employee is hired to the staff,
- 3) the task is regular – the load on the staff increases,
- 4) the task is regular – an employee is hired in the state.

There are also combined options, but it will not complicate the already difficult task of choosing too much. At the same time, remember that with efficiency, you need to count both the costs and the result. Let's start with the costs.

It is most simple to measure the cost alternatives for solving the problem on your own and by attracting an outsourcing company in the second and fourth options - by calculating the cost of the services of a marketing agency and the remuneration of newly engaged employees, taking into account all tax



payments and deductions (for example, if the service provider, as well as the customer, work under the general tax system).

When increasing the workload of existing full-time employees, especially within the framework of a project task, it is much more difficult to compare costs, since the accounting of employee workload in Russian companies is often not very high-quality, and in the case of project (temporary) employee workload, it is also unclear how to correctly organize a permanent change of tasks and their correct intersection with the rest of the activity. Given that the volume of the current workload of marketers is often very indirectly related to the level of their remuneration, it is difficult to ensure comparability of cost calculations.

But it is much more difficult when comparing the effectiveness of two solutions to calculate the expected result, which is often difficult to quantify at all. More or less accurately, you can predict the return from an existing full-time employee or from a marketing agency with which work has already been put "on stream". When we talk about attracting new employees or outsourcers, the opinion about their effectiveness is formed rather by experts or intuitively.

As a result, the comparison of options for attracting a marketing agency or working with your own is quite conditional. Therefore, the choice of one or another option is more in the field of intuition and managerial experience of decision-makers.

Why is it difficult to compare marketing agencies with each other?

After passing the first "fork", the second one arises – how to compare marketing agencies with each other. In our opinion, we need to start with the fact that with all the diversity of such organizations, there are the most common types of them that are suitable for various tasks. And, knowing what task we want to set for a marketing agency, it is worth looking for a performer not in the entire market of marketing services, but in a specific segment, where the probability (but not the guarantee) to find a suitable counterparty is higher.

The following is not a typology of marketing agencies that claims to be universal. Let's talk about who customers of marketing services encounter more often in the market.

## 1. Advertising agencies.

Many marketing agencies are advertising agencies in practice, which does not exclude the importance of advertising activities as well as promotion in general. You just need to clearly understand that a good specialist in the field of advertising, like an agency, can often not be used to effectively solve other marketing tasks. It has become a practice that rare organizations working in the field of advertising speak of themselves as advertising companies. Most mimic the marketing ones. Probably, this comes from the fact that in the understanding of many potential customers, marketing and advertising are about the same thing, but the word "marketing" seems to give more weight, sounds more solid. It is important not to pay attention to these formal features, but to understand the essence of the organization that is considered as a service provider. Many types of advertising are really good to do on outsourcing, but this does not mean that such a contractor should be trusted with strategic marketing issues.



## **2. Digital agencies.**

This should include marketing agencies that specialize in working online. If the main portfolio of the company's services includes the development and development of websites, the organization of contextual advertising, SEO promotion and similar work, then we are dealing with this kind of marketing agency. As a rule, this type of marketing service providers do not try to present themselves as a performer for different tasks, clearly indicating their areas of responsibility.

## **3. Agencies engaged in quantitative research.**

Quantitative research focuses on various dimensions of market processes, such as brand awareness or consumer preferences. Most often, this segment employs fairly large companies that have their own technologies for working with certain markets (specialization can be expressed to a greater or lesser extent), as well as a significant staff and an extensive partner network. Many of them are federal players and are well known to marketing professionals. Given the large capacity of the market, quantitative research rarely goes beyond the boundaries of its segment, developing it and increasing its competitiveness through the improvement of the proposed product.

## **4. Agencies engaged in qualitative research.**

Qualitative research is designed to assess the development of the market and collect information about its conjuncture, which is completely or partially not subject to formalization. Unlike the previous type, such agencies are rarely large structures, which is due to both the lack of need to keep a permanent staff (non-standard tasks, irregular loading), and the predominance of the importance of not technology (which must be constantly maintained), but the professional level of the management (expert) staff. They may specialize in specific geographical or industry markets, but are more often highly versatile.

## **5. Agencies that perform the marketing function on outsourcing.**

They mainly work with small businesses (micro enterprises) and take over the organization of the marketing process as a whole, including the selection and training of personnel to work in the customer's staff. They are often engaged in the development of sales in a complex, which is logical given the main goal of marketing activities. In this environment, it is common to work without the formation of a legal entity – on the basis of individual entrepreneurship or under a civil contract with an individual consultant.

## **6. Narrow-profile agencies.**

This can include a fairly large number of organizations that specialize in a specific marketing function or technology. More often, such organizations do not try to explicitly associate themselves in the eyes of consumers with marketing activities. As examples, you can specify companies that provide Wi-Fi marketing services or prepare for the participation of customers in exhibition events.

## **7. Full-cycle agencies.**

The peculiarity of this type of marketing agencies is that they declare the possibility of providing a wide range of services within a single concept of work and interaction with the customer. Unlike the fifth



type, here the marketing function is not taken outside, but remains inside the company (often if the customer has a marketing service or a marketer on staff), and some universal marketing technology is not sold. At the same time, such an agency undertakes to solve a set of tasks for the development of the customer's commercial activities. A high degree of versatility requires the presence of the performer's competencies in various fields, especially the ability to conduct market research and implement tools in the field of sales development and promotion. At the same time, a partner network is required, which allows you to quickly select co-executors for the numerous tasks of the customer.

## How to build the logic of choosing marketing agencies

When the customer tries to compare different performers, he must clearly determine which type of marketing agency is preferable for him in the current conditions and with the challenges of development. Only then do a comparison of potential service providers based on each type, since the logic of the choice will be somewhat different.

Advertising and digital agencies are often chosen by companies, so the price of error here is quite low (especially for advertising agencies). The main problem is the wide choice, which requires considerable time to study the counterparties of this type. It is better not to try to find and evaluate all possible options, which can be measured in the hundreds, but to establish the optimal requirements, compliance with which makes the company a contender to become your supplier.

Larger customers actively use tender procedures when choosing a supplier of advertising products, which simplify the search and selection process.

When comparing, it is good to use the analysis of the reference of applicants, which is especially convenient for comparing the quality of work of digital agencies. In the most significant situations, for example, when developing corporate websites or launching a large-scale SEO promotion company, it is advisable to involve third-party experts to evaluate the proposed options. In fact, we are talking about a project competition.

The selection of research companies is based on different principles. For quantitative research, the company's experience in working in this market and the portfolio of their existing customers are important. In addition, there are a number of ratings agencies that specialize in quantitative research, which allows you to get a fairly clear idea of the level of their work and understand the expected results. In some areas, the brands of such companies are so promoted that the choice becomes essentially non-alternative for the customer.

Assessing the potential of companies that do quality research is more challenging. Here, too, tender procedures are actively used, but it is extremely difficult to choose the optimal contractor based on sufficiently formal criteria, especially if the contract price plays a major role. You can recommend that you develop several key evaluation criteria for yourself, for example, a reference on the specifics of the study, the composition of the project team, the cost of work, and so on, select 3-5 companies that are most interesting for cooperation, draw up a detailed technical task and discuss it with each applicant (in person or remotely, but orally). This approach does not guarantee, but significantly increases the chances of meeting a reliable performer who is interested in high-quality performance of the work.

Outsourcing marketing is a high-risk decision. Here, the degree of integrity of the performer, his reputation in the market, not to mention the quality of the services provided, is extremely important. As a prerequisite, you can indicate the regular availability of the contractor, often-its presence in the



territorial proximity of the customer. The selection is usually made on the basis of recommendations and confirmed results of work on comparable projects.

Choosing a narrow-profile agency requires immersion in the specifics of its activities, which determines the availability of these competencies for the customer. If they are not enough, it makes sense to request the expertise of an external marketer or agency. Due to the diversity of such suppliers and the different levels of structuring and maturity of the markets in which they operate, decisions often have to be made intuitively or rely on the opinion of a few experts.

It is most difficult to choose a marketing agency to carry out a complex of works that extend from marketing and sales strategy to the implementation of tactical measures (a full-cycle agency). Such a choice, due to its significance, can take months and requires a deep study of all applicants who meet the primary formal criteria.

In addition to the professional level of the team, important attention should be paid to the business reputation of the performer, as well as the willingness to work with non-standard tasks and motivation for such activities. A good signal can be an interest in remuneration, which includes not only regular payments and the development of the budget for the implementation of individual activities, but also a percentage of the achievement of sales performance indicators. It is also desirable that full-service agencies (their managers or those responsible for the project) are available on a regular basis and visit your company, monitoring the execution of work and recording all changes in real time.

The involvement of marketing agencies, implemented in a certain logic and on the basis of rational choice, can become the basis for improving the quality of commercial activity management and even form new growth points for the business. This solution is not a panacea, but an essential tool for increasing your market advantage.

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## DEVELOPMENT OF THE CONCEPT “KNOWLEDGE” IN ENGLISH

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### Annotation:

The private-scientific study of any object or subject of reality cannot be limited to their own units and categories, especially in the case of such a complex phenomenon as language. The comparison of languages reveals defects as monistic view of human nature, as a special human gift, which is the language [10, 21]. The comparison of language is an emergence in various spiritual and mental worlds of different nations, i.e. access to the substance of the highest order which is essentially multidimensional and unknowable to the end.

**Key words:** concept of knowledge, cognitive linguistics, knowledge, notion, language.

According to O.S. Kubryakova the term “concept” is like an umbrella, he “covers” subject spheres of several research styles: first of all cognitive psychology and cognitive linguistics which concerned about thinking and learning, storage and processing of information [9, 90].

Cognitive linguistics together with cognitive psychology are designed to answer the questions about how the human mind is organized and how language reveals the mental space, how other people and nations see the world and how these differences are expressed in their language and communication [11, P. 41].

The entire human cognitive activity can be regarded as having developed the ability to navigate the world and is associated with the need to distinguish objects. Thus, the formation of concepts related to the comprehension of the world and forming ideas about it.

At the end of XX century linguists have realized that a native speaker is a carrier of certain relevant conceptual systems. Each concept associations are important to human knowledge about the world and yet rejected unnecessary idea. The system concept creates the picture of the world showing the understanding of human reality, its special concept “picture” on which a person thinks about the world [11, P.41].

It should be noted that the concepts are the result of two tendencies: the desire to display dialectical world, that is to reflect the world as it is, and the desire to construct the world in order to subordinate his will and desire of a man, that is to introduce the world easier, more rigid and deterministic to the extent that is necessary and sufficient for a person to solve practical problems.

The semantic space of a particular language consists of concepts and we can talk about the structure of knowledge under it. Cognitive linguistics are not guided by linguistic elements and units that are specific in origin, they appear as the guides of any information and fully or partly manifested in the language. To indicate these units used the term “concepts”.

Due to the fact that modern scientific thought does not make a single definition of the phenomenon of “concept” we present different approaches to its interpretation. Typically, researchers offer different



definitions of the concept. Thus, scientists working in the mainstream cultural studies (S.G. Vorkachev, V.I. Karasik etc.) consider that the concept is the main fact of ethnic and cultural conditionality in determining while other representatives of cognitive linguistics (O.S. Kubryakova, Z. Popova, I.A. Sternin etc.) emphasize, first of all, the mental essence of the concept and its belongings to the sphere of consciousness of the individual.

According to the literary dictionary: "The concept (Latin "Concipere" – to form) is formulation, mental image, the general idea, the notion that dominates by the work of art or literary article" [4, 373].

Linguistic encyclopedic dictionary treats "concept as the phenomenon of the same order as the meaning of the word, but seen in another system connections like the value in the system of language, like the term in the system of logical relations and forms that are studied both in linguistics and in logic" [12, P.384].

In Encyclopedic Dictionary of Philosophy concept is treated as one of the logical forms of thinking in the opposite judgment and opinion, which consist of concepts. There is a distinction between the concepts that we use in everyday life and logical ones. It is noted that in the thinking of people or individuals concepts are formed not by perception and integration inherent in the group of subjects, the same signs, and because of initially perceived and done over again the concept of substantial properties of things [18, 354].

A lot of works are published on various issues of conceptology today including interpretation of the term "concept". The definition of the concept we relied on the work corresponding to our understanding of the concept. Thus, S. Askoldov, one of the founders of the doctrine of the concept, defines it as "mental formation that replaces us in the process of thinking uncategorized plurality of items of the same kind" [1, 269]. Conceived in his opinion, the concept is not always a substitute for real objects it can replace some of the real object or action, such as the concept of "justice" and, in general, replace all sorts of highly accurate and only thinking function [2, 270].

In determining the types of concepts (cognitive and artistic) S. Askoldov, on the one hand, emphasized their unity (concepts of cognitive character only seemingly quite far from poetry. In fact, they feed their underground roots by irrational values and uncategorized element of poetic words and techniques [2, 268]) and on the other hand differentiated them as: [2, 274 - 275]

Cognitive concept:	Artistic concept:
Public concept.	Individual concept.
Psychologically simple	Psychologically complex.
Do not add feelings, desires or something irrational.	It's complex feelings, desires, irrational.
Applies to multiple subject, real or ideal.	Do not always concerns multiple of subject.
Uncategorized opportunities which are subordinated to laws of logic or requirement pursuant to reality.	Existing communication elements, aiming at the pragmatics of art associativity.
Aiming at the specific idea that is of part of its logic «tribal» volume.	Strive to potential patterns and aiming at them. Free from the scope of logical definition.
Performed nominative or definitive feature.	It's the characters that have internal organic connection with their values.



In cognitive studies concepts represent relation of the phenomenon of the word of knowledge structures and their reflection in consciousness. Thus, A. Vezhbytska considers the concept as an object with a perfect world that has a name and reflects the cultural and conditioned understanding of human reality [4, 10].

A. Vezhbytska distinguishes the concept of minimum, maximum and concept-encyclopedic addition (appendix). The concept- minimum is incomplete knowledge of the word (speakers known reality, but not all, as it is concerned, in practice it is vital for it is not important or it is never encountered). The concept covers a maximum depth (full) knowledge of speaker meaning (reality he knows in all aspects), including encyclopedic information, professional knowledge of reality [4, 16]. Thus, if for the English SCIENCE (Uzb. Илм) is concept-maximum, the concept KNOWLEDGE (Uzb. Билим) is minimum (speakers do not know how such fruits grow: on the trees or bushes, how to take care about plants, how they bloom when fruits mature etc.).

Each concept has an idealized cognitive model, which refers to all of our understanding of the object at once, in general, an “undifferentiated image”, which leads to a linguistic sign behavior (role structure). In the preface of his text on cognition, *Mental Spaces*. Gilles Fauconnier (1985) asserts, “In order for thinking and communicating to take place, elaborate constructions must occur that draw on conceptual capacities, highly structured background and contextual knowledge, schema-induction, and mapping capabilities” (xviii). As a form of communication, the act of writing certainly requires all of these elements, but the roles of some have been studied far more extensively than others.

With the widespread acceptance of the process approach to writing in recent decades, much research has been conducted on the procedural knowledge writers use (Bereiter&Scardamalia, 1987; Flower, 1985; Hillocks, 1986; Kellogg, 1994; Lindemann, 1995). However, little formal investigation has been conducted on the role of content knowledge in writing.

The presence or absence of content knowledge may in fact affect the quality of writing. The present study will examine the effects of content knowledge on the organization and detail of high school students’ expository writing.

The rationale for this study results from the apparent contradiction between the stated role of content knowledge in writing process models and common writing assessment practices.

Content knowledge. In the field of cognition and literacy, knowledge refers to an individual’s personal stock of information, skills, experiences, beliefs, and memories (Alexander, Schallert, &Hare, 1991, p. 317). In other words, an individual’s knowledge consists of the mental constructions stored in memory (Thomas, 1992, p. 372). Alexander et al. (1991) reviewed research literature involving descriptions of various kinds of knowledge in an attempt to clarify the meanings of terms used. They found that content knowledge refers to “a type of conceptual knowledge” of some aspect of one’s physical, social, or mental world and that such knowledge can be “formally or informally acquired or used” (p. 326).

In other words, content knowledge is what one knows about any topic, regardless of how the individual learns it or uses it.

Content knowledge can contain declarative, procedural, or conditional knowledge, or factual information, how to use that information in certain procedures, or under what circumstances this knowledge would be applicable, respectively various kinds of knowledge in an attempt to clarify the meanings of terms used. They found that content knowledge refers to “a type of conceptual knowledge”



of some aspect of one's physical, social, or mental world and that such knowledge can be "formally or informally acquired or used" (p. 326). In other words, content knowledge is what one knows about any topic, regardless of how the individual learns it or uses it.

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## **THE NEED TO INTRODUCE PEDAGOGICAL TECHNOLOGIES TO THE PROCESS OF TRAINING**

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### **Abstract:**

This article discusses the importance of the use of pedagogical technologies in the organization of educational activities, the creation of a reflexive educational environment in the pedagogical process, the development of students' personal understanding, the formation of interest in the subject, its importance and content.

**Keywords:** intellectual, professional, educational, science, production, knowledge, skill, qualification, training, laboratory, pedagogical technology, objective, quality, system, specialist, intellect, ability and human character, measurement, perception, pedagogue, social, industry.

Олий таълим тизимини тубдан такомиллаштириш, мамлакатимизни ижтимоий-иқтисодий ривожлантириш борасидаги устувор вазифаларга мос ҳолда, кадрлар тайёрлашнинг маънозамзунини тубдан қайта кўриб чиқиши, халқаро стандартлар даражасида олий малакали мутахассислар тайёрлаш учун зарур шароитлар яратиш мақсадида Ўзбекистон Республикаси Президентининг 2017 йил 20 апрелда "Олий таълим тизимини янада ривожлантириш чоратадбирлари тўғрисида"ги ПҚ-2909-сон қарорида белгиланган вазифалар қаторида ўқув жараёнига халқаро таълим стандартларига асосланган энг замонавий педагогик технологиялар, таълим дастурлари ва ўқув-методик материалларни кенг жорий этиш энг муҳим вазифалар этиб белгиланди.

Бугунги кунда республикамида иқтисодий, ижтимоий-сиёсий, маънавий асосларини мустаҳкамлаш борасида кўпгина ишларни амалга оширилди. Уларни давом эттириш эса ёшларимиз қўлида. Шу сабабдан ҳам мавжуд имкониятларимиздан тўлиқ фойдаланиб, ёшларимизга бўладиган эътиборни янада кучайтириш даркор. Зеро, ёшлар тарбиясига бурч ва маъсулият нуқтаи назаридан ёндашиш келажагимизни шакллантириш гарови бўлиб қолади. "Бозор иқтисодиёти ислоҳотларини амалга оширишда қандай чора-тадбирлар кўрилишидан қатъий назар, малакали мутахассислар этишмас экан, қўйилган мақсадга эриша олмаслигимиз мумкин. Малакали мутахассисларни тайёрлашда олий таълим муассасалари янгича ёндашувларни ишлаб чиқиши вақти келди" – деган эди Ўзбекистоннинг биринчи Президенти И.Каримов [1].

Юқоридаги муаммоларнинг ҳал этилиши ҳар томонлама бозор муносабатлари талабларига жавоб бера оладиган юқори малакали мутахассисларни тайёрлашга боғлиқ. Чунки, иқтисодиётни эркинлаштириш шароитида мустақил республикамиз олдидаги янгидан-янги мақсад ва вазифаларни англаб етган, ҳар томонлама етук, замон талабларига мос келувчи билим



ва тажрибага эга бўлган мутахассисларгина республикамиз иқтисодий-ижтимоий ривожига ўзининг муносиб ҳиссасини қўшиши мумкин. Бироқ, янги шароитда самарали фаолият юрита оладиган малакали мутахассисларни тайёрлаш борасидаги муаммо ва камчиликларнинг мавжудлиги туфайли, юқорида айтиб ўтилган хусусиятларни ўзида мужассам етган мутахассисларни тайёрлашда қатор тўсиқлар бўлиб, уларнинг ечимини топиш бевосита республикамиз иқтисодий тараққиётини белгилаб берувчи ҳал қилувчи омиллардан бири ҳисобланади.

Шунинг учун иқтисодиётни модернизация қилиш шароитида ҳамда таълим тизимини ўрганиш асосида мамлакатимиз иқтисодиётида эришилган ютуқларни атрофича таҳлил этиш, мавжуд муаммо ва камчиликларни бартараф этиш ҳамда иқтисодиётни ривожлантириш усулларини илғор хорижий тажрибалардан самарали фойдаланиш орқали таълим тизимини янада такомиллаштириш масалалари илгари сурилади. Бунда, асосий эътибор Ўзбекистонни жаҳон иқтисодиётига интеграциялашуви жараёнини жадал суръатларда ривожлантириш, бунинг учун мамлакатимиз ташқи иқтисодий фаолиятини эркинлаштириш борасида кечиктириб бўлмайдиган чора-тадбирларни амалга оширишга қаратилади.

Глобаллашув шароитида мамлакатимиз олий таълим тизимида малакали мутахассисларни тайёрлаш тизимини замон талаблари даражасида қайта ташкил этиш мақсадида мазкур таълимнинг ҳалқаро андозаларидан самарали фойдаланиш долзарб аҳамият касб этмоқда. Чунки, дунёнинг ривожланган ва бозор иқтисодиёти амал қилаётган мамлакатларнинг деярли барчаси янги механизмнинг кескин ўзгаришларига мослаша оладиган ва ҳар қандай шароитда рақобатлаша оладиган малакали мутахассисларни тайёрлаш борасида замонавий таълим тизимига эгадирлар.

Масалан: АҚШ, Германия, Япония, Франция ҳамда саноат ва интеллектуал жиҳатдан ривожланган мамлакатлар тажрибаси таҳлили шуни кўрсатадики, барча даражадаги малакали ва рақобатга қодир қадрлар тайёрлашга қўйидагидар туфайли эришилади:

- таълим, илм-фан ва ишлаб чиқариш ўртасидаги интеграцияси;
- таълим муассасалари тури ҳамда илм-фан, техника, технология ва иқтисодиётнинг ютуқлари асосида ишлаб чиқилган таълим дастурларининг вариативлиги;
- таълим тизимини иқтисодиётнинг устувор ва фойда келтирадиган соҳасига айлантирилгани;
- таълим муассасаларини замонавий ўқув-услубий адабиёт ва моддий техник база билан таъминлангани;
- таълим тизимида малакали педагог ва мутахассислар жалб этилгани;
- таҳсил жараёнининг компьютер ва информатика жиҳозлари билан таъминлангани;
- объектив назорат ва қадрлар тайёрлаш сифатини баҳолаш тизимлари қўлланилгани;
- мутахассиснинг интеллекти, қобилияти ва инсоний хусусиятларини ўстириш, ўлчаш ва баҳолаш муаммолари, шунингдек унинг профессионал идроки муаммоси бўйича психологик-педагогик тадқиқотлар бажарилгани;
- педагогларнинг моддий ва ижтимоий муҳофазаси юксак даражада таъминлангани.



Олий таълимнинг республикамизнинг ижтимоий-иқтисодий ва маданий-маънавий ривожини таъминлашда ўзи танлаган мутахассис бўйича бозор иқтисоди шароитида ишлашга лаёқатли, малакали, иқтидорли, рақобатбардош кадрларни тайёрлашдан иборатdir.

Олий таълим муассасаларида таълим жараёнини жумладан, ўқув машғулотини ташкил этиш, бошқариш ва ривожлантириш давлат таълим стандартлари талаблари асосида ташкил қилишнинг илмий асосланган тизимини яратишга эришиш билан Миллий дастурда белгиланган мақсад ва вазифаларини ижросини таъминлашда кенг имкониятлар яратилади.

Шунинг учун ҳам Миллий дастурда таълим жараёни, мазмунини ислоҳ қилиш асосан меъёрий ҳужжатлар мажмуи (Давлат таълим стандарти, ўқув режалари ва фан дастурлари) асосида, кадрларга таълим-тарбия бериш миллий истиқлол ғояларига мувофиқ амалга оширилиши алоҳида таъкидлаб ўтилган [2].

Олдимизда турган буюк вазифаларни ечишнинг асосий омили, уларни ҳал қилишнинг ягона шарти, баркамол шахсни, ҳар томонлама етук авлодни тарбиялаб вояга етказишдан иборат. Юртимизнинг ёруғ келажагини, халқимизнинг ҳеч кимдан кам бўлмасдан фаровон яшашини таъминлашга қаратилган бу вазифаларни адо этиш, барчамизнинг инсоний бурчимиз.

Юртбошимиз белгилаган вазифалардан келиб чиқиб, Миллий дастур доирасида таълимнинг устувор йўналишлари лойиҳаси ишлаб чиқилди. Барча таълим йўналиши бўйича намунавий ўқув режа ва фан дастурлари ҳамда қатор меъерий-хуқуқий ҳужжатлар қайта кўриб чиқилди, таълим сифатини ошириш мақсадида ўқув жараёнига замонавий педагогик технологияларни қўллаш, машғулотларни интерфаол усулда ўтказиш, талабаларда мустақил фикрлаш кўнилмаларини шакллантириш, муаммоли топшириқларни бажариш, педагогик ҳамда информацион технологиялардан унумли фойдаланиш каби услублар кенг қўлланила бошланди.

Узлуксиз таълимни ташкил этишда унинг жаҳон талаблари даражасида бўлишига аҳамият бериш кераклиги, давлат таълим стандартларини жорий этиш ва унинг механизмини ишлаб чиқиши муҳимлиги устувор соҳа сифатида кўриб чиқилган. Унинг талабларидан келиб чиқиб, олий таълимнинг давлат таълим стандарти ишлаб чиқилади. Стандартлар талабаларга бериладиган таълим мазмунининг мажбурий минимумини ҳамда битиувчиларнинг тайёргарлик даражасига қўйиладиган талаблар мажмуасини белгилаб беради. Таълим мазмунининг мажбурий минимуми фан дастурлари ва дарсликларда тўлиқ ўз ифодасини топиши шарт. Битиувчиларнинг тайёргарлик даражасига қўра талаба муайян босқичда эгаллаши шарт бўлган билим, кўнишка ва малакаларининг минимал миқдори белгиланади.

Бугунги кун талаблари мутахассислик фанлари ўқув машғулотлари сифатини ошириш масаласига янгича ёндашишни, бажарилган ишлар билан чекланмасдан, уни мунтазам равища таомиллаштириш, янги услуб ва шаклларини ишлаб чиқиш, амалиётга жорий этиш каби муҳим вазифаларни қўймоқда. Жумладан, олий таълим муассасаларида барча мутахассислик фанлар бўйича ўқув машғулотини ташкил этиш билан чекланмасдан, уларни янги муаммоли масалалар, топшириқлар, вазифалар билан бойитиш устида иш олиб бориш барча уларнинг бош масалаларидан бирига айланиши лозим.



Ҳар бир таълим йўналиши бўйича мутахассислик фанлари ўқув машғулоти жараёнининг мантиқий-тузилиш шаклини (ўқув машғулотини ташкил этишда кетма-кетлик) аниқлаш, уларни бевосита ҳаёт талабларига мослаштириш, муаммоли топшириқларни тузиш, улар асосида услубий тавсиялар ва кўрсатмаларни тайёрлаш, педагогик технологияларнинг замонавий турларини кўллаш, тажрибадан ўтказиш, натижаларига қараб, ўқув жараёнига жорий этиш ва шу тариқа талабаларда касбий кўнишка ва малакаларни шакллантириш ҳамда ривожлантиришга эришиш, педагоглар фаолиятини рағбатлантиришда барчага бир хил ёндашиш принципларидан воз кечиши, унинг ўрнига уларнинг фаоллигига ва ўқув машғулоти сифатини оширишга тааллуқли бўлган муайян ишининг сифати, ҳажмига қараб, моддий-маънавий рағбатлантириш лозим.

Бу борада таълим муассасалари раҳбарларидан ҳар бир педагог фаолиятига принципиаллик билан ёндашиш талаб этилади. Қайд этилганлардан келиб чиқиб ҳамда ўқув машғулоти сифатини янги босқичга кўтариш мақсадида қўйидагиларни амалга ошириш лозим:

- фанлар бўйича тайёрланган топшириқлар асосида ўқув машғулотини ташкил этиш;
- тайёрланган муаммоли топшириқларни таянч олий таълим муассасаларининг илмий-услубий кенгашларида атрофлича муҳокама этиш ва тегишли қарор қабул қилиш тартибини ўрнатиш;
- тайёрланган муаммоли топшириқларни керакли миқдорда кўпайтириш, олий таълим муассасаларига тарқатиш ва муаллифлар гуруҳини моддий-маънавий рағбатлантириш ва бошқалар.

