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ARCHITECTURAL NOTES IN ENGELBERT KAEMPFER'S MEMOIRS (AZERBAIJAN)

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ENGELBERT KAEMPFER

Abstract

The enormous creative contribution of the German explorer E. Kaempfer, who left numerous travel notes and works on a number of countries he visited, is of great interest. The part of the material concerning his stay in Persia (Iran, South Azerbaijan) (1684-1685) is especially valuable for us. During this rather short period, he collected extensive information about the social system, history, beliefs and customs, and the military organization of the Safavid state. The engravings and narratives by Engelbert Kaempfer form part of a gold fund that provides an opportunity to fill the lacuna on the monuments of architecture and urbanism of medieval Azerbaijan and Iran. Numerous sketches by E. Kaempfer and comments on them are important and necessary for the study of medieval architectural art in Azerbaijan and Iran, including "Meydan-e Shah in Isfahan and the Dawlatkhana," "Khiyaban-i Chaharbagh in Isfahan," "Plan of royal gardens in Gazvin," "Plan of Gazvin" etc. E. Kaempfer published «Amoenitates exoticae…», but most of his unprinted manuscripts, rich in important observations, are preserved in the British Museum.

Keywords: architecture, cities, embassy, memoirs, engraving

The necessity of studying the "travel literature" and in particular the literature of Western Europe, including ambassadors, scientists, travellers, etc. is great, including memoirs, notes, reports, and others, which allows architectural historians in Azerbaijan to enrich information about lost or modified monuments of architecture. It should be noted that memoirs are varied in content, direction, facts and presentation, and that is their exceptional value; this provides an opportunity to see the image that was formed by eyewitnesses hundreds of years ago. Among the authors of the sources are F. Zarre, E. Kaempfer, A. Olearius, A. Jacobsthal, W. Kleis, B. Dorn, G. Barbaro, A. Contarini, A. Philippe, and others. In many of the sources, there is valuable graphic material, which in most cases retains the original appearance of the monuments, thus enhancing their value and uniqueness.

Speaking of famous travellers of the 17th century, it is impossible not to mention the eminent naturalist Dr. Engelbert Kaempfer. Rejecting an illustrious career, he became secretary to a Swedish ambassador on a trip to Russia in 1683. From Russia Engelbert Kaempfer travelled to Iran (then Persia), later joining the Dutch East India Company, with subsequent travels to India, Japan and other countries.

March 20, 1683, King Charles XI of Sweden equips an Embassy to travel to Iran via Russia in order to establish political and business relations. E. Kaempfer (1651-1716, Lemgo), physician, naturalist, scientist, traveller and individual of outstanding ability, accompanied the Swedish Ambassador Ludvig Fabritius to Russia and on to Iran.

After Moscow, Kazan and Astrakhan, the Embassy arrived via the Volga River along the Caspian Sea at a key destination - the port city of Niyazabad (Nizovaya), located on the western coast of the Caspian Sea and due to the Volga-Caspian route, "Azerbaijan economy and trade experienced a tangible boost throughout the century" [2, p. 25]. The city of Niyazabad was the first port visited by Russian and Western European merchants, it was a place of lively trade, there was "the noblest trade, it ... consisted of raw silk..." [3, p. 37]. The Embassy then travelled by caravan through the ancient Azerbaijani towns of Aresh, Derbent, Shabran, Hajigabul and Shamakhy, and "the favourable geographical location of these towns brought them into line with the transit trade between East and West" [2,

p.25]. However, this was only the beginning of his productive stay in the country, with visits to architectural monuments, with their detailed descriptions and sketches, extremely valuable for architectural historians.

At the very beginning of January 1683, E. Kaempfer travelled to Absheron, where he visited villages near Baku - Balakhana, Ramana, Binagadi, Surakhany (temple of fire-worshippers), the village of Masazir (salt mines), and others. Memoirs about Baku contain many obscure and unknown facts, while others confirm and clarify some of the distortions that occurred later. E. Kaempfer made a picturesque description of medieval Baku (Icheri Sheher) during his stay in 1683, talked about the uniqueness of the city and strategically right choice of its location, its fortification, harbor, sketches of the city, and as noted in the sources Baku panorama was first made by him [1, pp.14,15]. E. Kaempfer described Baku in great detail, although he was particularly fascinated by the complex of the Shirvanshahs' Palace.

E. Kaempfer's journey to South Azerbaijan and Iran included visits to historical cities, sketches of monuments and their description in Ardabil (the religious center of the Middle Ages, the domain of the Safavid dynasty), Qazvin and Isfahan (the capital cities of the Safavid state), and Kashan and others (regional centres), on the Caspian coast in Ashraf (the "second" capital of Shah Abbas I - with a palace complex, hunting grounds), etc. It is precisely the sketches and narratives of eyewitnesses that make them most authentic, primordial, enabling comparative analysis with previously (or later) sketched monuments, clarifying their attribution, etc. Sources note authors who visited and recorded some of them, in particular N. Matrakçı (1532-1555) and Pietro Della Valle (1617-1626).

It was in the splendid 17th century that unique public centers with promenades, gardens and squares, including the titular monumental buildings as well as new types of buildings and constructions, both in the capital centers and in the smaller towns, emerged in the Safavid state. A similar grandiose community centre was successfully implemented in Qazvin, the second capital of the Safavids (1544), and where E. Kaempfer sketched a plan for the central part of the city.

As early as 1590, the centre of the Safavid Empire moved to Isfahan, which became the brilliant capital of Shah Abbas I. Naqsh-e Jahan Square and Khiyaban-i Chahar Bagh formed the main centers of the capital, while Chahar Bagh (1596-1602) was a 4 km long and about 47 m wide thoroughfare [5, p.181]. It stretched southwards into the city, with the formation of Abbasabad and other suburbs, known as "an extended garden with 4 rows of plane trees, with ponds and flower beds, monumental pavilions in gardens of all kinds of shapes..." [5, p.179-181]. The social character of Chahar Bagh was emphasized by the presence of coffee houses here, as well as a sanctuary for Sufi communities in its northern part, stretched between the Dowlat Gate and the Allahverdi Khan Bridge. E. Kaempfer notes that the coffee house owners "spread carpets and mats on the adjoining platforms where people could sit and watch the performances and listen to the poets and storytellers, and only when it was hot, they moved to cooler premises [5, pp.188, 189]. With the emergence of the problem of the initial buildings, according to E. Kaempfer, " throughout Persia both in the bazaars and on the roads it was possible to see day laborers" busy roasting and grinding coffee beans [5, p.201]: On Naqsh-e Jahan Square, in order to recreate the original look of this part of Chahar Bagh, sketches and narratives should naturally be resorted to [5, pp.180,183,184]. The present condition of Isfahan Chahar Bagh retains many traces of the original elements of this grand main street, including pavilions, coffee houses, etc. In fact, some of its fragments - the madrasa and mosque, as well as the canals, ponds, staircases, fountains and majestic plane trees - are still (mostly) intact.

Kaempfer's schematic plan, sketched in 1680, shows a wide opening in the corner of the madrasa, indicating that the coffee house had been included in the building before it was completed [5, p.181]. The sketches by E. Kaempfer clarify and confirm the earlier presence of the coffee house(s) at this site (in Isfahan - R.A.). The inclusion of the coffee house in the composition of the madrasa is confirmed by the records in Wakf-name, which mention that "the establishment ...was built on the land of the complex ...purchased for the madrasah" [5, p.182]. E. Kaempfer points out that coffee was used in all strata of society in the Safavid state, starting from the shah's court, where it (coffee, R.A.) acquired a very significant role, in particular in the shah's palace there was "qahvehchi- bashi" for making coffee. He notes that there was a coffee kitchen here (in the palace), with storage facilities for storing and roasting it under expert supervision. According to E. Kaempfer, "throughout Persia and in bazaars and on roads it was possible to see day laborers" busy roasting and grinding coffee beans [5, p. 201].

Coffee houses built in many cities of Azerbaijan and Iran (Ganja, Shamakhy, Tabriz, Isfahan, Shiraz) are repeatedly mentioned in sources [6, by Chardin and Çelebi, p. 22] and written about by Western European and Eastern authors. E. Kaempfer noted that "mi´mārbashī" (Architectus Supremus (chief architect)), represented "tarh" (drawings - R.A.) structures, which were significant not so much for their precise design as for their adherence to the archetype... Craftsmen and artists completed all the elements ...with the many decorative details they learned in their workshops through years of experience" [4, p.18].

Among the many sketches by E. Kaempfer, as well as commentaries on them, should be mentioned "Meydan-i Shah in Isfahan and the royal gardens of Dawlatkhana in the Planographia", "Khiyaban-i Chahar Bagh in Isfahan", "Plan of royal gardens in Gazvin", "Plan of Gazvin." These and other engravings and narratives of the outstanding researcher E. Kaempfer revealed little known or unknown pages in the study of the medieval architectural art of Azerbaijan.

After E. Kaempfer's death, all unpublished manuscripts were acquired by Sir Hans Sloane and brought to England. All the manuscripts by E. Kaempfer are preserved in the British Museum, most of them unpublished.

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ECONOMIC SCIENCES

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ANALYSIS OF UZBEKISTAN'S WORLD AGRICULTURAL EXPORTS (2017-2021)

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АНАЛИЗ МИРОВОГО СЕЛЬСКОХОЗЯЙСТВЕННОГО ЭКСПОРТА УЗБЕКИСТАНА (2017–2021)

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Abstract
This study was conducted in order to find reserves for the growth of foreign trade turnover of agricultural products of the Republic of Uzbekistan. The key export positions in relation to the products of the agricultural sector of the economy are analyzed. It is concluded that the country has significant reserves for the growth of export opportunities. Uzbekistan is constantly searching for new partners. The impact of covid restrictions has negatively affected the dynamics of exports to countries that do not have common borders with Uzbekistan. The Republic competes for the markets with the highest price for agricultural products supplied with more technologically advanced countries.

Аннотация
Данное исследование было проведено с целью поиска резервов роста внешнеторгового оборота сельскохозяйственной продукцией Республики Узбекистан. Проанализированы ключевые экспортные позиции в отношении продукции аграрного сектора экономики. Сделан вывод о том, что в стране имеются значительные резервы роста экспортных возможностей. Узбекистан ведёт постоянный поиск новых партнёров. Влияние ковидных ограничений негативно сказалось на динамике экспорта в страны, не имеющие общих границ с Узбекистаном. Республика конкурирует за рынки с наивысшей ценой за поставляемую сельскохозяйственную продукцию с более развитыми в технологическом плане странами.

Keywords: Uzbekistan, foreign trade, export, agriculture.
Ключевые слова: Узбекистан, внешняя торговля, экспорт, сельское хозяйство.

В структуре экспорта продукции АПК Узбекистана основной объем в 2020 г. приходился на муку пшеничную (14,3% от стоимостного объема экспорта страны), зернобобовые (12,8%), абрикосы, персики, вишню и черешню, сливы (12,4%), виноград (12,4%.) [1].

Экспорт Республики Узбекистан за 2021 г. составил 0,1% мирового экспорта, что составило 14 034 977 тыс. долл. США. Страна заняла 81 место в рейтинге стран, осуществляющих экспорт продукции. Среднее расстояние стран-импортеров составило 2 455 км, а концентрация экспорта – 0,17 [2].

Общая тенденция отрицательного торгового баланса относится к таким товарным позициям как «Остатки и отходы пищевой промышленности; готовые корма для животных», «Продукты переработки овощей, фруктов, орехов или прочих частей растений», «Масличные семена и плоды; прочие семена, плоды и зерно; лекарственные растения и растения для **...**». Первую позицию в экспорте сельскохозяйственной продукции в 2021 г. заняла группа товаров «Хлопок» – 13,7 от всей стоимости экспорта товаров. Экспорт хлопчатобумажной пряжи, содержащей 85% и более хлопковых волокон, принёс стране в 2021 г. 1 603 299 тыс. долл. США. Торговля же хлопчатобумажными тканями, содержащими менее 85% хлопковых волокон, обеспечила отрицательный торговый баланс на 3 145 тыс. долл. США.

Основными странами-импортёрами хлопчатобумажной ткани (кроме швейных ниток), содержащей 85% и более хлопковых волокон в 2021 г. стали Китай – 37,1%, Турция – 28,1%, Российская Федерация –18,8%, Пакистан – 3,7%, Польша – 2,9%,

Иран – 2,4%, Египет – 1,6%. Хотя объем экспорта в Турцию и составил меньше чем в Китай 142 251 т против 231 476 т., но из-за большей стоимости единицы продукции (3 171 долл. США в Турции против 2 571 долл. США в Китае), стоимостный объём экспорта составил 450 891 тыс. долл. США. Наиболее выгоднее реализация в 2021 г. была в Италии – 4 715 долл. США за 1 т. и в Республике Корея – 4 026 долл. США за 1т. Объёмы экспортных поставок в Италию составили всего лишь 453 т, а в Республику Корея – 650 т. для сравнения, объёмы поставок в Китай составили 231 476 т. (% от всего объёма экспорта).

Экспорт по группе товаров «Съедобные фрукты и орехи; кожура цитрусовых плодов или корки дынь» принёс стране 3,64% от всего объёма экспорта. Сальдо торгового баланса положительное. Не смотря на положительный прирост стоимости экспорта за 2017–2021 гг., в период 2020–2021 гг. годовой прирост стоимости снизился на 11%. Среднее расстояние до импортирующих стран составило по итогам 2021 г. 1 837 км.

Концентрация экспорта по этой группе товаров довольно высока. Среди стран импортёров по итогам 2021 г. позиции распределились следующим образом: Российская Федерация – 41.1%, Казахстан – 22%, Кыргызстан – 16,2%, Китай – 3,4%, Турция – 2,9%, Украина – 1,9%, Беларусь – 1,7% и т.д. Наибольший рост стоимости экспорта за 2017–2021 гг. произошёл с Францией (398%), Японией (354%), Румынией (179%), Израилем (144%), Пакистаном (116%).За период 20–2021 гг. рост поставок в Румынию составил 2 823%, в Республику Молдова – 549%, в Польшу – 331%, в Сербию – 294%, в Болгарию – 265%. В то время как за аналогичный период времени рост стоимости экспорта в Российскую Федерацию составил всего лишь 13%, а в Китай – 3%. Экспорт же в Казахстан снизился на 69%.

Основным экспортными товарными позициями по группе «Съедобные фрукты и орехи; кожура цитрусовых плодов или корки дынь» в 2021 г. были «Виноград, свежий или сушеный» – 40,7% от общей стоимости, «Абрикосы, вишня и черешня, персики (включая нектарины), сливы и терн, свежие» – 26,7%. И если в отношении первой позиции годовой прирост стоимости в период с 2017 г. по 2021 г. составил 6%, то в отношении второй – рост не наблюдался, зато потери с 2020 г. по 2021 г. составили 22%. Годовой прирост стоимости в отношении «Виноград, свежий или сушеный» с 2020 г. по 2021 г. составил 11%.