Ўқув машғулотида талабалар фаоллигини ошириш мақсадида қўйидаги услубларни кенг кўллаш лозим:

- аудиторияларни замонавий техника воситалари билан жиҳозлаш ва улардан ўқув машғулотида унумли фойдаланиш, машғулотларни кичик гурухларда ташкил этиш;
- ўқув машғулотида замонавий педагогик технологиялар, интерфаол усуллардан фойдаланишни йўлга қўйиш;
- талабалар томонидан тайёрланган ва берилган саволларнинг мазмун-моҳиятига алоҳида эътибор қаратиш, саволлар сифатига қараб, талабаларнинг муайян ўқув машғулоти мавзуси бўйича тайёргарлик ҳолатини аниқлаш, уларда мавзу бўйича фикрлаш, мустақил билим олиш, мавзуга оид адабиётларни топиш, улардан фойдаланиш ва таҳлил этиш кўнижаларини шакллантиришга эришиш;
- ўқув машғулоти мавзуси бўйича талабалар тўплаган маълумотларни ўзаро муҳокама этиш, билдирилган танқидий ва мустақил фикрларни таҳлил этиш, уларни умумлаштириш;
- педагогларнинг ўз вазифаларига масъулият билан ва талабаларга билим беришда содиқона ёндашишларини англаш мақсадида ички назорат бўлимларининг фаолиятини кучайтириш ҳамда талабалар орасида “Педагоглар талабалар нигоҳида” мавзуига бағишлиланган сўровномаларни ўтказиб туриш, натажаларини атрофлича муҳокама этиш;



- ўқув машғулоти сифатини ошириш бўйича хориж тажрибаларини ўрганиш, умумлаштириш ва республикада қўлланилиши мумкин бўлганлари бўйича услугий қўлланмаларни ишлаб чиқиши.

Талабаларни эгаллаётган касбига мувофиқ ўқув машғулотини ташкил этиш учун аниқ йўналтирилган чора-тадбирлар ишлаб чиқиб, белгиланган вазифаларни амалга ошириш лозим. Уларни ўқув машғулоти жараёнида касбий фаолиятда юқори кўрсаткичларга эришган, рақобатбардош кадрлар тайёрлаш тажрибасига эга малакали ишлаб чиқариш мутахассисларига “Устоз-шогирд” методи асосида бириктирилишини йўлга қўйиш муҳим [3]. Бу методнинг амалга оширилиши олий таълим муассасалари ва ишлаб чиқариш корхоналари ўртасида ўзаро ҳамкорлик ва манфаатли интеграцияни шакллантириш, амалиётни давлат таълим стандартлари талаблари даражасида ташкил этиш, талабаларнинг ишлаб чиқариш ва диплом олди амалиётларини дастур талаблари даражасида юқори савияда ўтказилишини таъминлаш, битириувчиларни мутахассисликларига мос равища бандлигига эришишга хизмат қиласи.

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## THEORETICAL ANALYSIS OF LEADER POLITICAL COMPETENCE

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### ABSTRACT:

This article discusses the personality of a leader and the specifics of his or her political competence. Also, the theoretical and methodological issues of the problem of political competence, the conditions of its emergence, and the work of scientists who have conducted research on this issue are analyzed.

**Keywords:** infancy, leadership, social psychology, political consciousness, political culture, competence, leadership, analysis, methods.

### INTRODUCTION

The main goal of improving governance around the world is to train leaders based on the requirements of the new environment. Ensuring their free activity in all spheres is the formation of the character of political competence of young leaders, who are leaders in international relations. The modernization of interpersonal relations in Uzbekistan, ie the exchange of leaders and teachers, cooperation between higher education institutions, international conferences, and the development of tourism requires from the future specialist the features of political competence.

### II. MATERIALS

So far, the history of political competence is associated with the names of thinkers such as Aristotle, Seneca, Machiavelli, Russo Tobbs, Simit, Hegel. In their time, these thinkers studied these issues based on other theoretical views, i.e., an approach unrelated to psychology.

Philosophers, sociologists, psychologists, and political scientists began to pay attention to new developments in politics. Leaders, kings, presidents, and representatives of the political world have acknowledged the role of the people in it. The French scientist G. Lebon was one of the first to draw attention to this topic through his works "Psychology of Peoples and Masses", "Psychology of the crowd". G. Lebon assesses that there is a danger in the masses that the individual loses his individuality, strength and stability. Among the species of the masses, he gave a special description to the crowd, emphasizing its characteristics such as aggression, madness, and irresponsibility.

Modern researchers, on the other hand, argue that mass behavior has not only negative but also positive aspects. G. Lassuel's "Psychopathology and Politics", a supporter of the theory of psychoanalysis, also made a significant contribution to the formation of political competence.

PI Kovalevsky's book "Psychiatric Etudes from History", published in the early twentieth century, describes the psychological portraits of many famous politicians, from King David to Peter I, from Suvorov to Janna D. Arkha and Napoleon. In his book How to Be Famous and Great, AA Bodalev reflects



on the history of many celebrities entering politics. Also, research works of sociologists, historians, psychologists such as BF Porshnev, YN Davidov, VD Parigin, YF Zamoshkin were published.

Until recently, many scholars were skeptical of the recognition of political competence as an independent category, accepting psychology as an unexpected phenomenon in the analysis of political problems. Psychologists, on the other hand, have faced many difficulties in determining the subject of a new science.

Important features in the debate over the study of political competence as a subject are as follows.

First, what should be the psychological component of political competence?

Second, experts studying political behavior, political thinking, political culture, and political consciousness as components of political competence used political and psychological statistics and sociological methodology as a research tool, without a specific methodological basis for political psychology.

In recent years, many publications have appeared on interdisciplinary issues. They reflect the laws of development of the individual in politics, the impact of political culture on the fate of the country, the impact of the formed historical mentality (intelligence) on the development of the nation.

## Discussion

The issue of identifying the phenomena that are part of the subject of political competence is also controversial. For example, according to G.G. Delhi, political psychology should study the psychology of politicians, not macropolitical processes.

M. According to political psychologists such as Hermann, J. Knutson, H. Yulau, the task of political competence is to study the behavioral and cognitive (cognitive) aspects of the personality of political subjects, to study its laws, mechanisms, conditions, factors.

Interactions in teams are top-down or vice versa, and the specific positions of team members include the relationship between the leader and subordinates. In this regard, it is necessary to talk about the differences between the concepts of "Leader" and "Chief". B.D. Parigin writes thus distinguishing between these two concepts.

1. If the leader mainly manages interpersonal relationships in the group, the leader manages the formal relationships in the group;
2. If leadership is a phenomenon that applies only to small groups, leadership rights can also occur and be exercised within large groups;
3. If leadership is a spontaneous, chaotic process, leadership is a goal-oriented event that occurs as a result of elections on the basis of norms and procedures developed in society;
4. Leadership is a temporary phenomenon in relation to leadership, depending on the expectations of the team members, their mood, and direction of activity, in the long run or in the short term;
5. The difference between a leader and a leader is that he has a system of punishment and incentives that the leader does not have and on this basis can influence his employees;
6. The leader in the group can make certain decisions, instructions, initiatives at will, directly, and the leader has many official instructions, plans, norms, orders in this direction, which are difficult to go beyond;



7. If a leader's activities are carried out only in small groups, because the leader is a representative of a wider social community in that group, his powers are broader and his opportunities are greater.

When we talk about the phenomenon of leadership, we should also briefly dwell on theories of leadership. To date, there are basically three theories about leadership.

The first is the “theory of leadership qualities” or there is a charismatic theory. Its essence is that not everyone can be a leader, some individuals have an innate set of such qualities that ensure that he or she becomes a leader in the group. For example, in 1940, the American K.C. Byrd has compiled a list of 79 leadership qualities. The list included such qualities as initiative, ability to communicate, sense of humor, self-confidence, ability to make quick and clear decisions, and organization. But the error of these theories was that, firstly, it could not explain how the above qualities were manifested and how they were formed, and secondly, that no quality was recorded many times during the queries.

The second theory is the theory that leadership depends on the situation. The main idea here is that the leader is the product of the situation. Everyone has leadership qualities, but some situations are conducive for some individuals to express themselves, to be a Leader.

The third theory that emerges as a result of the critique of the above two theories is the synthetic theory of leadership. This theory sees the leader as a direct goal of group relations, advancing the primary role of the group in the realization of the leader.

Russian psychologist A.N. Based on Leontev's concept of activity, leadership is considered by many to be one of the most acceptable approaches to determine a leader based on the product of the activity, the group's response to that activity, and who best meets the accepted norms and social expectations in the group. The above views emphasize the role of socio-psychological approaches in shaping the competence of leaders in the individual or in the team.

## Conclusion

This means that the leader will never be alone, he will call the members of this team to this or that action. Because the leader knows the psychology of the team members, their moods, aspirations, interests and so on better than anyone else, he is the most enterprising among them. Reputation is a characteristic of a person that he or she has the ability to influence both individuals emotionally and voluntarily. Informal prestige, that is, the reputation gained as a product of interpersonal relationships, is very effective.

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## SPEECH CULTURE OF A MODERN TEACHER

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### Abstract

The importance of the teacher's speech in the young generation's comprehension of the laws of the development of nature, society, in gaining experience of moral relationships with people is an indisputable fact, proven by the centuries-old existence of the teaching profession. This article analyzes the main components of the teacher's speech culture, the importance of verbal and non-verbal communication, types of language cultures of teachers, and some rules to make speech culture of the teacher appropriate and punctual enough.

**Keywords:** teacher, speech culture, students, language, communication, monotone, knowledge, expressiveness, diction.

### Introduction

Communication is the most important professional tool in teaching. Verbal communication is one of the main means of education and development of schoolchildren. The teacher's speech forms the speech culture of students and serves as a model for them. Through speech, the teacher conveys certain information, develops and enriches the intellect of students, encourages students to act on the basis of the knowledge gained, controls the attention of students, forms the world of their ideas and concepts.

### Main part

One of the components of the teacher's skill is the culture of his speech. Whoever owns the culture of speech, other things being equal, the level of knowledge and methodological skill, achieves great success in teaching and educational work. Components of the teacher's speech culture:

1. Literacy in the construction of phrases
2. Simplicity and clarity of presentation
3. Expressiveness: a) intonation and tonality; b) the rate of speech, pause; c) the dynamics of the sound of the voice; d) vocabulary wealth; e) imagery of speech; f) diction.
4. Competent pronunciation of words from everyday life: a) correct stress in words; b) exclusion of local dialects.
5. Correct use of technical terminology: a) exclusion of phraseological turns that cut the ear; b) exclusion of unnecessary words; c) exclusion of jargon and buzzwords.
6. Reticence.
7. Propulsion coordination.

The culture of speech is a broad and capacious multicomponent concept, but above all it is the literacy of constructing phrases. A solid knowledge of grammatical rules allows the teacher to correctly express his thoughts, gives his speech a harmonious, meaningful character, which makes it easier for students



to perceive and understand educational material, commands, etc. Otherwise, incidents may occur. So, one teacher in terms of educational work wrote: "To teach children to eat with their mouths closed." The grammatically correct structure of speech ensures its meaningfulness, logical consistency, and comprehensibility.

The second component of the culture of the teacher's speech is simplicity and clarity of presentation. One and the same thought can be expressed in a form that is understandable for students, or, conversely, speech can be given such a scientific look that students will never be able to understand what is required of them, what they must learn. The ability to tell simply about the complex, to make the abstract intelligible is based on the clarity of the teacher's thinking, on the imagery and vitality of the examples given to explain.

The third component of the culture of speech is expressiveness. It is achieved both by the selection of the necessary words and syntactic structures, and by the active use of the main components of the expressiveness of oral speech - tone, dynamics of the sound of the voice, tempo, pauses, stress, intonation, diction.

Intonation and tonality affect not only consciousness, but also the feelings of students, as they give emotional coloring to words and phrases. The tonality of speech can be festive, solemn, sincere, joyful, angry, sad, etc. Depending on the situation, the teacher should use all the richness of the tonality, and not utter monologues in an impassive, monotonous voice.

In case of plot games, the teacher, by changing intonation, contributes to the formation of adequate representations and visual images in students corresponding to the plot. For example, when playing the game "The Fox is Coming", in order to get the children to move silently and carefully, the teacher introduces a story into the lesson: "Nobody moves (narrative), everyone is silent (the sound of the voice is lowered). Silence (pause). The fox walks through the clearing (the voice is louder), looking for bunnies. But there are no bunnies. Where did they go (confusion and question)? And the bunnies are silent (in a quiet voice with a conspiratorial intonation). The fox is gone, and the bunnies are playing again, jumping (funny, loud sound), and rejoicing that they escaped from the fox."

The tone of the teacher's speech should be calm, confident, domineering. However, for this it is necessary that the teacher himself be calm, convinced of the correctness of the orders given, his actions, assessments of the actions and actions of students. An edifying, mentoring tone is extremely undesirable; it usually repels students from the teacher, since the older the student is, the more he expresses the desire for self-affirmation, for recognizing himself as a person.

The rate of speech also determines its expressiveness. It is unsuitable as too fast speech, because it is difficult for students to concentrate on what the teacher is saying, to have time to "digest" all the information, and very slow speech, which has a soporific effect on the students.

Speech pauses, when used correctly, allow you to better convey the meaning of the spoken words and phrases. With the help of a pause, you can increase the intriguing meaning of the teacher's speech, his message about an event, etc.

Another factor that determines the expressiveness of the teacher's speech is the dynamics of the sound of the voice, the variation of its strength. Insufficient speech volume adversely affects listeners. It leads to rapid fatigue of students, who, as a result, need to either disconnect, stop following the content of the



teacher's speech, or force themselves to listen attentively. The same loudness of speech throughout the entire session (stability of the pitch) has a soporific effect.

Vocabulary richness contributes to the imagery of speech, and through it - and expressiveness. Skillful use of proverbs, sayings, winged words, metaphors, hyperbole makes the teacher's speech juicy, emotional, raises the students' spirits. Of course, you need to use only those speech means that are understandable for children of a given age.

The imagery of speech plays a significant role in the intelligibility for students of the educational material explained by the teacher.

Diction - clear and distinct pronunciation of sounds, words and phrases, makes it easier for students to understand the teacher's speech. Carelessness in pronouncing the end of words ("swallowing"), nasal - these shortcomings of diction can be eliminated by the teacher if he systematically exercises both independently and under the guidance of a speech technique specialist.

The fourth component of the culture of the teacher's speech is the correct pronunciation of words from everyday speech. There are, for example, mistakes in the formulation of stress in words. So, some teachers say "kilOmeter" instead of "kilomEter", "undErstood" instead of "understOOd", etc.

The teacher needs to expel from his speech and jargon and fashionable words, such as "hang out", "what's up?", "props", "blatant" etc. Inadmissible in the teacher's speech, no matter how irritated he is, offensive words.

Another component of the culture of the teacher's speech, which I would like to dwell on, is reticence. Some teachers, instead of clearly naming the tasks of the lesson, describe in detail what the students will do in the lesson, what will be discussed. Verbosity is also expressed in the repetition of phrases and words.

Of course, reticence is not an end in itself. An overly compressed, almost telegraphic language also does not decorate speech, especially when, due to the reduction of words, the teacher's phrases become ambiguous.

Communication is the most important professional tool in teaching. Verbal communication is one of the main means of education and development of schoolchildren. A lot of wise advice regarding the speech communication of the teacher was given by the outstanding teacher-innovator V.A. Sukhomlinsky. He called the teacher's speech culture "the mirror of his spiritual culture" and demanded that the teacher master the word: "every word spoken within the walls of the school must be thoughtful, wise, purposeful, full-fledged."

Speech culture is also an important aspect of a contemporary teacher's overall professional and pedagogical culture.

Speech is both a means of teaching and a means of learning. The teacher's speech forms the speech culture of students and serves as a model for them. The instructor uses speech to communicate information, grow and enrich students' intelligence, inspire students to act on the knowledge learned, influence students' attention, and shape the world of their ideas and concepts. The instructor communicates his attitude, character, intellect, will, attitude toward students, and the subject being demonstrated, and he expresses his feelings and emotions through speech. Students remember, first of all, the thoughts and mood of the teacher, but only that speech that has consistency and accuracy, grammatical correctness, originality, relevance and economy is stored in the memory. The quality of



knowledge assimilation by students depends on the accuracy of the sentences and concepts formed by the teacher.

Three styles of teacher language cultures can be identified in a modern school:

1. Bearers of elite speech culture.
2. Representatives of the "middle literary" culture.
3. Teachers with a literary-conversational type of speech behavior.

Teachers of the "first type" master the entire functional-style system of the literary language, and each style is used in accordance with the situation. There are no violations of literary language norms in their speech in terms of pronunciation, stress, grammatical form development, or word usage. They use the language creatively, their speech is usually individual, there is no stamping in it, and in colloquial speech - the desire for bookishness.

Speech behavior of carriers of "middle literary" language culture reflects the low level of their general culture (impossibility of creative use of winged expressions, artistic samples of classical literature, ignorance of literary norms of pronunciation, poverty of speech), is characterized by monotony in the voice, lack of emotionality; lack of gesticulation, which, as a rule, does not lead to contact; ignorance of quotes from works of art (for a literature teacher); incorrect placement of stress; stinginess with synonyms, comparisons, epithets, etc.

The speech of representatives of the "third type" is far from the norms of public speech. Teachers with a literary-conversational type of speech behavior try, imitating the youth speech culture, and partly some slang phrases and expressions, to teach the material. However, this behavior is unacceptable. The teacher should be a role model for the student, an example, both culturally and verbally. A teacher is a person who brings up in a child the concept of culture, including the culture of communication. Therefore, such high requirements are imposed on the teacher's speech, namely:

- Content (the teacher's speech should be informative, saturated with factual scientific material related to life, enriching the personal experience of students);
- Literacy of speech and lexical richness;
- Logicality and accessibility (accessibility is understood not only in the sense of the accuracy and simplicity of the teacher's statements, it means the ability to adapt them to the age and individual characteristics of schoolchildren);
- Technical perfection (delivered breath and voice, clear diction, optimal tempo and rhythm of speech);
- Intonational expressiveness, emotionality and imagery (words and expressions that evoke visual representations have the greatest imagery. The teacher needs to learn to speak so that students seem to "see" what is being discussed. To do this, you need to master figurative linguistic means, appropriately and freely use comparisons, epithets, metaphors, personifications, in speech);
- The relevance of speech (selection of the content of speech, language means, certain communicative actions);
- Literary (exclusion of words-parasites and vulgarisms) and adherence to speech etiquette;
- It is important to skillfully use non-verbal means of communication (gestures, facial expressions, pantomimic movements).



There are rules for the teacher's speech culture:

1. The teacher should speak softly, but so that everyone can hear him, so that the listening process does not cause significant stress among students.
2. The teacher must speak clearly.
3. The teacher should speak at a speed of about 120 words per minute.
4. To achieve expressive sound, it is important to be able to use logical and psychological pauses. Without logical pauses, speech is illiterate, without psychological pauses, colorless.
5. The teacher should speak with intonation, i.e. be able to put logical stress, highlight individual words that are important for the content of what was said.
6. Melody gives the teacher's voice an individual color and can significantly affect the emotional well-being of students: inspire, enthrall, calm. Melody is born in reliance on vowel sounds.

## Conclusion

Of course, knowledge of the above requirements and rules of speech culture, their observance and constant improvement of their speech is the key to the successful work of a modern teacher, whose task is to develop the historical memory of the people, to familiarize those for whom this culture is perceived, first of all, through the influencing word.

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**DEVELOPMENT OF PROCEDURES FOR IRRIGATION OF CORN VARIETIES AS MAIN CROPS**

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**Annotation**

Corn is the most valuable, high-yielding cereal crop with food, fodder, technical and agrotechnical significance. Corn kernels are used as food. Its grains are very nutritious, containing an average of 10.6% fiber and 1.4% ash. However, the amount of protein in corn kernels is low. That is why corn is covered with bread by adding 25-30% wheat flour to it. Due to the high content of fat (4.3-5.0%) in corn kernels, it makes it ferment quickly. Grain husks are separated on special machines and the rest is used to make flour, because corn husks contain 25-40% of fat, which is used for cooking oil.

**Keywords:** Corn, high yield, fodder - fodder, nutritious, corn grain, corn flour.

**Introduction**

In order to meet the needs of the world's population in food products, industrial raw materials and feed for livestock, special attention is paid to the development of agricultural technologies for their cultivation, taking into account the biological properties of field crops, soil and climatic conditions. In terms of area, maize ranks third in the world after wheat and rice and first in the group of forage crops. Today the area under corn is 22.5 million in the United States, 20.6 million in China and 11.8 million in Brazil. ha. According to the FAO, the area under corn in the structure of crops is 23% higher than in the USA, 63% in Australia, 70% in Germany, 43% in France and 3.5% in Russia, with an average indicator. yield 7-10 t / ha [1].

Improving the balance of nutrients in the soil, obtaining high yields of grain and green mass, providing the population with food, industrial raw materials and animal feed by improving methods and procedures for irrigation in the cultivation of maize in the primary and secondary periods in the world. In this regard, studies of the effect of the use of new fertilizers based on phosphorites in combination



with nitrogen and potassium mineral fertilizers on the growth, development and productivity of corn and the development of an optimal technology for their application are relevant.

For the harvest of 2018, the country allocated 138.5 thousand hectares of land, including corn 1210.9 thousand tons. Today the average grain yield of corn in the country is 35-45 centners per hectare. However, this indicator can be increased in the future due to the use of advanced innovative technologies, wide use of available opportunities. Improvement of existing agrotechnologies in corn cultivation, optimization of irrigation methods and drip irrigation regimes, which play an important role in the formation of yields, is of great theoretical and practical importance [2].

**Objective of the study:** to determine the effect of corn varieties HC-6010 and HC-6043 on the growth and development of corn as the main crop and to increase the yield of grain and forage crops using drip irrigation regimes in grassy soil conditions. alluvial soils of the Bukhara region.

**Object of research:** meadow alluvial soils of Bukhara region, drip irrigation regimes, the main crops are corn varieties NS-6010 and NS-6043.

**Subject of research:** meadow alluvial, the main crop is corn Varieties NS-6010 and NS-6043 are physical properties of soil, water demand, irrigation regimes, number of irrigations, seasonal irrigation norms, water consumption, its growth, development, grain and fodder yields and their impact on quality indicators.

**Methods of research:** Field, laboratory research, agrochemical analysis, biometric measurements, phonological observations, statistical analysis. The accuracy and reliability of the obtained data are analyzed by mathematical-statistical analysis using the generally accepted method of BA Dospekhov.

**Scientific and practical significance of the research:** The scientific significance of the research results lies in the development of theoretical foundations for obtaining water-saving modes of drip irrigation of corn varieties NS-6010 and NS-6043 as the main crop, the development of irrigation methods, quantity, timing, growth of corn, development, the quality of the harvest of grain and feed. The practical significance of the study lies in the development of water-saving modes of drip irrigation in the cultivation of corn for grain and green fodder, the growth and development of the harvest of corn, grain and fodder and their impact on quality indicators.

## **Experimental system and methods of conducting.**

Field experiments are carried out on the field of the farm "Zamin ota" in Bukhara district, Bukhara region. According to the experimental system, field experiments were carried out in 12 variants and 3 returns. The area of each plot is 480 m<sup>2</sup>, length 100 m and width 4.8 m. The total area of the experimental field is 1.73 ha. Each section consists of 8 rows, the length of the ridge is 100 meters, the distance between the rows is 60 cm, 2 rows on each side are protective rows (Table 1). Experimental options for drip irrigation of corn varieties NS-6010 and NS-6043 are given.



Table 1 EXPERIMENTAL SYSTEM

Options	Corn varieties	Irrigation methods	Irrigation regime in relation to BFMC
1	NS-6010	Irrigation furrow, (control)	65-65-70
2			70-75-75
3			75-80-80
4	NS-6043	Drip irrigation	65-65-70
5			70-75-75
6			75-80-80
7	NS-6010	Drip irrigation	65-65-70
8			70-75-75
9			75-80-80
10	NS-6043		65-65-70
11			70-75-75
12			75-80-80

## Soil work during the experiment:

- the morphological structure of the soil is studied before the experiment. For this, soil was dug at a depth to the level of groundwater and the morphology of the soil was determined by genetic layers.
- soil water permeability was determined annually for all variants at the beginning and end of the test period.
- The boundary field of soil moisture capacity was determined at the beginning of the experiment by framing an area of 2x2 meters.
  - soil moisture was determined by systematic thermostatic drying before irrigation. Soil samples were taken and analyzed for every 10 cm of the 1.0 m layer in 3 strokes in each variant.
  - In determining the timing and norms of irrigation, according to the experimental scheme, the difference between the moisture content of the soil before irrigation was calculated according to the formula SN Ryjov.
  - The amount of water supplied to the experimental field was calculated using Chipoletti (VCh-50) water meters and a sensor for drip irrigation.
  - changes in groundwater level are set in the experimental area. It was detected using 3 observation wells. The pipes were 40 mm in diameter and installed to a depth of 2.5 m. The lower 1.2-meter section of the pipes consists of galvanized holes, which are lined with a filter (kapron material). Groundwater levels were measured once every 10 days.
  - The level of mineralization of groundwater in all monitoring wells was determined before and after the completion of saline leaching and at the end of the growth period, as well as the amount of dry residue, chlorine ions and sulfate.
  - At the beginning of the study, at the beginning and end of the growing season to determine the salt regime of the soil, soil samples were taken for each field and variant, the amount of dry residue, chlorine ion and sulfate was determined, (0-30; 30-50; 50-70 and 70 -100 cm.).



- The amount of humus in the soil layers 0-30, 30-50 cm before the experiment by the method of I.V.Tyurin, total amounts of nitrogen and phosphorus by the method of L.P.Gritsenko, I.M.Maltseva, by the method of nitrate nitrogen calorimeter, mobile phosphorus B. P.Machigin, and exchangeable potassium was determined by the method of P.V.Protasov.
- All agrochemical analyzes were carried out on the basis of "Methods of agrochemical analysis of soil and plants."

## **Work on phenological observations in the corn plant:**

- Seed germination and seedling thickness at the end of the application period were determined for each variant and return.
- Corn height, number of leaves, yield elements on the 1st day of each month (May, June, July, August, September, October) on 75 plants (75 in each iteration) on the options, which are constantly monitored;
- Plants (75 plants) on which the weight of 1000 pieces of corn was constantly monitored;
- In the experiment, the yield was collected from 4 rows of each stalk, weighed, crushed, cleaned, and then weighed in terms of hectares;
- Quality indicators of corn grain were determined for all options and returns.

Irrigation, feeding and other agro-technical activities of the experimental field were carried out on the basis of the "Methods of conducting field experiments" (PSUEAITI 2007) of the Research Institute of Cotton Breeding, Seed Production and Agrotechnology.

## **Conclusion:**

1. A field was selected for the experiment, its soil section was excavated and described by genetic layers, and morphological features were studied.
2. In order to study the volumetric mass of the soil of the field experiment area (common ground) in the spring at three points the volume mass of the soil is determined from every 10 cm layer to the 0-100 cm layer. During the fall, this work was carried out on all variants of the experiment.
3. In the spring, the water permeability of the soil was determined at three points on the common bottom, and in the fall on all options.
4. Soil moisture was determined by systematic drying in a thermostat before irrigation in 3 turns in each variant on every 10 cm layers of 1.0 m layer.
5. 0-30 of the soil in order to determine the agrochemical characteristics of the soil; Samples were taken from 30-50 cm layers in an envelope method, and before the start of the experiment (in the spring) the total amount of humus I.V.Tyurin, nitrogen, phosphorus K.Gingburg, E.M.Shevlova and V.V.Vulfius, potassium Smith, nitrate nitrogen -canometric method or Granvald-Lyaju, mobile phosphorus B.P.Machigin, exchangeable potassium P.V.Protasov methods.
6. In order to determine the mobile nitrate, phosphorus and potassium in the soil, 0-50 cm of all options of experimentation in the autumn before and after flowering, mowing corn. The soil sample (0-30; 30-50 cm) was taken on two returns.
7. The level of mineralization of Sizot water was determined at the beginning of the validity period of corn and in autumn in all variants.



8. In order to determine the level and amount of soil salinity, the period of application of corn was determined at the beginning and in the fall on all options.
9. Phenological observations of corn: seed germination and seedling thickness in each turn, height of corn in each variant, yield branches, number of yield elements (May, June, July, August, September, October 1), weight of 1000 corn grains, grain yield, grain quality indicators were studied for all options and returns.
10. In the meadow alluvial soils of Bukhara region, river water was saved by using water-saving drip irrigation of the main crops NS-6010 and NS-6043, high and high-quality grain was obtained, the amount of water used for irrigation was reduced by 40-45%. 20-25 percent, The efficiency of 1 m<sup>3</sup> of water was increased and recommendations for farmers, farms and clusters suitable for soil and climatic conditions were developed.