Экспорт по группе товаров «Овощи и некоторые съедобные корнеплоды и клубнеплоды» принёс стране в 2021 г. 2,88% от всего объёма экспорта. Сальдо торгового баланса положительное. Не смотря на положительный прирост стоимости экспорта за 2017–2021 гг. на 16%, в период 2020–2021 гг. годовой прирост стоимости повысился незначительно на 1%. Среднее расстояние до импортирующих стран составило по итогам 2021 г. 2 133 км., а концентрация – 0,15 [2].

Объем экспорта плодоовощной продукции в натуральном выражении составил за 2020 г. более 257,2 тыс. т и, в стоимостном выражении, превысил 136,7 млн. долл. США (темпы снижения, по сравнению с аналогичным периодом 2019 г., соответственно составили 18,3 % и 33,1 %) [3, с. 290].

Среди стран импортёров по итогам 2021 г. позиции распределились следующим образом: Китай – 22,7%, Российская Федерация – 18,7%, Казахстан – 18,4%, Пакистан – 15,2%, Кыргызстан – 7,2%, Афганистан – 6,1% и т.д. Наибольший рост стоимости экспорта за 2017–2021 гг. произошёл с Китаем (4 122%), Израилем (621%), Эстонией (422%), Соединённым королевством Великобритании и Северной Ирландии (222%), Японией (180%). За период 2020–2021 гг. наибольший рост стоимости экспорта произошел с Австрией – 1 656% (233 тыс. долл. США), Китайским Тайбэем – 1 034% (498 тыс. долл. США), Ираном – 627% (9 051 тыс. долл. США). В то время как за аналогичный период времени снижение стоимости экспорта произошло во Вьетнам (на 87%), Ирак (на 83%), Хорватию (на 66%) и т.д. Проанализировав показатели по всем странам, отметим, что экспорт по группе товаров «Овощи и некоторые съедобные корнеплоды и клубнеплоды» имеет устойчивый характер и пандемия, внёсшая значительные изменения в цепочки поставок, не оказала на него существенного влияния.

Основным экспортными товарными позициями по группе «Овощи и некоторые съедобные корнеплоды и клубнеплоды» в 2021 г. были «Овощи бобовые сушеные, лущеные, очищенные от семенной кожуры или неочищенные, колотые или не колотые» – 51,6% общей стоимости (1,48% от всей стоимости экспорта страны), «Томаты свежие или охлажденные» – 14,8%. И если в отношении первой позиции годовой прирост стоимости в период с 2017 г. по 2021 г. составил 20%, то в отношении второй – 12%. Годовой прирост стоимости в отношении бобовых овощей с 2020 г. по 2021 г. составил 7%.

Торговля группой товаров «Продукция мукомольно-крупяной промышленности; солод; крахмалы; инулин; пшеничная клейковина» по итогам 2021 г. привела к положительному сальдо торгового баланса и принесла Узбекистану 2% от всего объёма экспорта. Положительный прирост стоимости экспорта за 2017–2021 гг. составил 9%, в период 2020–2021 гг. годовой прирост стоимости также повысился на 7%. Среднее расстояние до импортирующих стран составило по итогам 2021 г. 2 455 км., а концентрация импортирующих стран – 0,17.

Практически вес объём выручки от экспорта по данной группе товаров получен от реализации «Муки пшеничной или пшенично-ржаной» – 281 012 тыс. долл. США (99,2% по группе), а прирост стоимости за 2017–2021 гг. составил 61%.

Среди стран импортёров по итогам 2021 г. позиции распределились следующим образом: Афганистан – 99,2%, Российская Федерация – 0,6%, Таджикистан – 0,1%. Незначительные объёмы поставок направлены были в Республику Корею, Турцию, Туркменистан и Литву. За период 2020–

2021 гг. наибольший рост стоимости экспорта произошел с Российской Федерацией – 293% (233 тыс. долл. США), Турцией – 51%, Афганистаном – 29%. В то время как за аналогичный период времени снижение стоимости экспорта произошло с Таджикистаном (на 65%), Туркменистаном на 35%). Таким образом, экспорт по группе товаров «Продукция мукомольно-крупяной промышленности; солод; крахмалы; инулин; пшеничная клейковина» в 2021 г. сконцентрирован был на Афганистане.

Экспорт группы товаров «Шелк» по итогам 2021 г. составил 78 098 тыс. долл. США (0,6% от всего объёма экспорта). Сальдо торгового баланса положительное. Положительный прирост стоимости экспорта за 2020–2021 гг. составил 4%, в период же 2017–2021 гг. годовой прирост стоимости был 25%. Среднее расстояние до импортирующих стран составило по итогам 2021 г. 2 832 км. Доля Узбекистана в мировом экспорте «Шелка» является самой высокой по экспортным товарным позициям – 5,2%, далее идёт «Хлопок» – 3,1%, «Продукция мукомольно-крупяной промышленности; солод; крахмалы; инулин; пшеничная клейковина» – 1,3%, «Цинк и изделия из него» – 1%.

Концентрация экспорта по этой группе товаров 0,27. Среди стран импортёров по итогам 2021 г. позиции распределились следующим образом: Китай – 45,6%, Таджикистан – 15,9%, Кыргызстан – 12,4%, Вьетнам – 11,1%, Иран – 8,6%, Объединенные арабские Эмираты – 2,4%, Индия – 2,2%, Республика Корея – 1,1% и пр. Наибольший рост стоимости экспорта за 2017–2021 гг. произошёл с Кыргызстаном (494%), Таджикистаном (354%), Китаем (28%) и пр. За период 2020–2021 гг. рост поставок в Туркменистан составил 354%, в Пакистан – 257%, в Кыргызстан – 243%, в Вьетнам – 52%. В то время как за аналогичный период времени рост стоимости экспорта в Китай составил всего лишь 4%, в Вьетнам – 54%, в Иран – 16%, а в Кыргызстан – 243%. Экспорт же в Таджикистан снизился на 34%.

Основным экспортными товарными позициями по группе «Шелк» в 2021 г. были «Отходы шелковые (включая коконы, непригодные для разматывания, отходы кокон ой нити и расщипанное . . .» – 46,1% от общей стоимости, «Ткани из шелковых нитей или из шелковых отходов» – 30,5%. И если в отношении первой позиции годовой прирост стоимости в период с 2017 г. по 2021 г. составил 44%, то в отношении второй – 191%. Нарастить объемы поставок с 2020 г. по 2021 г. удалось лишь по второй позиции – 18%. Экспорт шелком-сырцом принёс Узбекистану в 2021 г. 23 835 тыс. долл. США (21,5% от общей стоимости), но всё же стоимостные объемы за 2017–2021 гг. снизились на 11%.

Экспорт арахиса, из указанных выше товаров, вообще за 2021 г. не имел обратного импорта. Годовой прирост стоимости с 2017 г. по 2021 г. составил 14%, а прирост объёмов – 2%. Доля Узбекистана в мировом экспорте арахиса за 2021 г. – 0,6%. Основными рынками сбыта арахиса в 2021 г. стали Казахстан (16,6%), Кыргызстан и Российская Федерация (14,4%), Азербайджан (13,8%), Китай (10,9%) [2].

Таким образом, анализ мирового сельскохозяйственного экспорта Республики Узбекистан за 2017–2021 гг. показывает, что в стране имеются значительные резервы роста экспортных возможностей. Страна ведёт постоянный поиск новых партнёров. Влияние ковидных ограничений негативно сказалось на динамике экспорта в страны, не имеющие общих границ с Узбекистаном. Республика конкурирует за рынки с наивысшей ценой продукции с более развитыми в технологическом плане странами.

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JURISPRUDENCE

DISCUSSING "ICEBERGS OF MORALITY"

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"Greatness is where there is a great crime"
Nietzsche

Abstract

"Nobody knows how many millennia morality has existed. It is known that it appeared long before the appearance of law, philosophy, sciences, aesthetics and other values of public life, that could somehow regulate life".[1.1]

Against the background of contemporary historical events, we realize, that we live in an age where morality has less importance. Nuclear catastrophes have caused concern for humanity. Confused by " lack of existence", a human being is focused on material well-being. According to Oswald Spengler, morality is "a searchable one" in such conditions. Even today, in the infinite space of morality, we try to find out what is the ultimate purpose of our existence. Accordingly, we meet "the existing icebergs" and at the same time, in order to explain human moral behavior, we try to understand the "essence of evil and good".

It is known, that we evaluate our own actions either positively or negatively. From the point of view of morality, these actions have their own logical scheme and the mentioned scheme carries its mental content.

The question is as follows:

To what extent it is possible to determine the complex layers of personal morality by using the logic scheme of morality, which is based on the data that an individual "possesses" (consciously or unconsciously) about himself.

In the process of discussing this wide-ranging issue, we will have to "overcome some obstacles". Nikolai Berdyaev makes the following remark about the main dilemma: "The secret of an individual, his individuality can not be fully understood by anyone. The human personality is more mysterious than the world." Human being is the whole world, individ is a microcosm, which combines everything in itself. However, everything is distinctly actualized and shaped in his personality, which is individually special." [1. 90]

The approximate model of the algorithm of morality is focused on the proper recognition and understanding of what is "individually special" in an individual, that is, what is "distinctly actualized and shaped". (at least to some extent!). We try to establish the structure of the above mentioned model and we believe, that it is quite possible to implement it in both organizational and judicial practices.

In our opinion, the probable model of the algorithm of morality, its form and content will help us to open and present the "inner currents" of the world of personal morality; In any case, both the judicious management and use of its mechanism will help us to identify the reasons and the primary sources determining "the individ's good and evil behaviors", which crack "innocent" morals of human being and drive them to commit crimes. In other words, the purpose of using the moral algorithm is to study both the contradictions and hidden reasons in a human being, which provoke the legal consciousness to commit a crime in order to restore justice. We look for existential manifestations of both morality and immorality exactly within these boundaries.

Keywords: Kindness, Evil, Justice, Injustice, Crime, Morality, Algorithm of Morality.

The study of the essence, nature, foundations and principles of morality is essential for philosophical-legal thinking. The question of morality in philosophy and jurisprudence is based on an in-depth analysis of moral-legal categories of evil and good, fault, crime, punishment and other similar content.

One of the most important answers to the question of what is evil, is the following: "Evil is not a concept, it is a name of a threat that can be faced by free consciousness".[3. 1] We consider the presence of evil in the criminal act - evil - as a permanent possibility of crime, inspired by free consciousness, which represents a real threat to free consciousness.

In our research, we discuss both the existence and use of the approximate model of the algorithm of morality. In order to understand the possibility and expediency of its practical use, we should discuss the basic approaches of moral philosophy in relation to such fundamental issues as understanding the essence of human freedom, "good and evil, blame and crime, punishment

and other moral-legal categories". In our opinion, the theoretical analysis of the presented issues will help us to establish the structure of the algorithm of morality as well as "determine the limits of its legal application".

As we have already mentioned, the existence of crime as a legal fact is considered and evaluated in relation to the categories of justice and injustice. The use of the moral algorithm also provides for the promotion of litigation practice. We think that in order to determine human behavior (moral and immoral), actions, causes and consequences (just and unjust) with more objectivity in the process of studying and evaluating legal facts, the use of the moral algorithm in legal proceedings will become more effective mechanism and means of making fair decisions.

The Theoretical Part.

The classical period of the transcendental foundations of moral categories is the ancient Socratic-Platonic philosophy, where "true knowledge" is given only by the knowledge of eternal ideas, the basis of which is the basis of knowledge and the purpose of knowledge is to determine the meaning of the concept, that is, "knowledge of knowledge".

Accordingly, the way of forming human's own "self" is based on "the transition period from ignorance to knowledge"; A man moves into eternal world of ideas through self-awareness, where he rises and finds "his own being". A man equipped with knowledge is in communion with the supreme truth in the ascension of the soul; According to the opinion, that "the limit of the world accessible to the mind is the idea of goodness,...in the visible world it gives birth to light".[4.124] A man charged with both intelligence and the idea of goodness is successful in both private and public lives. Knowledge is the guarantee of good behavior as for ignorance, it is the main cause of moral failure. Evil is the result of ignorance of good, that is, the fact of spiritual weakness, revealing both strong human inclinations towards "wrongdoing and high risk of falling". Aristotle's study of the issue of morality is connected to the empirical study of human nature. In the polemic with the great teacher, he discusses his own opinion in a practical direction.

According to sage of stagiaire, the causes of personal crime are in their real lives, that is, in the mutual relations of citizens; In his political-legal philosophy, there are three types of relations related to the "good of others": distributive, commutative and retributive ones. We should look for the basis of crime in this reality - "in the unjust acts, caused by the distribution of the most important goods of life." According to the philosopher, the cause of conflict between citizens is related to the unequal distribution of burdens and benefits, and "the savior of the state is the principle of reciprocity", which is based on involuntary (forced) exchange. "Such exchanges are carried out secretly - for example, theft, fornication, intoxication, matchmaking, slave recruitment, secret murder, perjury - or coercion - for example, humiliation, capture, killing, robbery, mutilation, cursing, humiliation".[5.71]

Only one individual acts in case of retributive justice. ''He repays another person with good and evil behavior for good and evil actions, committed by him. The above mentioned actions can be both real and imaginary ones. A form of partial justice can be gratitude, revenge, or punishment.

According to Kashnikov's fair opinion, the justice based on Aristotle is the part of the law that is " represented in the activity of justice, starting from Talion, whose demand was "an eye for a share of a stable, a tooth for a share of a tooth", and ending with modern criminal and civil proceedings".[5.72]

While evaluating crime, evil, goodness and other ethical problems, we encounter different approaches in the philosophical and theological thinking of the Middle Ages. In moral themes, ideological changes cause changes in legal approaches. The reason for this is the following: the legal indicator of morality is the free will of a person.

What is evil - evil is "the lack of good", that comes from the lack of being. "The lack of presence is also a sin, the result of arbitrary departure from God. By blind obedience to free will, "...sin leads to a loss of orientation," which provides the basis for moral crime. There is no punishment for this sin, the sin itself is the punishment: the dramatic impoverishment of the human being".[3.41]

So what's the solution to the problem? Is there a transcendental basis of human's free will, that will protect us from sin in the conflict between good and evil? - **This is God,** says blessed Augustine.

We must consider, that in medieval theology, human's free will has not found a center of personal dignity. The individual does not have "a moral courage" to defend himself against sin and evil behavior. The Blessed One's request to God is as follows: "The house of my soul is narrow... so expand it. If it breaks down: repair it". [6.5]

An African theologian has experienced the misfortune of history on the example of his own city. He is convinced that the danger of destruction, except the "city of God", constantly follows even "terrestrial city". Moreover, there is a great gap between them, as there are "empty boxes" between faith and knowledge. Finally, all the above reasoning points show us that we have the least chance to get justice in human history. This is the only place where a frustrated and battle-scarred man's soul can find inner peace. This is the only place where space is "open" for both moral and legal judgments.

In moral philosophy, as in almost every sphere of public life, the XVI-XVII centuries are distinguished by special changes. "In philosophical-legal thinking, the essence of changes was revealed... by concentrating on the individual, which meant that from that period it became necessary for a man: to understand unconventional ontological status of one's existence, to establish new conceptual boundaries with the world and identify ideological foundations". [5.99]

During the Renaissance era, in the contents of consciousness, the changes were revealed by an extremely cruel approach: "A man is a wolf to a man." Another significant statement by Thomas Hobbes is as follows: "Man's life is a true solitude, a poverty, a bitterness, an animality and it is short."

The presented opinion allows us to realize the fact that in relation to time, ("opposed to time"), the consciousness finds its own strength to cope with the existing conditions. From this point of view, it wants and at the same time it “is obliged” to survive even through power and violence, because on this path, everyone has their own interests and the existing conflict must be overcome in any case, as historically, " there is a war of all against all" between people.

In such a situation, we can have the most relevant question: what is the mechanism that protects a man, his identity? - The English philosopher's answer to the above mentioned question is as follows: “This mechanism is: **the State, that is, a Mortal God”.** According to Thomas Hobbes, the state is a Mortal God governed by the social contract. The public contract has another important burden - it sets the limits of human freedom. According to Hobbes: ‘’ it is necessary to regulate public relations on the basis of contract. The reason for this is not the opinion that human nature is "evil". The only reason is that “a man is "free" by nature”. Considering the above mentioned opinions and legal significance of the Law, the internal relations are subject to the moral law and. "..when changing the contract, no person should ask to get any kind of right that can cause any kind of damage to another person. [8.107]

According to the teachings of John Locke, the possibility of breaking the social contract was revealed, not with the idea of gaining individual freedom of the person, but with the demand to get both the freedom of the society and the rights to the common goods. The legal role of the state is strong in terms of protection of rights, and in case of their violation, the state has the obligation to charge and punish the offender. The state has the following rights: to protect "Human life, liberty and property of a person".

According to the interest of our research, we would like to discuss another important nuance presented by the English philosopher. He says: " In order to protect all mankind, all men can restrain, and if necessary destroy, those who threaten the peace and security of the human race. That is, a person can cause such harm to a violator of the law, which makes the criminal repent of his crime. This example will make other people refrain from committing the same crime. According to the above mentioned opinions, every person has a right to punish the criminal and become the executor of the natural law". [9.271. Encroachment on the life of the offender is permissible if the reason for the aforementioned situation was caused by theft, as a result of which the person had lost his property. Locke shares Jean-Jacques Rousseau's opinion regarding the causes of crime. According to the philosophers, the "inner currents" of civil life force “a naturally good person” to commit evil behavior.

Locke has an unequally important attitude towards property. As for Rousseau’s attitude, it depends on the negatives obtained from civilization. According to both thinkers: the state and the law are moral and legal means, which can regulate the human order. Enmity can be eliminated only on the basis of the unity of the individual and the state.

Kant has different opinion about “the essence of freedom, good-evil, guilt, crime and punishment”. He thinks that a person with **evil tendencies** is protected by his conscience, that is, his moral duty. Morality is the sublime mystery of the universe. Crime and related moral-legal attributes are expected outcomes based on free will of a person.

Kant is a great representative of the Enlightenment era. Here are clearly defined the gaps and contradictions of the mind as well as their main role in a real life. “A person who is not wise, can not be a master in his own house”. [3.143]**.** This is an epochal approach to human beings.

But there is another question: What will be the basis for a mind freed from dogmas? Within the framework of morality, a mind freed from dogmas has decided to establish a new hierarchical order. Considering this aspect, Kant's rationalization of the world requires new creative powers of free mind.

This becomes especially important against the background, when the opinions of Kant's predecessors about the "aimless chaos of matter" and its "aimlessly playful nature" are known to everyone. That’s why in Königsbergel's philosophical works, religion is no longer the basis of morality and it seeks its own foundations in human morality.

Such an approach is logical for the age of enlightenment. Another question is the extent to which human moral powers can prevent the existence of evil. In other words to what extent they can make morality capable and effective.

All-seeing Kant" leaves us face to face with the decisions which are morally strong (though hard to follow!) Evil is " an inclination" accompanying human free will, but it is not "coercion"! This view is a cornerstone of Kant's moral philosophy: under conditions of practical mind control of "Maxims" action, a man, as a rational being with free will, always has an opportunity to give the right direction to his behavior and win over evil.

In moral philosophy, the main thesis of the categorical imperative is imbued with the following pathos:"Do as you have always treated mankind in your own form and in the form of all others, treat it as an aim and not as a mere means." [10.157] This is an arena of Kantian freedom. It is quite difficult to pass it. It is autonomous, loaded with categorical requirements, but at the same time it is “creatively filled and morally actualized”. A person obeys the law by his own action - he implements a mandatory rule of conduct chosen by him. The free mind of man relies on the categorical imperative, which is a strict regulator of a man's behavior;

Categorical imperative is an unconditional demand for an individual's action, which "forces" the individual to make decent decisions on the basis of his moral choice. At The same time is a man’s moral guarantor. This is completely different from the rule determined by a man’s own mind. To what extent is it in line with the interests of others?

The German genius knows this dead end well. That's why the philosopher has a special attitude to the law. According to Kant, in the great war of interests between men, the only restraining force against moral

misconduct is the law. In any historical era, including modern times, the existence of "a wide world of crime" calls into question Kant's moral credo -ability to implement high moral requirements. The moral law, the ideal "orientation" of the human world, is always accompanied by difficulties, fulfilling their functions. This situation is related to human's "lack of existence".

We will finish our discussion on the sense of crime with the words of the great Russian existentialist N. Berdyaev :

I will never say that a person who falls out of the universal moral law is an unhappy and condemned one. I want to declare that the guardian of universal moral law, a completely immoral person, is a candidate for hell, and a person condemned by moral laws is a moral person, who showed the sacred obligation of lawlessness". [1.43] It is an interesting but unusual application. The philosopher puzzles us and confirms his worldview once again with the following words: "I really feel an antipathy towards both winners and successful people. For me, it's an adjustment to a world that lives in evil." [1.21]

It is clear that the philosopher discusses the morality of "an innocent offender". He examines the morality of the hero who fights the continuous icebergs of morality on his own and he knows that there is less chance of victory. Yes, these are the icebergs that are sometimes surmountable, but in most cases they threaten to destroy the human world. The Russia-Ukraine war of 2022-2023 is an accurate reflection of this reality.

We are well familiar with the heroes of the Georgian genius, Vazha Pshavela. These heroes also confront the recognized tradition of law and eventually they die morally and physically. The Great Creator appreciates the sacrifices made by "innocent criminals". He says: "sometimes the law goes beyond the law!" The legal mind evaluates goodness, justice, guilt, punishment, evil, transgressions and leaves the person and his morality in a dead end.

Our attempt to construct a morality algorithm is focused on overcoming moral and legal contradictions. We believe, that his involvement in the proceedings will contribute to the establishment of justice in real life.

Conclusion. In the presented work, we tried to highlight the dark and bright sides of human morality. We presented the difficulties and discussed ways to overcome them. We talked about the existence of a probable model of the algorithm of morality, we discussed the real possibility of using a new mechanism in judicial decisions. We believe, that the approximate model of the moral algorithm may become a useful mechanism in the process of legal evaluation of the crime. On the one hand it will help the judge "to measure" the moral indicators of "an innocent offender" and on the other hand, it will help establish both innovative moral and legal regulations "in the name of justice". The purpose of its use is to promote judicial practice. Finally, "recognition and use of the algorithm of morality with legal significance ... also **considers** an attempt to obtain "a right of admission" of morality in law". **[10.258] .**We will discuss the above mentioned issues together with the topics of similar importance in more detail in the next studies.

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MATHEMATICAL SCIENCES

THE CENTRAL LIMIT THEOREM AND THE MEASURES OF CENTRAL TENDENCY

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Abstract

The current study demonstrates that for a large number of independent Gamma (2, 1) distributed random variables $X_1, X_2, \ldots, X_n$ with finite variance, the measures of central tendency, e.g., mean, median, center, and C_2 have a normal distribution. In addition, when the size of a sample of the Gamma (2, 1) distributed random variables tends to infinity (n→∞) each of the above measures tends to a strictly expected value. For example, the mean tends to 2.000, the median tends approximately to 1.678, and both new statistics the center and the C_2 tend to 1.814. It is also illustrated that when n→∞ the ratio between the standard deviations based on the mean and the center statistic tend approximately to 1.47 regarding the Gamma(2,1) distribution. Using the above findings, the main goal of the article is to demonstrate that the central limit theorem is valid for both the center and the C_2 statistics, even in the matter of strongly skewed distributions.

Keywords: center statistic; expectation; gamma distribution; weighted average;

Introduction

One of the most useful theorems in statistics is the central limit theorem. According to it, if $X_1, X_2, \ldots, X_n$ is a random sample of size n taken from a population (either finite or infinite) with mean μ and finite variance σ^2 and if $\bar{X}$ is the sample mean, the limiting form of the distribution of

$$Z = \frac{\bar{X}-\mu}{\sigma/\sqrt{n}} \quad (1)$$

is the standard normal distribution [4, 6] as n→∞.

Using (1), we can express the sample mean $\bar{X}$ by equation (2).

$$\bar{X} = \mu + Z.\sigma/\sqrt{n} \quad (2)$$

Since (2), it follows that $\bar{X}$ approximately has an $N(\mu, \sigma^2/n)$ [3]. It is usually true if n ≥ 30, even for samples taken from strongly skewed populations.

It would be interesting whether the central limit theorem is valid for both new statistics the center and C_2 [2], that is to say, whether the distribution of the differences between these statistics and their common expectation E [$\check{X}$], when multiplied by the factor $\sqrt{n}$ ($\sqrt{n}(\check{X} - E[\check{X}])$), approximates the normal distribution with an expectation E [$\check{X}$] and variance $\check{\sigma}^2$. In other words, whether equation (3) is valid.

$$\check{X} = E[\check{X}] + Z.\check{\sigma}/\sqrt{n} \quad (3)$$

According to [2], the center of the sample will tend to the C_2 statistic as the sample size n → ∞. In addition, the standard error of the center tends to the standard error of the C_2. So, let us denote both statistics by $\check{X}$. The expectation E [$\check{X}$], the standard error of the $\check{X}$ ($\check{\sigma}_{\check{X}}$) and the variance $\check{\sigma}^2$ of a population can be expressed by equations (4)-(6).

$$\check{X} = \sum_{i=1}^{n} w_i.X_i \,/\, \sum_{i=1}^{n} w_i \quad (4)$$

$$\check{\sigma}^2 = \sum_{i=1}^{n} w_i.(X_i - \check{X})^2/(n-1) \quad (5)$$

$$\check{\sigma}_{\check{X}} = \check{\sigma}/\sqrt{n} \quad (6)$$

The weights w_i in equations (4)-(6) are the weights w_i', expressed by equation (25) in [2]. More detailed information on how the above weights concerning the center and C_2 statistics one can find in [2].

Simulations and Results

In order to check whether the mean, the median, the center and the C_2 statistic of a data sample drawn from the Gamma (2, 1) distribution have finite values, we generated two sets with 500 random variables. For each data set we yeilded the realizations of the first n values of the above mentioned statistics in the form of the order $X_1, X_2, \ldots, X_{500}$ and plotted them against n. Thus, we yielded the top charts in Figure 1. Simultaneously, we calculated the standard errors of each statistic of the order $X_1, X_2, \ldots, X_{500}$ and plotted them against n. The results are presented by the bottom charts in Figure 1.

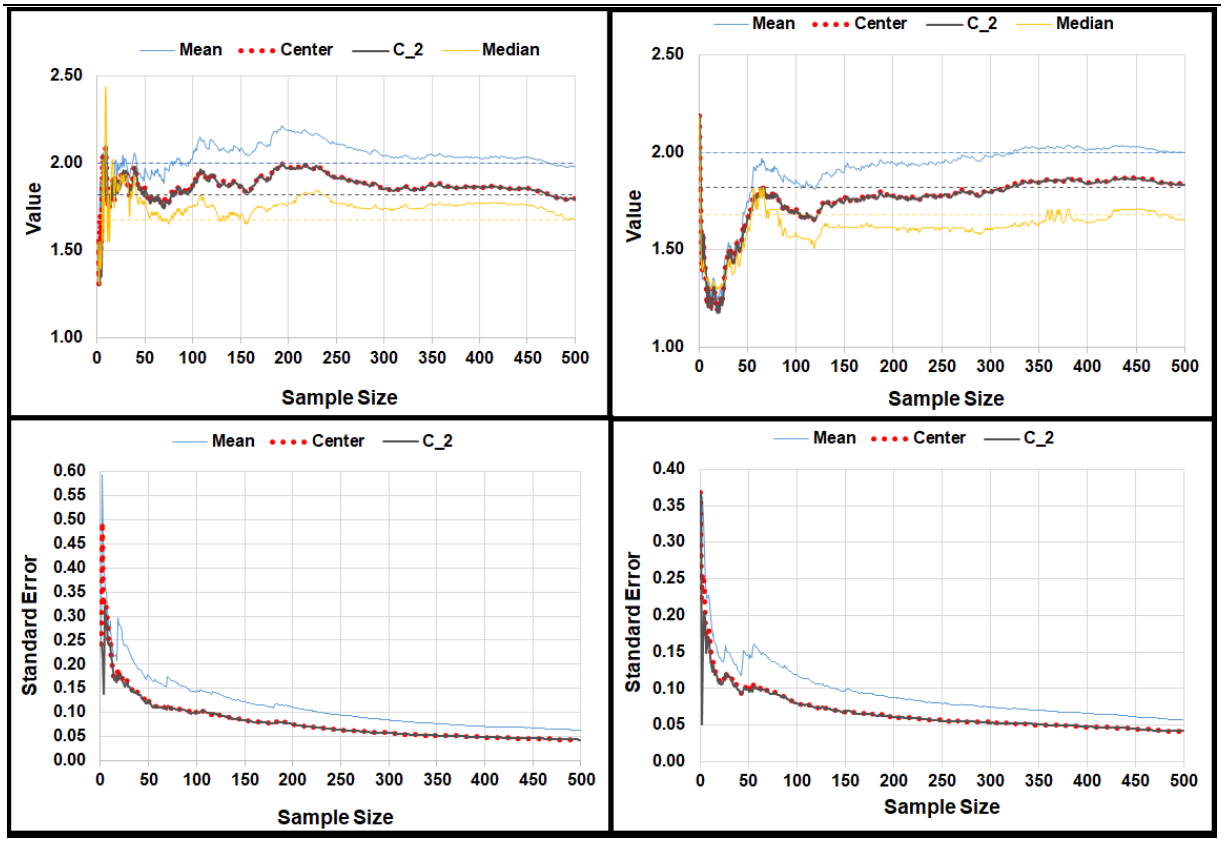

Figure 1: Statistics and their standard errors of two realizations of sequence of Gamma (2, 1) distributed random numbers. Top: Statistics. Bottom: Standard Errors. Left: The First Realization. Right: The Second Realization.