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## THE RIGHT OF WORLD'S CHILDREN

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### Annotation

This article provides information on the rights and freedoms of children of all nationalities, international conventions, on the rights of child, laws, the rights and freedoms of children born out of wedlock, children from law-income families, the rights of persons with disabilities, forced labor and child labor. At the same time, opinions and suggestions were made on the importance of the rights of the world's children.

**Key words:** Child rights, freedoms of child, conventions, declarations, forced labor and child labor, the rights of children with disabilities, the 46th session of the United Nations.

The child is the future of every family, every nation. Therefore, every child has the right to kindness and care. Even if he /she was born in the arid deserts and lived in poor countries, or no parents, he has the right to live happily and walk the path of his/her life. Adopting children, ensuring their prosperous future is the responsibility, gratitude and sacred duty of the rights of the whole world. There are now 2.17 billion children in the world. While some of them are kind and considerate enough, unfortunately, there are many children among them who are in difficult circumstances and vulnerable.

Children have the same rights as adults, and their rights are great and sacred. Every child has the right to life, to be protected by his or her parents and the country, to freedom of speech, to education, and to the care and attention of an adult.

A child is, firstly, anyone under the age of eighteen. They have few rights and freedoms, regardless of nationality, language, religion, race or place of birth.

For children to develop well in all respects, they need to be in a healthy environment, with family members and loved ones. It is necessary to create sufficient conditions for their development, to step into independent life, to become full member of society. In an independent state based on every democratic civil society, the interests of the people take precedence. A just country - mainly the younger strata of the population - protects children in every way.

The rights of children to life is one of the oldest issues in human history. It is known from history that children born illegally, out of wedlock, disabled or sick, whose father or mother was unknown, were disrespected and even sent away. [1]. In ancient Sparta, children born with disabilities were sentenced to death alive. Until the creation of the Qur'an, the birth of girls was considered unfortunate. [2].

Every country in the world needs international legal norms based on the rights of the child, which protect them, to prevent violence and prevent them being affected by various factors and suffering from deprivation.



Article 27 of the International Declaration of Human Rights, which is the basis of human rights, states: "The care and assistance of motherhood and childhood. All children have the same right to financial protection, regardless of whether they are born out of wedlock or wedlock. Today, the world community pays great attention to ensuring, supporting and protecting the rights and freedoms of children.

Following the International Declaration of Human Rights, a number of International and national laws on the protection of the rights of the child have been adopted. We can see that these laws have significantly guaranteed the rights of the child to this day.

At the beginning of the 20<sup>th</sup> century, it was understood that children's rights, their illegal use of child labor and protection from child trafficking. During this time, the world community felt the need for the right to ensure that children grow up healthy. In 1924, the League of Nations adopted the Geneva Declaration of the Rights of the Child. The declaration of the Rights of the Child, adopted by the United Nations in 1959, was the first step in this direction. This declaration introduced legal principles for the protection of children. "In order for a child to grow up mentally and physically healthy, it must first be protected before birth." The document consists of 10 sections, the implementation of which should "ensure the happy life of children."

By the 1970s, with the development of society, it became clear that the laws governing the protection of children's rights were inadequate, and that full legal norms were needed. XX ásirdiń 70-jıllarına kelip jámiyettiń rawajlanıwını nátiyjesinde balalar huqıqları qorgawına tiyisli nızamlar jeterli emesligi sezildi, tolıq huqıqıy normalarǵa zárūrlik payda boldı. To this end, in 1974, the "Declaration on the Protection of Children and Mothers during Armed Conflict" and in 1986, the 'Declaration on the Protection of Children in the Process of Adoption, their Moral and Legal Principles' were adopted. The law also promotes adoption regulations from one state to another.

For almost ten years, 1979-1989, a new document on the protection of children's rights was considered by an expert from around who participated in the United Nations Commission, and this document was approved by the UN General Assembly on November 20, 1989/ adopted under the name. The Convention entered into force on 2 September 1990. The Convention, which consists of 3 sections and 54 articles, is the most basic and important norm that has become the defender of the rights of the child to this day.

In the 21<sup>st</sup> century, the Convention on the Rights of the Child has been regarded as a fundamental norm protecting the rights of the child. The International Convention on the Rights of the Child is the basis for strengthening the protection of the rights and interests of the child and developing partnerships between countries in this area.

In May 2002, a special session of the UN General Assembly on Children was held in New York. It was attended by more than 3000 representatives from more than 150 countries and international organizations for the protection of children's rights. The meeting discussed the 11<sup>th</sup> anniversary of the adoption of the Convention on the Rights of Child and the Results achieved.



Representatives from 155 countries participated in a program aimed at ensuring the rights and freedoms of the child. During this period, child protection was reported to have improved compared to the 1990s. In the 1990s, the focus of international law on child rights was to reduce child mortality by three times by the year 2000. However, a 14% decrease worldwide has resulted in satisfactory results in only 60% of countries.

Satisfactory results have been achieved in providing children with clean drinking water. Between 1990 and 2000, 816 million children were provided with quality clean drinking water. At the same time, there have been satisfactory changes in the field of education: the number of school children has decreased, and in most countries the duration of secondary education has been extended. At the same time, the focus was on bringing the educational process closer to the working age of children.

The meeting discussed the activities related to children. These include the death of 10 million children a year, 100 million children (60% of whom are girls) not attending school, more than 150 million children suffering from malnutrition, the spread of the AIDS virus among children, and the prevalence of disc herniation among children. It was noted that the lack of adequate funding for social protection and the irregular use of the labor force of millions of children were among the issues raised.

In order to facilitate these problems, in 2002 the UN General Assembly adopted the Declaration "A world Suitable for children's lives". This declaration has become one of the most important declarations to promote the rights of children around the world.

To address this issue, in 2002 the UN General Assembly adopted the Declaration on a "Better World for Children" ("Mir, prigodniy dlya jizni detey"). This declaration has become one of the world's leading declarations of children's rights.

This declaration consists of 3 main sections. The first section is to create conditions for children in the early stages of life (prevention of death among children, solving food problems, development of medical care and financial security services), prevention of the spread of AIDS among children and adults devoted to the problem of great attention. The second section aims to focus on ensuring quality primary education for all children. The third section aims to create conditions for children, young people and adolescents to take an active part in society, to provide opportunities for children with disabilities to participate in society, participated in the social and cultural life of the profession. Ensuring children's rights and regular education in Uzbekistan has a strong legal framework. Under the leadership of the first President of our country Islam Karimov, all conditions have been created for children to grow up as healthy and mature people, to receive modern education, to show their abilities and skills.

It is safe to say that the country has a special legal framework to ensure the rights of the child and to protect them in all respects. The rights of children are enshrined in the Constitution and other statutes of our country. In the early days of Uzbekistan's Independence, with the ratification of the 1992 United Nations convention on the Rights of the Child, the rights of the child were considered to be the most important issue in our society. [3].

In Uzbekistan, along with constitutional norms aimed at protecting other rights, regulations and subordinate documents directly related to children's rights have been adopted.



The adoption of the Regulation of the Republic of Uzbekisatn on January 7,2008 “on guareantees of the rights of the Child”has become a special regulation on the right of the child in the legal history of Uzbekistan. For this purpose, the Charter is aimed at regulating the raltions related to the determination of the legal status of the child ,the legal guarantee of the rights and freedoms of the child. More than half of the statutory norms are devoted to the establishment of guarantees of children’s rights [4]. As a result of the adoption of the Regulation:

- The codifier (regulation of legal norms)on children’s rights has been banned;
- The concretization of state policy in the protection of children’s rights also contributed to the developmet of state programs in this area;
- Coordinating and monitoring the activities of state bodies,children’s institutions,schools to ensure the rights of the child;
- Ensuring the protection of the rights,freedoms and statutory rights of the child.

Despite the systematic protection of the rights,freedoms and rights of every child in the Republic of Uzbekistan,due to objective and subjective reasons,equal participation of children in all cities is not ensured.

In order to address these shortcomings in our lives,we need to raise awareness among the population about the rights of the child, and actively participate in training seminars on the issues raised by the media. Only in the end will we able to build a civil society which all human beings,regardless of their country,exercise theirs rights and freedoms.

June 12 is International children’s day. Announced by the International Labor Organization, this day has served to unite the world movement to end child labor.

Every year on June 12 in our country there are representatives of the government, employer’s and trade unions, civil society and other organizations, educational institutions, anti-child labor unions. One cuss plan was the development of anti-child labor programs for the education system. The following factors were identified in these programs:

- identified of direct and other means of funding for education;
- provide financial incentives for children from low-income towns to attend school;
- eliminated ideas in education policy and curricula that prevent children from attending school;
- create opportunities for adults and children to study and train them in professional skills

On February 22, 2021, at the 46<sup>th</sup> session of the United nations General Assembly, the Republic of Uzbekistan took part in the meeting as a member of the Human rights Council for the first time. This participation was a new step for Uzbekistan in the implementation of new democratic reforms, the creation of a new Uzbekistan. This session focused on the most pressing issues of the day. It emphasize theat the sustainable development goals until 2030 will be based on the principle of “no one is left out”, which provides for the protection of the rights and legitimate rights of every person in our country, which menas that everyone has a place in our country.

Particular attention was paid to ensuring the rights of person with disabilities, including the adoption by the Republic of Uzbekistan on October 15, 2020 of the regulation “on the Rights of Persons with disabilities”, the right to freedom of expression and association.



The issue of ensuring their rights is reflected in this regulation. Also, the ratification of the Convention on the Rights of persons with Disabilities by our Parliament is a new step in ensuring the rights of people with special needs. At the same time, the President said that the Regional Council on the issues of full realization of the potential of people with disabilities, will be able to express their abilities to the best of their ability. Young people, who make up more than half of our population, have always been in the center of attention and protection of the rights of our country. A good example of this is the fact that 2021 is called the Year of Supporting Youth and Strengthening the Health of People. At the same time, the planning of the World Conference on Youth Rights under the auspices of the United Nations is a testament to the special attention paid to these young people. Compulsory labor and child labor were the most important issues in our country. In a short period of time, in partnership with the International Labor Organization and the World Bank, great work has been done to end forced labor and child labor. Stopping this issue was considered one of our most significant victories. Because the main goal of every child is to get an education, to live freely, to have their own rights and freedoms.

The Constitution of the Republic of Uzbekistan protects the Rights of minors and the goals and objectives set forth in the Regulation on Guarantees of the Rights of the Child. Efforts are being made to apply international standards in this area to national legislation and to improve the regulation. The above-mentioned international legal norms emphasize the importance of child protection in all countries of the world. Protecting children is the protection of the future of the world. Adopting them is the gratitude of every nation to the next generation.

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**CORPORATE SOCIAL RESPONSIBILITY AND FIRM VALUATION: A STUDY BASED ON  
PRIVATE COMMERCIAL BANKS OF BANGLADESH**

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**Abstract**

This study explores the impact of corporate social performance on the firm valuation. Using purposive sampling method based on the availability of information to select the sample size of nine private commercial banks of Bangladesh, it reviews the existing literature. It uses 10 years' data of the selected sample size and applies four denominators of firm valuation i.e. market value per share, book value per share, earnings per share and bank size. Multiple linear regression analysis and Karl Pearson correlation analysis are used to analyze data and test the hypotheses. This study focuses on the philanthropic portion of corporate social responsibility and suggests the authority how does users value corporate social responsibility in their decision making. The study finds that all the variables are positively associated with corporate social performance except bank size and the findings of the study suggest that corporate social performance enhances firm value irrespective of firm size.

**Key words:** Corporate Social responsibility, Firm Valuation, Private Commercial Banks, Bangladesh

**Introduction**

Every organization has some specific responsibilities towards society as it operates within the society. Business has responsibilities to behave ethically and contribute for the development of the quality of life of the workforce, community and society at large. These responsibilities are known as corporate social responsibility (CSR). Business tackles their customers through stakeholder's expectation and bridging the gap between and customer. Responsibilities like controlling power, enhancing welfare facilities and accomplishing demand of customers, business can enhance reputation and improves financial performance. Carroll (1991) stated CSR notched only four but pivotal responsibilities. Organization should be economic, legal, ethical and philanthropic towards society. Among these, first and second are requested, next one is expected and the last one is wanted. In this financing arena, first



three is credited as soulful duty towards organization as its first choice. Therefore, researchers' philanthropic responsibility because it is voluntarily performed and no mandatory rules and regulations exist in the Company Act 1994, Banking Act 1991 or any other act in Bangladesh. Therefore, the study is concentrated to find out the relationship between Carroll's two types of responsibility i.e. philanthropic responsibility and economic responsibility. The resources earned by performing economic responsibility are used to perform philanthropic responsibility. The focus point in the study is how philanthropic responsibility creates value for the organization. This study is unique because it highlights only the philanthropic portion of the CSR and the concept is new on the ground that only theoretical work has been performed regarding philanthropic responsibility. But this work seeks the relationship between philanthropic responsibility and economic responsibility of CSR, taking into account three measures i.e. value creation, earnings of shareholders and firm size.

Philanthropic responsibilities or voluntary responsibilities which organizations perform for the community well-being in different sectors like health, education, arts, environment etc. that are not imposed by any act. Philanthropic responsibilities reckoned as an invisible agreement between society and corporation as society think corporations will perform some activities for their welfare. Such activities are expressed in the form of cash grants, donations and in-kind services (Kotler and Lee, 2005). Study of different bank annual reports represents that organizations were reluctant to perform this responsibility as there is no obligatory requirement. However, the scenario of philanthropic responsibility has been changed in last fifteen to ten years as organization's involvement in philanthropic activities increases in a large scale in all the sectors. The rational is management thinks that corporate social performance is related to the image of organization that circulates economic responsibility. Economic responsibility means to make profit, wealth of the organization (Carroll, 1991) and these resources are used to perform philanthropic responsibility.

The term corporate social performance (CSP), a measure of CSR, is used in several studies to examine the relationship between CSP and financial performance (McGuire et al., 1988; Cochran and Wood, 1984; Griffin and Mahon, 1997; Waddock and Graves, 1997; Belkaoui, 1999; Richardson et al., 1999; Orlitzky, 2001; Orlitzky and Benjamin, 2001; Roberts and Dowling, 2002; Mahoney and Roberts, 2007). Studies indicated that organizations that perform more CSP acquire higher revenue per employee and cash flow per share than the organization near the industry median. Corporate social responsibility related expenses have positive relationship with firm value only when the market becomes sensitive about the corporate actions toward society. Sharfman and Fernando (2008) found that firms with a high level of CSP enjoy a lower cost of capital as having a lower market risk (also known as systematic risk). In several empirical study CSP is linked to financial performance using accounting measures i.e. ROA and ROE (Margolis et al. 2007) and showed a strong positive relationship. In the study, as we find the relationship between economic and philanthropic responsibility we select four accounting measures that represent the first one. In our study, CSP represents total investment of the firm in performing philanthropic responsibility towards society and we tried to relate CSP and different accounting measures like book value, market value, earnings per share and bank size.



## 2. Theoretical Framework and Hypotheses Development

### 2.1. Theoretical Framework

The role of company in society is as significant as its role towards its other stakeholders. Calafell et al. (2006) stated that it is high time of moving towards a situation where a company has a social responsibility to its stakeholders instead of only having a financial responsibility to its stakeholders. Company's success and survival depend on its CSR activities to a greater extent. A good image of the company that is built on the CSR activities is considered as an asset for the company. CSR creates a good image for the company in a long term. Wu and Shen (2013) stated that the adoption of CSR strategies could be beneficial for companies in respect of both macro performance i.e. companies could contribute significantly in improving the environment and social values and micro performance i.e. companies could enhance their own reputation and recruit quality employees.

Several studies on CSR disclosure have been performed in developed countries (Ernst & Ernst, 1978; Oxibar, 2003, 2009). Just few studies digging out information on emerging countries in emerging countries (Hackston & Milne, 1996; Haniffa & Cooke, 2005; Naser et al., 2006). These studies revealed that CSR disclosure practices and norms of customers are largely differ from developed country and emerging country. First reason stated of these studies is in well-developed countries shareholder's activism is more mature than in developing and emerging countries. Baumgartner (2014) stated that when the management actively monitor the CSR, the organization is financially successful.

In any country shareholders, managers, creditors and investors are more interested in firms' financial performance in one side but in other side a group of stakeholders concern about social actions on the part of firms. Therefore, it is indispensable to determine the impact of CSR on the financial performance of companies (Lee and Park, 2009; Lin et al., 2009). Scholars have already examined how CSR is related with financial performance. Peiris and Evans (2010), Peiro-Signes et al. (2013) stated CSR has a positive relationship with financial performance. They also observed that CSR was moderately affected market to book ratio, return on assets and company size. According to Inoue and Lee (2011) the literature has yielded mixed sets of results, including positive, negative, or neutral relationships, and thereby demonstrates no agreement on whether or not high CSR activity leads to improved corporate financial performance.

Positive relationship enhances company's image (Lee and Park, 2009), creating a good relationship with stakeholders increase the profitability and market performance (Bird et al., 2007), enhance the company's access to sources of capital (Chang, 2010), improve the relationship between the company and essential constituencies, such as banks, investors and governmental officials (McGuire et al., 1988). On the other side, it was thought that companies only responsibility is to increase wealth for the stockholders (Friedman's, 1970; Lee and Park, 2009; Kang et al., 2010; Lee et al., 2013) and performing CSR increase additional costs for the companies which hinders optimal resource allocation (Lee et al., 2013) that creates competitive disadvantage for the company (Bird et al., 2007). Further, Mahoney and Roberts (2007) stated that supply and demand theory may support the neutral relationship and he also added that firm's environment is so complex that eliminates any direct, simple relationship between CSR and financial performance.



Saeidi et al. (2015) claimed that these mixed results suggested inconsistent relationship which implies that the relationship between CSR and corporate performance is still far from well-established in the literature. Wang et al. (2014) argued that adding some intervening variables could enhance understanding of the relationship between CSR and company performance. The mixed results with respect to the relationship between CSR and company performance happens due to employing backward-measures for company performance i.e., ROA, ROE (Luo and Bhattacharya, 2006). The current study uses book value, market value, earnings per share, price earnings ratio and bank size to determine the value of the firm that also overcomes the manipulation problem of management through using.

## 2.2. Hypotheses Development

### 2.2.1. Value creation hypothesis

Kang et al (2010) stated that adoption of CSR strategies could improve a firm's value by saving costs which is also supported by Lee et al. (2013) and he stated that CSR actions could strengthen the company's performance by improving its reputation and saving costs. According to Hillman and Keim (2001), Donaldson and Preston (1995), Bowman and Haire (1975) when the firm give attention to the interests of the various stakeholders, it may improve firm image and this concern positively affect firm's productivity, financial performance and value creation and on the other hand, Friedman (1970) argues that CSR is not able to increase firm value in spite of giving importance to the interests of the stakeholder. Bird et al. (2007) found that investment in CSR create competitive disadvantage for the company and lead to a negative relationship between CSR and market performance. McGuire et al. (1988) commented that additional costs for CSR activities such as extensive charitable contributions, extensive promotion of community development plants, and maintenance plant expenditures in economically depressed locations could result negative impact on value as it decreases shareholder's wealth. Nilsson, and Nyquist (2005) stated that environmental performance has a negative impact on market value on the other hand Semenova, Hassel and Nilsson (2009) found a negative relationship for Swedish companies between CSR and value. Hassel et al. (2005) made a study using an accounting based valuation model developed by Ohlson in which they described that the market value of equity is a function of book value, accounting earnings and environmental performance and the results indicate a significant negative relationship between the market value of listed Swedish companies and their environmental performance. However, Cooper and Owen (2007), Belkaoui (1999), Carroll (1999) commented environmental performance is just one of the many dimensions of corporate social and ethical reporting. Hence, it is assumed that

H<sub>1</sub>: There is an association between the firm's philanthropic responsibility and value creation.

### 2.2.2 Shareholder's earnings hypothesis

According to Bernard (1987, 1989); Collins et al. (1999) and Lev (1989) stated that accounting earnings disclosures has significant effects on firm's equity prices even though the effect in some cases is small. But only the level of corporate social responsibility constrains the informativeness of earnings i.e. it has the ability to explain changes in stock returns. Karpik and Belkaoui (1989) stated that corporate social



responsibility affects same firms' stakeholder's perception on the relevance of earnings to the determination of stock returns.

H<sub>2</sub>: There is an association between the firm's philanthropic responsibility and shareholder's earnings.

### 2.2.3. Firm size hypothesis

Public always observes the activities of large companies towards its society which creates pressure for them and they found that firm's size significantly affects its disclosure about environment and energy. Similarly, Hackston and Milne (1996), Belkaoui and Karpik (1989) and Patten (1991) observed that firm size has a positive influence on social responsibility disclosure level. Branco and Rodrigues (2008) stated that large companies increase reputation engaging in performing activities towards the society and they find that firm's size has a positive influence on social responsibility disclosure. It is assumed that

H<sub>3</sub>: There is an association between the firm's philanthropic responsibility and firm's size.

## Methodology

### 3.1. Sample Selection and data collection

The study selected financial sector specially banks in Bangladesh as population of the study to better understand the relationship between philanthropic responsibility and economic responsibility. In Bangladesh, 57 scheduled banks are operated under the supervision of Bangladesh Bank and among these banks 9 private commercial banks were selected as sample size using purposive sampling method on the basis of availability of data for the period of 2008-2017. The selected banks are listed in Table 1. The data used for the empirical study collected from the annual reports of selected banks because corporations are increasingly using their annual reports to disclose information about their social actions (Holland and Foo, 2003).

**Table 1:** Name of the Selected Banks  
**Serial No. Name of banks**

1	Bank Asia
2	Dutch Bangla Bank Ltd
3	IFIC
4	Merchantile Bank
5	Trust Bank
6	Exim Bank
7	Prime Bank
8	Brac Bank
9	Eastern Bank

### 3.2. The Study Model

To analyze the relationship between corporate social performance and firm characteristics mentioned above, the study will test the following empirical model:



$$Y_{it} = \alpha + \beta CSP_{it} + \epsilon_{it}$$

$Y_{it}$  alternatively explains market value per share (MVPS), book value per share (BVPS), earnings per share (EPS) and bank size (BS) of firm  $i$  at year  $t$ . CSP refers corporate social performance of firm  $i$  at year  $t$ . Where  $\alpha$ ,  $\beta$ , and  $\epsilon$  represents constant, coefficient of the explanatory variable and error term that captures the stochastic variables in the model respectively.

### 3.3. Measuring of Variables

Firstly, in the model we tried to build up a relationship between CSP and MVPS of the firm and it also determines whether CSP adds value to the firm maintaining CSR activities at a higher scale. Secondly, the model establishes whether CSP creates differences between the firms' BVPS that perform social activities very well. Thirdly, the model determines the relationship between CSP and EPS that determines whether increasing earnings have any impact on performing corporate social responsibility. Finally, it specifies whether bank size increase performing corporate social responsibility. Table 2 represents the definitions of variables.

### 3.4. Statistical Tool Used:

Multiple Linear Regression Analysis, Karl Pearson Correlations Analysis and other Descriptive Analysis were conducted. SPSS Version 20 was used to process and analyze data and test the hypotheses.

Table 2: Definition of Variables

Name of Variables	Categories of Variables	Definition
Corporate Social Performance (CSP)	Independent Variable	CSP represents the amount of philanthropic responsibility that the firms performed for the society that was used as independent variable. CSP includes quantitative contribution (measured in terms of BDT Taka which is earned by the firm in performing economic responsibility) to health, education, environment and charitable sector of the firm.
Market Value Per Share (MVPS)	Dependent Variable	The market value per share or fair market value of a stock is the price that a stock can be readily bought or sold in the current market place.
Book Value Per Share (BVPS)	Dependent Variable	BVPS is defined as the total share capital and reserves attributable to the ordinary shareholders at the balance sheet date, divided by the number of outstanding ordinary shares at the end of the company's fiscal year.
Earnings Per Share (EPS)	Dependent Variable	EPS are defined as the net profit for the year attributable to the ordinary shareholders after tax and extraordinary items, divided by the weighted average outstanding number of shares.
Bank Size (BS)	Dependent Variable	Natural logarithm of total assets.



## Empirical Results and Discussion:

### 4.1 Descriptive Statistics:

In this section descriptive statistics (table 03) of variables within empirical research are employed to look at the nature and validity of the data. All variables are based upon accounting values and are thus determined simultaneously. The result shows that average contribution towards CSP by banks is Tk. 137.66 million where minimum contribution is Tk. 1.00 million and maximum is tk. 1359.45 million. The high skewness (3.33) and kurtosis (11.23) indicates that contribution to CSP isn't normally distributed i.e. most of banks spent less than average contribution to CSP. The standard deviation is high also. If we calculate Coefficient of Variation at this point, we will find  $CV=1.77$ . As a rule of thumb ( $CV>=1$ ), our results indicate a high variation of CSP of banks. The average firm's value is Tk. 55.49 which ranges from Tk. 10.70 to Tk. 431.10 under the market value per share measure. The standard deviation of Tk. 58.70 indicates that CSP can affect MVPS to that extent. The book value per share on average is Tk. 27.66 ranging from Tk. 15.70 to Tk. 97.40. Again, standard deviation of Tk. 14.81 implies that BVPS can be affected by CSP to that extent. Average Earning per Share is Tk. 4.06 which ranges from tk. 0.55 to Tk. 15.10. The standard deviation is tk. 2.74. The average bank size is Tk. 11.81 of natural logarithm. The high skewness and kurtosis value of all dependent variables indicates firm's value indicators are not normally distributed.

Table 3: Descriptive analysis result for annual contribution to CSP and the firm's value indicators.

	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Kurtosis
Corporate Social Performance	1.0	1359.45	137.66	243.71	59395.54	3.33	11.24
Market Value Per Share	10.70	431.10	55.49	58.69	3444.73	3.62	18.83
Book Value Per Share	15.70	97.40	27.66	14.81	219.46	3.11	10.28
Earnings Per Share	.55	15.10	4.06	2.74	7.51	1.82	3.62
Bank Size	10.14	12.72	11.81	.57	.32	-.70	-.12

### 4.2 Correlation Matrix

On correlation analysis (table 04), we attempted to find out the direction of relationship of among variables. Karl Pearson correlation technique is used to find the relationship between variables. From the result presented in table 2, MVPS (.329), BVPS (.770), EPS (.709) had a significant positive relationship with corporate social performance of banks at 99% level of significance. The natural logarithm of bank size is positively correlated with CSP but not in a significant level. However, the overall result portrays a strong connection and implies that corporate social performance has a strong and positive association with firm's value. The result also suggests that firm's value increases with increasing level of corporate social performance.



Table 4. Correlation matrix of firm valuation indicators with human resource cost

Correlations		Corporate Social Performance	Market Value Per Share	Book Value Per Share	Earning Per Share	Bank Size
Corporate Performance	Social	Pearson Correlation	1	.329**	.770**	.709**
		Sig. (2-tailed)		.002	.000	.000
Market Value Per Share		Pearson Correlation	.329**	1	.438**	.605**
		Sig. (2-tailed)	.002		.000	.001
Book Value Per Share		Pearson Correlation	.770**	.438**	1	.801**
		Sig. (2-tailed)	.000	.000		.000
Earnings Per Share		Pearson Correlation	.709**	.605**	.801**	1
		Sig. (2-tailed)	.000	.000	.000	.127
Bank Size		Pearson Correlation	.137	-.333**	.002	-.162
		Sig. (2-tailed)	.198	.001	.988	.127

\*\*. Correlation is significant at the 0.01 level (2-tailed).

#### 4.3 Regression Statistics

Results of Regression Equations used in the analysis are exhibited in this section. The results are discussed separately that enables us to make comparison of the different firm's value indicators.

##### Equation 1:

In the first equation the relationship of CSP with the market value per share is studied. The positive coefficient of CSP of MVPS (.079) indicates that relationship is positive and p-value (.002) indicates significant relationship. The result indicates that the greater the contribution to CSP, the higher the market value per share. Moreover, the adjusted R square value (.098) shows that 9.8% variation of MVPS can be explained by CSP. F value (10.67) tells us that the model is slightly significant as a whole.

$$MVPS_{it} = \alpha + \beta CSP_{it} + \varepsilon_{it}$$

Table 5: Value of Firm (MVPS) Linear Regression Analysis Result

Coefficients		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	44.582	6.757		6.598	.000
	Corporate Social Performance	.079	.024	.329	3.268	.002
R Square: .108; Adjusted R Square: .098; F-value: 10.67;						
<b>Dependent Variable: Market Value Per Share</b>						



Thus,  $MVPS = 44.582 + .079CSP$

i.e. If banks increase CSP tk. 1 million, MVPS will increase tk. 0.079.

### Equation 2:

In the second equation the relationship of CSP with the book value per share is studied. The positive coefficient of CSP of BVPS (.047) indicates that relationship is positive and p-value (.000) indicates significant relationship at 99% level of confidence. The result indicates that the more the contribution to CSP, the higher the book value per share. The adjusted R square value (.588) implies that 58.8% variation of BVPS can be explained by CSP. It indicates that CSP effectively explain changes in BVPS. F value (127.820) implies that overall significance of the model is satisfactory.

$$BVPS_{it} = \alpha + \beta CSP_{it} + \varepsilon_{it}$$

Table 6: Value of Firm (BVPS) Linear Regression Analysis Result

Coefficient		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	21.223	1.153		18.403	.000
	Corporate Social Performance	.047	.004	.770	11.306	.000
R Square: .592; Adjusted R Square: .588; F-value: 127.820;						
<b>a. Dependent Variable: Book Value Per Share</b>						

Thus,  $BVPS = 21.223 + 0.047CSP$

i.e. if banks increase CSP tk. 1 million, BVPS will increase tk. 0.047.

### Equation 3:

The results given in the table 7 depict that empirically significant positive relationship exist between the CSP and EPS. The positive value of beta (.008) is significant at 99% confidence level further t value of (9.423) exhibit the relationship is empirically reliable. It dictates that CSP leads to increase in EPS. The adjusted R square value (.497) implies that CSP can explain 49.7% variation of EPS. F value (88.796) tells us that the overall significance of the model is good.

$$EPS_{it} = \alpha + \beta CSP_{it} + \varepsilon_{it}$$

Table 7: Value of Firm (EPS) Linear Regression Analysis Result

Coefficient		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	2.964	.236		12.575	.000
	Corporate Social Performance	.008	.001	.709	9.423	.000
R Square: .503; Adjusted R Square: .497; F-value: 88.796;						
<b>a. Dependent Variable: Earning Per Share</b>						



Thus,  $EPS = 2.964 + 0.008CSP$

i.e. if banks increase CSP tk. 1 million, EPS will increase tk. 0.008.

**Equation 4:**

The results given in the table 8 depict that empirically neutral relationship exist between the CSP and bank size. The value of beta is .000 which indicates that the relationship bank size and CSP is neither positive nor negative. Adjusted R-square and F value (1.697) tell us that the overall significance of the model isn't satisfactory which supports the previous correlation results too.

Table 8: Value of Firm (Bank Size) Linear Regression Analysis Result

Coefficient		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
		11.769	.069		171.124	.000
1	(Constant)					
	Corporate Social Performance	.000	.000	.137	1.296	.198
R Square: .019; Adjusted R Square: .008; F-value: 1.697;						
a. Dependent Variable: Bank Size						

Thus,  $EPS = 2.964 + 0.008CSP$

i.e. if banks increase CSP tk. 1 million, EPS will increase tk. 0.008.

**Conclusion**

The study examines and analyzes in what way philanthropic responsibility creates value for the organization. It has investigated the impact of corporate social performance (the portion of philanthropic responsibility) of nine private commercial banks for the period from 2008 to 2017 on four determinants of firm value i.e. book value, market value, earnings per share and bank size. The study results support a significant positive association between corporate social performance and firm value.

The analysis suggests that corporate social performance has a strong relationship with firm value irrespective of firm's size i.e. firm size does not make significant difference in performing philanthropic responsibility towards the community. The study further depicts that increasing the contribution towards the society increases firm's value. The findings also indicate that the two categories of responsibility i.e. economic responsibility and philanthropic responsibility has a strong relationship. The result proves that the resources earned through performing economic responsibility used in philanthropic activities which in turn increases the firm value.

It should be acknowledged here that the study is consist small sample size because the quantitative information of ten years about philanthropic portion is not publicly available. This analysis found that in recent years most of the banks provide numerical information but at the beginning they provide only the theoretical information about their social activities. Moreover, the use of only annual reports for analyzing the social responsibility disclosure constitutes another limit. In future researches, we suggest



conducting similar studies on larger sample size and also include the nonfinancial sectors of Bangladesh. Further study can include other determinants of firm valuation and use other disclosures than annual reports like brochures, leaflets, articles published in the press, websites, etc.

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## SOCIAL FACTORS IN THE ORGANIZATION AND MANAGEMENT OF STUDENT SPORTS TRAINING

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### Annotation

Sports clubs are an important primary organization in the organization and conduct of sports activities. The article is devoted to the problems in the work of sports clubs and ways to solve them, and contains information on entrepreneurship and public services in the field of physical culture and sports, the creation of new jobs.

**Keywords:** sports, sports clubs, physical culture, physical training, management.

Higher education institutions are an organizational structure that performs enormous organizational and managerial functions in educating the younger generation and providing them with future careers. The stage of socio-economic development of today's society places different demands on people, especially young people, to organize, manage and live their lives in an exemplary manner. They are concentrated around medical-biological, pedagogical-psychological, socio-economic and legal students and form a system of needs aimed at ensuring a person's whole life. At present, great importance is attached to the development of physical culture and sports in higher education institutions. [1].

The contribution of physical culture and sports in bringing up the young generation as physically fit and mentally mature people is invaluable. In order to further develop physical culture and sports, the Law of the Republic of Uzbekistan "On Physical Culture and Sports" (September 4, 2015, new edition), "On measures to develop physical culture and mass sports" (Presidential Decree No. 3031 of June 3, 2017) were adopted, and the main conceptual directions for the implementation of the tasks set out in it were developed.

The law provides for a conceptual approach to physical education and the gradual solution of cultural, educational, socio-economic tasks through physical education and sports in the system of continuing education. [2]

As a result, our athletes are gaining more and more victories on the world stage, making a significant contribution to the popularization of sports in our country, its further scientific and methodological development. Strengthening the results achieved in sports training poses enormous challenges for their further development in the coming years. Twenty-five student-athletes of the 69 national teams of Uzbekistan, which participated in the XXXI Summer Olympics and XV Paralympic Games in 2016 in Rio de Janeiro, Brazil, also took part. This accounted for 32.2% of the total number of participants. Taking into account the fact that 18648 students study at the Uzbek State Institute of Physical Culture and 15 faculties of physical culture in the regions, we can see that only 0.13% of them are Olympic students. Representatives of only 6 out of 15 faculties of physical culture in the regions (Urgench State University, Andijan State University, Sam State University, Bukhara State University, Kokand State



Pedagogical Institute, Karshi State University) participated in the Olympic Games. None of the remaining 10 faculties was included in the national team. This indicates that the organization and management of sports training of students in these faculties is unsatisfactory. Naturally, this figure does not satisfy us and makes it necessary to reconsider the case, to look for other, optimal ways to solve the problem.

This need requires the mobilization of a huge reserve force of students and professors of the faculties of Physical Culture in the regions, the organization and management of their work at the level of modern requirements. Of course, what we have said applies to the process of training high-class athletes, because the process of training high-class athletes goes through great muscle tension. For example, the annual running volume of runners ranged from 3000-3500 km to 6500-7500 km. Individual swimmers train 3,800 km per year, rowers up to 12,000 km, and cyclists up to 40,000 km.

Athletes who maintain their level in world competitions will have at least 7-8 years of hard sports work. In a foreign sports experience, 8 people serve for a particular athlete of the highest category.

These require the organization and management of the sports training process not only by intuition or self-discipline, but also in accordance with the recommendations proven by the results of scientific, theoretical and methodological research.

It should be noted that mass sports also has a special place as a huge reserve force for the training of high-class athletes. Mass sports in higher education institutions are carried out through sports clubs. If we approach the working conditions of sports clubs from today's requirements, as well as from a scientific and methodological point of view, we will have to refer to certain indicators to determine their efficiency. At present, there are 60 higher education institutions, 7 foreign branches and 13 branches of higher education institutions in the country. When you add them all up, they are 80. They have more than 271,000 students and more than 9,000 graduate students. Sports clubs in these higher education institutions operate on a community basis, they do not have a source of funding.

Therefore, they are often unable to participate in student sports competitions held at the national and international levels. There are also sports clubs that operate on a legal basis in some higher education institutions as economic entities in order to be self-sufficient, based on students of market economy. But their number is very small, they are 10-11%. This situation also creates a big problem in higher education institutions, such as the organization of sports clubs, which are the core of the organization and management of student sports training, as economic entities, giving them legal status. [3]

Today, the great attention and opportunities paid to the development of small business and entrepreneurship in all sectors of the country, the benefits require their widespread implementation in the process of physical culture and sports training in the education system. Based on the experience of developed countries, entrepreneurship and business, in turn, give a great impetus to the development of sports and fitness among students. For example, in the most developing countries, such as China and Korea, only 40% of the money spent on physical culture and sports is spent from the state budget. The remaining 60% of the funds are generated through self-sufficiency. This is 100% in a country like the United States, which means that the state spends almost no money to develop independent sports among the population.

Despite the fact that many decisions of the President and the Cabinet of Ministers to address the financial, economic and organizational-legal problems of the process of independent sports training of



students serve as an important basis for entrepreneurship and business in the field, the results remain unsatisfactory. Despite this, the three-stage system competitions are held regularly, every year, but due to lack of funds, there is a specific gap in sports training for 2-2.5 years between each stage. The main reasons for this are as follows.

First, the lack of legal knowledge, skills and abilities of sports professionals to meet the requirements of a market economy.

Second, the system of organization and management of independent sports training of students is not responsive to today's students, they do not have a source of funding.

Third, the lack of vital life goals for professionals in the field to improve their economic situation through initiative and independent sports training, and so on.

Creating conditions in the system of independent sports training of students, holding trainings, competitions and meetings of various levels and finding a source of funding for their participation has been a big challenge. Therefore, the establishment of entrepreneurship and business-based sports clubs in higher education institutions, the creation of jobs, the organization and management of their work to address the important material and spiritual tasks set by our government, in particular, to make students physically mature, healthy and independent sports for many years. creates great opportunities for them to continue their activities, to start their own business and entrepreneurship through sports. This is one of the most pressing issues facing professionals today.

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## PHYSICAL EDUCATION OF STUDENT YOUTH IN MODERN CONDITIONS

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### Annotation

Today, a significant number of studies are devoted to the problems of physical education of students and the formation of a healthy lifestyle for modern youth. Most authors agree on the need to make structural changes in the process of physical education of students in order to improve their health and development of physical qualities. The article discusses various structural forms of organizing the process of physical education of students in modern conditions.

**Keywords:** Students, physical education, modular training, specialization, physical activity.

### Introduction

Today, a significant number of scientific studies are devoted to solving urgent problems of physical education of student youth. One of the most important problems is the state of physical health of modern young people. According to special monitoring data, only about 10% of young people have a level of physical development and health close to normal. A sharp increase in cardiovascular and musculoskeletal diseases has been recorded, which is largely due to the insufficient level of physical activity of young people. In general, about 50% of young people with 2 - 3 different diagnoses of diseases come to higher educational institutions, and only about 15% of graduates can be conditionally considered healthy people [4, p. fifteen]. Another problem is the decrease in the effectiveness of educational technologies in the system of physical education of students of higher education. Scientific research carried out in educational institutions shows an unsightly picture of a sharp deterioration in the level of health and physical fitness of students to the loads that they may encounter in their subsequent work [1, p. 91]. It is noted that today teachers of the departments of physical education orient students only to passing the test in the subject, and not to the need for the formation of special knowledge, skills, competencies, norms of a healthy lifestyle, strengthening the level of their health, etc., therefore, qualitative changes are needed in the structure and methods of conducting physical education lessons in universities in order to correct the current situation [7, p.116]. All of the above forms the relevance of this work.

### Materials and methods

One of the ways of introducing qualitative and structural transformations into the educational process of physical education of students is to change the form and methodology of the conducted classes in order to increase the level of development of physical qualities, improve health, and prepare for the upcoming labor and social activities. Such (modified) modern forms of conducting training sessions in the discipline "Physical culture" include: specialized classes in selected sports (sports specializations),



modular training of students, individual programs. A comparative analysis of the effectiveness of conducting training sessions on these forms in the context of increasing the level of development of physical qualities and functional readiness among students forms the scientific novelty of the research. The methodology of conducting classes with students in the form of specializations is based on a sports-specific approach - the pedagogical direction of physical education of students at a university based on practicing one or several sports using modern technologies for training athletes, adapted to the educational process and contributing to the realization of individual motor needs, the formation of sports culture, improving the physical and special training of young people in their student years [2, p. 135]. It assumes the conversion of sports technologies into the process of physical education of students.

**Modular training programs are based on the sequential development of students' basic motor skills:** walking, running, skiing, swimming, etc. Classes with students are held in different, sequentially following one after another, modules. As a rule, 1 semester includes: athletics, gymnastics, sports games (football), 2 semesters: athletics, swimming, sports games (volleyball, basketball). The modular training system includes blocks of training sessions (the number of classes is 18 for each block), theoretical, methodology, practical training and mandatory acceptance of control and technical standards. Today, this form of study prevails in most of the higher educational institutions of our country.

The practice of physical education shows that the effectiveness of physical training will be high only if physical activity is individually dosed, taking into account the level of health and physical fitness of a person. [5, p. 186]. Individual physical education programs for students are designed for young people who, for health reasons, belong to the main and preparatory group, but for any reason (recovery from illness, insufficient level of physical development, etc.) cannot perform physical activity in full volume. These programs are based on the methods of intensive physical and functional training of young people with mandatory control over the level of students' health. Thus, the total volume and intensity of physical exercises is limited by the functional state of the trainees, and does not depend on the subjective opinion of the teacher [6, p. 133].

In the light of the above, the authors of the article decided to conduct research that determines the quality of the level of physical and functional training of young people attending various forms of physical education classes in universities. The aim of the research was to identify the most effective, in terms of increasing physical qualities, forms of training. The research was carried out at the Samarkand State University named after A. Navoi (sports specialization) and the Uzbek State Institute of Arts and Culture (modular training and individual programs). The research involved 300 young male - students of the 1st year of study (20 people selectively from each form of education). The choice of the studied students was carried out arbitrarily using computer programs.

When conducting research on the effectiveness of modern forms of the educational process in the discipline "Physical education and sports", the authors used a set of control tests and tests that are widely used to assess the level of physical and functional state of students. We studied: the level of strength development (the number of pull-ups on the bar), the level of speed development (time to overcome 100 m distance), the level of flexibility development (forward bends in a sitting position),



functional readiness (time to overcome 3000 m distance, squat test). It is believed that the results of these tests will most fully and accurately indicate the physical form of a person.

The squat test should be discussed separately. This test is widespread in the practice of pedagogical observations and sports medicine to assess the level of functional readiness of subjects. The essence of the test is to perform 30 squats in the shortest possible time. The test is convenient for its simple execution and the fact that it does not require expensive equipment, for example, a bicycle ergometer or a treadmill - a moving track for running. To carry it out, it is only necessary to measure the pulse and blood pressure at rest and after exercise. For more accurate calculations, the authors used the technique of Professor A.I. Zavyalov on the calculation of systolic and minute blood volumes in the studied students [3, p. 70 - 75].

## Results

In the course of the research, data were obtained on the increase in the level of development of physical qualities and functional readiness of students. Students engaged in sports specialization programs and students of the modular form of education slightly (according to the Student's t-criterion) improved their level of training. The level of functional training among students studying according to individual programs increased (according to the Student's t criterion) statistically reliably. The full results of the research are presented in the table.

The level of development of physical qualities of functional readiness among students of various forms of education

Forms of education	Physical qualities	Experiment start	End of experiment	Validity of differences
Sports specializations	force	$10 \pm 3$	$14 \pm 3$	unreliable
	rapidity	$14 \pm 4$	$12 \pm 2$	unreliable
	flexibility	$7 \pm 2$	$10 \pm 4$	unreliable
	endurance	$15 \pm 4$	$13 \pm 2$	unreliable
	functional readiness	$5,3 \pm 0,6$	$5,1 \pm 0,4$	unreliable
Modular training	force	$8 \pm 4$	$12 \pm 3$	unreliable
	rapidity	$16 \pm 3$	$13 \pm 2$	unreliable
	flexibility	$8 \pm 3$	$11 \pm 2$	unreliable
	endurance	$15 \pm 2$	$14 \pm 2$	unreliable
	functional readiness	$5,5 \pm 0,3$	$5,2 \pm 0,5$	unreliable
Individual training programs	force	$7 \pm 2$	$10 \pm 2$	unreliable
	rapidity	$17 \pm 4$	$14 \pm 3$	unreliable
	flexibility	$6 \pm 3$	$10 \pm 3$	unreliable
	endurance	$18 \pm 2$	$14 \pm 3$	unreliable
	functional readiness	$5,6 \pm 0,4$	$4,8 \pm 0,2$	$P < 0,01$



## The discussion of the results

The data obtained by the authors indicate that the teachers of the departments of physical education can choose the most suitable form for them (from the climatic, material-technical and other aspects) of conducting training sessions with students. An increase in the level of development of physical qualities and motor abilities is demonstrated by students of all studied forms of education. However, according to research data, there is no significant increase. According to the authors, this fact can be explained by the fact that students attending modular training classes spend a significant part of their time learning technical actions and techniques to the detriment of the development of physical qualities. Students attending classes in the form of sports specializations, on the contrary, concentrate their time on the development of any one quality (swimmer - endurance, track and field athletes - speed, etc.). With a selective determination of indicators of other physical qualities, the development of which has not been given due attention, it can be found that the increase may be small. An increase in the level of functional readiness for physical activity was also recorded in students of all forms of education, but a statistically significant increase in the Student's t-test ( $P < 0.01$ ) was recorded in students studying according to individual programs.

## Conclusions

The authors' studies of the effectiveness of various structural forms of physical culture lessons among university students show:

1. There was no significant advantage of any one structural form of conducting classes over others in the development of students' physical qualities. An increase in the level of development of physical qualities is demonstrated both by students pursuing programs of various sports specializations and pursuing modular training programs, as well as students pursuing individual programs. Consequently, for the effective development of students' physical qualities, teachers of the departments of physical education can use various forms of conducting training sessions or combine them.
2. An increase in the level of functional readiness is also demonstrated by all the studied students, but reliably significant changes occurred among students of the individual form of education. If the differences were unreliable for students studying in specialization programs and modules, then for students of the individual form the reliability was  $P < 0.01$ . Therefore, from the point of view of efficiency, the individual form of training is most suitable for increasing the level of functional training of students.

In conclusion, the authors want to note that the most promising form of organizing the process of physical education is the individualization of the educational process, taking into account the level of the physical and functional state of young people. This form allows (in contrast to specializations and modular training) to involve students with different levels of physical and technical training, as well as students of special medical groups, in practical classes.



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## BRIGHT CREATIVITY COMPOSER

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### Annotation

The article is dedicated to the composer, teacher, mentor Fakhriddin Sadikov. The life and creative path of this talented, "folk" composer is examined. He had an excellent command of the instrument, was a talented teacher, a master of his craft. His works live in the hearts of the people. We think the article will be interesting for teachers and students of creative universities.

**Key words:** composer, creative, music, creative universities.

### INTRODUCTION

With the rapid development of science in the Republic of Uzbekistan, fundamental changes are taking place in the field of culture and art, literature and music. Today, its influence on art is enormous. Freed from the ideological pressure of harmful ideas in art, new directions appear, acquiring a new essence. It should be emphasized that without studying the past, it is impossible to reach the future. Nevertheless, the development of national music is inextricably linked with the names of great composers and musicians who have made a worthy contribution. The development of Uzbek national music is organically linked with social events and the system of the last century [1].

According to historical data, the Uzbek composer's art is 1500-2000 years old. It is the task of musicologists and art critics of Uzbekistan to show and study this long historical period.

In particular, during the 20th century, Uzbek national music at the junction of complex ideological and political events did not lose its originality and tradition and found its own way of development. In this path, Uzbek composers worked fruitfully, preserved national music, promoted, multiplied it, and performed it masterfully and an excellent school of performing and singing art was established. [2] It should be emphasized the names of famous artists and musicians who have worked fruitfully and made a significant contribution to the development of musical art; Khoji Abdulaziz Abdurasulov, Tukhtasin Jalilov, Yunus Rajabiy, Imomjon Ikramov, Jurakhon Sultanov, Kamilzhan Jabbarov, Saidjon Kalonov, Nabijon Khasanov, Ganijon Toshmatov, Komiljon Otaniyazov, Mukhtorjon Mukhammatadjaev, Otaniyazov.

In this article, we would like to talk about the famous composer and performer Fakhriddin Sadikov who made a significant contribution to the development of national music.

Fakhriddin Sadikov was born in 1914 on May 14 in Tashkent, in the family of a railway worker Sadikhuja Turajanov. Mother of Turasayibkhon was not indifferent to art, and brought up in children a love of beauty. The family had three children. Their parents raised them to be hardworking, smart and intelligent. After the death of his father, the family remained in a difficult situation. All the care of the upbringing and maintenance of the family was taken over by the elder brother Shamsiddinkhon



Fakhriddin, who had matured a little, sometimes picked up a dutar that hung on the wall. There was a desire to play and listen to these tunes endlessly. The sound of the dutar inspired and inspired him. [3] In 1926, Fakhriddin began to study music in a circle created at the school. And his first teacher was Numankori Muminzada. Diligent Fakhriddin made progress in playing the chang and soon became a solo performer of the circle. F. Sadikov in 1972 - 1976, during a meeting with students of the Tashkent State Conservatory, warmly recalled his great teachers and performers such as; dutarist Mukhiddinkhoji Najmiddinov, flutist Abdukadir Ismailov, Ahmadjan Umurzakov, chanciest and drummer Usta Olim Kamilov, Usta Ruzmatjan, Matyusuf Kharratov.

Musicologist H. Gafurbekov emphasized: "In the footsteps of great composers such as H.H. Niyoziy, T. Jalilov and Y. Rajabiy, F. Sadikov, K. Jabbarov, N. Khasanov, S. a significant contribution to the development of national music, glorifying the new century, new life and a new person in their compositions. " F. Sadikov successfully passed his probationary period before his great teachers such as Khoji Abdulaziz Abdurasulov, teacher Halim Ibodov, Safo Muganniy, Madrakhim Sheroy, Mamat bobo Sattarov, Abdukadir Ismailov, Ahmadjan Umurzakov, Yusufjankizik Shakarjanov.

F. Sadikov in 1937 became a soloist of the orchestra of folk instruments. The orchestra under the direction of T. jalilov successfully toured in Moscow, Azerbaijan, Belarus. F. Sadikov's first song "Hey Chekhrasi Tabonim" became truly popular. The simple, unpretentious melody of the song fell in love with many singers and to this day the song sounds in holidays and events. In 1939, on the initiative of Y. Rajabiy L. Sarymsakova, an ensemble of dutarist girls was created at the Uzbek State Philharmonic Society. The ensemble was led by F. Sadikov. In the same years, he participated in the opening concerts of the Big Fergana Canal and became a participant in the competition of musicians - performers in Moscow and received a second degree diploma and a prize.

A wonderful galaxy of performers - instrumentalists such as; Zakirjon Sadikov, Orif Kasimov (dutar), Mahmudzhan Mukhamedov (flute), Yakubjan Davidov (tanbur), Ilham Turaev (fiddle), Turgun Alimatov, Dadakuja Sattikhujaev (doira).

F. Sadikov in his memoirs warmly says that his students of the conservatory learned the most difficult parts of the classic in a short time. In 1964, he was awarded the title of "Honored Art Worker of Uzbekistan" by the government for his merits in training and education of personnel, scientific work. During the years of independence, the association of the Union of Composers was renamed to the new name of the Association of Composers of Uzbekistan

In 1972 F. Sadikov headed the Department of Oriental Music and taught traditional performing. He also supervised the ensemble of students' classist. He excellently taught the possession of different styles of performing classics. The famous musicologist TS Vyzgo highly appreciated the merits of F. Sadikov in the performance and teaching of students. In particular, he said: "It is F. Sadikov's merit to achieve the colorful sound of the monadic classic. The innate feeling to listen and correctly distribute voices in terms of timbre and sound is not given to everyone. "

For merits in the development of art F. Sadikov in 1950, 1952 and 1975 and communication 60 - years old the government awards the "Certificate of Honor" of the Supreme Council of Uzbekistan. F. Sadikov in recent years worked as a senior lecturer at the Department of Oriental Music of the Tashkent Conservatory. Died after a long illness in 1977 on October 28. More than 40 years have passed since the day of his death, but the people have not forgotten the work and merits of the talented composer,



teacher and performer. His music lives in the hearts of fans and will educate young people and the future generation and will not lose its relevance.

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**CULTURAL EDUCATION CENTER CLASSIFICATION OF BUILDINGS AND GENERAL CONCEPTS**

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**Annotation**

This article examines the history of the formation of cultural and educational centers, its social nature and architectural solutions. The volumetric plan of the structure of the cultural and educational building, its composition, opinions about the components of the building are given.

**Keywords:** cultural and educational center, club, volumetric solution, building, functional zones.

**1. Classification of public buildings**

Public buildings are classified according to their main functions (functions), location in settlements of the populace, planning structure, composition of the main rooms, ideological and artistic description of the architectural composition. The location of public buildings is determined by its importance, the level of needs of the population of the city, village, district or neighborhood, the categories of the population served and the functions it performs. The volumetric structure of public buildings in this or that group is formed as a result of many years of design, construction and operation:

- buildings of educational and scientific institutions;
- auditoriums;
- sports facilities;
- trade and consumer services buildings;
- administrative and utility buildings;
- transport facilities;
- treatment and prevention facilities.

Since independence, political and spiritual stability in the country, democratization reforms, social and scientific-technical progress have developed the creative work in the field of rural architecture and construction in the regions of the country. The work on architectural design and the use of new methods



of construction using new building materials, which are more functionally perfect, has been expanded. In particular, the development of rural and urban architecture of the republic, the changes in the cultural and educational spheres of the people require the increase in the number of cultural centers, clubs and sports facilities, as well as modern housing. One of the main problems of the day is the increase in the number of institutions that hold meetings for people to spend their leisure time. Therefore, the cultural and educational building designed for the project is one of the architecturally perfect public buildings of cultural institutions in these areas, adapted for construction in villages and cities.

## **2. General concepts of the buildings of the cultural and educational center.**

The prototype of modern clubs goes back to the world architecture of the past. Clubs began to develop mainly in the XXIII - XIX centuries. Initially, such small-scale clubs were mainly gathered around one profession, colleagues, "proletarians", but later they went there not only to eat, get information, spend their free time, improve their knowledge, but also to play sports. Compared to other cultural and educational institutions, such as theaters or cinemas, clubs are one of the most attractive types of buildings, designed for a variety of activities. The growth of the network of clubs, its importance in urban planning, especially for rural areas, requires the development of projects for mass construction, which are necessary for the rural and urban population to create new types of them in order to use them more effectively.

If we divide the history of the clubs into stages, **the first stage** - the architectural development of the new proletarian club in the 1920s - a huge labor in its image, a huge palace of culture, a theater, club rooms, clubs (political and educational work), amateur art, physical education, military preparation, "red corner", library, etc. In **the second stage** (1930-1950) the development of clubs was amended according to the club regulations of the trade unions (1939), limiting the spectator section and club section to 600 seats in a 1: 1 ratio and to small clubs in a 1:06 ratio.

By **the third stage**, the activities of the clubs, which lasted until the mid-1980s, were relegated to second place. By this time, everything was centralized and transferred to the norm. On the basis of a single policy, the clubs were serviced on the basis of the existing system of cultural and social services for the existing macro-districts, districts, city centers in the cities. In the countryside, village clubs began to be built in the countryside, on state farms and collective farms. Palaces of culture became typical only in the centers - districts, cities.

This, in turn, meant that the capacity of the clubs was intended only for the population in the service area, without taking into account the interests of the public and professionals. As a result, the clubs began to face a crisis, as a result of which research was conducted on a new form of clubs, and finally, to date, changes were made in the composition of clubs in line with modern requirements.

## **Basics of designing cultural and educational centers**

In addition to a variety of active and passive factors, the image of rural life, the component of leisure time, the nature of activities and the measures to link them to the cultural layer and health measures affect the production and formation of cultural and educational activities in the regions. It would be expedient to build a network of cultural and educational institutions to cover the industrial production



## Academicia Globe: Inderscience Research

areas and residential areas of the district. So far, one of the types of public buildings of the club is a club with a hall, a stage and all the service rooms, which does not bore the audience, including clubs.

In the near future, the universal functions of clubs have been preserved in many rural areas due to the lack of spectator sports facilities, libraries and other recreational facilities. There is a need in the city for cultural activities (folk art houses, amateur clubs), clubs, youth homes and similar cultural and educational centers, which can attract people interested in various professions.



General view of the building from the top

Figure 1. Cultural and educational center building.



Figure 2. Cultural and educational center building.



Figure 3. Cultural and educational center building.