Looking at Figure 1, one can see that not only the means but also the meadians, the centers and the C_2 statistics of the samples converge to finite values. These values for the mean and the median of the Gamma (2, 1) distribution are 2.000 [3] and approximately 1.678 [1], respectively. The variance of the Gamma (κ, θ) distribution is $\sigma^2 = k.\theta^2$ [5]. Therefore, the variance of the Gamma (2, 1) distribution is $\sigma^2 = 2.1^2 = 2$, which means that the standard deviation is $\sigma \approx 1.414$. Using the software available on [7] we generated 20000 Gamma (2, 1) random numbers and found that the expected value E $[\check{X}]$ of both the center and C_2 is approximately equal to 1.814 and the standard deviation is $\check{\sigma} \approx 0.961$. Thus, the standard error of both the center and C_2 statistics is approximately 1.47 times less than the standard error of the mean concerning samples derived from the Gamma (2, 1) distribution. Besides, the standard errors of the center and C_2 statistics tend to zero as $n \to \infty$. The curves of the standard errors of the analyzed statistics given by the charts in the bottom of Figure 1 clearly illustrate this fact. If one multiplies the factor $\sqrt{n}$ by the standard error of the center of a sample of size n, taken from Figure 1 or more precisely from the chart in the bottom right corner of Figure 2, they will obtain a value close to 0.961. This result is equal to the square root of the variance of the Gamma (2, 1) distribution calculated by equation (5). As a result, we can claim that the variance $\check{\sigma}^2$ has a finite value. Consequently, equation (3) is valid as $n \to \infty$.

Figure 2 below shows the convergence of the analyzed statistics obtained by 500 independent Gamma (2, 1) distributed samples whose sizes vary from 1 to 500. These charts reconfirm the above findings.

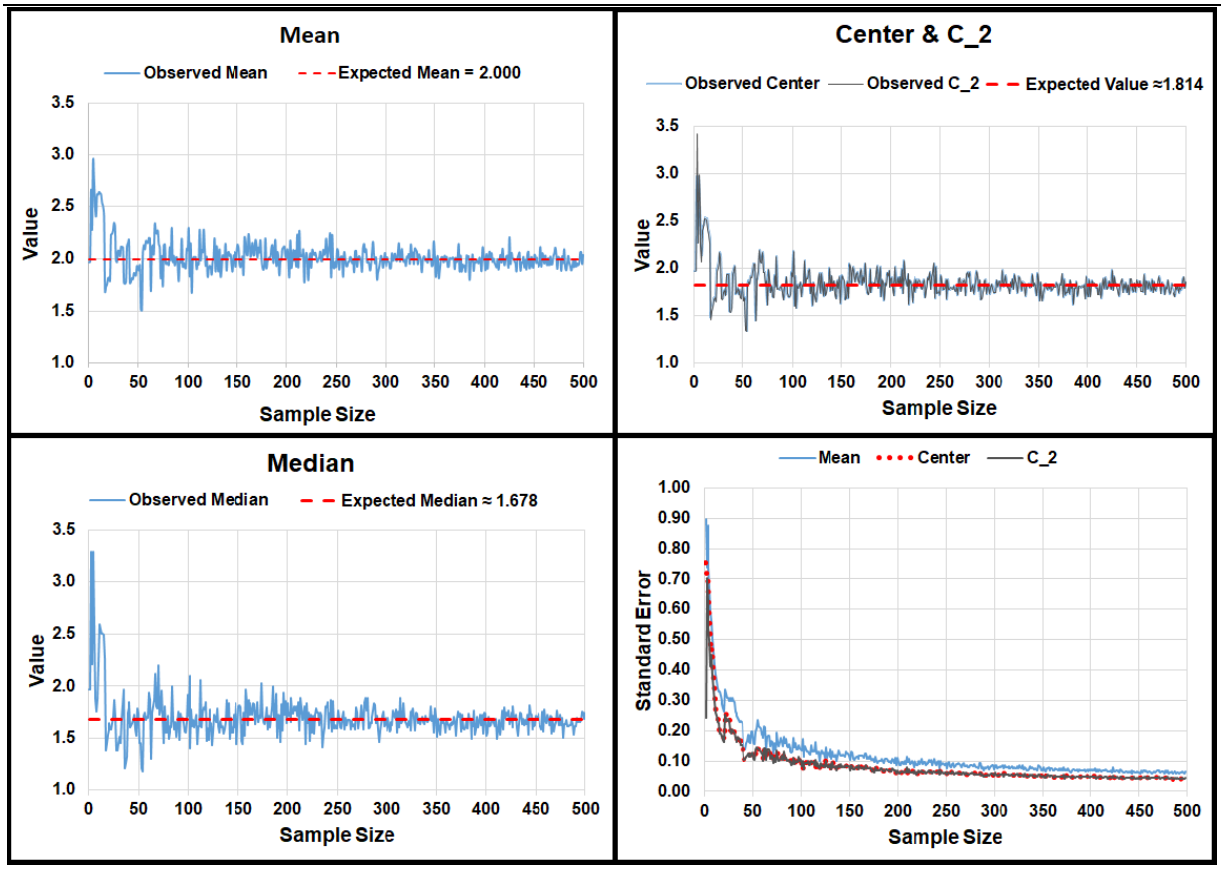

Figure 2: Statistics and their standard errors of independent samples with different sizes of Gamma (2, 1) distributed random numbers. Top Left: Mean. Top Right: Median. Bottom Left: Center and C_2 Statistics. Bottom Right: Standard Errors of Averages, Centers and C_2 Statistics.

In order to demonstrate graphically the validity of equation (3) in the matter of both the center and C_2 statistics Figures 3-6 below present the histograms of the analyzed statistics based on 30 independent samples of size n = { 10, 30, 50, 100, 150, 200, 250 } drawn from the Gamma (2, 1) distribution. The normality of the statistics was also checked by both a χ^2 and an one-sample K-S tests and the results are embedded into the corresponding charts. Deviations from the normal distribution were not detected.

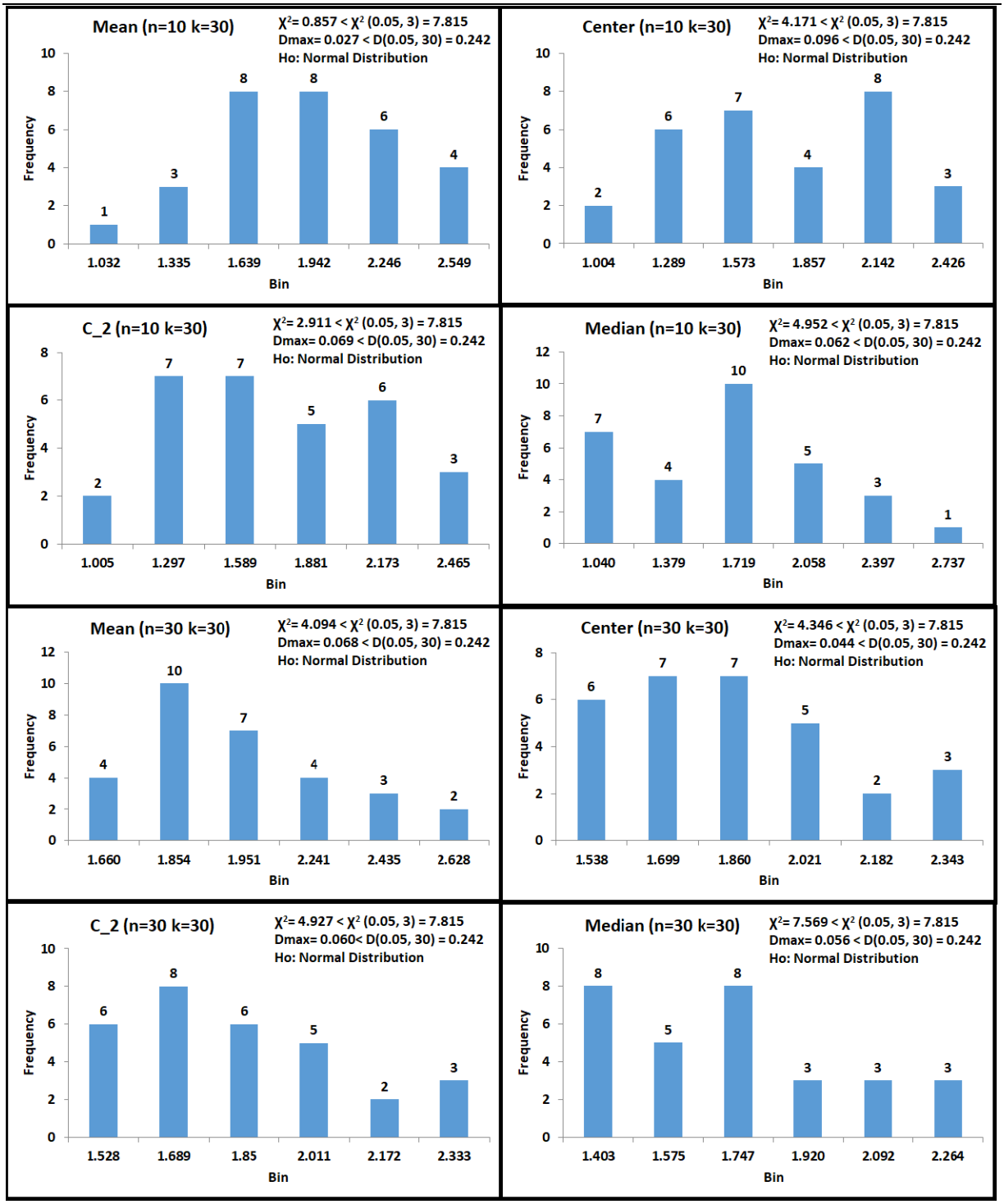

Figure 3: Histograms of the Means, Centers, C_2 and Medians based on k=30 samples of Gamma (2, 1) distributed random numbers of sizes n=10 and n=30.

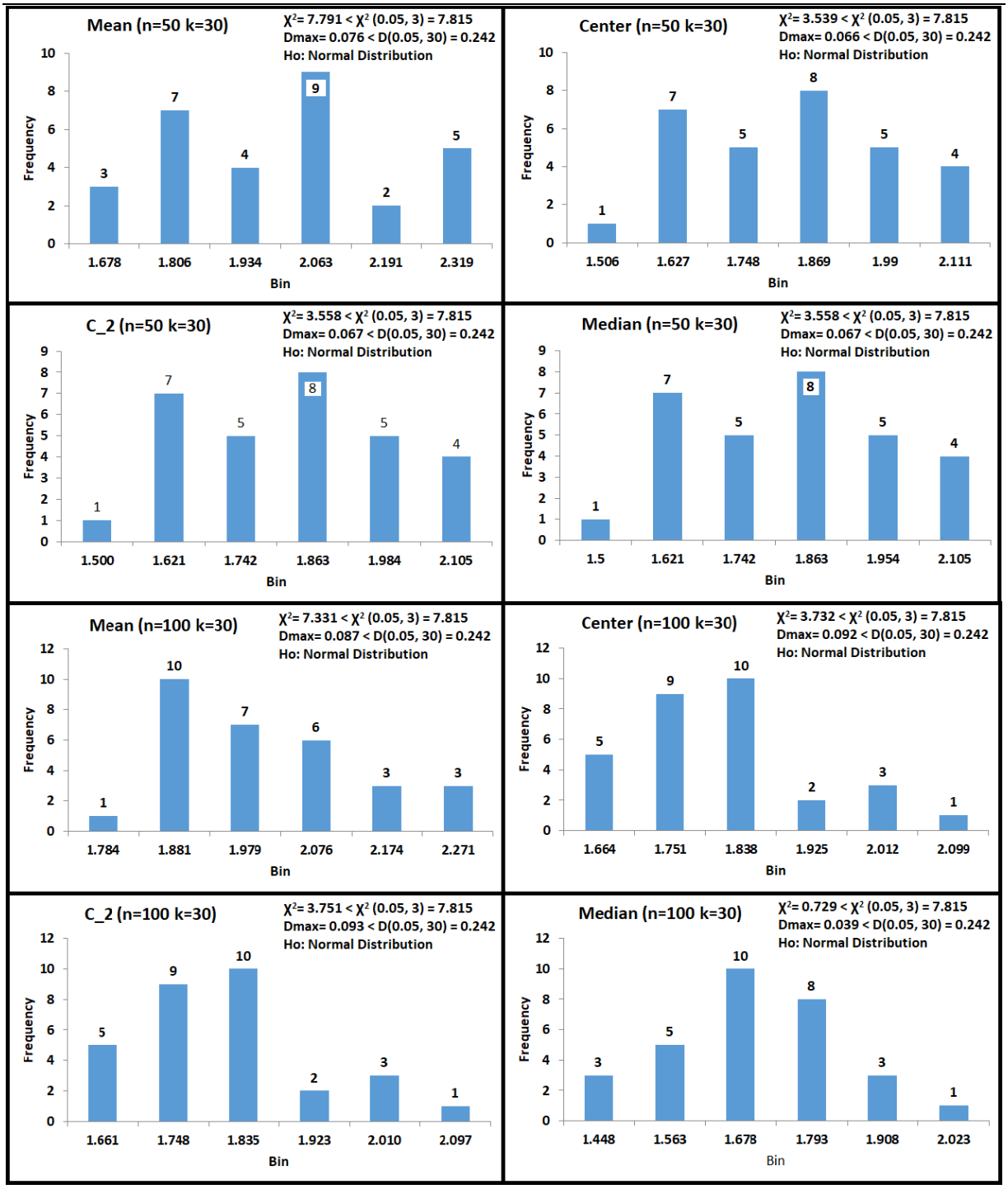

Figure 4: Histograms of the Means, Centers, C_2 and Medians based on k=30 samples of Gamma (2, 1) distributed random numbers of sizes n=50 and n=100.

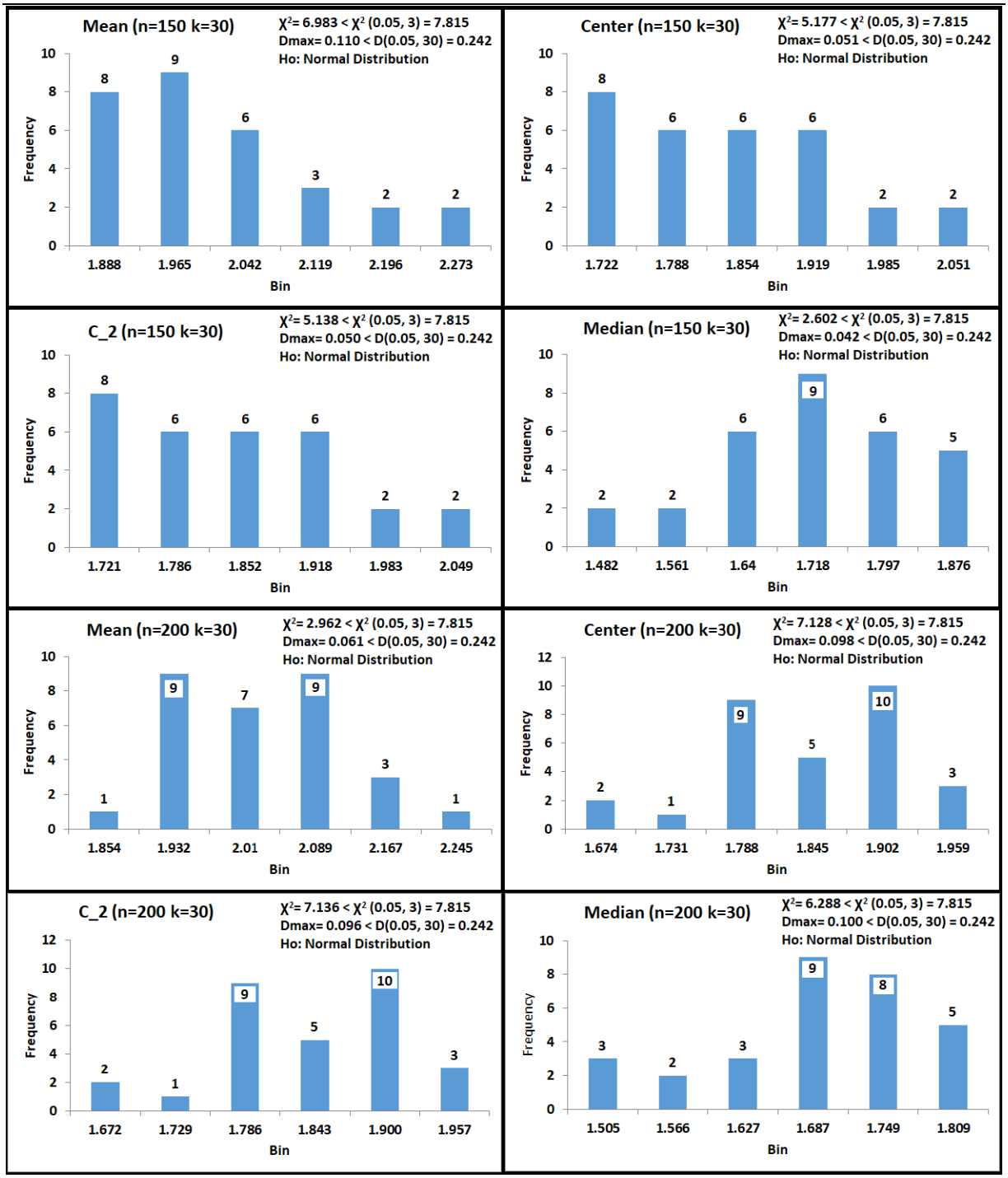

Figure 5: Histograms of the Means, Centers, C_2 and Medians based on k=30 samples of Gamma (2, 1) distributed random numbers of sizes n=150 and n=200.

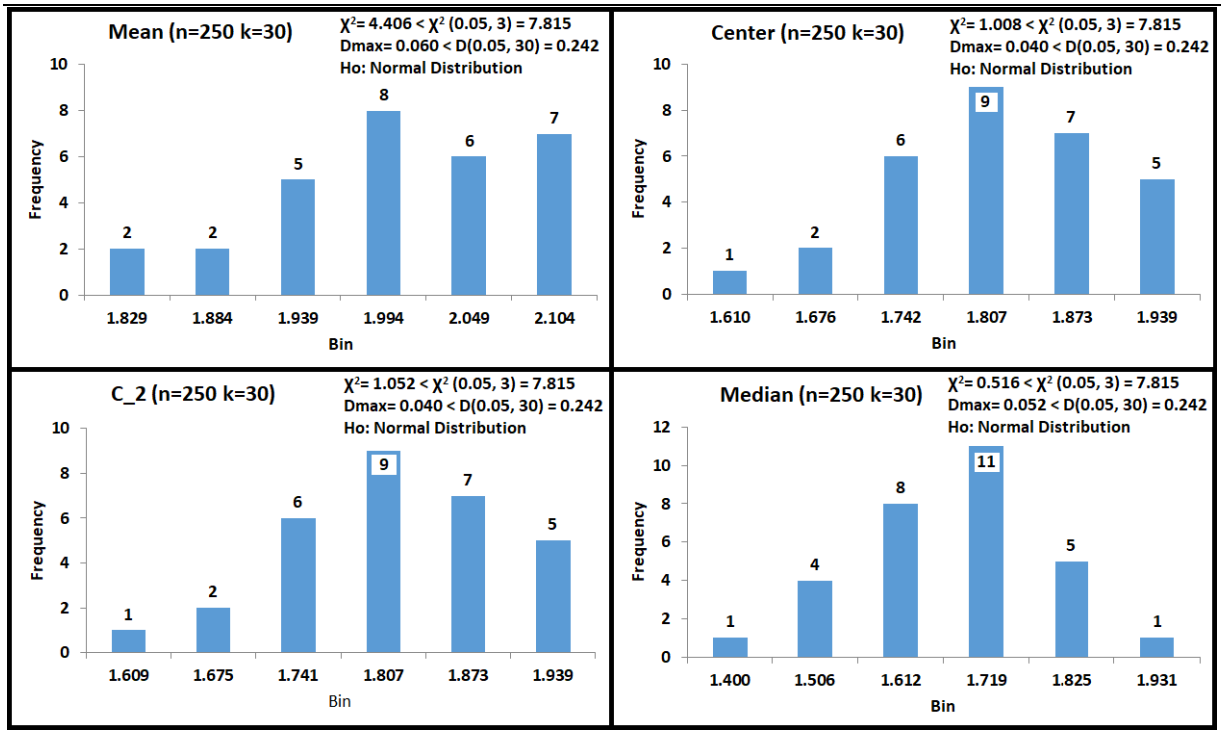

Figure 6: Histograms of the Means, Centers, C_2 and Medians based on k=30 samples of Gamma (2, 1) distributed random numbers of sizes n=250.

Additional data about standard errors of the means, the centers and the C_2 statistics of the independent samples, which distribution are illustrated by Figures 3-6, are given in Table 1 below.

Table 1

Observed and Expected Standard Errors of the Mean, the Center and the C_2 statistic of Gamma (2, 1) distributed random sample of size n

n	Observed St. Errors			Expected St. Errors		Observed-Expected	
	Mean	Center	C_2	Mean	Center	Mean	Center
10	0.420	0.284	0.251	0.447	0.304	-0.028	-0.020
30	0.266	0.180	0.174	0.258	0.175	0.008	0.005
50	0.193	0.133	0.131	0.200	0.136	-0.007	-0.003
100	0.144	0.097	0.096	0.141	0.096	0.003	0.001
150	0.116	0.080	0.079	0.115	0.078	0.001	0.002
200	0.102	0.069	0.069	0.100	0.068	0.002	0.001
250	0.090	0.061	0.061	0.089	0.061	0.000	0.000

The observed standard errors of the analyzed measures of central tendency of the independent samples show:

- The variance of the Gamma (2, 1) distribution based on equation (5) and weights regarding the center and C_2 statistics is finite and $\breve{\sigma}^2 \approx 0.923$.
- The variance of the Gamma (2, 1) distribution based on the mean, that is to say calculated by the use of equal weights in equation (5), is finite and $\sigma^2 = 2.000$. Therefore, this variance presents the spread of the Gamma (2, 1) distributed data more than twice widely. The reason is the equal weighting of all variables and as a result the overweighting of the right-tailed variables in this right-skewed distribution.

Conclusions

According to the results presented above, the following conclusions can be made:

- Regarding the Gamma (2, 1) distribution, which is a heavy right-skewed distribution, the center and the C_2 statistics have a finite expectation E $[\breve{X}] \approx 1.814$ and a finite variance $\breve{\sigma}^2 \approx 0.923$ as the size of the analyzed sample $n \to \infty$.
- When the sample size $n \geq 30$ equation (3) is valid, that is to say, the central limit theorem is valid in the matter of these statistics. According to the results given above, this statement is true even for $n \geq 10$.
- The expectation of both the center and the C_2 statistics E $[\breve{X}]$ is more close to the expected value of the median of the Gamma (2, 1) distributed samples, which is approximately 1.678 than that of the mean E $[\bar{X}] = 2.00$. If one generates a Gamma (2, 1) distributed sample of size n=20000, they will find that the mean is approximately the 60th percentile. The center is approximately the 54th. This fact raises the question if the arithmetic mean is the most suitable measure of central tendency.
- The standard error of both the center and the C_2 statistics is 1.47 times less than the standard error

of the mean of a Gamma (2, 1) distributed sample, i.e. $\check{\sigma}^2/\sigma^2 = 0.923/2.00 \approx 0.4615$. Thus, the relative efficiency of the center and the C_2 statistics over the mean is 46.15%. Therefore, both the center and the C_2 are more efficient estimators of central tendency than the arithmetic mean [6].

- If the size of a data set is getting bigger, the values and standard errors of the C_2 and the center will be getting closer. According to the results given above, when the size of a sample $n \geq 100$ we can use its center statistic instead of its C_2, because of the lower computational cost of the first one.

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MEDICAL SCIENCES

SKIN MANIFESTATIONS IN PREGNANCY

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Abstract
Pregnancy is a physiological state that induces skin manifestations. The presence of the fetus in the womb produces responses in the maternal body outside the physiological limits and consequently leads to the appearance of some pathological manifestations. Their rational treatment requires specifying the etiology.Gestationes Pemphigoid is a rare, intensely itchy skin condition that occurs only in association with pregnancy. It appears in the second or third trimester of pregnancy. The Polymorphous Eruption of pregnancy usually affects first pregnancy in the third trimester or immediately postpartum. About the Cholestasis Intrahepatic of pregnancy it has a prevalence of 1%, and develops in genetically predisposed people.

Keywords: Pregnancy, transformations, skin manifestations, Gestationes Pemfighioid, Polymorphous Eruption, Cholestasis Intrahepatic.

Dermatoses induced by pregnancy are rare conditions, generally benign, with the exception of Herpetiform Impetigo. They require an efficient non-aggressive treatment resulting from the collaboration of two involved clinicians, a dermatologist and a gynecologist. These pathological manifestations appear, with varying degrees of severity, they appear only during pregnancy, disappear after the expulsion of the product of conception and have the possibility of reappearing with a new pregnancy. Clasification of dermatoses: prurigo gravida, acute pruritus gravida, papular dermatosis of pregnancy, pruritic folliculitis of pregnancy, bullous pemphigoid, impetigo herpetiform.

Gestationis pemphigoid is a rare and intensely pruritic autoimmune disease of the skin in pregnancy. The incidence is approximately 1 in 60.000 pregnancies, and the disease represents a worldwide distribution. In this pathology, the first immune response is located in the placenta. Circulating IgG antibodies are developed that react with the amniotic epithelium of the placental tissues. The autoimmune response consists in the deposition of immune complexes, the activation of complement, the consecutive chemoattraction of eosinophils and degranulation, leading to tissue damage and the appearance of skin manifestations.[142] In the same way, this pathology exacerbates after the administration of postpartum oral contraceptives, so we can observe the impact of sexual hormones in the pathogenesis of this pathology. Initially, the disease presents itchy urticarial papules and annular plaques, followed by vesicles, large bubbles on an erythematous background. The most common place of eruption is periumbilical area. In 90% it spreads to the rest of the abdomen, sometimes even to the thighs, arms. These manifestations disappear in the first months after birth, but may return in next pregnancies.[145]The diagnosis is based on the clinical evaluation, histological findings, direct immunofluorescence. Direct immunofluorescence shows a linear arrangement of the complement IgG and C3 in the antigenic area of the basement membrane. Treatment with oral corticosteroids is sufficient.[143]

Figura 1. Periumbilical rash in PG.

PEP(The Polymorphic Rash of Pregnancy) is a benign, self-limiting inflammatory disorder that affects primigravida in the third trimester. The theorys suggest an overdistension. The morphology changes ,while the disease progresses, developing polymorphic characteristics, such as papulovesicles, erythema.[144]

Figura 2.Pruritic urticarial rashes in PEP.

The treatment is symptomatic. We use topical corticosteroids with or without antihistamines, but in severe cases a short treatment with systemic corticosteroids may be necessary.[146] This pathology is not associated with risks for the newborn. The maternal prognosis is excellent in most cases. In addition, not all antihistamines are used during pregnancy;cetirizine, loratidine should be preferred.[147]

Intrahepatic Cholestasis of pregnancy(ICP), known as pruritus gravidarum, is a liver disease characterized by severe itching and secondary skin lesions in the third trimester of pregnancy. It occurs in genetically predisposed people.[148]

Figura 3 .Excoriations, scratches and nodules in the ICP.

The treatment need to decrease the level of serum bile acid and alleviate itching. Ursodeoxycholic acid can be used to reduce the severity of itching and has been shown to give a favorable result for pregnancy. UVB phototherapy can be used in refractory cases.[149,150].

This patology is correlated with fetal risks, the most frequent being premature birth (20-60%), followed by intrapartum fetal distress (20-30%) and stillbirth (2%). In this prolonged pathology, cholestasis can cause vitamin K deficiency and coagulopathy of patients and children. Thus, these risks make it necessary to closely monitor them during and after birth.[151]

A correct diagnosis of these pregnancy-induced dermatoses is very important in terms of fetal and maternal prognosis. These conditions must be seen as diseases of the whole body, requiring a series of general, hygienic-dietetic measures and pregnancy supervision.

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IMMUNE ANEMIAS AND THROMBOCYTOPENIAS IN NON-HODGKIN'S LYMPHOMAS

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Abstract

Non-Hodgkin lymphomas (NHL) are the most common hematological malignancies, the incidence of which has shown a significant increase in rates over the year, worldwide, as well as in the Republic of Moldova. [1] The association of immune complications in patients with NHL is common, which can be appreciated shortly before or during the manifestation of the malignant lymphoma. [2, 3] On the basis of a database of 64 NHLs patients registered at the Oncological Institute, Chisinau, Republic of Moldova, a study was done to examine the clinical, and evolutionary particularities of immune anemias and thrombocytopenias in NHL. Immune hemolytic anemia (IHA) and immune thrombocytopenia (IT) are the most common immune complications and are more commonly in indolent NHL, advanced stages, nodal and spleen NHL onset, female gender. NHLs were most frequently associated with an immune comorbidity, and much less often concomitant immune comorbidities were appreciated.