Figure 4. Cultural and educational center building.  
Side view of the building



Figure 5. Cultural and educational center building.  
Side view of the building

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## CENTRAL ASIA IN IX-XII CENTURIES: SOCIO-POLITICAL SITUATION, SPIRITUAL AND CULTURAL DEVELOPMENT

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### Annotation

The article analyzes the culture of the Near and Middle East in Central Asia during the Renaissance in the IX-XII centuries, the role, influence and importance of the "great migration" between the West and the East, the ethno-demographic processes, the specific features of this period through a wide range of sources. made.

**Keywords:** Science, Culture, Development, Renaissance, Arab Renaissance, Renaissance in the Middle East, Fiqh, Observatory, Sivan ul-Hikma, Majlis ul-Ulama.

### Introduction

Today, Uzbekistan is taking a bold step into a new stage of its development. Our relations with all countries, both near and far, and international organizations are expanding and developing. It is gratifying that due to the prudent policy of the head of our state, the future of our great country has begun to collide with that of the developed world, and even more important changes have taken place in our worldview and way of life. Our republic has become a huge construction site. It was also noted that in recent years a new stage of development has been entered, a new awakening - the foundation for the Third Renaissance. This, in turn, requires the study of our history and an objective assessment, enrichment and development of our spiritual heritage. Results and discussion. It is known that al-Khwarizmi, al-Farghani, Jabir, Zakaria ar-Razi, al-Kindi, al-Farabi, Ibn Sino, al-Khwarizmi, who made a great contribution to the development of culture and science of the Near and Middle East during the Renaissance in Central Asia in the IX-XII centuries. Medieval science and philosophy such as Beruni, Umar Khayyam, Narshahi, Battani, Marvazi, Mahmud Kashgari, Masudi, Bayhaqi, Kiftiy, Yaqt, Abul Vafo, Ibn Rushd, Zamakhshari, Faryabi, Ulugbek, Kashi, Ali Kushchi, Ibn Khaldun who have left a deep mark on the history of their culture. It should be noted that we also see different views in the interpretation of the specificity of the culture, science, philosophy of the Renaissance. .[1,494] Academician M. Khairullaev objected and it is wrong to interpret it as the restoration and awakening of ancient culture; it may be more accurate to explain that the restoration of ancient culture serves as a primary tool rather than an expected goal of its awakening. [2,91]. In our opinion, it is a closer interpretation of reality.



If the aim was to restore ancient culture, all its significant results would be more fully reflected in Renaissance culture. But we do not observe such a scene. Even little is known about the extent to which Homer's Iliad and Odyssey, the elder of ancient Greek literature, were known and studied in the Middle East. Beruni provides one such information. He mentions Homer's verses in his book India, which shows that he was known to Beruni, the greatest scholar of the Middle East, but we do not find Homer's name in Arabic, Persian or Turkish works. The development of science and culture has reached such a rapid and high level that in Khotan and Gurganj there are not only primary but also secondary educational institutions - schools, mosques, madrassas, foundations, private (private) libraries, jurisprudence, observatories and so on. As a result, the Sivan ul-Hikma (Treasure of Wisdom), which appeared in Bukhara during the Samanid period, or the Majlis ul-Ulama, built in the capital of the Buwayhids, Ray, under the leadership of the great Sadr Azam Sahib ibn Ismail Abbas, could compete scientifically and creatively. The Majlisi ul-Ulama (Ma'mun Academy) of the Khorezmshahs was one of the first scholars, writers and politicians in the whole medieval world. Unlike other "Academies" of its time, the Khorezmshahs' Mamun Academy did not have one or two. rather, he made a great contribution to the development of several dozen world sciences, created a period in the development of science called by his name, for example, Abu-l-Vafo Bozajani - "Buzjani period", "Khorezmian period", "Beruni period" [3.549] and others. famous scientists, thinkers were organized, operated. In the early Middle Ages in the Near and Middle East the oases flourished due to the hard work of the peasant masses, the construction of large cities with magnificent architecture, the development of handicrafts, the expansion of international trade through caravan, river and sea routes, The revival of economic, political and cultural ties between East and West, the centuries-old traditions of state life in ancient and early medieval times, the sharp differences between different social groups and their ideas, the confusion of settlements between nomadic oases and nomadic deserts, Central Asia and The cultural richness of the peoples of other countries of the East, the development of the script (such as Khorezm, Khoroshti, Sogdian, Turkic script) - all this created the necessary historical conditions for the development of scientific thinking In complex socio-political conditions, the Samanids used the method of mastering the old and new procedures, the hadiths, paved the way for the activities, administration and management of the new major military - feudal landlords, such as Abu Ali Simjur, Faiq and others. However, this intensified the attempts of the separatists in the administration of the new feudal office, which had not yet been consolidated, to secede from the centralized state administration and become independent. [4,1455] When ways were found to pacify such separatist forces, they would receive support and patronage from neighboring, emerging social forces, such as Mahmoud Ghaznavi, the Karakhanids, and later the Seljuks. The Karakhanid and Ghaznavid states, which replaced the Samanids, and later the Seljuk and Khorezm Shahs, were formed as a result of these processes. The role, influence and significance of the "great migration" of peoples between the West and the East, the center of trade, caravanserai, logistics, communication and communication between the West and the East, the South and the North, the ethno-demographic processes about, with the exception of a narrow range of experts, many do not have enough information. However, the Khorezm-Khazar state (Northern Khorezm) is one of the most important, bright pages of our national statehood.



Some fundamental studies published in the West, as well as in Russia, Turkmenistan and Uzbekistan, such as SP Tolstov's "Ancient Khorezm. Opyt istoriko-archeologicheskogo issledovaniya ", " Po sledam drevnerezmiyskoy tsivilizatsii "[5,10], B.D. Grekov and A.Yu. Yakubovskiy, M.I. Artomonov, S.G. We have some news and information from the works of Agadjanov and partly from the "History of the Peoples of Uzbekistan" (Volume I). In particular, S.P. The results of Tolstoy's research can give us a lot of information about the power of the North Khorezm-Khazar state, cultural, technical, communicative, trade and trade relations. The reason why we pay attention to the above brief information is that Beruni, as a trusted figure of the rulers of the North Khorezm-Kat state, as an influential scholar, took an active part in the anti-Samanid policy against South Khorezm. "[6,34-35] Therefore, he was exiled to 994-997 Ray, from 999-1004 to 1009-1010 in Jurjan on the Caspian coast under the ruler of the Ziyari-Kakvayhids Qabus ibn Vushmgir, and was able to return to Khorezm only in 1010-1011. In the interpretation of PG Bulgakov, the years 1004-1011 remained a lacuna [6,35]. In the Near and Middle East, this cultural development, which lasted for several centuries from the ninth century onwards and rose to its peak in a short time in various countries, has been described in literature in recent years as the Renaissance. The cultural upsurge in the Middle East in the IX-XII centuries is reflected in the works of many orientalists under the name "Arab Renaissance", which is not based on real historical facts, but does not reflect the objective reality at all. Studies show that in the Renaissance of that period, the cultural achievements of all the peoples subjugated to the Arabs were equally involved and constitute the Renaissance of the IX-XII centuries as a whole. Just as Latin was the language of the European Renaissance, Arabic became a tool of scientific communication in a large area during this period, and the fact that scientific works were written in Arabic may, on the surface, lead to the erroneous conclusion that its creator and author were only Arabs. The use of the term "Arab Renaissance" is a consequence of this.

## Conclusion

In fact, the term "Arab Renaissance" requires interpretation as a cultural development that took place in Arab countries such as Egypt, Syria, Iraq, the West [7,13] in the IX-XII centuries. In general, we see that Renaissance culture, both in Europe and in the Middle East, is based on and derived from ancient culture. In both cases, ancient culture was used to meet specific historical conditions, socio-economic, political and cultural needs and requirements. There was a sharp rise in the spiritual life of the Near and Middle East. Cultural development, which began in the ninth century and lasted for several centuries, was called the "Arab Renaissance", "Renaissance in the Middle East", to which Central Asian thinkers made a worthy contribution. This rise is based on ancient culture, including Greek science and philosophy.

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**USE OF COORDINATE AXES IN SOLVING PROBLEMS OF SOME TYPES OF STATIC PROBLEMS**

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**Abstract**

In this article, the equilibrium conditions of objects are studied. It is known the method of solving type problems is explained with using coordinate axes.

**Key words:** rod that can move freely around the base, loads of mass  $m_1$  and  $m_2$ , coordinates, length, negative moment, positive moment.

We may face various difficulties in solving static problems. To overcome the difficulties let's look at a common way to solve problems on same types.

Issue 1. Loads with a mass of  $m_1$  and  $m_2$  are hung on the weightless rod ends that can move freely long around the base as shown in the figure below. What are the distances from the base to the loads so that the loads are in balance? ( $m_1 > m_2$ ).

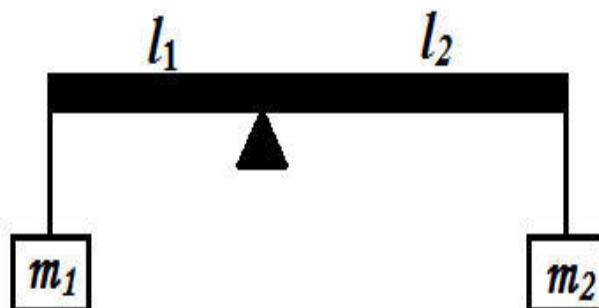


Figure 1

We use coordinate axes to solve this problem. We draw an OX coordinate axis along the axis and set the distance from the origin to the stem as an arbitrary  $x_0$ . We determine the direction of all the forces in the system.

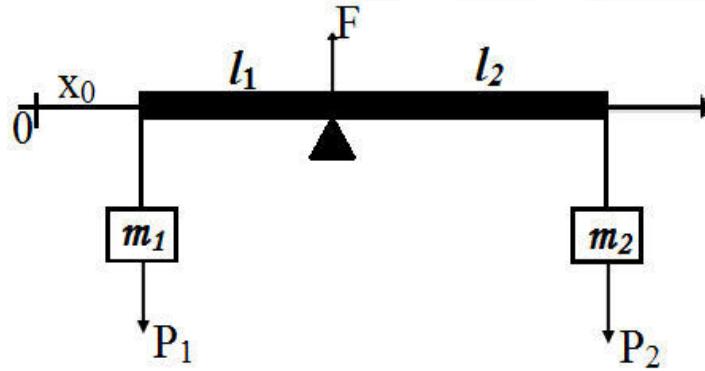


Figure 2

Assuming that the axis of rotation is the coordinate head, we assume that the base is absent. The forces  $P_1$  and  $P_2$  that move the system clockwise are the reaction of the base force  $F$ , which moves it counterclockwise, as a force it is equal to  $P_1+P_2$ .

We determine the moments of the driving forces in the direction of the clockwise direction and in the opposite direction to it.

$$M_1 = P_1 x_0 + P_2 (x_0 + l_1 + l_2) \quad (1)$$

$$M_2 = F (x_0 + l_1) \quad (2)$$

Positive and negative moments for the system to be in equilibrium we equal

$$P_1 x_0 + P_2 (x_0 + l_1 + l_2) = F (x_0 + l_1) \quad (3)$$

Here we can put an arbitrary number instead of  $x_0$ , we put a zero to simplify the problem. In this case, expression (3) looks like this:

$$P_2 (l_1 + l_2) = Fl_1 \quad (4)$$

Given that  $l_1 + l_2 = l$ ,  $P_1+P_2 = F$ , we find  $l_1$  va  $l_2$

$$P_2 l = Fl_1, \quad l_1 = \frac{P_2 l}{F}, \quad l_2 = l - \frac{P_2 l}{F}, \quad (5)$$

Issue 2. M is a wheelchair of mass  $l$  length of bridge piers  $l_1$  and  $l_2$  at a distance. Determine pressure forces on the bridge supports of the trolley. ( $l_1 > l_2$ ).

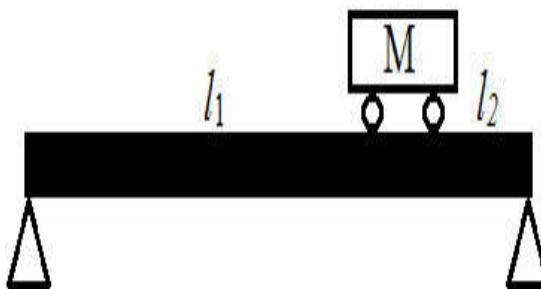


Figure 3

In solving this problem we also pass the OX axis along the bridge and we define all the forces in the system

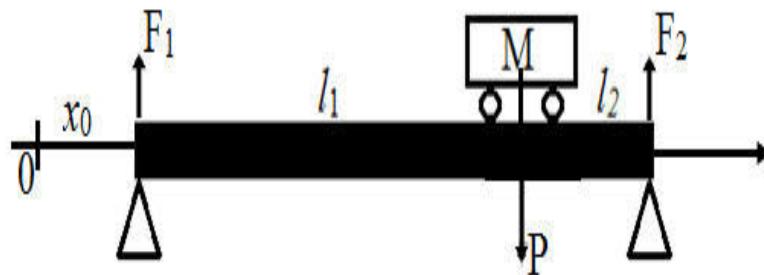


Figure 4

As the axis of rotation define the coordinate head. In that case the clock hand torque  $M_1$  in the direction and opposite to it, we determine the moment of inertia  $M_2$ .

$$M_1 = P(x_0 + l_1) \quad (6)$$

$$M_2 = F_1 x_0 + F_2(x_0 + l_1 + l_2) \quad (7)$$

We equate the moments  $M_1$  and  $M_2$  and take  $x_0=0$

$$Pl_1 = F_2(l_1 + l_2) \quad (8)$$

Here we find  $F_2$

$$F_2 = \frac{Pl_1}{l_1 + l_2} \quad (9)$$

Now we determine  $F_1$  given that  $F_1 + F_2 = P$

$$F_1 = \frac{Pl_2}{l_1 + l_2} \quad (10)$$

Issue 3. A rod with an unknown mass and a system of loads suspended from it are located as shown in the figure. If the system is in equilibrium, determine the mass of the stem.

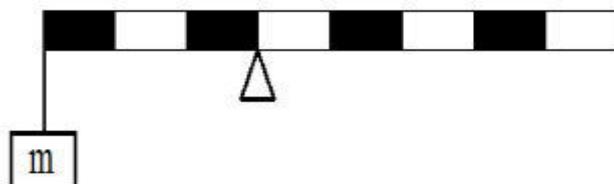


Figure 5

In this case we also hold the OX coordinate axis and define the forces directions.

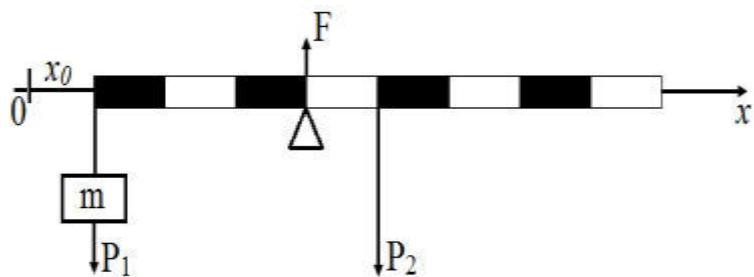


Figure 6

Here the  $x_0$  coordinate was from the beginning to the left end of the stem arbitrary distance, gravity of a body of mass  $P_1 - m$ , weight of rod  $P_2$  and  $F$  is the sum of the forces  $P_1$  and  $P_2$ . Find the moments of positive and negative force with respect to the coordinate head.



$$M_1 = P_1 x_0 + P_2(x_0 + l_2) \quad (11)$$

$$M_2 = F(x_0 + l_1) \quad (12)$$

Here the distance from the left end of the isthmus to the force  $P_2$ ,  $l$ , is the distance from the left end of the rod to the force  $F$ , and  $x_0$  is an arbitrary number since it zero, we equate the moments and derive the formula for finding the mass of the stem.

$$P_2 l_2 = F l_1 \quad (13)$$

$$P_2 l_2 = (P_1 + P_2) l_1 \quad (14)$$

Given that  $P_2 = m_2 g$  the mass of the stem is derived.

$$m_2 = \frac{l_1}{l_2 - l_1} m_1 \quad (15)$$

In general, solving arbitrary problems of this type using coordinate axes makes the problems look simple and does not cause difficulties for the learner.

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## ECO-CITY IS A PRODUCT OF URBANIZATION

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### Annotation

Small towns sprang up around a big city and merged with big cities, and an urban agglomeration was formed. In developed countries, agglomeration processes are rampant, and the aggregation of these agglomerations creates megacities. Given these processes, it is possible to assume that Uzbekistan will continue to develop, and over the years, our densely populated cities will face similar expansion. Therefore, the idea of creating a residential area in the city of Shakhrisabz in Kashkadarya region was born.

**Keywords:** agglomeration, urbanization, urban planning, functional solution, area.

Our Uzbekistan is developing rapidly. At the same time, population growth is driving demand for new jobs. At the same time, construction is being carried out in our capital and regions in various directions. Business centers, cultural centers, large and small enterprises. The construction of these organizations will ensure the development of our country and the activities of its people, and will lay the foundation for a better life. But all of these buildings take up a lot of space in the city, consume too many people and, as a result, lead to the urbanization of the city. The process of urbanization is associated with the growth of cities and the formation of urban architecture, the natural growth of the urban population, the administrative annexation of suburban areas to the city, and the acquisition of urban status of rural settlements. Small towns sprang up around the big city, merged with the big cities, and an urban agglomeration was formed. In developed countries, agglomeration processes are in full swing, and the aggregation of these agglomerations is creating megacities. Given these processes, it can be assumed that Uzbekistan will continue to develop, and over the years, our densely populated cities will face similar expansion. Therefore, the idea of creating a residential area in the city of Shakhrisabz, located in Kashkadarya region, was born.

Various blue trees are planted for the residents of this area. Each house is given a plot of land in the garden, and the owners of this house plant a kind of fruit based on the rules of gardening.

The transportation network in the area is very simple and convenient. I took the sidewalks outside the complex. This, in turn, protects the population from danger and avoids any noise. The courtyard is easily accessible through the open-plan houses on the first floor.



The engineering networks of the area were also constructed in accordance with the requirements. The cables of the power lines were laid directly along the side sheaths. The entrance to the gas supply pipeline was through the roof of the building. Water and sewage networks, in accordance with the norms, the entrance to the heating network and water pipes, as well as the outlet of the sewer were passed mainly through the side of the building. When we do such projects, we need to follow all the above rules and regulations. The solid location of each building on the ground is first and foremost a matter of choosing the right location, making sure that the design is flawless, and taking into account the precautionary measures during construction. The fact that the building is located on the ground in accordance with the sanitary and hygienic requirements will be the basis for its further public service. Evacuation work in the building and the ability to prevent the risk of fire is an important rule, first of all, as an event involving human life.

It is known that the process of meeting people's needs related to life, their living, raising children, education, recreation, morale, health, trade and other household services living parts.

Nowadays, the boundaries of the concept of housing have expanded considerably, and it now includes a full set of service organizations that are necessary for the population. Today, the conditions for the creation of comfortable living conditions in the home are combined with the conditions for a high level of meeting the socio-cultural and domestic needs of the population in residential areas. Creating such a comfortable living environment for the population on such a large scale requires the integration of housing with various social service organizations. The main link in the formation of the social and structural structure of the population of the cities of the Republic is the integral connection of housing with social service organizations.

One of the main rules in the integral connection of housing with social service organizations is to bring them closer to housing, depending on the speed of use of service organizations, that is, the need for the population to participate in which organization is faster and more efficient. prog.

One of the main rules in the integral connection of housing with social service organizations is to bring them closer to housing, depending on the speed of use of service organizations, that is, the need for the population to participate in which organization is faster and more efficient. if there is a program, that organization should be placed so close to the home. On the contrary, the range of services of organizations that use less population will be wider. This social demand, which underlies modern urban planning, requires service organizations to be grouped according to the speed of their use by the population.

The current research summarizes the experience of the Republic and other foreign countries and finds that it is convenient to divide all cultural, educational, trade, medical and economic organizations into four stages in the organization of housing construction and service organizations. . In determining these stages of service organizations, the speed of participation of the population, walking distance, the minimum number of people that can be served by one organization, the profitability of organizations, service, etc. were taken into account.

Functional zoning includes: residential, kindergarten, high school, administrative and landscaped areas. Also, bus stops located in the area must be properly installed. In my project, a functional scheme was created based on these rules.



The distance between residential and public buildings is calculated on the floor of the building, which casts a shadow. In this case, each region is located within its service radius. Bus stops have been set up every 300 m and at intersections. The schools are located in the center of the district and the service radius is evenly distributed to all residential areas. Kindergartens are also located on 4 sides of the district, within the radius of their service to the entire population. The influence of the following factors on the architectural and spatial composition of the area was taken into account:

- natural and climatic;
- landscape;
- local (historical) conditions of the projected area, arising from the general plan of the city;
- methods of housing construction;
- Types of residential and public buildings, landscaping.

The service buildings were placed in a repetitive or assembled manner following the specified distances.

Below are the dimensions of the area based on the functional diagram.



Figure 1 Functional solution Area dimensions: Total area 48 ha School 2 4.4 ha Kindergarten 4 ha 4 Housing 5 ha

The green area is 34.6 ha

General plan



Figure 2. Landscaping plan of the area



There will be 2 school buildings in the center of the project area. There are 4 8-sided residential complexes on 4 sides of the array. There will be a garden in the yard of each complex. There are also dwellings that connect 8-sided dwellings. They are houses with 1 porch, connected to each other. Also, near the middle of the highways, between the apartment complexes, there will be one-story houses with one entrance. Public administration and commercial facilities are mainly located on 1-2 floors of these apartments. Closed garages are located in the basement.



Figure 3. Facade plan of the area

The whole area in the area has a compact and symmetrical composition. Only the south-western part of the complex occupies a slightly larger area. Transportation of the buildings is provided from the outside of the complexes. This, in turn, ensures the safety of the population and protects the courtyard of the complex from noise.



Figure 4. Landscaping plan of the area.



Kindergartens and schools are also provided with fire safety routes. The courtyard of the complex is provided with recreation and playgrounds, sheds, sidewalks and a green area. The whole area is planted with greenery and 4 fountains in the four corners allow people to relax.

On the right and left sides of the area, outside the school area, there are sports grounds for the population, where everyone can play sports. There is also a shed near the playground, where adults can control their children. It also has a small convenience store.

Most of the accommodations are conveniently located relative to the rest of the world. In the most inconvenient parts, the parts exposed to the sun are equipped with a balcony, which prevents the rooms from overheating. The area of the massif is devoid of winding roads from one side to the other. Temporary parking is provided in front of each residence. There are also sidewalks ranging in width from 1 meter to 2.5 m.

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**NEW TYPES OF PROBLEMS FOR DETERMINING THE RELATIVE ATOMIC MASS AND PERCENTAGE CONTENT OF ISOTOPES AND THEIR SOLUTIONS**

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**ABSTRACT**

This article aims to increase the knowledge of chemistry students and strengthen their skills in working with problems from chemistry. The article introduces new types of problems in determining the relative atomic mass and percentage content of isotopes and their solutions, which will help to further improve the thinking skills of researchers and a solid study of the subject.

**Keywords:** Isotope, isobar, isotope, isoelectron, relative atomic mass, mass fraction.

**Introduction**

Chemistry is one of the natural sciences that studies the evolution of substances, their properties, and various processes. This science is connected with biology, geography, history, geology, physics, mathematics and many other sciences, among which mathematics has a special place. Because there are problems with a lot of chemistry, and math helps us do that.

The literature covers the following types of issues:

1. Natural neon consists of a mixture of two isotopes,  $^{20}\text{Ne}$  and  $^{22}\text{Ne}$ . If the average relative atomic mass of natural neon is 20.2, find the mass fraction of  $^{20}\text{Ne}$  in natural neon.
2. If the molar fraction of natural oxygen is 99,76%  $^{16}\text{O}$ , 0,204%  $^{18}\text{O}$  and 0,037%  $^{17}\text{O}$ , what is the atomic mass of the element?
3. How many protons, neutrons and electrons are in the isotope of  $^{40}_{19}\text{K}$  potassium?
4. Indicate the line where the isobars are located.

A)  $^{12}\text{C}$ ,  $^{35}\text{Cl}$ ,  $^{80}\text{Br}$ ; B)  $^{40}\text{Ar}$ ,  $^{40}\text{K}$ ,  $^{40}\text{Ca}$ ; C)  $^{11}\text{C}$ ,  $^{12}\text{C}$ ,  $^{13}\text{C}$ ; D)  $^{32}\text{S}$ ,  $^{40}\text{Ar}$ ,  $^{40}\text{K}$ .

Below, we discuss new types of problems and their solutions on the topic of “Relative Atomic Mass and Percentage of Isotopes”.

1 – Problem.

$\text{Ba}^{136}$ ,  $\text{Ba}^{137}$ ,  $\text{Ba}^{138}$ ,  $\text{Ba}^{139}$  isotopes of natural barium are found. The sum of the mass fractions of the isotopes  $\text{Ba}^{137}$  and  $\text{Ba}^{138}$  is 3 times greater than the sum of the mass fractions of the isotopes  $\text{Ba}^{136}$  and  $\text{Ba}^{139}$ . If the mass fractions of the isotopes  $\text{Ba}^{137}$  and  $\text{Ba}^{138}$  are 2 : 1 and the average relative atomic mass of barium is 137.3, find the percentage fraction of the isotopes?

Solution.



Under the condition of matter, if the sum of the mass fractions of the isotopes  $\text{Ba}^{137}$  and  $\text{Ba}^{138}$  is 3 times the sum of the mass fractions of the isotopes  $\text{Ba}^{136}$  and  $\text{Ba}^{139}$ , then their mass fractions are 3: 1. Knowing that the total mass fraction will be 100%, the sum of the mass fractions of the isotopes  $\text{Ba}^{137}$  and  $\text{Ba}^{138}$  is 75% ( $(100/4) \times 3 = 75$ ) and the sum of the mass fractions of the isotopes  $\text{Ba}^{136}$  and  $\text{Ba}^{139}$  is 25% ( $(100/4) \times 1 = 25$ ).

If the mass fractions of the isotopes  $\text{Ba}^{137}$  and  $\text{Ba}^{138}$  are 2: 1, 50% of 75% ( $(75/3) \times 2 = 50$ ) is  $\text{Ba}^{137}$  and the remaining 25% ( $75 - 50 = 25$ ) is  $\text{Ba}^{138}$ . This is coming. Mass fractions of the isotopes  $\text{Ba}^{137}$  and  $\text{Ba}^{138}$  were determined.

We now determine the mass fractions of the isotopes  $\text{Ba}^{136}$  and  $\text{Ba}^{139}$ . To do this, we subtract the masses corresponding to the isotopes  $\text{Ba}^{137}$  and  $\text{Ba}^{138}$  from the average relative atomic mass.

$$\frac{137 \times 50}{100} = 68,5 \quad \frac{138 \times 25}{100} = 34,5$$

$$137,3 - 68,5 - 34,5 = 34,3 \text{ gr}$$

The mass of 34.3 g corresponds to the isotopes  $\text{Ba}^{136}$  and  $\text{Ba}^{139}$ . Their mass fractions can be determined by the following methods.

1 - method. Equation method.

If we denote the mass fraction of  $\text{Ba}^{136}$  by  $a$ , then  $\text{Ba}^{139}$  is  $(0.25 - a)$  (the percentage is calculated as the mass fraction). We compute and work out the sum of their masses equal to 34.3 g:

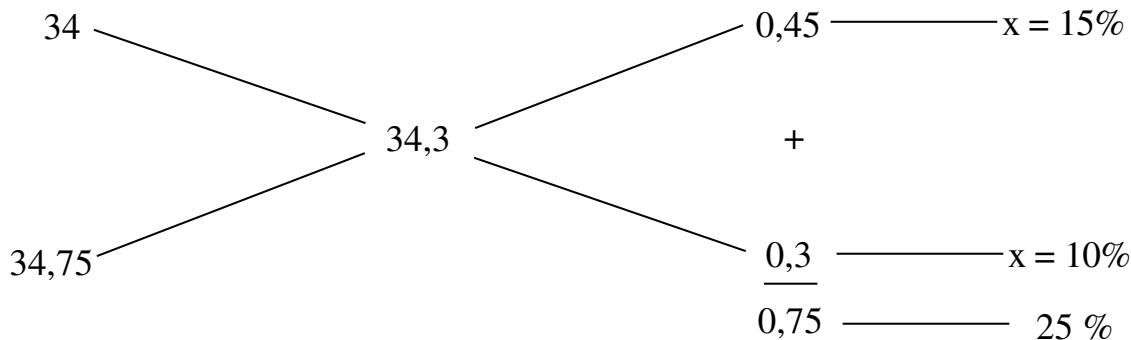
$$\begin{aligned} 136a + 139(0,25 - a) &= 34,3 \\ 136a + 34,75 - 139a &= 34,3 \\ 136a - 139a &= 34,3 - 34,75 \\ -3a &= -0,45 \\ a &= 0,15 \text{ ya'ni } 15\% \end{aligned}$$

So if the mass fraction of  $\text{Ba}^{136}$  is 15%, then  $\text{Ba}^{139}$  is 10% ( $25 - 15 = 10$ ).

2 - method. Diagonal method.

We calculate 34.3 in the middle of the diagonal and 25% of the mass of the isotopes at both ends and determine the percentage of the isotopes:

$$\text{Ba}^{136} 136 \times 0,25 = 34 \quad \text{Ba}^{139} 139 \times 0,25 = 34,75$$



Answer:  $\text{Ba}^{136}$  15%,  $\text{Ba}^{137}$  50%,  $\text{Ba}^{138}$  25%,  $\text{Ba}^{139}$  10%



## 2 – Problem.

$\text{Cs}^{131}$ ,  $\text{Cs}^{132}$ ,  $\text{Cs}^{133}$ ,  $\text{Cs}^{134}$  isotopes of natural barium are found. The sum of the mass fractions of the isotopes  $\text{Cs}^{132}$  and  $\text{Cs}^{133}$  is 3 times the sum of the mass fractions of the isotopes  $\text{Cs}^{131}$  and  $\text{Cs}^{134}$ . If the mass fractions of the isotopes  $\text{Cs}^{132}$  and  $\text{Cs}^{133}$  are 1: 2 and the average relative atomic mass of barium is 132.7, find the mass fractions of the isotopes as a percentage?

Solution.

According to the problem, if the sum of the mass fractions of the isotopes  $\text{Cs}^{132}$  and  $\text{Cs}^{133}$  is 3 times the sum of the mass fractions of the isotopes  $\text{Cs}^{131}$  and  $\text{Cs}^{134}$ , then their mass fractions are 3: 1. Knowing that the total mass fraction will be 100%, the sum of the mass fractions of the isotopes  $\text{Cs}^{132}$  and  $\text{Cs}^{133}$  is 75% ( $(100/4) \times 3 = 75$ ) and the sum of the mass fractions of the isotopes  $\text{Cs}^{131}$  and  $\text{Cs}^{134}$  is 25% ( $(100/4) \times 1 = 25$ ).

If the mass fractions of the isotopes  $\text{Cs}^{132}$  and  $\text{Cs}^{133}$  are in a 1: 2 ratio, 50% of the 75% ( $(75/3) \times 2 = 50$ ) is  $\text{Cs}^{133}$  and the remaining 25% ( $75 - 50 = 25$ ) is  $\text{Cs}^{132}$ . Mass fractions of the isotopes  $\text{Cs}^{132}$  and  $\text{Cs}^{133}$  were determined.

We now determine the mass fractions of the isotopes  $\text{Cs}^{131}$  and  $\text{Cs}^{134}$ . To do this, we subtract the masses corresponding to the isotopes  $\text{Cs}^{132}$  and  $\text{Cs}^{133}$  from the average relative atomic mass.

$$\frac{133 \times 50}{100} = 66,5 \quad \frac{132 \times 25}{100} = 33$$
$$132,7 - 66,5 - 33 = 33,2 \text{ gr}$$

The mass of 33.2 g corresponds to the isotopes  $\text{Cs}^{131}$  and  $\text{Cs}^{134}$ . Their mass fractions can be determined by the following methods.

1 - method. Equation method.

If we denote the mass fraction of  $\text{Cs}^{134}$  by a, then  $\text{Cs}^{131}$  is  $(0.25 - a)$  (the percentage is calculated as the mass fraction). We compute and work out the sum of their masses equal to 33.2 g:

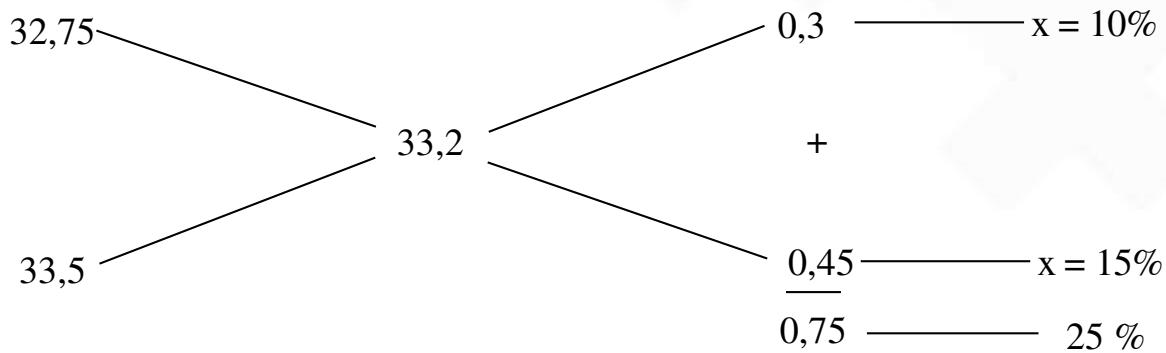
$$134a + 131(0,25 - a) = 33,2$$
$$134a + 32,75 - 131a = 33,2$$
$$134a - 131a = 33,2 - 32,75$$
$$3a = 0,45$$
$$a = 0,15 \text{ which is } 15 \%$$

So, if the mass fraction of  $\text{Cs}^{134}$  is 15%, then  $\text{Cs}^{131}$  is 10% ( $25 - 15 = 10$ ).

2 - method. Diagonal method.

We calculate 33.2 in the middle of the diagonal and 25% of the mass of the isotopes at the two ends and determine the percentage of the isotopes:

$$\text{Cs}^{131} 131 \times 0,25 = 32,75 \quad \text{Cs}^{134} 134 \times 0,25 = 33,5$$



Answer:  $\text{Cs}^{131} 10\%$ ,  $\text{Cs}^{132} 25\%$ ,  $\text{Cs}^{133} 50\%$ ,  $\text{Cs}^{134} 15\%$

The following issues can also be addressed in this way.

1. The isotopes  $\text{Cl}^{34}$ ,  $\text{Cl}^{35}$ ,  $\text{Cl}^{36}$ ,  $\text{Cl}^{37}$  of natural chlorine are found. The sum of the mass fractions of the isotopes  $\text{Cl}^{35}$  and  $\text{Cl}^{36}$  is 1.5 times the sum of the mass fractions of the isotopes  $\text{Cl}^{34}$  and  $\text{Cl}^{37}$ . If the mass fractions of the isotopes  $\text{Cl}^{35}$  and  $\text{Cl}^{36}$  are 3: 1 and the average relative atomic mass of chlorine is 35.5, what is the mass fraction of the isotopes?

2  $\text{Pb}^{206}$ ,  $\text{Pb}^{207}$ ,  $\text{Pb}^{208}$ ,  $\text{Pb}^{210}$  isotopes of natural lead. The sum of the mass fractions of the isotopes  $\text{Pb}^{207}$  and  $\text{Pb}^{208}$  is 1: 1 with the sum of the mass fractions of the isotopes  $\text{Pb}^{206}$  and  $\text{Pb}^{210}$ . If the mass fractions of the isotopes  $\text{Pb}^{207}$  and  $\text{Pb}^{208}$  are 4: 1 and the average relative atomic mass of the lead is 207.2, find the mass fractions of the isotopes as a percentage?

I believe that such issues will help to broaden the horizons of the study of chemistry and to understand the problems of finding isotopes, the average relative atomic mass. This will increase the effectiveness of the subject and improve the quality of education.

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**CHANGES IN THE NATURAL COMPOSITION OF THE LAND FUND AND ITS  
PROTECTION (ON THE EXAMPLE OF KHOJAABAD DISTRICT)**

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**Annotation**

This article describes the level of anthropogenic load on lands on the example of Khojaabad district of the region, as well as the level of absolute and ecological stress, indicators of natural protection, changes in the natural composition and protection of ecologically reserve lands.

**Keywords:** Land fund, absolute ecological stress, relative ecological stress, natural protection, ecological reserve lands, anthropogenic load, protected natural areas, ecological economic balance. In the current period of rapid development, technology is changing in line with the times, and from year to year it is spreading to all sectors of the economy. In particular, changes in the natural composition of the agricultural land fund, in addition to all the expected positive effects, also lead to negative consequences.

In the course of the study of these negative consequences, it is necessary to make the right recommendations and to conduct a consistent calculation of the study area with the help of absolute, relative ecological stress, natural protection, as well as statistics on ecological reserve lands.

Scientists around the world and in our country have used these brief factors in their research. In particular, for the first time the ecological and economic condition of the region was assessed on the example of the Moscow region and the territory of the Altai Republic (Ivanov, Kochurov, 1987; Kochurov, Ivanov, 1991). Among the geographers of our country is the study of "Geoecology of land use" (on the example of the Fergana Valley) by Doctor of Geographical Sciences, Professor Yu. Ahmadaliev. To begin this preliminary calculation, using the following table, we will review the classification of the study area by categories and types of land resources according to the level of anthropogenic load (Table 1).



(Table 1). Classification of land fund categories and types according to anthropogenic load level

№	Types of land use	Anthropogenic load (AL)		
		Category	Ball	AL level
1	Lands for public buildings, lands occupied by buildings, lands under reclamation, gray lands, public courtyards, street roads	AL6	6	Very high
2	Arable lands in agriculture and backyards	AL5	5	Relatively high
3	Underwater lands (reservoirs, reservoirs, canals, collectors and ditches), lands of horticultural and vegetable associations	AL4	4	High
4	Lands of orchards, vineyards, mulberries, orchards and orchards, ALALs (6 categories)	AL3	3	Medium
5	Non-agricultural lands, pastures, hayfields, forests (shelters and terraces), ALALs (category 5)	AL2	2	Past
6	ALALs (categories 1-4), underwater lands (rivers, streams, lakes), lands of protected forests	AL1	1	Very low

Based on the above table, we carry out our calculations on the example of Khojaabad district of Andijan region. Initially, the AL level **very high** We will explore the areas occupied by the category AL6. 277 ha of land for public buildings, 532 ha for buildings, 133 ha for land reclamation, 278 ha for gray land, 632 ha for public courtyards and streets.

AL level **relatively high** The category of AL5 lands is 6350 ha of agricultural arable lands and 1485 ha of arable lands.

AL level **high** There are 847 ha of submerged lands (reservoirs, reservoirs, canals, collectors and ditches) in the category of AL4 lands, and no lands of orchards and vegetable associations.

The level of AL in the land fund **Medium** It includes 2638 ha of orchards, 259 ha of vineyards, 316 ha of mulberries, 249 ha of orchards and orchards.

Degree **Past** not included, category AL2 lands Non-agricultural lands 8567 ha., pastures 2040 ha., forests (reserves and terraces) 39 ha.

The level of AL is very low, category AL1 includes 7 hectares of submerged lands (rivers, streams, lakes), and no lands of protected forests.

Using the information above The areas occupied by AL1, AL2, AL3, AL4, AL5, AL6 are determined by the following formula (formula 1):

$$\mathbf{AL2=A+B+C+D} \quad (1)$$

AL2- Relatively high anthropogenic load level;

A, B, C, D-Area of non-agricultural lands, pastures, enclosures and terraces in ha., Size;

For example: 8567 ha of non-agricultural land, 2040 ha of pastures, 2 ha of reserve, 37 ha of terraces.

$$\mathbf{AL2=2040+2+37+8567=10646}$$

To determine the coefficients for assessing the ecological and economic balance of the region, we use the formulas proposed by the Russian geoecologist B. Kochurov (B. Kochurov, 1999, 2003.).



To assess the ecological and economic balance of the region, calculations are carried out on four coefficients. They include the region in terms of absolute and relative ecological stress, coefficients of natural protection, as well as ecological reserve lands.

A high coefficient of absolute environmental stress indicates an increase and is determined using the following formula:

$$K_{mez} = AL6 \div AL1 \quad (2)$$

$K_{mez}$ - Absolute environmental stress factor;

$AL6$ -Areas with very high anthropogenic load levels;

$AL1$ -Areas with very low anthropogenic load levels (ALAL);

Using this formula, it is possible to observe the process of positive or negative changes in the area when comparing the coefficient of absolute environmental stress over the years.

Thus, in the example of Khojaabad district we are studying, we determine the coefficient of absolute ecological stress using the above formula (formula 2):

$$K_{mez} = 1852 \div 7 = 264.57$$

Among the coefficients for assessing the ecological and economic balance of Andijan region, the coefficient of relative environmental stress also has a special place and is determined using the following formula:

$$K_{nez} = \frac{AL4+AL5+AL6}{AL1+AL2+AL3} \quad (3)$$

$K_{nez}$ -Relative environmental stress factor;

$AL4, AL5, AL6$ -Land area with high anthropogenic load index in the region;

$AL1, AL2, AL3$ -Land area with relatively low anthropogenic load index in the region;

In general, the ecological and economic condition of a region is more characterized by a coefficient, as it covers the entire area under consideration. Reducing the intensity of the situation reduces the value of the coefficients, and when the relative environmental stress is equal to or close to 1.0, the pressure force of the region is balanced in terms of the level of AL and the stability potential of nature (B. Kochurov, 1999, p. 55).

Using this formula, we determine the coefficient of relative environmental stress in Khojaabad district:

$$K_{nez} = \frac{847+7835+1852}{7+10646+3462} = 0,75 \quad (4)$$

$K_{nez}$ . In the case of  $<1$ , the stress level of the ecological-economic balance is normal. If it is high, it means that the voltage is increasing.

In the example of Khojaabad district above, the results of the study show that the coefficient of relative environmental stress is 0.75.

Ecological reserve lands means areas with high, medium, low and very low levels of anthropogenic load that are rarely used by humans. We can find the ecological reserve lands using the following formula:

$$R_{hez} = R1 + 0.8 \times R2 + 0.6 \times R3 + 0.4 \times R4 \quad (5)$$



The Ecological Reserve of the Ruez-Zone is a generalized area of land, determined mainly by the sustainability of its environment-creating and resource-saving functions. The indicator determines the natural protection of the region;

R1-AL level very low which category corresponds to AL1;

R2-AL level past which category is equivalent to AL2;

The category with a moderate level of R3-AL is equal to AL3;

The category with the highest R4-AL level falls to AL4;

Based on this formula, the level of natural protection of Khojaabad district can be seen as follows.

$$R_{hez} = 7 + 0.8 \times 10646 + 0.6 \times 3462 + 0.4 \times 847 = 10939.8$$

Ecological and economic assessment in the districts of Andijan region can be found using the following formula to find the final coefficient of natural protection:

$$K_{th} = \frac{P_{hez}}{P_{huef}} \quad (6)$$

Kth- Natural protection factor;

Ruez- Ecological reserve lands;

Rhuef- The total area of the land fund of the study area;

Natural protection indicates a crisis level of protection of an area with an index less than 0.5 (B. Kochurov, 1999., p. 56). Here are the results of the nature protection coefficient of Khojaabad district:

$$R_{th} = \frac{10939.8}{22886} = 0.48$$

The coefficient of natural protection of Khojaabad district is 0.48. That is, the natural protection of  $K_{th} \leq 0.5$  is at a critical level.  $0.5 \leq K_{th}$  indicates an increase in natural protection.

In conclusion, how anthropogenic loads are distributed and redistributed across the region, and mainly the stability of the area, is also closely related to the composition of land use. Only if the critical level in the districts is organized taking into account the economic and ecological balance, the natural protection of the territories will improve the situation and allow an accurate assessment of the ecological and economic balance.

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## GEOECOLOGICAL AND FARM STRESS LEVEL (ON THE EXAMPLE OF KHOJAABAD DISTRICT)

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### Annotation

In this article, the indicators of agrodemographic, agrotechnical, agrochemical and agro-ameliorative pressure categories of the region in the structure of agricultural anthropogenic pressure were calculated and evaluated using corrective scores.

**Keywords:** geoecology, strategy, agro-demographic, agrotechnical, agrochemical, agromeliorative, agricultural anthropogenic pressure, population density, homogeneous, underused land, urbanized land, irrigated land, ecological base land, perennial forests.

In today's rapidly changing world, the impact on all sectors is becoming more pronounced over time. As a result, changes are taking place in the use of land, which is an integral part of our lives.

In particular, it should be noted that one of the processes observed in the use of land resources is the growing level of geo-ecological and economic stress in the region. Observing these processes, research and forecasting of the region is one of the important aspects in the organization of the correct use of agriculture. The reason is that it is impossible to imagine other industries without agriculture.

In accordance with the Decree of the President of the Republic of Uzbekistan "On the Strategy of Actions for the Further Development of the Republic of Uzbekistan" signed on February 7, 2017, legal principles and mechanisms for implementation were approved [1], large-scale reforms are underway. The third direction of the Action Strategy, "Priorities for Economic Development and Liberalization" and the third section, "Modernization and accelerated development of agriculture," can be seen as another confirmation of the growing attention to agriculture in our country.

At the initial stage of this third study, the level of geo-ecological and economic stress of lands within the natural-agricultural regions will be determined. In this way, the level of natural protection of landscapes is analyzed using quantitative indicators of agricultural anthropogenic pressure and qualitative indicators.

In the calculation of agricultural anthropogenic pressure, two interrelated indicators are obtained. First, the degree of change in the natural composition of the land fund of each district is determined. To do this, using geoecological monitoring, the composition of the district land fund is divided into ecologically homogeneous (similar) groups and evaluated (Milyus, 1987; 1984; Kochurov, 1999;



Ahmadaliev, 2000). Current agricultural land types are classified into 5 ecologically homogeneous groups. From the references on the distribution of the land fund of the districts of the region by lines (Land Fund of Andijan region 0.1 2020; Figure 22) determine the categories and types of land corresponding to the ecologically homogeneous group. Groups in this classification are given scores from 1 to 5 depending on the change in the natural composition of the area (Table 1).

The share of each group in the administrative district land fund is determined, multiplied by the appropriate score and divided by 100. The result obtained shows the degree of change in the natural composition of the district soils.

Table 1 Land resources by ecologically homogeneous groups Classification

Name of ecologically homogeneous groups	Ball	More compatible land categories	Basic land types (Figure 22, line 33)
"Ecological base" lands	1	Conservation, health, recreation, cultural significance; forest; water fund and reserve lands	Forests, shrubs, underwater and other unused lands
Less used lands	2	Agriculture; reserve lands	Gray lands, hayfields, pastures, lands in the state of reclamation construction
Perennial trees	3	Agriculture; forest; lands of settlements	Orchards, vineyards, mulberry groves
Irrigated crop areas	4	Agriculture; lands of settlements	Irrigated arable lands, gardens
"Urbanized areas"	5	Lands of industry, transport, communication; settlements; agricultural lands	Various infrastructure, housing, streets, squares and other lands

The table is calculated on the basis of data from the State Committee for Land Resources, Geodesy, Cartography and State Cadastre of the Republic of Uzbekistan according to the table developed by Doctor of Geographical Sciences, Professor Yu.Ahmadaliev (Yu.Ahmadaliev., 2014., p. 76).

Scientists who have studied in this area, taking into account the geomorphological structure of the landscape, can see differences in some aspects. This is because the area is large and the terrain is varied. The table in this study, which we have calculated, is adapted to the irrigated plains.

We will study the calculations of this research work on the example of Khojaabad district. As of January 1, 2020, the district land fund is 22,886 hectares, of which pastures are 2,040 hectares. Therefore, the classified area is 20846 ha. amount is obtained. Forests belonging to the category of "ecological base"



lands of the region cover 39 ha, including 37 ha. terracotta, no shrubs, submerged lands 854 ha. Other lands not used for agriculture are 6184 ha. It makes up 34 percent of the area.

Gray lands in the category of low-use lands are 278 ha, lands without pastures and hayfields, lands in the state of reclamation construction are 133 ha. 2% of the total area.

Perennial trees 3213 ha. of which 2638 ha. orchards, 259 ha. vineyards, 316 ha. It makes up 16 percent of the total area.

In agriculture, the area of irrigated arable land is 11,567 ha, and the area of irrigated arable land is 13052 ha. 38 percent of the district's territory.

The most ecologically complex areas are “urbanized” lands. This category includes the part of the farmland occupied by the building, roads, trails, streets, courtyards and squares, lands under public buildings. The area of this type of land in Khojaabad district is 2060 hectares. Of which: 532 ha. Land occupied by the castle, 619 ha. Road, trail, cattle roads, 632 ha. Public courtyard street area roads, 277 ha. Incorporates social buildings. this category is 10 percent.

Thus, the rate of change of the natural composition of lands in the territory of Khojaabad district is 2.88, ie:

$$(34 \cdot 1 + 2 \cdot 2 + 16 \cdot 3 + 38 \cdot 4 + 10 \cdot 5) : 100 = 2,88$$

The above calculations were carried out in 14 administrative districts of Andijan region.

The second group of indicators characterizing the anthropogenic pressure of agriculture consists of 4 blocks (Ahmadaliev, 2000; Bashkin, 1991; Kochurov, 1999;).

First of all, the agro-demographic type of agricultural anthropogenic pressure is studied. Indicators for this type of QXAB are the number of rural population per 1 sq. Km (per capita) and irrigated arable land per capita (per hectare).

In the second row, the amount of agrotechnical pressure is studied. As indicators of this type of pressure every 1000 ha. the number of tractors of all models (pieces) corresponding to the sown area and per 1000 ha. the number of agricultural machines (pcs) coming to the crop land will be examined.

The third row takes into account the amount of agrochemical pressure. 1 as the main indicators. chemical mineral fertilizers (H, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O) and chemical plant protection products are obtained.

In the fourth row, the share of total irrigated lands (in percent) in the land fund and agricultural lands is studied from the indicators of agro-ameliorative pressure.

Taking into account the above lines, an evaluation scale for all indicators by districts (by region) is developed (Table 2), and the assessment is carried out by administrative districts. Certain methodological rules are followed in compiling a special evaluation scale (evaluation level indicator) for the selected evaluation indicators. We will create a scale based on the districts of Andijan region. This scale was also created for the territory of 14 administrative districts within the irrigated foothills of the region.

Attention is paid to the fact that the indicators on the rating scale form separate stages, the interval between them is interrelated. Particular attention should be paid to the separation of assessment groups during this study. This is due to the fact that the assessment scores given to each group are different, so the final indicators may differ significantly, which may incorrectly reflect this situation. To do this, first the edge (largest and smallest) numbers are determined. Then the difference-total interval between



them is found. This intermediate number is divided by the number of groups of any number. Typically, in economic geographic research, events and happenings are evaluated in groups of three or five. Indicators of agricultural anthropogenic pressure (ASR) also fluctuate over a much larger range, so the assessment was conducted across five groups.

Table 2 Agriculture in the districts of Andijan region anthropogenic pressure measurement scale

AAP types	AAP indicators	Points corresponding to AAP indicators				
		5	4	3	2	1
Agrodemo-graph	The density of the rural population per km <sup>2</sup>	Above 911	684-910	457-683	228-456	227 and past
	Irrigated arable land per capita, sotix	Less than 6	7-13	14-20	21-27	28 and older
Agrotechnical-caviar	To each 1000 ha. the number of tractors of all models, corresponding to the crop area, pcs	More than 12	10-11	8-9	6-7	5 and less
	To each 1000 ha. the number of agricultural machines per hectare, pcs	More than 72	56-71	40-55	25-39	24 and less
Agro-Chemical	1 ha. amount of mineral fertilizers (H, P <sub>2</sub> O <sub>5</sub> , K <sub>2</sub> O) applied to the soil, kg	Above 486	428-485	370-427	312-369	311 and less
	1 ga. ground, chemical plant protection agent, kg	Above 17	15-16	13-14	10-12	10 and less
Agromeli-orativ	The share of irrigated lands in the land fund, percent	Above 69	63-68	62-57	56-52	51 and past
	The share of irrigated arable land in the structure of agricultural lands, percent	Above 89	73-81	64-72	55-63	54 and past

The table is compiled by the author for the administrative districts of the Fergana Valley.

Each type of КХАБ (AAP - Agriculture anthropogenic pressure) is evaluated on a 5-point scale, and the final grade is found as an integral indicator using the following formula:

$$КХАБ = \frac{K_1 \cdot III_1 + K_2 \cdot III_2 + \dots + K_n \cdot III_n}{1000} \quad (3.1)$$



Here,

$K$ -Indicator of agricultural anthropogenic pressure types;

$1,2,3, \dots, n$  - number of pressure types involved in the assessment;

$\frac{III}{\delta}$  is the score on the regional evaluation scale of pressure types;

1000 - common divisor.

Since most of the indicators in the second and third rows are distributed through centralized administrations, it is important to note that their amount varies depending on the crop area of the district. Therefore, most of these indicators may have the same or similar results for the administrative districts within the province.

The calculations are performed according to the methodology and formulas mentioned above. Let's consider it on the example of Khojaabad district of Andijan region.

The density of the rural population in this district, which reflects the **agro-demographic** pressure, is 1 sq. Km. 554 people per hectare (Table 3.5), in the assessment scale of the districts of Andijan region, this indicator is 3 points (Table 3.2), irrigated arable land per capita is 10.5 sots, and the corresponding score on the assessment scale is 4 was.

From **agrotechnical** pressure indicators per 1000 ha. The number of all types of tractors on arable land is 376 units, including 19 driving tractors, 51 mowing tractors, 11 tractors in the district, which is 4 points on the rating scale. The total number of agricultural machines is 697, including 39 seeders, 5 cultivators, 178 harrows, 51 cultivators, 23 sprayers, 10 mineral fertilizers, 12 different combines. These machines are for every 1000 ha. crop yields are 29.4 per hectare, which corresponds to 2 points on the evaluation scale.

1 ha of **agrochemical** pressure types. The amount of mineral fertilizers applied to the field is 509 kg. if the plant chemical protection agent is 15 kg., the scores on the rating scale are both 5 and 4, respectively.

The share of irrigated lands in the area of **agro-ameliorative** pressure types is 50.5%, the score on the rating scale is 1. The irrigated area relative to agricultural land is 53.4%, which is equal to 1 on the regional assessment scale. Thus, the final indicator of agricultural anthropogenic pressure in Khojaabad district is 4.52, ie:

$$KXAB = \frac{554 \cdot 3 + 10,5 \cdot 4 + 11 \cdot 4 + 29,4 \cdot 2 + 509 \cdot 5 + 15 \cdot 4 + 50,5 \cdot 1 + 53,4 \cdot 1}{1000} = 4,52$$

The calculations were carried out in all administrative districts of the region.

To determine the level of geo-ecological and economic stress of lands, these indicators in the natural-agricultural areas of Andijan region, ie the degree of change in the natural composition of soils (1) and indicators of anthropogenic pressure on agriculture (2) are combined.

The above assessment is a very complex process based on statistical data. The effects of the study of AAP by scientists on different geographical crusts are also of course different from one another. For this reason, we will dwell briefly on AAP.



The assessment is based on the degree of resistance of natural and economic complexes to the effects of natural and economic processes. This effect is divided into reclamation, chemical, technical and demographic types and has been studied more closely in the literature on geography and agriculture (Kravchenko, 1986; Pereuplatnenie pahotnox .., 1987; Brauchinsky, 1988; Bashkin, 1990; Maksudov, 1990; Bashkin et al., 1991; Morozova et al., 1992).

In the field of geography, by studying the anthropogenic pressure in the composition of the above КХАБ (AAP), it can make the necessary suggestions for improving the environment taking into account the socio-economic geographical factors. Agrotechnical, agro-ameliorative and agrochemical aspects are one of the tasks of more ecological scientists. Geographers, on the other hand, can warn of possible adverse events and processes in the future with their suggestions up to a certain limit.

**Agodemographic pressure** in Andijan region is more complicated than in other regions. The reason is that we know that the area is small and the population is large. Territories with varying relief are gradually being developed and population density and arable lands are being stabilized. At the regional level, this situation has been consistent in recent years

The work on improving the reclamation of the Andijan region has changed radically since independence. At the present time, while studying the agro-ameliorative condition and drawing the necessary conclusions, the main thing is not to forget about economic, environmental and social productivity, and the proposals made to the environment must have a positive impact. Otherwise, it is natural for the population to be deprived of agricultural land, which can lead to negative consequences such as salinization and desertification.

**Agrotechnical and agrochemical pressure** are closely related, and in moderation, techniques, chemical fertilizers, and chemical drugs used against plants provide income as a basis for plant growth and development. Excessive use of machinery will increase the density of the soil layer, and the chemicals will affect not only the flora and fauna, but also humanity.

It can be said that the region will have at least some necessary methodological material to draw a reliable scientific "conclusion" from the economic, geographical and geoecological point of view, as well as to improve the territorial organization of rational use of land resources.

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## LEXICAL-SEMANTIC AND LINGUACULTURAL FEATURES OF THE WORD "FOOD"

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### Annotation

The article is devoted to the study of the word "food" in the linguoculturological aspect. There is an increased interest of cultural scientists and linguists in the word "food" and gastronomic discourse, as well as the need to study lexical-semantic and linguacultural features the words about food. In this article was given some examples and information about the topic of food in English.