Keywords: lymphoma, immune hemolytic anemia, immune thrombocytopenia.

Introduction

The association of immune complications in patients with NHL is common, which can be appreciated shortly before or during the manifestation of the malignant lymphoma. [2, 3] In some cases, the development of the immune component can be induced by the antineoplastic therapy. [4] It still remains an enigma the synthesis of antibodies after finishing the specific chemotherapy treatment applied to patients with NHL. [5] Based on the above, at the new patient with NHL can be not only the characteristic manifestations of NHL, but the association of immune hemolytic anemia manifested by anemic and hemolytic syndromes, immune thrombocytopenia represented by the hemorrhagic syndrome. Most immune comorbidities are associated with B-cell NHL, because B lymphocytes have a well-established role in the pathogenesis of immune disease, representing a source of erroneous synthesis of antibodies against one's own cells. [6, 7]

IHA is the most common immune complication recognized in patients with NHL, followed by Evens syndrome, erythroblastopenia, and IT. [8] Secondary IHA mainly develops against the background of lymphoproliferative diseases and autoimmune diseases, constituting approximately 50% of cases. [9] Hu et al's retrospective analysis of 4880 patients with NHL assessed IHA in 766 (15.7%) patients. In the case of patients with T-cell NHL, secondary IHA was appreciated in 57.14% of cases. [10]

Evans syndrome is more commonly diagnosed in patients aged 50-60 years, and in 27-50% of cases it is secondary to lymphoproliferative diseases and SLE. [11, 14] Hematological malignancies are the main factors with an impact on the development of Evans syndrome and its prognosis. [12, 13]

IT secondary to NHL, is a rare disease [15] and is diagnosed with a much lower frequency compared to IHA, being evaluated in only up to 1.8% of cases. [16, 17] The immune reaction underlying the development of secondary IT is complex, consisting of several consecutive stages in which B lymphocytes, T lymphocytes, NK, macrophages, cytokines participate.

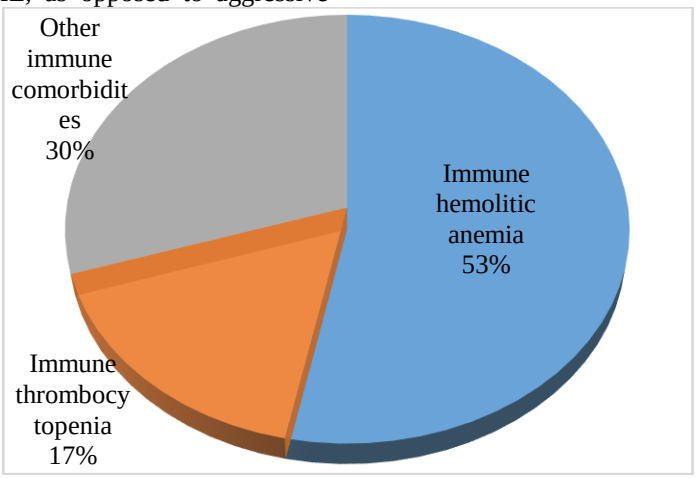
Materials and methods

The study included 64 new patients with NHL, associated with immune comorbidities, treated in the Oncological Institute, Republic of Moldova, during the years 2020-2021. The average age of the patients is 62.3±3 years (33-76 years). The immune component developed more frequently in women - 44 (69%), compared to men - 20 (31%). The distribution of patients with NHL and autoimmune component according to the type of NHL demonstrated a more frequent association of immune disease in the case of the development of indolent NHL 34 (58%) patients as opposed to the development of aggressive NHL 30 (42%) patients. IHA and IT were confirmed by researching blood count, unconjugated bilirubin level, LDH, as well as response to immunosuppressive treatment. The database

of the selected material was processed statistically using Microsoft Excell, EpiInfo 7.2.2.6 and EpiMax Table programs.

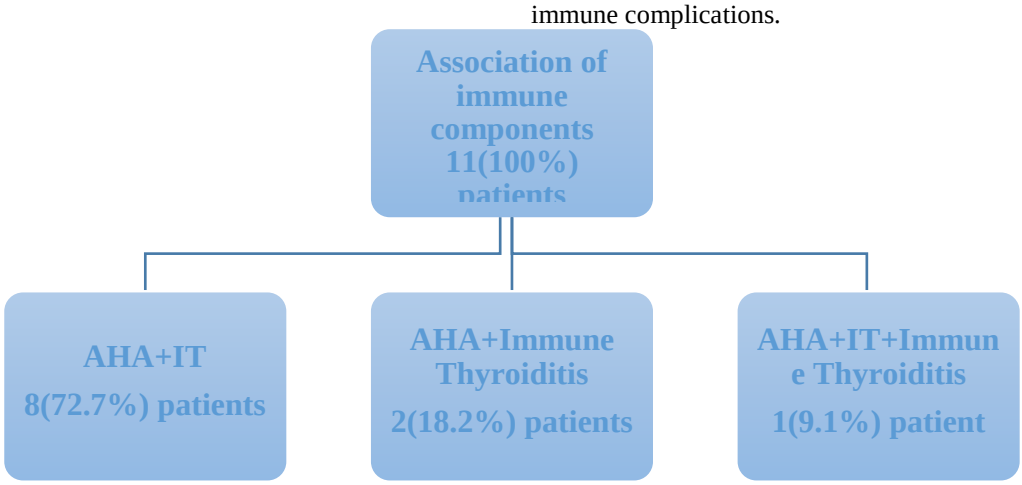
Results

Immune complications were assessed more frequently in indolent NHL, as opposed to aggressive NHL (58% versus 42%, respectively). IHA and IT represent the most frequent immune components (70.1%) associated with NHL patients, with an obvious predominance of IHA in 53.2% of cases, compared to IT in 16.9% of cases.



Pic. 1. Frequency distribution of immune comorbidities in patients with non-Hodgkin's lymphomas.

The distribution of patients with NHL according to the number of immune components associated with the malignant lymphoma, revealed an obvious predominance of the association of a single immune component – 53 (82.8%) cases and only 11 (17.2%) patients were diagnosed with associations of 2 or 3 concomitant immune complications.



Pic. 2. Types of associations of the immune component in patients with non-Hodgkin's lymphomas.

Independent of the type of NHL, indolent or aggressive, IHA (31.1% and 22%, respectively) and IT (12.9% and 3.8%, respectively) prevailed. We observe a higher frequency of development of immune complications in indolent NHL.

IHA and IT were appreciated in both genders. IHA was diagnosed in 35% of cases in female patients with NHL, which represents a higher frequency than the association of IHA in male patients with NHL - 18.1% cases. The same fact was also appreciated in the case of IT, which appeared more frequently (11.6%) in women with NHL than in men, in whom the same autoimmune complication was diagnosed in only 5.2% of cases.

The immune component was appreciated in the case of NHL with nodal 33 (51.6%) and extranodal 31 (48.4%) onset. The analysis of the frequency distribution of the association of the type of immune component in patients with NHL according to the location of the primary tumor focus shows an obvious discrepancy. Multiple associations of immune components have been evaluated in the case of nodal onset of malignant lymphoma, especially in the peripheral lymph nodes, followed by spleen onset. The most frequent IHA was appreciated in the case of the onset of the disease at the spleen-25.9% cases, then at the peripheral lymph nodes 14.2% cases, abdominal lymph nodes in 6.5%, mediastinal lymph nodes 3.8% and very rarely in only 1 (1.3%) IHA developed at the onset of the lymphoma in the soft tissues and stomach. IT was evaluated in patients with NHL whose primary tumor focus developed in the spleen 8 (10.3%), peripheral lymph nodes 4 (5.1%) and abdominal lymph nodes 1 (1.3%).

In advanced stages (III and IV) of NHL, immune complications predominated, being evaluated in 71 (92.2%) patients. In stages I and II, where the same immune complications were present only in 6 (7.8%) patients. IHA and IT developed most frequently in advanced NHL (51.9% and 16.8%, respectively).

We estimated that in 67.5% of cases immune complications developed during NHL. According to the medical history of patients with NHL, prior to the diagnosis of malignant lymphoma, the immune component was present only in 25 (32.5%) patients. Simultaneously with NHL, only 3 types of immune components were evaluated: IHA - 40 (51.9%) patients, IT in 11 (14.2%) patients and in 1 (1.3%) case of autoimmune thyroiditis.

Conclusion

IHA and IT are the most common immune complications and are more commonly associated in patients with indolent, generalized, nodal and spleen NHL onset, female gender. The distribution of patients with NHL according to the number of immune components associated with the malignant lymphoma, revealed an obvious predominance of the association of a single immune component.

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PEDAGOGICAL SCIENCES

THE FRAMEWORK FOR THE DEVELOPMENT OF CRITICAL THINKING IN YOUNG SCHOOL CHILDREN THROUGH VALUATION OF KEY COMPETENCES

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CADRUL DE DEZVOLTARE A GÂNDIRII CRITICE LA ȘCOLARII MICI PRIN VALORIFICAREA COMPETENȚELOR-CHEIE

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Abstract

In the current context, the formation of critical thinking skills represents a desire of education with innovative visions regarding the development of learners in accordance with the dynamics of a society in continuous change. Therefore, a restructuring of traditional teaching methods is required and the promotion of learning centered on the student, on his needs and on psycho-individual and age specificities. Under these conditions, it is recommended to reorient the pedagogical act, centering and directing it on key competencies in order to satisfy educational needs with positive effects on the development of higher cognitive skills.

Adnotare

În context actual, formarea abilităților de gândire critică reprezintă un deziderat al învățământului cu viziuni inovatoare în ce privește dezvoltarea educabililor în concordanță cu dinamica unei societăți într-o continuă schimbare. Se impune așadar o restructurare a metodelor didactice tradiționale și promovarea unei învățări centrate pe elev, pe nevoile acestuia și pe particularitățile psihoindividuale și de vârstă. În aceste condiții se recomandă reorientarea actului pedagogic, centrarea și direcționarea lui pe competențe-cheie în vederea satisfacerii nevoilor educaționale cu efecte pozitive pe planul dezvoltării abilităților cognitive de tip superior.

Keywords: key competences, critical thinking, young learners, cognitive skills, knowledge, skills, attitudes

Cuvinte-cheie: competențe-cheie, gândire critică, școlari mici, abilități cognitive, cunoștințe, abilități, atitudini

Pe baza particularităților psihoindividuale și de vârstă de manifestare a gândirii critice la școlarii mici se conturează profilul personalității elevului cu potențial în dezvoltarea acestui aspect prin evidențierea trăsăturilor caracteristice. Demersul educațional al cadrului didactic de stimulare și dezvoltare a acestui tip de gândire superioară trebuie să aibă la bază o serie de repere de cunoaștere / recunoaștere a acțiunilor specifice în vederea organizării activității educative centrate pe nevoile elevilor și pe nivelul capacităților cognitive.

Spre deosebire de perspectivele tradiționale, noile abordări oferă elevului un rol activ, combătându-se pasivitatea în gândire fiind în același timp participant la propria formare alături de profesor, dar și responsabil în realizarea procesului de învățare. Perspectivele de identificare a copilului cu manifestări de gândire critică, în linii mari, vizează recunoașterea capacității de asumare a implicării profunde în actul educativ printr-o organizare eficientă a proiectului de învățare personalizat, prin construirea cunoașterii, asumarea de riscuri, conștientizarea eforturilor ce trebuie depuse, selectarea strategiilor de învățare adecvată și gestionarea corectă a timpului.

Procesul complex de dezvoltare a gândirii critice la școlarii mici are ca punct de plecare stimularea și valorizarea motivației intrinseci a educatului și a dorinței de căutare, experimentare, descoperire, investigare. Realizarea profilului de personalitate a copilului cu manifestări critice trebuie să demareze cu cunoașterea acestui aspect: **implicarea motivațională.** Motivația reprezintă o condiție necesară ce se cere îndeplinită pentru un demers educațional de stimulare cognitivă cu rezultate pe termen lung.

O abordare completă a procesului de stimulare și dezvoltare a gândirii critice la învățământul primar se poate realiza pe baza competențelor-cheie precizate în Legea Educației Naționale. Conform Comisiei Europene „competențele - cheie reprezintă un pachet transferabil și multifuncțional de cunoștințe, deprinderi (abilități) și atitudini de care au nevoie toți indivizii pentru împlinirea și dezvoltarea personală, pentru incluziune socială și inserție profesională. Acestea trebuie dezvoltate până la finalizarea educației obligatorii și trebuie să acționeze ca un fundament pentru

învățarea în continuare, ca parte a învățării pe parcursul întregii vieți". Potrivit acestei definiții școala este răspunzătoare de formarea elevilor din perspectiva abilităților de adaptare la o societate într-o continuă schimbare și oportunitatea de învățare în toate etapele vieții.

Formarea școlarilor mici din perspectiva dezvoltării gândirii critice poate fi raportată la competențele-cheie și reprezintă aspecte orientative ce ghidează cadrul didactic în activitatea de proiectare a conținuturilor curriculare. Astfel, conform recomandărilor se identifică cele 8 competențe-cheie(Recomandarea Consiliului privind competențele cheie din perspectiva învățării pe parcursul vieții 2018/C189/01) cu aplicabilitate pe învățământ primar și gimnazial:

- ☑ *Competență de literație;*
- ☑ *Competență în multilingvism;*
- ☑ *Competență matematică și competență în științe, tehnologie și inginerie;*
- ☑ *Competență digitală;*
- ☑ *Competență personală, socială și a învăța să înveți;*
- ☑ *Competență civică;*
- ☑ *Competență antreprenorială;*
- ☑ *Competență de sensibilizare și exprimare culturală.*

Pe baza acestor competențe-cheie se conturează profilul școlarului mic care are manifestări specifice gândirii critice exprimate în termeni concreți prin capacitatea de rezolvare a situațiilor pe baza cunoștințelor anterioare și a deprinderilor. În tabelul de mai jos s-a realizat adaptarea competențelor menționate la învățământ primar raportate la nivelul teoretic, la nivelul abilităților practice și la nivel atitudinal din perspectiva problematicii gândirii critice prin realizarea unui tablou complet ce poate ghida cadrul didactic în evaluarea corectă a copiilor.