**Keywords:** food, English culture, semantic transformation, etymological food products, idioms, national, the meaning, phraseological units, ethnic groups, dictionaries.

Food is the most universal topic for communication, even with people you see for the first time. When you go on a trip abroad, you want to learn more not only about museums or architecture, but also about local cuisine. After all, local food and culinary traditions are one of the most important elements of culture, so we get to know a new country by taste and smell. Food, or food acts as the primary basis of human life. Without food, the physical existence of a living organism is impossible. The actual process of nutrition there is the main relevant feature of this cultural concept. Of course, this feature is universal for all human communities. In addition,

in the main feature of the concept, various names of food, beverages, and dishes that are relevant for cultural carriers are updated. In our opinion, this category can be defined as additional, namely the cultural characteristics of the process of eating, or eating, customs and traditions associated with them. This also includes national food traditions, which have acquired additional meanings in the course of the historical development of the state, as well as religious food traditions.in the composition

The etymological interpretation of the lexemes food and food includes the components "protect" and "guard". The meaning of these tokens implies the presence of an object of protection and an actor, that is, a certain subject from which something needs to be protected. This fact suggests the idea of food as a defense mechanism, in other words, food is something that allows you to protect "your own" from "someone else's". "Food" in English culture, were, first, the island position of the state, and secondly, the culinary preferences of numerous conquerors, ranging from the Romans and the Germans before the Normans. The natural and climatic conditions for the British were initially quite comfortable. The soil was fertile, and there were many animals in the forests. Perhaps this is where the stereotype of traditional English cuisine originates. It is believed that the food of the English is not distinguished by sophistication, they consume mostly ordinary uncomplicated dishes made from natural, natural ingredients. Tracing the history of the formation of the English culinary tradition, we can conclude that the main dishes, such as bread, cheese, meat, have been used since ancient times.



Other dishes, for example fish and chips, have been borrowed from other cultures, particularly from America. The spices came from overseas colonies. The main food for centuries has been meat, bread, and dairy products. The appearance of certain food products and their names was associated with the historical processes that took place in a particular period of the formation of society in the UK. Fast food culture originated in England in the XIV century and remains popular today. Having considered the formation of national food traditions, it is interesting.

When rethinking the names of food products, their meaning becomes the figurative basis of a new meaning. Semantic transfer is carried out on the principle of assimilation (metaphor) or association (metonymy). The metaphorical transfer is usually based on the food properties of the products: sweetness, bitterness, sharpness of taste, smell, consistency, temperature of the finished dish, and so on, but sometimes their non-food properties. Metonymic transfer occurs when food names are used to refer to living animals and plants. The names of a number of food products arose as a result of the semantic transformation of the names of non-food realities. In this area, too, there is a metaphorical and metonymic transfer. The stylistic potential of English food names is very high; it is the result and part of the expressive and pictorial possibilities of the English language.

It is possible to analyze them within the framework of the language of the four elements by G. D. Gachev. In our opinion, the national microcosm of these communities on the example of food traditions can look like this. England is an island surrounded by water. Already here you can see the elements "Water" and "Air". The large consumption of meat in the English culture differs from the German in terms of its processing. Here we see the popularity of meat puddings. The production of a secondary product from meat - pudding (a mixture of various components) indicates, in our opinion, that the desire to process the main component in accordance with its own requirements needs, which is consistent with the idea of the British as a self-made nation (self-madmen). Over the centuries, the English language has been created by many peoples who have introduced new words to it. "Catch phrases" reflect the history of the country and language, containing cultural phenomena, human wisdom and experience. Thus, to this day, a special layer in the language is formed — phraseology, a set of stable expressions that is, idioms or phraseological units that have an independent meaning, usually not coinciding with the literal translation. Idioms and phraseological units are lexical and linguistic material that embellishes speech, makes it textured and expressive, replacing bulky sentences with well-aimed expressions. The peculiarity of an idiom is that its meaning is not equal to the meaning of its constituent phraseological units. So, for example, if you translate literally the idiom you took the cake, you get "You took the cake", although the meaning of this idiom is "You won (or you were the best)". Therefore, the study of idiomatic expressions of the English language, and not only English, is relevant, since it makes it easier to read both journalistic and fiction literature, and expands the vocabulary. In addition, the study of phraseological unit's increases interest in learning a foreign language, develops language intuition, makes you think and understand the text not verbatim, but in context. Idioms of English often have equivalents in Uzbek. The comparison of phraseological units that coincide in their image, meaning and stylistic coloring demonstrates not only structural differences, but also the figurative thinking of the British and Uzbek. Many idioms have emerged from colloquial speech and slang, while others have emerged as a result of certain historical circumstances.



Sometimes the context helps in the translation of stable expressions, but, unfortunately, it does not always help, so it is so important to know how they are translated and what their history is, and it is also very interesting. In order to find out how idioms occur, let's follow this process. Let's look at it with an example: "to be worth one's salt" - an expression meaning "not in vain receiving a salary", literally "to be worthy of salt. Although salt is one of the cheapest products today, there have been periods in human history when salt was equated with gold. Even before the advent of various preservatives and techniques that can preserve food for a long time, salt was the only available method, which made it expensive and irreplaceable. Thus, "being worthy of salt" was an acknowledgment of a person's worth. In the English language, many stable expressions have been formed with words denoting food. Although English and Uzbek are very different, the meanings of some idiomatic expressions are the same. However, the development of English-language idiomatic expressions by students faces a number of difficulties, one of which may be their lack of order.

Cultural and national characteristics of a particular cuisine are clearly manifested in geographically marked categories of dishes and drinks, in which the name of a city, district, region or country is the main producing basis (toponymical principle of nomination). The names of many dishes are also formed from the name of a person or on the basis of a toponym, for example: beef-runs (beef Stroganov) - named after Count Stroganov, chicken McNuggets (pieces of chicken fried in dough) - named after the owners of a chain of fast food restaurants, Mogilev sausages (Bavarian sausages) — after the name of the city of Bavaria. It is located in the southeast of Germany, etc.

At the same time, as our observations have shown, in the linguistic picture of the world of the English, there are no special conceptual dominants that nominate the type of food, which, in our opinion, is explained by the historical conditions of the development of English culture: as a result of the colonial past, English cuisine "absorbed" the specifics of the culinary traditions of various ethnic groups, which allows us to call it multinational. According to phraseological and other dictionaries, high-frequency lexemes in English are 1) tea: read the tea-leaves (letters, read on tea leaves; guess on coffee grounds); 2) pie: have finger in the pie (was, involved in something; put your hand); 3) cake ("cupcake"): life is not all cakes and ale (without grief you cannot live; life to live is not a field to go); 4) pudding: pudding — face (expressionless face), -which can be considered the dominant language means of conceptualizing food in English. Based on this and taking into account the analysis of various English lexicographic sources, the language of literary texts, the fund of stable units of the English language, we came to the conclusion that the conceptual dominant of the English language picture of the world is the lexeme "Tea Party" ("Tea"), This conceptual dominant verbalizes, in contrast to the lexeme "Bread", a ritualized complex action, which captures the cultural and historical identity of the people, reflecting the specifics of the attitude of English society to the process of tea drinking itself as a source of pleasure from communication, and not to its result (feeling full).

The problem of forms and methods of linguistic representation of knowledge about reality, reconstruction of the "image of the world" according to language data is relevant in the light of the increased interest of linguists in revealing deeper connections of language, consciousness, thinking and culture.



In the analysis of the content of language explications, it is possible to study the ways and forms of structuring and categorizing knowledge, as well as the content of nationally and culturally determined representations and cognitive images in the human mind.

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## INTEGRATED APPROACH TO RUSSIAN LANGUAGE LESSONS

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### Annotation

The dream of every teacher is to raise a student who knows how to think independently, ask questions and find answers to them, set problems and look for ways to solve them, while not forgetting about the emotional sphere. Integrated education will help to raise a person who is not only knowledgeable, broad-minded, but also sensitive, moral, able to see, appreciate and multiply the riches of the surrounding world.

**Keywords:** domestic education, inter-subject relations, science reflects

Even I. G. Pestalozzi argued that the learning process should be built in such a way as, on the one hand, to distinguish between individual subjects, and on the other-to unite in our minds similar and related, thereby bringing great clarity to our consciousness and after their complete clarification to raise clear concepts.

K. D. Ushinsky, by integrating writing and reading, developed and implemented an analytical and synthetic method of teaching literacy. Moreover, the integration initially consisted of the novelty and essence of this method, since it, according to the author, allowed to adapt and merge into a single whole the separate elements of two types of speech activity-writing and reading.

In the 70s, the question arose about the activation of the cognitive activity of students, about overcoming the contradiction of artificial dismemberment on a subject basis. The student did not perceive holistically either the educational material or the picture of the surrounding world. This led to an active search for interdisciplinary connections, to use them in differentiated learning. In the second half of the 80s, integrative approaches in domestic education again began to play a dominant role. There is an urgent need to create integrated courses.

"Analysis of the modern lesson": "Integration is a deep interpenetration, merging, as far as possible, in a single educational material of generalized knowledge in a particular field."

There are three levels of integration:

- Intra-subject-integration of concepts within individual academic subjects;
- intersubject-synthesis of facts, concepts, principles, etc. of two or more disciplines, which the teacher should use when preparing an integrated lesson;
- trans-subject-synthesis of the components of the main and additional content of education.

Integration should be a "red thread" in all school subjects, and only at a certain point, when the teachers themselves show an increased interest in this approach and understanding of the material, it should result in a separate integrated lesson.



There are a number of reasons why integrated lessons are needed. First, the world around children is known by them in its diversity and unity, and often the subjects of the school cycle, aimed at studying individual phenomena of this unity, do not give an idea of the whole phenomenon, dividing it into disparate fragments. Secondly, integrated lessons develop the potential of students themselves, encourage them to actively learn about the surrounding reality, to understand and find cause-and-effect relationships, to develop logic, thinking, and communication skills. Third, the form of integrated lessons is non-standard and interesting. The use of various types of work during the lesson keeps the students' attention at a high level, which allows us to speak about the sufficient effectiveness of the lessons. Integrated lessons open up significant pedagogical opportunities. Such lessons relieve fatigue, overstrain students by switching to a variety of activities, dramatically increase cognitive interest, and serve to develop students' imagination, attention, thinking, speech, and memory. Fourth, integration in modern society explains the need for integration in education. Modern society needs highly qualified, well-trained specialists. To meet this need: the training of educated, well-trained professionals should start from the lower grades, which is facilitated by integration in primary school. Fifthly, due to the strengthening of inter-subject relations, educational hours are released, which can be used for learning a foreign language, for in-depth study of fine arts, music, for developing students' activities, as well as additional practical lessons. Sixth, integration provides an opportunity for self-realization, self-expression, creativity of the teacher, promotes the disclosure of abilities. Integration in teaching involves, first of all, the significant development and deepening of inter-subject relations, which are analogous to inter-scientific relations, the transition from the coordination of teaching different subjects to their deep interaction. The integration of knowledge from various subjects is carried out with the help of an integrated lesson.

An integrated lesson is a specially organized lesson, the purpose of which can be achieved only by combining knowledge from different subjects, aimed at considering and solving a borderline problem, allowing students to achieve a holistic, synthesized perception of the issue under study, harmoniously combining the methods of various sciences, and having a practical orientation.

The pedagogical and methodological technology of integrated lessons may be different, but in any case it is necessary to model them. Independent search for new optimal (according to Babansky) schemes-models is a manifestation of the creative activity of the teacher.

Patterns of the integrated lesson:

- the whole lesson is subject to the author's idea;
- the lesson is united by the main idea (the core of the lesson);
- the lesson is a single whole, the stages of the lesson are fragments of the whole; the stages and components of the lesson are logically and structurally dependent;
- the didactic material selected for the lesson corresponds to the plan; the chain of information is organized as "given" and "new" and reflects not only structural, but also semantic coherence; the coherence of the structure is achieved sequentially, but does not exclude parallel communication (in the first case, the sequence of actions is observed, in the second - related tasks are performed that correspond to another logically constructed thought).



An integrated lesson requires careful planning, because students will have to create a generalized picture on a particular topic, which requires some intellectual effort. The work on the lesson consists of three main stages:

I Preparatory stage-the goals and objectives of the lesson are determined, the need for integration with other school subjects is justified. The first stage of this work is the coordination of curricula on subjects, discussion and formulation of general concepts, coordination of the time of their study, mutual consultations of teachers. Then you need to consider how to approach the study of the same processes, phenomena, laws, theories in different courses of academic disciplines. Students select additional literature, illustrations, audio and video materials, prepare presentations on a specific issue of this topic, and receive individual tasks.

The second main stage is the organization and conduct of the lesson within the proposed types. (lesson-game, lesson with elements of analysis and comparison of various sources of information, lesson - solving problem situations, lesson-reflection, lesson-discussion, lesson-conference, lesson-presentation, lesson-portrait, lesson-excursion)

III Final stage-The teacher together with the students summarizes the lesson, outlines questions for further independent work on the studied topic, organizes an exchange of views of participants on the possibility of conducting integrated lessons in the future.

The role of the teacher in the integrated lesson is changing, its main task is to organize such a cognitive process, in which students are aware of the relationship of all areas of knowledge they have received both in the lessons of school subjects, and as a result of painstaking work with additional sources of information.

During the preparation and conduct of an integrated lesson, two or more academic disciplines interact, and the child here performs a new, more active and meaningful role for himself, increasing his self-esteem and understanding of the need to replenish the baggage of knowledge beyond the textbook material.

Fiction provides a wide opportunity to use musical works. Sometimes music can only be a background, like P. Tchaikovsky's musical pieces "The Seasons" when reading poems by Russian poets about nature, or A. Griboyedov's waltz when the teacher tells about the fate of the playwright. But it can also be a kind of actor, like Beethoven's sonata when studying the story of A. Kuprin "The Garnet Bracelet", songs and romances on the poems of Russian poets when studying their work. It is hardly possible to talk about the works of a. Speech development lessons involve such a type of creative work as a story based on a picture, or a description of a picture. But this is not the only way to bring painting to Russian language and literature lessons. Studying adjectives, I suggest that students consider reproductions of paintings and name adjectives denoting colors. Such work enriches the vocabulary, teaches observation. In literature lessons, reproductions of paintings by Russian painters will not only help to create a certain mood, become a kind of background when studying, for example, landscape lyrics by Fet or Tyutchev, but also give an idea of everyday life, customs, and customs. For example, when studying the work of N. Nekrasov, it is difficult to do without reproductions of paintings by Kramsky ("Nekrasov in the period of the Last Songs", etc.), Repin ("Boatmen on the Volga"), Perov ("Seeing off the Dead" and "Rural Procession at Easter").



I use reproductions of paintings by Perov ("The arrival of a governess in a merchant's house", portraits of merchants). A certain mood when reading the final pages of the novel by I. Turgenev "Fathers and Children" is created by Perov's painting "Old parents on the grave of their son". In the examples given, painting is not a background, it significantly complements the image created by the artist of the word, so we are talking about different means of expression.

The literature lesson is designed to help each student perceive the world in its unity. Intersubject connections form the need to expand the range of reading, instill interest in other types of arts or fields of knowledge. Students are convinced that each art form or field of science reflects the world in its own way: history-in the language of facts, literature – in the language of verbal images, theater, music and painting – in their own ways of expression.

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## STANDARDS FOR THE FIFTH-GENERATION NETWORKS FOR IoT

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Named after Muhammad al Khwarezmi

### Summary

Talking about the imminent appearance of the fifth-generation networks are actively conducted the last 2-3 years. What is most interesting, not all understand why we need 4G network is not everywhere they are implemented, and where they are, the return on investment is not expected until 2020. At the beginning of 2016 to cover the share of LTE cellular networks around the world is more than 15% e. So do we need to 5G?

According to experts, the existing global telecommunications infrastructure in the form of LTE over time reaches technical ceiling. This will contribute to the rapid development of a variety of devices with Internet access. Currently, mobile networks provide data rates up to the client side 1 Gbit/s. However, there are difficulties with a clear reference to specific bands of the frequency spectrum and their aggregation. Any questions and delays the signal. All these questions must decide 5G standard.

**Keywords.** Standard, generation, IoT, WiMAX, LTE, orthogonality, multiplexing, demultiplexing.

### Introduction

The main theme of the new time- is the development of the Internet of things and maintain their network fifth generation- 5G. The popularization of connected devices is a powerful catalyst in the development of the telecom industry, especially for high speeds, virtualization and cloud services.

When 5G, the fifth generation wireless technology networks, there will come in 2020 year, engineers expected that the network will be able to handle about 1000 times more mobile data than current cellular networks. It will also become the basis for the Internet of Things (IoT), linking fixed and mobile device-machines, and becoming part of a new industrial and economic revolution.

The new architecture, new communication technologies and new equipment will make this transformation possible.

### Standards for the fifth-generation networks for IoT

WiMAX (Worldwide Interoperability for Microwave Access) refers to carrier grade technology that is based on the IEEE 802.16 family of standards developed by the International Institute of Electrical and Electronics Engineers (IEEE). The IEEE 802.16 standards define the physical layer and the level of access control for fixed wireless broadband access systems of a city scale [2, 4].

OFDM Orthogonal Frequency Division Multiplexing is a combination of modulation and multiplexing. Typically, multiplexing refers to independent signals derived from different sources. In OFDM, the multiplexing task is applied to individual signals, but these individual signals are the set of one main signal [3].



OFDM is a special case of frequency division multiplexing. The main concept of OFDM is subcarrier orthogonality.

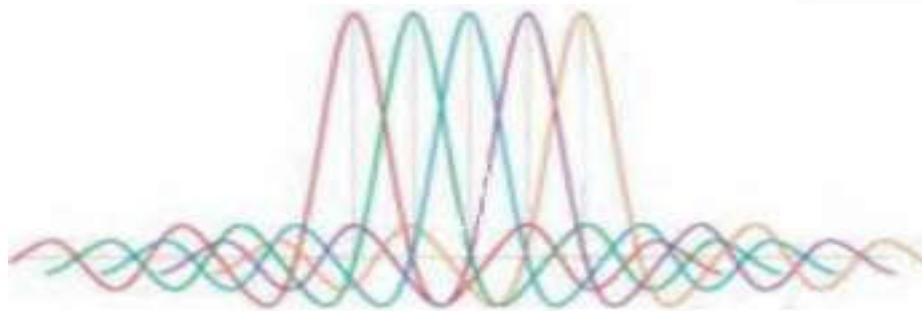


Figure 1 - Example of overlapping frequency channels with orthogonal carriers

The IEEE 802.16 standard describes the construction of networks of regional scale in the range up to 66 GHz. At the physical level, the standard provides for three different methods for transferring data:

1. Single carrier modulation method.
2. Method of modulation by means of orthogonal carriers (OFDM)
3. Method of multiplexing by means of orthogonal carriers

OFDM mode is a method of modulating a data stream in a single frequency channel 1-2 MHz wide or more [3].

At such a frequency range, the widespread use of this modulation will allow to over-speed the speed of already existing networks.

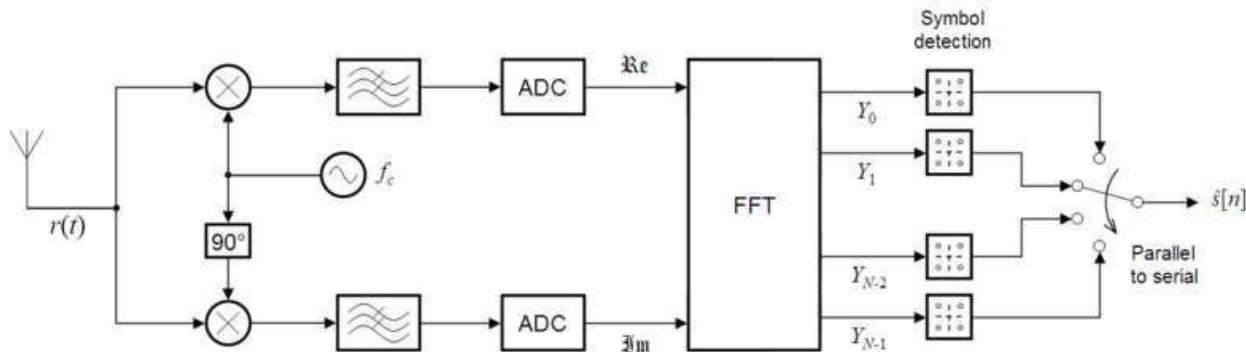


Figure 2 - Implementation of the OFDM method

In the networks of the fifth generation, the frequency spectrum will be used from 1 GHz down to the millimeter range.

For the Internet of Things, the suggested frequencies are below 1 GHz. Low frequencies will ensure reliable reception over long distances, which currently interferes with LTE in the field of the Internet of things. Increased by several orders of magnitude, the admissible density of nodes, together with IPv6 support, will allow to bring a huge number of new devices to the Network.



The use of OFDM signal at the physical layer of the WiMAX network. In WiMAX systems, a broadband Orthogonal Frequency Division Multiplexing (OFDM) signal is used, formed from a variety of narrow-band signals separated in the frequency spectrum.

The use of an OFDM signal provides WiMAX systems with the highest BWA spectral efficiency in the class (data transmission rate in one Hertz of the frequency spectrum band), the ability to work out of direct visibility, the highest power communication parameters providing high communication range, and the ability to efficiently service mobile subscribers [8].

The most important difference of OFDM technology from simple division of a radio signal into several parallel frequency channels is the orthogonality of subcarriers in the group spectrum of an OFDM signal. The physical meaning of orthogonality is mixed, in the structure of each subcarrier special tags -FIND unique number of sinusoidal oscillation signal differing in phase by 90 deg., (Orthogonal functions) allowing the demultiplexer based on a label data analysis signals share subcarriers even in the case of a partial overlap of their frequency spectra. The selection of carriers in the general spectrum of a conventional multi-channel signal due to the limited technological capabilities of modem band-pass frequency filters requires a sufficiently large frequency separation of the carriers, which limits the increase in their number in a given frequency band. The selection of carriers in the group spectrum of an OFDM signal during demultiplexing is performed using orthogonal signal transforms. This allows the possibility of overlapping spectra of adjacent subcarriers, which allows to significantly increase the frequency density of their placement in the signal spectrum and to increase the spectral efficiency.

Table 1.

Standard Specification			
Standard	802.16	802.16 / a / d (802.16-2004)	802.16e
Frequency range	16-66 GHz	2-11 GHz	2-6 GHz
Network type	Stationary	Stationary	Movable
Coverage area	Line of sight	Out of sight	
Radius of coverage	2-4 km	4-6 km (15-20 m in open space)	4-6 km
Data transfer rate	32-134 Mbit/s with a band of 28 MHz	Up to 75 Mbps with 20 MHz band	Up to 15 Mbps with 5 MHz band
Modulation	QPSK, 16 QAM, 64 QAM	OFDM 256, OFDMA, BPSK, QPSK, 16QAM, 64QAM	
Channel width	20, 25, 28 MHz	Election width from 1.25 to 20 MHz	

From the outset, the IEEE 802.16 standard was conceived in such a way as to develop as a set of radio interfaces based on a common media access control protocol (Medium Access Control, MAC), but with different physical layer specifications depending on the part of the spectrum used. The MAC level of the protocol was developed for access networks with a point-to-multipoint topology in order to achieve a high signaling rate both in the ascending Up Link stream (the flow from the subscriber to the base station) and in the descending Down Link- flow (flow from the base station to the subscriber). The network structure of the IEEE 802.16 standard is very similar to traditional mobile networks: there are also base stations that operate within a radius of up to 50 km. To connect the base station with the subscriber, you need to install subscriber equipment in the room. From this unit, the signal goes over a



standard Ethernet cable, either directly to a specific computer, or to an IEEE 802.11 access point, or to a local wired Ethernet network. One base station in the IEEE 802.16 network can serve a large number of subscribers and provide them with services at various levels [1, 8].

## Conclusion

IEEE 802.16 protocol designed for wireless access at the level of cities, and aims to solve the problem of the "last mile", as well as to reduce the financial costs and time spent on deployment of new connections, thanks to the unification of solutions. If today to connect to a single enterprise network can leave a few months, then in the future it will be possible to do in a few hours or days. IEEE 802.16 access points are installed on tall buildings and masts of cellular networks. By working in the frequency range of 2 to 11 GHz, they can deploy a wireless channel with a width of up to 70 megabits per second on a single sector base station and to provide data transfer out of sight. The bandwidth allocated to customers, can be controlled on the side of the provider, which will, for example, to provide individuals channel level DSL, and organizations to the level T1. Also worth noting is that the IEEE 802.16 protocol provides not only data but also voice and video (in the form of the same data), which will be organized on the basis of this protocol mobile networks with video telephony (parallel exchange of voice data and video) as well as access to the Internet.

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## WHY DO WE NEED A DIGITAL ECONOMY AND WHAT DOES IT PROVIDE?

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### Annotation

Today, the global digital economy is evolving day by day. In particular, the digital economy has penetrated into all sectors. We are making our lives easier with IT and the digital economy. This article discusses what the digital economy is and why we need it.

**Keywords:** Digital economy, IT, internet, e-government, development, communication financial, technology.

When we talk about the digital economy, we do not need to understand only Blockchain technology and their use in international financial markets or crypto currencies. Digital Economy is an economy in which digital communications are carried out using IT.

In his Address to the Oliy Majlis, President Shavkat Mirziyoyev declared 2020 the Year of Science, Enlightenment and the Development of the Digital Economy. This Address can be considered as not only a guide and guide for the current year, but also as a program of fundamental importance, a program that will determine the path of development of Uzbekistan in the medium term.

It is difficult to imagine the development of a society and a country without knowledge and enlightenment. Yusuf Khas Hajib, in his book "Qutadg'u bilig" said, "An ignorant person is a fruitless tree, what a hungry person can do without a fruitless tree?" The emphasis placed by the President on science and education, and thus the development of the digital economy, is an important step towards building a democratic state that is economically, socially, politically strong and fully complies with the laws of a market economy. What is the digital economy?

In recent times, the concept of "digital economy" has been used many times. Indeed, in many developed countries, the digital economy has had a significant impact on their development factors. The digital economy plays an important role in the life of society.

The digital economy is a business activity in which the main factor in production and services is data in the form of numbers, which can be processed by processing large amounts of information and analyzing the results of various types of processing. is to implement more efficient solutions than the previous system in production, services, technologies, devices, storage, delivery of products.

It should be noted that the Decree of the President of the Republic of Uzbekistan "On measures to further improve the field of information technology and communications" dated February 19, 2018 became the basis for the Government to develop and implement important measures to develop the digital economy.



The findings of the World Bank's Digital Dividends show how relevant and important the digital economy is in developing countries' economies. In particular, a 10% increase in Internet speed will lead to GDP growth. In developed countries, the figure is 1.21 percent, while in developing countries it is 1.38 percent. This means that if the speed of the Internet doubles, GDP will increase by 13-14%.

In the context of globalization, external migration, international trade and capital movements, tourism, foreign investment, IT development affect the economic growth rates of countries. As a result of the reforms being carried out in the new Uzbekistan, openness, the development of international economic and political relations have created opportunities for modernization, technical and technological re-equipment of industrial sectors in our country. An example of this is the growth of our country's foreign trade. Many terms, such as "e-government", "e-government", "telecommunications", "Internet", "website" have become an integral part of our lives. IT covers all areas of our daily lives.

In a digital economy, using IT can reduce costs, resulting in optimization and increase efficiency. Modern scientific approaches and innovations in the digital economy will be important and priority. This is a network with a high level of scientific capacity.

In developed countries of the digital economy, the share of GDP per capita is also higher, in both the volume and population of GDP. In this regard, the fact that the head of our state pays great attention to this issue pursues one goal, if it is, first of all, to raise the standard of living of the population, and secondly, to increase the real incomes of the population and to please our people.

Mobile payment systems can be considered as a modern version of the digital economy. We all know that customers' smartphones will be linked to bank accounts. This allows customers to make online purchases and transfer funds freely using mobile devices. In a digital economy, using IT can reduce costs, resulting in optimization and increase efficiency. Priorities of Economic Development of the State Program "Year of Science, Enlightenment and Digital Economy". The development of digital technology has ultimately led to an increase in intangible assets, that is, non-physical assets that do not exist physically. For example, in 1975, the intangible assets of major U.S. corporations accounted for 17 percent, and by 2019, that figure had risen to 85 percent. More precisely, tangible and intangible assets in the balance sheet have changed.