NR. CRT.	*COMPETENȚA-CHEIE*	*CUNOȘTINȚE*	*ABILITĂȚI*	*ATITUDINI*
1.	***Competența de literație***	*analizează textele literare și nonliterare prin evidențierea mesajului transmis de autor; *identifică tipurile de comunicare(orală și scrisă); *reprezintă și înțelege realitatea prin folosirea limbajului; *sintetizează cunoștințele și le comunică; *interpretează conceptele și convingerile personale și le exprimă cu ajutorul limbajului oral sau scris;	*se adaptează la contextul situației de comunicare; *identifică sursele și le folosește în clarificarea situațiilor de învățare; *utilizează resurse proprii în argumentarea orală sau scrisă raportată la context; *operează cu informațiile și le restructurează în funcție de situații; *evaluează informațiile și le utilizează adecvat;	*manifestă o atitudine deschisă față de un dialog constructiv; *identifică calitățile estetice și le apreciază; *analizează impactul limbajului în interacțiunea cu ceilalți; *identifică aspectele pozitive de utilizare a limbajului cu efecte sociale benefice;
2.	***Competență în multilingvism***	*identifică termenii noi și le înțelege sensul; *interpretează mesajele utilizând acțiuni de ascultare, citire, scriere raportate la specificul limbii studiate; *realizează acțiuni de mediere și înțelegere interculturală; *integrează tipurile de comunicare în limba străină în contexte culturale și sociale adecvate;	*înțelege mesajele orale transmise; *inițiază, susține și încheie o conversație într-o limbă străină; *are capacitatea de citire, înțelegere și redactare a textelor în limbi străine la niveluri de performanță diferite; *utilizează resursele prin învățarea limbii străine în context formal, informal și nonformal;	*analizează diversitatea culturală și o apreciază corespunzător; *manifestă respect pentru interesul lingvistic individual; *apreciază interacțiunile sociale cu persoane care aparțin minorităților;

3.	***Competență matematică și competență în științe, tehnologie și in-***	*identifică rolul matematicii în viața cotidiană; *utilizează limbajul matematic și termeni; *selectează informația relevantă necesară soluționării problemelor matematice; *argumentează alegerea unei metode de rezolvare a problemei; *cunoaște principiile de bază ale lumii înconjurătoare; *înțelege conceptele științific și teoriile care stau la baza producerii fenomenelor naturale; *identifică rolul științei și tehnologiei în activitatea umană; *evidențiază și argumentează rolul progreselor științifice și le raportează la sistemul de valori sociale și culturale;	*aplică principiile matematice în viața cotidiană în contexte diferite; *argumentează etapele raționamentelor matematice; *utilizează scheme logice în demonstrațiile matematice; *rezolvă situații de învățare prin comunicarea în limbaj matematic și prin selectarea de resurse adecvate;	*manifestă respect față de adevărurile matematice; *exprimă o atitudine de respect și perseverență în activitatea de găsire a soluțiilor problemelor matematice și ale lumii înconjurătoare; *evaluează constant validitatea argumentelor; *manifestă interes și motivație în aplicarea matematicii în contexte de învățare diferite;
4.	***Competență digitală***	*identifică rolul tehnologiilor societății informate; *utilizează instrumente informatice în diferite contexte; *identifică formele și metodele utilizate pentru accesul la informație; *înțelege rolul inovațiilor în implementarea tehnologiilor noi; *cunoaște informațiile și modul de utilizare a serviciilor de pe internet; *accesează, explorează servicii informatice pentru a elucida dileme educaționale; *înțelege oportunitățile și riscurile internetului și comunicării cu ajutorul tehnologiei informatice;	*caută, selectează și procesează informații în vederea procesării lor; *are abilități de manipulare a calculatorului cu scopul informării; *utilizează tehnologiei digitale cu scopul incluziunii sociale și a colaborării cu ceilalți; *manipulează tehnologia în vederea realizării scopurilor personaleși comerciale; *gestionează și protejează conținuturile și datele digitale;	*are o abordare etică și responsabilă în utilizarea mijloacelor informatice; *manifestă o atitudine critică referitor la tehnologiile digitale; *conștientizează impactul social și economic de utilizare a calculatorului; *se exprimă creativ / critic în rezolvarea sarcinilor de învățare cu ajutorul tehnologiei;
5.	***Competență personală, socială și a învăța să înveți***	*conștientizează nevoilor de formare personală; *identifică oportunitățile necesare evoluției personale; *asimilează și procesează cunoștințele noi în vederea orientării și consilierii; *utilizează cunoștințe și experiențe de viață anterioare și le aplică în contexte diferite; *aplică strategii de învățare adaptate propriei persoane; *analizează punctele tari și punctele slabe ale aptitudinilor personale; *selectează oferte de educație și formare adecvate profilului personal;	*exploatează și asimilează cunoștințe și aptitudini necesare dezvoltării personale; *gestionează eficient propria învățare și evoluție școlară; *manifestă perseverență în învățare prin concentrarea pe perioade lungi de timp; reflectă critic obiectul și finalitățile învățării; *manifestă autonomie în învățare și autodisciplină; *evaluează rezultatele muncii personale și caută soluții de ameliorare;	*manifestă motivație și încredere în reușita învățării; *sprijină propriul proces de învățare prin înlăturarea obstacolelor; *exploatează oportunitățile de învățare prin aplicarea achizițiilor în diferite situații de viață; *manifestă colaborare, integritate socială și asertivitate; *identifică și stabilește scopuri în vederea dezvoltării rezilienței și încrederii în reușita învățării;

6.	***Competență civică***	*are cunoștințe despre evenimentele contemporane; *analizează critic evoluția istoriei naționale și mondiale; *cunoaște conceptele de bază despre dinamica grupurilor sociale; *înțelege dimensiunile multiculturale și socioeconomice;	*se implică eficient în problemele sociale prin interacțiunea cu ceilalți pe baza intereselor comune; *are abilități de formulare a argumentelor prin participarea constructivă la acțiuni sociale;	*exprimă interes pentru dezvoltarea socială durabilă; *participă la procesul decizional la nivel de instituție și comunitate; *promovează o atitudine deschisă față de viața privată a celorlalți;
7.	***Competență antreprenorială***	*identifică contextele și oportunitățile de aplicare a ideilor personale; *înțelege importanța implicării în proiecte cu beneficii pe plan personal; *conștientizează principiile etice de funcționare în scopul unei dezvoltări durabile;	*manifestă reflecție critică și constructivă în procesele inovative; *mobilizează resurse umane și materiale în vederea susținerii activității antreprenoriale; *ia decizii finaciare prin raportarea la costuri; *negociază cu ceilalți și comunică eficient;	*manifestă spirit de inițiativă în proiectarea activității antreprenoriale; *manifestă autocontrol și perseverență; *manifestă empatie și o abordare etică pe parcursul procesului; *valorizează ideile celorlalți și îi motivează;
8.	***Competență de sensibilizare și ex-***	*cunoaște cultura locală și națională și formele de exprimare prin moștenire și tradiții; *analizează formele de exprimare culturală și felul în care influențează ideile fiecăruia; *înțelege modul de comunicare al ideilor prin diferite metode; *conștienzează importanța cunoașterii și dezvoltării propriei identități culturale;	*apreciază critic și estetic valorile culturale naționale; *transferă posibilitățile sociale și economice în activități culturale; *compară opiniile personale cu ideile celorlalți; *manifestă aptitudini creative transferate în activitățile școlare;	*exprimă respect față de propria cultură; *manifestă creativitate și dorința de dezvoltare a idealurilor estetice prin exprimarea artistică; *participă intens la viața culturală;

Tabelul prezentat vizează trei aspecte importante ce orientează cadrele didactice în activitatea de potențare a dimensiunii critice a gândirii: cunoștințele, abilitățile specifice și atitudinile. În privința **cunoștințelor** este știut faptul că gândirea critică se poate dezvolta doar în condițiile existenței unui fundament teoretic riguros și pe fondul contradicțiilor dintre informațiile vechi și cele noi. În ceea ce privește **abilitățile specifice** se evidențiază importanța formării la elevi de deprinderi de utilizare a acestor informații, de restructurare și utilizare în contexte diferite de învățare. Aspectul atitudinal are un rol esențial în demersul educațional de formare și dezvoltare a gândirii critice accentuându-se latura motivațională care reprezintă mecanismul funcțional de realizare a acesteia.

Referințe

1. Council Recommendation on key competences from a lifelong learning perspective 2018/C189/01

ARTIFICIAL INTELLIGENCE AND BLOCKCHAIN FOR HYGIENIC REVIEW OF STUDY TEXTS

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Abstract

The article focuses on the feasibility of using artificial intelligence and blockchain to address the challenge of improving textbooks by embedding education for sustainable development in them. The problems of textbook content and pedagogy renewal from the perspective of the Global Action Programme on Education for Sustainable Development and its Roadmap 2030 are considered. UNESCO reports on the status of these challenges and the potential of artificial intelligence combined with blockchain to facilitate this process are analysed. It is concluded that artificial intelligence combined with blockchain can be used to create a new generation of textbooks by integrating education for sustainable development into the subject area of the curriculum, as well as assessing student performance in developing the core competencies of education for sustainable development. Solving this task will provide a platform for the next step - combining subject-specific learning and education for sustainable development into a unified interdisciplinary system of problem-oriented education, implementing a whole-institution approach to ESD in educational ecosystems of different levels.

Keywords: artificial intelligence, blockchain, textbooks, education for sustainable development.

In the world today, people have stopped noticing that they use AI on a day-to-day basis in their ordinary lives (reading emails, translators, voice assistants). AI has learned to plan, solve problems, give advice, and even learn.

The UNESCO report “Steering AI and advanced ICTs for Knowledge Societies/A rights, openness, access and multi-stakeholder perspective” (2019) focuses on the governance of AI and advanced ICTs in digital societies [1]. Ideas from leading AI experts show that AI technologies have enormous potential in different spheres of modern human life. Looking at the range of help from AI, the report proposes assessing the development of artificial intelligence through ROAM indicators in key categories: Human Rights, Openness, Accessibility, Multistakeholder Participation. Recall that these qualities also characterize SDG 4.7: 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' (SDG, 2014) [2]. However, there are also some challenges in assisting AI education. These relate to ensuring equality of opportunity for children from different countries and social groups to use AI: around 40% of the world's population still does not have access to the Internet. This means that many students have limited access to the information they need to learn, as well as limited opportunities to create and share electronic data [3]

Despite the challenges of use, the potential for the development of AI is great. Technological trends in AI development in the coming years relate to AI learning sequential learning, optimal ways of problem solving (faster and more efficient), handwritten digit recognition, etc.

The correct and effective use of AI allows

- shorten the time required to learn new learning material,
- adapt learning (content and pace) to the child, not the other way around;
- to catalyse the absorption of new material by presenting it in different ways;
- to create individual educational trajectories for students, taking into account their abilities (strengths and weaknesses) and the objectives set;
- to take the educational process out of the school walls (in which the student learns not the world around him/her, but the information about it) and into the real environment [4].

It is believed that AI will make it possible to assess a child's learning not only on the basis of his grades and attendance but also on the work of the class itself, including the display of personal qualities such as perseverance, confidence, interest ... That is, assessment will include not only academic success, but also personal results. Unlike AI, traditional forms of assessment are not well suited to assessing general cultural skills, communication skills, moral characteristic, ability to interact, cooperate and work effectively in a team. Meanwhile, they are just as important for life in the 21st century. AI will help curriculum developers expand their information base, incorporate information from different sources and make connections between different data. This will increase the reliability of predictions and adjust course content in real time.

AI can be useful for implementing a whole-institution approach to implementing ESD within an educational organisation, even if its branches are located in different countries, as well as taking into account the educational ecosystem capabilities of the place of residence, city, region. That is, AI is an opportunity to work with big data. According to the International Data Corporation (IDC) the world's data growth is 40% annually, expected to reach 163 trillion gigabytes by 2025.

In this context, we justify the prospect of using AI in alliance with blockchain [наши 5,6]. Blockchain is a new and robust technology for generating and storing records, which uses a distributed database and opens wide horizons for new high-tech projects. The knowledge base in many subject areas, especially in science and technology, is rapidly changing, expanding. A course of study can become obsolete as early as

the approval stage. The alliance between AI and blockchain is the ability to use large amounts of data, analyse it and reflect the findings through visualisation tools, helping curriculum developers to improve the relevance and accuracy of the information available, as well as the competence of the developers themselves. The advantages of blockchain are the high security of its transactions; the transparency of the flow of information; the preservation of the anonymity of private information; and the distributed storage of information. The latter means an ordered database on all the computers of network participants. This means that any changes to the database are recorded for all users. The timing of changes is noted, and a link to the previous block is given. All users of the blockchain can see that a transaction is taking place. It is impossible to change, delete, damage one or more blocks - this requires "permission" from all participants in the vast system. The actual content of the transaction is protected by your private key. The transaction is visible to all users and its contents are confidential and secure. Blockchain is publicly available and useful where there are many participants in the process. It eliminates the need for trusted intermediaries and experts, as well as central controller access to verify transactions and authenticate their source [7].

AI in alliance with blockchain - useful for ecosystems in education: a network of educational organisations that use a distributed database together. Such an alliance eliminates mistrust in the system: one organisation will not allow another to make changes to its records in the database for economic or political interests. Proof of authorisation and proof of credibility increase. This is important to prove authorship, the credibility of teachers' diplomas, the contents of educational subjects' portfolios (since it is not possible to "add" an author to the database or change the date of an entry), and to create a barrier to plagiarism. Consistency of records allows to build a history of events, information on the dynamics of progress, personal learning trajectories. Blockchain, as a digital cluster for records and changes in the network, stores as long as programmed records of a child's developmental dynamics, successes and challenges, etc. , actual any type of information in the world.

Despite the great advances and prospects of AI and blockchain in education, all researchers conclude that there is currently no technology that can replace the teacher, the live communication with the teacher. New technologies have only reinforced and confirmed the teacher's priority role in education. As David Thornburgh put it, "any teacher who can be replaced by a computer deserves it [8].

Steven Duggan's review concludes that "although adoption of AI is still at a very early stage" - it should "be used for good, and therefore earn our trust once the questions arising from its use are answered" [3].

Despite the active exploration of AI and blockchain, there are still many blind spots on the map of its use in education. In particular, these relate to updating textbooks for ESD implementation.

Even in this increasingly digital age, school textbooks remain an important part of the curriculum [9].

Textbooks remain an area of untapped opportunity in integrating sustainable development into formal education through AI and blockchain technologies.

UNESCO (2016) Global education monitoring report 'Textbooks paving the way to sustainable development' highlights that the textbook is a powerful tool for shaping the minds of children and youth, and calls on governments to urgently update the content of their textbooks in line with the objectives of the 2030 Agenda for Sustainable Development [10]. However, textbooks in many countries are limited to SD information, with no focus on education for sustainable development [11]

The United Nations Decade of Education for Sustainable Development (2005-2014) has made a positive start in reorienting and transforming education towards sustainable development.

The importance of textbooks is undeniable. Textbooks reflect the educational canon of society and the ongoing negotiation processes that shape it. At the same time, textbooks do not change as quickly as curricula do. Textbooks answer the key questions of what knowledge to pass on to the next generation and what competencies to develop. They can make a significant contribution to educating students about peace, human rights, global citizenship and human rights, empowering young people to develop independent opinions free of prejudice.