Accelerated formation of the digital economy - by 2023 its share in the country's GDP should double. Complete modernization of digital infrastructure and access to modern IT services in all regions - in 2020-2021, all health facilities, schools and preschools, as well as villages and neighborhoods will be connected to high-speed Internet and the quality of communication services will be improved. Development of e-government system - by 2022 the share of e-government services will reach 60%; development of "digital entrepreneurship" through the production of software products and the creation of technological platforms - by 2023 it is necessary to triple the volume of services in this area and increase their exports to \$ 100 million. By 2022, digital knowledge training centers will be opened in all regions.



## In the conclusion

It is well known that today the digital economy also plays an important role in creating added value. Various algorithms, processes and digital information are becoming a key factor in the strategic development of corporate business. Digital non-financial factors determine the competitiveness of banks and affect their efficiency. In agriculture, the office for the development of digital technologies and the office for the development of geographic information technologies are being created. Now the total value of state bodies and organizations is 1 billion. Under one contract for the development, introduction, integration and technical support of Information Systems and software products up to the sum, it has the right to choose only software products and among the residents of the Information Technology Park.

In a digital economy, modern scientific approaches and innovations will be important and priority. This will lead to the development of high-capacity industries. In countries with developed digital economies, both the volume of GDP and the share of GDP per capita are high. In this regard, the President's great attention to this issue has one goal, which is, firstly, to improve the living standards of the population, and secondly, to increase the real income of the population and to please our people.

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## FEATURES OF DEVELOPMENT OF PHYSICAL QUALITIES IN THE PROCESS OF SPORTS TRAINING OF STUDENTS

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### Abstract

The content of the article reveals the essence of education of the basic physical qualities of athletes, the necessary competitive and training activities. Valuable recommendations are given on the development of strength, speed, endurance, etc.

**Key words:** sport, physical qualities, strength, speed, endurance.

### INTRODUCTION

In the process of modern sports training of students, the level of achievement of high results is ensured by specific adaptive changes in the organs. These changes are expressed in the development of the basic physical qualities of the athlete's body. In competitive activity, the functional readiness of students of athletes can be effectively implemented if: is the result of the application of specific training influences; acquired in the process of non-specific exercises and with the help of a set of special tools and adequate methods transform specific changes, basic physical qualities like strength, speed, endurance, etc.

### MATERIALS and METHODS

Nurturing strength. Any movement of a person is associated with the manifestation of power, but the ways of its manifestation are different and depend on the specific type of power abilities. In martial arts, strength is the dynamic and static efforts of individual muscle groups in various movements and poses. In this case, the force is characterized by power, unequal mode of development of power efforts. Probably, power endurance can be subdivided into proper power, static, speed-power, and also endurance to combined manifestations of power [1].

In our opinion, this concretization helps to increase the efficiency of the use of scientific developments in sports practice.

Strength training has a complex structure and includes almost all of the noted types of strength abilities. The significance of the elements of this structure for martial artists of different weight-bearing groups is different. The role of the ability to explosive manifestations of force, which directly affects the efficiency of performing favorite technical techniques in the context of modern competitive activity, has increased. Of great importance is the absolute strength.



This confirms the comparison of the results, testing the power abilities of highly qualified combatants with the level of sports maximum achievements. The main tasks of the development of strength training are as follows:

-increase power capabilities, which are a general prerequisite for improvement in the chosen sport; and ensure their preservation to the necessary extent with regard to the abilities of the stages of training and the stages of the multi-year process of sports improvement:

-to educate strength abilities that meet specific requirements and their effective use to the extent that it is necessary to achieve the target result.

For the development of absolute strength, the preferred use of the maximum effort method is recommended. Moreover, according to the recommendations of specialists, dynamic modes should prevail (85 payiz or more). The average and slow pace of exercise when the resistance value is 70-100 payiz maximum helps to improve mainly intramuscular coordination due to synchronization of muscle fiber activity. [2].

Explosive force is determined by power and speed components. To strengthen it, it is recommended that the methods of short-term maximum effort, variable, circular and repeated 3-5. The magnitude of the external resistance when using the repeated method varies significantly, for example, 20-40%, 50-80% of the maximum, etc. Apparently, the substitution of concepts is more likely due to the imperfection of our terminology. We are inclined to believe that 50-80 payiz reinforcement carried out, with maximum speed with a small number of repetitions is an explosive force.

In practice, the development of strength of 20-40% of the effort is usually associated with a relatively large number of repetitions and, therefore, to a greater extent develop strength endurance for high-speed work. A certain effect in the development of explosive power can be achieved by using the competitive method.

As with the development of absolute strength, with the improvement of explosive, muscular coordination is of great importance within and between.

The main criteria in the selection of means and methods for the development of explosive strength of qualified combatants is the compliance of the spatial and dynamic structures of exercises with the requirements of competitive activity. A high effect is the use of "shock type" exercises, which are associated with preliminary stretching of the loaded muscle and subsequent concentrating explosion, as well as special simulators. The combination of different muscle modes positively affects the topic of increasing strength indicators. [3].

Strength endurance is determined by the functional capabilities of the cardiorespiratory system, the ability of working muscles to efficiently utilize oxygen, the body's ability to produce energy through glycolysis, and psychological resistance to overcome feelings of fatigue. Strength exercises not only develop these components, but increase the athlete's ability to implement them with appropriate work. Therefore, the general issues of increasing strength endurance suggest a solution to the problem of increasing other types of endurance.

Improving strength requires determination, perseverance and perseverance. Classes with a lot of weight and exercises of an explosive nature significantly depend on the ability to concentrate.



As speed abilities, it is customary to single out the speed of individual movements, the themes of movements.

Some discrepancies in a number of textbooks on raising the strength and speed of general theoretical sports literature. So, calling the speed of an individual motor act as one of the speed abilities, L.P. Matveev adds that she is "a change in speed and acceleration when performing individual movements that are not burdened." At the same time, in martial arts, the rules of the competition of which require constant active influence on the opponent, the proportion of contactless positions and movements is very limited. This, in turn, means that most of the movements of athletes are weighed down by external resistance. When it comes to speed qualities, for example, in recommendations on the sections of physical training, the athlete's speed and speed-power fitness are often equated. [4].

To achieve a high speed of movement, the formation of an appropriate speed stereotype, you can use training with a partner of slightly less weight. Comprehensive improvement of all components of speed training is achieved in fights, primarily with the task of advancing the actions of a partner.

## RESULTS and DISCUSSION

Endurance training. Modern conditions of competitive activity make high demands on the endurance of an athlete. A qualified athlete should be able to conduct the fight and the whole tournament with sufficient activity, to maintain the stability of technical and tactical skills with increasing fatigue, which can be considered as a very strong knockdown factor. In essence, fatigue is a protective reaction that protects the body from an excessive degree of functional exhaustion. At the same time, it is the most important factor in the training of physiological and biomechanical compensatory mechanisms, creates the prerequisites for recovery processes and a further increase in the functional capabilities and working capacity of the body. The presence of a significant degree of fatigue is an almost mandatory requirement to work on increasing endurance. [5, 86 articles].

Stamina, i.e. the ability to resist fatigue depends on the functional state, aerobic and anaerobic reserves of the body, on the degree of mastery of technical skills and on the level of development of all volitional qualities. Researchers note that the level of cardiac output, determined by the minute volume of blood, plays a leading role in providing the body with oxygen at maximum loads. The larger the volume of the heart, the higher the aerobic performance and the more economical blood circulation at maximum loads.

For the ability to resist fatigue, interactions of various organs of the system, in particular cardiovascular and respiratory, are of considerable importance. Therefore, when working on increasing endurance, attention should be paid primarily to the development of these systems.

Improving the functional reserves of anaerobic energy supply mechanisms, under the current rules, has become one of the leading tasks in improving special performance. An increase in anaerobic endurance, in essence, means an increase in the anaerobic capacity of the body and is associated with an increase in the corresponding energy sources, the activity of enzymatic systems, the effectiveness of compensatory reactions that maintain homeostasis, and tissue resistance to oxygen deficiency.



So, the creation of an oxygen reserve in the muscles is possible as a result of an increase in the content of myoglobin, which is more active with respect to oxygen than hemoglobin. With intense short-term loads in competitive fights, glycolysis is used, which causes a significant increase in the concentration of blood lactose. [6, 51 articles].

For development, anaerobic endurance and the ability to withstand the effects of an increased concentration of lactose in training, it is necessary to use high-intensity drugs when the heart rate reaches 175-180 beats / min or more. This is, first of all, competitive fights. Depending on the complex of problems solved in the course of fulfilling the assigned tasks, fights can have various durations. In those cases when the increase in special working capacity is put in the first place, 5-6 bouts are planned in three to four minute periods.

An important component of the overall endurance of athletes, as noted above, is its strength endurance. To increase it, weights are recommended within 40-60 points from the maximum, the number of repetitions is up to 10-20.

In practice, under the qualified athletes, such a method of increasing strength endurance as circular training, including exercises for all major muscle groups, is currently common. The composition of the exercises is selected taking into account the tasks, as well as the qualifications of the athletes. It is necessary, of course, to take into account the presence of compliance and the availability of appropriate equipment. Observations show that even at the level of higher sportsmanship due to the lack of shells of different weights and sizes, significant individual adjustments have to be made to the general plans in accordance with the weight-bearing characteristics of the athletes and their level of strength preparedness. It should increase with advanced training of athletes, as well as within the annual cycle and as you approach the competition.

Nurturing agility. Agility in martial arts, as the ability to rationally and rationally modify muscle activity in relation to the requirements of a dynamic situation, is one of the most important factors in achieving victory. Dexterity is a complex entity. It depends on the coordination qualities, the amount of motor skills skills, on the development of the vestibular apparatus, muscle tone and a number of other indicators. Coordination characteristics can probably be considered a leading component of this structural formation. The main tasks of developing coordination abilities, and at the same time dexterity, can be formulated as follows.

Systematic expansion of the athlete's motor arsenal; improving the functions of motion analyzers; Improving the ability to regulate muscle tension in certain spatio-temporal conditions.

The composition of the means used to solve these problems, with the beginning of a specialized training, is limited to the means that solve the problems of physical and technical-tactical training.

As a result, martial artists picks out specific agility. Improving coordination mechanisms determines the speed of development of new technical elements. Any exercise can be considered as a means of educating coordination abilities, if it is associated with overcoming coordination difficulties. After it becomes habitual, it is necessary to choose new exercises.



## CONCLUSION

The determining criteria for the selection of motor tasks for the development of coordination abilities is the novelty, custom and the degree of coordination difficulties caused by them. The leading line in the methodology of developing coordination abilities as an athlete's qualifications grow is the introduction of an unusual factor in the performance of technical actions. Such as unusual starting positions, changing the speed and pace of movements, complicating actions with movements and combining actions in unusual combinations, varying tactical conditions, shifting the spatial boundaries in which the exercise is performed, etc.

Physical training contributes to the overall physical development of the assimilation of technical and tactical training of martial artists. Therefore, a physically prepared athlete is less likely to be injured.

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**NAKED PLUMAGE OF THE MOUNTAINS OF SOUTHERN UZBEKISTAN**

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**Annotation**

The article describes the composition of species and distribution of bare slime flying in the southern regions of Uzbekistan, in particular in the Surkhon-Sherabad Valley and the surrounding mountains.

**Keywords:** bare slime, Kuhitang, Boysuntog, Hisor, Bobotog, height regions, biotope.

The beautiful and colorful shells of coniferous dry-bellied mollusks, which attracted not only zoologists, but also collectors, now they have been studied anchorly. However, the prevalence of mollusks, which are called bare slime, due to the fact that the slime undergoes reductions and allocates a lot of slime, according to some mountain formations and river basins, has not been sufficiently studied in some regions. The Surkhon-Sherabad Valley and its surrounding mountains are also among such areas.

The theoretical and practical significance of the study of slugs is that, according to literature, most slugs, such as slugs of coniferous dry mollusks, are also an intermediate host of parasitic worm and a pest of agricultural crops as well as of ozukabop crops of livestock importance [4]. Since their prevalence in agroecosystems is associated with the natural environment, it is first necessary to know the characteristics of the distribution of mucous membranes in the natural environment. In the spread of mollusks, along with climate and nutrients, altitude regions and water types are of particular importance.

The purpose of the study is to investigate the biological diversity of slugs in the mountains of the Surkhon-Sherabad Valley and its environs.

**Material and methodology**

In 2020-2021, the research materials were collected from the existing gardens in the Surkhon-Sherabad Valley and from the grass along the ariklar, as well as from the mountains of Kohitang, Boysun, Bobotag and from the existing gardens in the surrounding villages, bushy and wooded forests, from the river passing through these regions and from the grass in total, more than 322 samples were taken from the area under study and served as a research material.

Collection and determination of mucus It was carried out according to I.M.Likharev and A.Y.Victor's methodology [2]. We used existing literature to analyze the systematic composition of identified mollusks (A.Pazilov, D. Azimov, 2003).

As a result of the study of the species composition of slugs in the mountains surrounding the Surkhon-Sherabad Valley and its environs, it was determined that slugs are spread in this region by 3 families, 8 species belonging to 3 generations (Table 1).



**Table 1** Taxonomic composition of slugs in the mountains surrounding the Surkhon-Sherabad Valley and its environs

Family	Generation number	Number of rounds	In percentage
Agriolimacidae	Deroberas	5	62,5
Parmacellidae	Candaharia	2	25
Limacidae	Turcolimax	1	12,5
Total:	3	3	100

The slugs in the Surkhon-Sherabad Valley and its surrounding mountains were distributed unevenly by Regions (Table 2).

**Table 2** The spread of slugs in the mountains of the Surkhon-Sheabad Valley and its environs

№	Species name	Distribution by Regions				
		Surhan-Sherabad Valley	Kuhitang mountain	Boysun mountain	Hisor mountain	Bobotog mountain
1	<i>Deroberas laeve</i>	+	+	+	+	+
2	<i>D. agreste</i>	+	+	+	+	+
3	<i>D. reticulatum</i>	+	+	+	+	+
4	<i>D. sturanyi</i>	+	-	-	-	-
5	<i>D. caucasicum</i>	+	+	+	-	-
6	<i>Candaharia rutellum</i>	-	-	+	-	-
7	<i>C. levanderi</i>	+	+	+	+	+
8	<i>Turcolimax turkestanus</i>	-	+	-	-	+
	Total	6	6	6	4	5

As can be seen from the table data, 5 types of slugs have a wide arealga and are common in all parts of the research area. 3 species of slime was recognized as a species having a narrow area, while only 1 species encountered in mountaineering.

5 species belonging to the family of Agriolimacidae *Deroberas* were recorded: *Deroberas laeve* the material is 45 pieces, the Surkhon-Sherabad Valley and Boysun are collected from more than 15 places in the fortification range in Bobotog, among the grass in all garden forests and under the stones in the mountains. These slugs are encountered in all height regions and live in different biotopes. It is widely distributed in all regions of the Commonwealth countries and has been "introdusent" due to human activity to many states in the Southern Hemisphere. According to the literature, it causes great damage to agricultural crops.

Type of *Deroberas agreste*. Material: 35 pieces were collected in the Surkhon-Sherabad Valley along the right and Left Bank of the river Surkhandarya, from the village of Jayrahona to the water of Southern Surkhon and from the grass in the lands close to its various gardens, from more than 5 places in the Babatag fortification system, among the grass near the Arik Heights.



This species is found in all height regions and lives in different biotopes, widely distributed throughout the Golarkt.

Type of *Deroceras reticulatum*. Material: 32 pieces were collected from more than 10 places in the area under study, among the grass near the water bodies and from the anthropogen biotopes. Representatives of this species live mainly in open biotopes, avoiding forests and bushes. More antropogen is common in biotopes. In the daytime, shocks lie hidden, under the stones, in the cracks of the Earth. It is widely distributed in the regions of the Commonwealth countries and is considered an "introdusent" brought to the countries of Central Asia [3], recorded by the first marotaba Abdulazizova in Babotog mountain [1].

*Deroceras sturanyi* type. Material: 15 pieces, Denov collected among the available gardens and grasses along the banks of the ditches around the long. These slugs live in biotopes not far from the garden fields, spread in Central and Eastern Europe and spread to Central Asian countries under the influence of anthropo-powers [3].

*Deroceras caucasicum* type. Material: 27 pieces, in the Surkhon-Sherabad Valley: the city of Termez and its surrounding gardens and the Arik neck, the Arik neck around the city of Sherabad, the mountain of Boysun, the north-west part of the city of Boysun. As a common species on the plains live mainly under different plant leaves, among herbaceous plants. Natural areali Caucasus. For the territory of Central Asia is the "introdusent" species [3].

2 species belonging to the family *Candaharia* family of *Parmacellidae* were recorded.

Type of *Candaharia rutellum*. Material: 24 pieces, Boysun Mountaineering: the Machaydara River Basin, atrophy of lower and upper Machay villages, the southern slopes of Boysun Mountaineering, the city of Boysun and the mountains that are close to it are collected. Plumage of this species is 1300-2800 m above sea level in the adir and tahnintakas. flying in height, he lives among the various grass on the banks of the river. Zarafshan, Hisar, Nurota mountain formations and distributed in the mountainous regions of Afghanistan [3]. The first marotaba from Boysun mountaineering was registered [1].

*Candaharia levanderi* type. Material: more than 55 pieces are collected from various biotopes in more than 30 places from the mountains of Surkhon-Sherabad Valley, Kohitang mountain, Boysun mountain, Bobotag and Hisar.

Morphological signs of body structure are variable and correspond to the data of literature [3] in the general case. equal in length. The epiphallus adjoins the side of the organ of reproduction. Reproductive organ structure. The seed is slowly attached to the twisted epiphallus several times. The length of the epiphallus is covered with small incisors, the inner part of the organ of seed-bearing reproduction. The ovary is long, and its muscles are well developed. The testicle has an oval structure.

It is found mainly in plain and Foothill regions and lives among cultural plants, under various grasses in the arid Highlands [3].

Spread. It is common in Zarafshan, Turkistan, Nurota, Kohitang mountain, Boysun Mountain, Hisor and Bobotog. According to I.M. Likharev and A.Y. Victor [2] in northern Afghanistan, too, threeraydi. *Turcolimax turkestanus* (Simroth, 1898), belonging to the turcolimax family of the Limacidae family, was first recorded as a new species for the fauna of the research area from the areas of Bobotag and Khujakulus and Kohitang mountain known as Bogidara.



The Material was made of 13 pieces, collected between small stones. The plumage of this species is found in the regions from the taiga to the Alps, lives between the capillaries and large stones, along the banks of the taiga. According to literature [2] Olatagva is distributed in Korjantog.

In conclusion, it can be said that in the Surkhon-Sherabad Valley and its atrophy mountains, 3 families of bare slime, belonging to 3 generations, 8 species are distributed, of which one species is new to the fauna of the turcolimax turkestanus type research area.

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## PROJECT ACTIVITY OF STUDENTS IN MUSIC LESSON

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### Abstract

This article discusses approaches to the organization of project activities of students at school: what is the project method, what are the main requirements for a project, how to properly plan project activities in the classroom and on a school scale, what are the main problems and difficulties of the project method, and many others.

**Keywords:** art, culture, aesthetics, performance, education, teacher, vocals.

The high demands placed on the spiritual image of the younger generation in our country, the condition of the importance of musical education in the cultural and intellectual development of the individual, necessitate the search for the most effective ways of teaching music in secondary school.

Entering the world of art is possible only through active creative activity. Hence, teachers are faced with the task of finding such methods, techniques, forms of work that would contribute to the formation of an active, independent and individual position of students in learning, aimed at the development of their cognitive interest.

Our many years of experience as a teacher and methodologist allows us to put forward the following ideas for improving musical education:

- Change the role of the student: turn him from a passive listener into an active participant in the learning process;

- Increase the intensity of the lesson, its saturation in view of the fact that the curriculum provides only one lesson (one hour) of music per week, which is insufficient for the formation of a diversified harmonious personality;

- Eliminate the contradictions between the technological environment that surrounds the child in everyday life, the presence of high-tech audio and video reproducing devices (QR-code mobile phones, and others) and the technical support of the educational space of the school, in particular the classroom for teaching music lessons. Appropriate technical equipment is one of the conditions for successful learning in music lessons, and, undoubtedly, the quality of audio and video materials used in lessons is



also important. The use of modern technical teaching aids (computer, tablets, interactive music board, electronic piano, sitzator, etc.) will allow you to achieve the desired result.

- increase student motivation: the use of modern information technologies in music lessons makes learning bright, interesting, memorable for students of any age, forms an emotionally positive attitude towards the subject. The information provided by computer music programs allows you to conduct virtual tours of the museum of musical instruments, travel across countries and eras, getting acquainted with samples of musical art, with the best performers in the world, with various styles and trends in the art of music.

All this makes it possible to put into practice those ideas that contribute to the effective solution of educational problems, the achievement of a new quality of education. Forms of mastering information technologies in music lessons can be the preparation of reports, the solution of tests, the implementation of projects through electronic presentations. The purpose of using these forms is to organize a comfortable learning environment in which all students lively interact with each other.

At the present stage, pedagogical science has in its arsenal various directions of new pedagogical technologies. These usually include developmental, problem-based learning technologies, the development of critical thinking, interactive learning, game technologies, which are based on the activation and intensification of students' activities.

The principles and technologies of developing education may well become the foundations of a new approach to the organization of the musical pedagogical process as a process of cognition. In it, the development of thinking is considered as a process of personality formation, knowledge (theoretical, methodological, performing) - as connections (associations) of a given element of cognition with all other elements of cognition, an understanding of the place and meaning of this element of cognition in the system under study.

In the developing system of education, it is assumed that knowledge can be obtained only in the process of cognitive activity. The main task of the teacher is to organize and manage the active cognitive and creative activities of students.

Problem-search technologies can be used to create musical and pedagogical (artistic and pedagogical) situations in class, in creating their own versions of interpretations of a work by a student on the basis of perception, holistic and performing analysis and synthesis of a work, creating their own artistic and performing model (version) of a work and the choice of artistic, technical, performing means of its implementation.

A significant place among the forms of organization of the educational process is occupied by project activities.

Project activity is becoming an increasingly important component of the musical education of schoolchildren, since it provides not only the fulfillment of the requirements and tasks of the teacher, but above all the initiative and independence of the students themselves, while the teacher acts only as a consultant. The obligatory end result of such an activity is the creation of a certain product. It can be organizing a competition or holding a school holiday, an independently learned piece of music or staging a fragment of an opera performance, creating a musical and poetic manuscript magazine or composing a class anthem. Not all students are ready for this kind of activity, but there are always those whose initiative it is enough only to direct and correct in time.



Project activities in music lessons allow to:

- systematize and deepen the knowledge gained by students;
- enrich the artistic interests of students through independent search for new information;
- expand the experience of musical and creative activity;
- teach schoolchildren to use Internet resources, music dictionaries for musical self-education.

The main thing in the project method is that as a result of joint group activities, students not only gain new knowledge, but create some kind of educational product, material of joint work. The work on the project is carefully planned and discussed with the students.

The relevance of using the project method in musical pedagogy lies in the fact that the ideological center of the project being created is music, which is associated with sensory cognition, with a person's interest in the perception and creation of a musical image. The use of the project method as a means of developing interest in music is relevant because, by acquiring universal algorithms of activity with its help, schoolchildren learn to view their achievements through the prism of the value aspect, the aesthetic ideal reflected in music.

The project is carried out according to a certain scheme:

**1. Preparation for the project:** study the individual abilities of each student, choose a project topic, formulate and discuss the idea of the topic with the students

**2. Organization of project participants:** to form working groups of students, where everyone will have their own responsibility.

**3. Implementation of the project:** search for new and discussion of additional information, the choice of methods of project implementation (these can be drawings, musical performances, newspapers, etc.)

## **4. Summing up the results of the project work.**

Requirements for using the project method:

- \* the presence of a significant research creative problem that requires a research search for its solution;
- \* practical, theoretical, cognitive significance of the expected results;
- \* independent (individual, pair, group) activity of students;
- \* structuring the content of the project (indicating the phased results);
- \* the use of research methods: defining a problem, proposing a hypothesis for its solution, discussing research methods, formalizing the final results, analyzing the data obtained, summing up the results.

In the progress of using ICT in a music lesson, children learn, comprehend, master the laws of the musical language, learn to be aware of and reproduce music. All this broadens the horizons of students, expands the horizons of performing activities, makes it possible to significantly increase the level of performing skills, and develop the musical abilities of children.



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**THE IMPORTANCE OF MILITARY WILL IN THE PROCESS OF TRAINING OF  
RESERVE OFFICERS**

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**Annotation:**

In this article given information about the reflective action, military will, stages of voluntary action, their brief classification, types of voluntary behavior, ways of forming the will in the military, and the division of actions and activities into groups according to the degree of participation of the will in them.

**Keywords:** reflective action, military will, voluntary action, military personnel, voluntary and involuntary actions.

Today's military reforms, stability in our country all educational activities aimed at deepening peace and security are aimed at forming a mature military personality.

The soldier greeted the officer militarily, placing his right hand over his right ear when he came across the officer, although he should not have done so. because he didn't have a hat. This accidental action of the soldier is called reflective action. All human influences are of a reflex nature, but the actions of the soldier described above will be carried out without the control of the mind, or without its sufficient participation, without a definite purpose. This is why it is called involuntary action or intentional action. But as long as everyone does a lot of simple and complex actions, they are done completely consciously and have a specific goal.

Military will is expressed in the conscious actions and behavior of every serviceman, in particular, it is the mental strength that is manifested in overcoming all the physical and mental difficulties encountered on the way to achieving the intended goal and the responsible task entrusted to it.

Will, like other spiritual phenomena, is a special form of expression of reality, especially in society, in the lives of individuals. Therefore, the will, even if it is the voluntary activity of people, is determined by objective reasons, the order and conditions of life of the person.

**Voluntary action consists of the following stages:**

- preparation;
- performance;
- completion.

The preparation phase involves understanding the intention, the goal, and choosing the way to do it. For example, if a young man decides to become an officer, he first sets his own goal, and he wants to enter a military academy to achieve that goal. She thinks about how to prepare for admission, whether she is preparing independently or taking a preparatory course. If the love of the motherland is burning



in the heart of this young man, if he wants to be a defender of the homeland tomorrow, no one can turn him away from this path, and he will overcome all difficulties with courage. will surely achieve its immense goal.

Finally, the goal was clear. Once a decision is made, the preparatory phase of the action is over, but if the action is not followed by the next steps, the execution of the decision and the subsequent drawing of certain conclusions, it cannot be a voluntary action. The first stage, in this example, for the willpower to be fully realized, the young man must pass the prescribed entrance exams and enter the military academy, and the second stage, he must analyze his physical and mental activity and draw certain conclusions.

**The three stages of voluntary action can be further broken down into five stages. These are:**

- set a goal;
- identification of ways to achieve the goal (several);
- choose one of these ways;
- realization of the purpose;
- draw conclusions and analyze final or final conclusions.

**Voluntary behavior is divided into the following types:**

- simple and complex;
- short-term and long-term;
- on its own initiative or on the initiative of others.

**The will can be simplified as follows:**

Willpower is the ability of a person to consciously control his behavior, as well as to mobilize his energy, inner feelings and difficulties to overcome them with perseverance.

Therefore, the ability to control one's actions is also called the will to achieve a certain goal: the will. It can take the form of a person achieving something, or it can take the form of a person giving up something. The will enables a person to move from knowing and feeling to practical action.

With the help of the will, a person can organize, develop and control his behavior.

Willpower is especially important in the activities of military personnel. Strong will plays an important role in labor and warfare. That is why commanders pay great attention to cultivating a strong will in their personnel.

The commanders said to the personnel, "The harder you train, the easier it will be in battle".

Indeed, if our servicemen have a high level of patriotism, love for the motherland and strong will, there is no doubt that no evil force can defeat them.

**Ways to build the will of the military:**

- formation of commitment to the idea of national independence;
- training in combat and difficult conditions;
- Strict military discipline, constant demands of commanders;



- training to overcome difficulties;
- use the educational potential of the team;
- self-education.

Strengthening the will, cultivating emotional and volitional stability is the most important component of the psychological training of servicemen.

A person's activity takes the form of various actions. By doing so, he changes the world around him. Actions and activities are divided into two groups depending on the degree of participation of the will: voluntary and involuntary.

Optional - targeting, clearing weapons, etc.

You don't want to look in the direction of the sudden sound of bullets.

Man performs involuntary actions without any preconceived notions and without goals set by anyone (or himself). In doing so, he does not feel the difficulties. They are an emergency and have no clear plan. In this case, the cause of the action is completely external, and the action occurs automatically. They show the body's targeting, defense, and other reactions.

In voluntary actions, a person overcomes various obstacles to achieve a certain goal. Voluntary actions are expressed in physical and psychological stress.

It should be noted that the need is also to cultivate a strong and morally nurtured will, it can also lead to cultivating an "evil" will. Whoever understands his social responsibilities well and develops healthy needs, he will form a morally correct will.

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