The recommendations of Sustainable Development - a guide to embedding provide specific guidance to textbook authors on how to 'embed' these into subject textbook content [12].

With the help of the International Society for Education (CIES), UKFIET 2017, UCL Institute of Education (2017) and George Washington University (2018), the Network for Integrating SDG Target 4.7 and Social-Emotional Learning in Educational Materials (NISSEM) was given a soft launch as a resource to facilitate action on SDG Target 4.7. NISSEM notes that the inclusion of SDGs and social-emotional competencies in textbooks should ideally start at a young age [13] In early 2017, a group of international scholars and practitioners came together to promote the inclusion of SDG Target 4.7 and related social and emotional skills (SES) in textbooks. The concept of 'embedding' was further developed in chapter 6. PISA 2018 Global Competence Framework, 2019 [14].

A quantitative, semantic and linguistic (linguocultural and psycho-linguistic) examination of textbooks was required to determine the state of ESD in textbooks. Quantitative analysis determined the percentage of textbooks containing the terms 'sustainable development', 'sustainable development goals'. Semantic analysis aimed at identifying perceptions of environmental and moral imperatives; green economy; sustainable development goals; human rights; global issues of humanity; peace and values of all cultures; natural and cultural heritage in their relationship; environmental, social, economic and cultural ties; links between present and past and future; global citizenship. Linguistic analysis seeks to identify the hidden meanings of the relationship between humans and nature - the 'danger-

ous metaphors' that preserve the anthropocentric attitudes of consumer society. Such analysis is impossible without the use of AI and blockchain technologies. Without them, it is also impossible to update textbooks - their content and pedagogy. Adding (bolting on) information about global issues and SDGs is not enough [11].

ESD goes far beyond education 'about' sustainable development. In Chapter 36 of Agenda 21 (1992), there was a call for the integration of education for sustainable development into the curriculum as a combination of development education and environmental education - in all disciplines. There has long been an international consensus that ESD should be 'embedded throughout the curriculum, not as a separate subject'. Underlying these calls for an interdisciplinary and integrated approach to ESD is a keen awareness of the cross-cutting and interconnected nature of sustainable development.

Progress in addressing this challenge goes from denying the need to change the content and pedagogy of textbooks, to mechanically adding information about SD, then to embedding ESD ideas in curriculum content and other aspects of formal education as an integral element of it, rather than as a 'bolt-on' (bolt-on). ESD is placed at the core of every subject rather than remaining on the periphery of the curriculum. The next step is to merge ESD and the subject matter, including restructuring existing institutional structures [15].

Embedding ESD in textbooks will in the long run lead to a 'holistic system' and as a consequence a redesign of all education, an 'educational paradigm shift' [16]

The implementation of ESD should take place within an institution-wide approach ('the whole school'), the values and principles of SD should be reflected in the mission of the school and be central to the professional development of its teachers. That is, changes need to occur not only in textbooks but also in educational policies, curricula, teacher training and student assessment.

ESD will become so deeply embedded in all forms of education that it becomes indistinguishable as a fundamental value of life, as a social norm. While the embedded element is still discernible (each subject has two educational objectives), its fusion with the system (integration, infusion) offers the possibility of its transformation from within, paving the way for interdisciplinarity and problem-based learning. ESD and the educational process become indistinguishable [17].

To ensure that ESD does not remain on the margins of academic subjects and does not compete for space in an overcrowded curriculum, a systematic, interdisciplinary re-engineering of all content and teaching methods is required, above all the 'mothballed' textbooks. Nor is it about abolishing or minimising the importance of academic content. On the contrary, it is about reorienting subjects to more socially and globally relevant goals and raising the rank of subject content – from the private to the general, understanding its role in life, the future, and improving the quality of education.

Accordingly, the assessment of educational outcomes is also changing - not only promoting the cognitive development of the student, but also developing the skills, knowledge, values and attitudes necessary for responsible, active and productive citizenship, developing key competences that enable one to navigate in an increasingly complex world and interact with it creatively and responsibly. There is a need to learn how to measure these competencies. Without the technological union of AI and blockchain, limiting this to traditional methods, it is practically impossible to do this for all subjects in continuity across educational levels, taking into account local factors and country specifics.

Conclusions. Solving the global problems facing humanity in the 21st century is impossible without renewing the content and pedagogy of education around the world. This ambitious task is being tackled in stages, through the incorporation and then introduction of ESD into the content of textbooks, curricula, assessment systems, and all areas of the work of all educational organizations. Such an ambitious global task can only be achieved by harnessing the increasing power of artificial intelligence technology in alliance with blockchain, and requires a strong effort, given that the window of opportunity in a rapidly changing, unstable world may soon close.

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WAYS TO DEVELOP THE COGNITIVE ACTIVITY OF THE YOUNGER SCHOOLCHILDREN LEARNING PROCESS TECHNOLOGY

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ПУТИ РАЗВИТИЯ ПОЗНАВАТЕЛЬНОЙ АКТИВНОСТИ МЛАДШИХ ШКОЛЬНИКОВ ТЕХНОЛОГИЯ УЧЕБНОГО ПРОЦЕССА

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Abstract

The article discusses the optimization of teaching the subject of technology - from the point of view of the activity of younger students, from the point of view of achieving high results with less effort in a short time, the presence of rich psychological moments in teaching technology, the method of preparing the product itself, attempts to develop concepts aimed at more effective implementation functions of the learning process, development of concepts aimed at more effective implementation of the function of the learning process, the use of technology by younger students, such as orienting practical educational materials characterized by cognitive activity to cognitive activity by showing pictures, diagrams, examples of execution sequences, colors and many features by showing interest in thinking, hand movements, understanding and technological operations.

Аннотация

В статье рассмотрена оптимизация преподавания предмета технологии - с точки зрения активности младших школьников, с точки зрения достижения высоких результатов при меньших усилиях в короткие сроки, наличия богатой психологических моментов в обучении технологии, сама методика приготовления продукта, попытки разработки концепций, направленных на более эффективную реализацию функции процесса обучения, разработка концепций, направленных на более эффективную реализацию функции процесса обучения, использование младшими школьниками технологии, такие как ориентирование практических учебных материалов, характеризующихся познавательной деятельностью, на познавательную деятельность путем показа картинок, схем, примеров последовательности выполнения, цветов и многих особенностей путем проявления интереса к мышлению, движениям рук, пониманию и технологическим операциям.

Keywords: technology, cognitive training, problem situation, optimization
Ключевые слова: технология, когнитивный тренинг, проблемная ситуация, оптимизация.

Реализация учебно-воспитательной функции на высоком уровне требует творческой деятельности, связанной с познавательными способностями учащихся. В то же время достаточная самостоятельная работа, обучение в них, применение знаний на практике, а также самообразование и самосовершенствование создают широкие возможности для формирования навыков и привычек[1].

Цель является первым элементом педагогического процесса, она определяет другие элементы познавательной деятельности - содержание, средства и методы. Важно знать цель познавательной деятельности в педагогическом процессе, чтобы иметь эффективный результат [2].

В результате исследований доказано, что оптимальные пути повышения познавательной активности младших школьников при обучении технологии основаны на соответствующих принципах. Здесь главным требованием является постановка задачи, обеспечивающей познавательной активностии, чтобы мотивировать учащихся к практическому решению теории в обучении.

Слова «оптимальный» происходит от латинского слова optimus, что означает «наиболее подходящий для соответствующих обстоятельств и задач». Каждому учителю, в том числе учителю, который ведет занятия по технологии в начальных классах, приходится искать несколько вариантов при решении вполне определенной задачи. Однако среди этих вариантов наиболее оптимальным считается тот, который решается кратчайшим и эффективным путем. Открыть для себя этот вариант и научить младших школьников его приемам — одна из важных задач каждого учителя. Оптимизацию обучения технологии следует понимать в широком смысле как определение наиболее подходящего варианта выполнения какой-либо задачи в соответствующих условиях.

С психологической точки зрения оптимизация представляет собой акт интеллектуального рассуждения, предпринимаемый для более эффективного решения соответствующей задачи. Оптимизация деятельности на уроках технологии развивает самостоятельность, мышление и творческий подход. Деятельность учителя всегда состоит в создании оптимальных условий для творческого поиска лучших вариантов воспитания и обучения учащихся, для успешного решения актуальных учебно-воспитательных задач.

По словам Каримова, оптимизация обучения в каких-либо конкретных условиях требует от преподавателя выполнения большого количества качественной работы за минимальное количество времени и достижения хорошего результата, не обременяя себя и учащихся, не утомляя его и не теряя времени. Оптимизация преподавания предмета технологии с учетом близкого этапа развития младших школьников, обращение к гигиеническим нормам для каждой возрастной группы состоит в получении высоких результатов в короткие сроки. Учитель технологии, не обладающий способностью оптимизировать процесс обучения, будет организовывать педагогический процесс исходя из его внешних особенностей и не сможет создать благоприятные условия для процесса обучения [3].

Важным направлением оптимизации учебного процесса при обучении технологии является эффективное использование времени на занятиях, а также достижение интенсификации учебного процесса. Интенсификация тренировочного процесса заключается в достижении максимального успеха на учебном задании в заданных условиях за минимальный промежуток времени.

Оптимизация преподавания предмета технология - с точки зрения активности младших школьников, заключается в достижении высоких результатов с небольшими усилиями за малое время.

Оптимальность познавательной деятельности учащихся должна реализовывать специальные психологические механизмы, обеспечивающие ее создание и поддержание.Механизм - это комплекс частей, формирующих движение тех или иных элементов и заставляющих двигаться другие. Для передачи движения используются механизмы. Учащиеся привлекаются в качестве первого требования к созданию проблемной ситуации при обучении технологии. Активные (интерактивные) методы обучения используются для достижения познавательной активности при обучении технологии. Психически напряженная (проблемная) ситуация возникает, когда информация противоречива и неполна. Возникновение такой ситуации заставляет студентов искать пути достижения поставленной перед ними цели. Это активизирует их мышление. В результате у школьников формируется познавательная активность. Повышается исследовательская активность студентов. Проблемная ситуация – это ситуация, сочетающая наличие возможных противоречий и различных способов мышления при решении проблемы и обеспечивающая познавательную деятельность.

Потребность в диалоге и сотрудничестве отличается своей оптимальностью в педагогическом процессе, где применяются современные инновации. Возникают различные гипотезы и взгляды на решение проблемы. Ищем самые удобные средства. Это обусловливает необходимость создания активного сотрудничества с другими участниками учебного процесса, поэтому для дифференциации метода обучения целесообразно использовать такие понятия, как «проблемное» или «проблемно-диалогическое» обучение. Одним из важнейших механизмов эффективности познавательной деятельности является изменение традиционного подхода к обучению: придание процессу исследовательского характера; это превращение учащегося в главную фигуру и равноправного субъекта операции познания. Позиция учащегося – это позиция «первооткрывателя», «исследователя». Когда он сталкивается с вопросами и проблемами, которые ему подвластны, он решает их, проводя самостоятельное исследование. В это время, как необходимое условие урока, проявляется потребность учащегося в осознанном разделении целей обучения на составные части: что понимать; понять почему; что освоить; зачем учиться; как учиться и т. Каковы последствия всего этого? Важна совместная деятельность учителя и ученика, направленная на достижение образовательной цели. В это время учитель не претендует на роль лидера в классе, как уважаемый человек на уроках технологии, не ставит себя выше сверстников. Вместо этого он целенаправленно взаимодействует с младшими школьниками, организует проблемную ситуацию; направляет их в постановке целей исследования; Оказывает методическую помощь в их решении; учит способам приобретения и усвоения знаний. Помогает ребенку понять основные компоненты учебной деятельности; но и овладевает необходимыми мыслительными способами и средствами приобретения знаний и использования их для познавательной деятельности.

Схема тренировочного процесса имеет качество деятельности. Он призван помочь каждому студенту самостоятельно приобрести необходимые знания и стать компетентным, независимым исследователем, способным учиться на протяжении всей жизни. Но для реализации такой структуры обучения учитель ограничивает свою деятельность проводником в получении знаний. В то же время он должен уметь применять знания. Учителя начальных классов, участвовавшие в эксперименте, сосредоточили внимание на этих вопросах. Кстати, надо прокомментировать облегчение.

Фасилитация, являясь релевантным процессом, включает в себя процесс организации дискуссии и активизации познания учащихся с помощью эффективного применения вспомогательных и наводящих вопросов. Главная особенность фасилитации в том, что новый союз открывает ученик, а не учитель. Задача фасилитатора – добиться развития мышления и направить его в нужное русло. Основной целью фасилитационного подхода является удовлетворение потребности младших школьников

в обучении и творческом подходе к решению задач, формирование у них благоприятной среды для реализации своего потенциала на уроках технологии.

В этом познавательном процессе должна быть реализована психологическая поддержка: уважение и доверие. Для того чтобы активная познавательная позиция учащихся была в необходимой форме, учителю важно уважительное, сострадательное, индивидуальное отношение к каждому ученику, с особой чуткостью чувствовать обстановку на уроке.

Доброта, терпимость учителя, принятие школьников такими, какие они есть, и постоянная поддержка их, вера в их способности, укрепят у младших школьников убеждение в том, что каждая его попытка решить предстоящую задачу будет оценена как творческая идея и будет заслужить его уважение. В условиях такого изменения психологической среды обучения можно устранить страх неудачи, чувство недоверия и адекватно защитить познавательную активность школьников на уроке.

Поддержание уважения ученика, доверие к нему, отказ ставить положительные или отрицательные оценки за ответы, с одной стороны, оптимизирует чувство уверенности в себе, а с другой стороны, повышает уважение и доверие к учителю.

Оптимизация педагогического процесса – это инновация, относящаяся ко всей педагогической системе. Под оптимизацией принято понимать процесс выбора наилучшего из возможных вариантов. Существует множество вариантов организации педагогического процесса и достижения целей в сложной, динамичной, многоплановой системе. Возможно, что только один из них очень хорош. Обнаружение этого варианта является важной задачей оптимизации. Эта задача решается путем сравнения соответствующих вариантов и оценки альтернатив.

Оптимизация должна соответствовать цели педагогической системы. Потому что эта система создана для достижения цели. Возможно также, что сформированная в таких условиях оптимальность может оказаться недостаточной для других условий. Оптимизация — это конкретное понятие. Имеет теоретическое и практическое направления. Учет, сравнение, сверка — синонимы оптимизации. Это можно отнести к теоретическому аспекту.

Под «оптимизацией» в практическом аспекте понимается нововведение, реорганизация педагогической системы, приведение ее в состояние, пригодное для выполнения поставленных задач.

Знак и показатель становятся в центре внимания как критерии оптимизации. На этой основе оцениваются соответствующие варианты процесса разработки и из них выявляется наиболее благоприятный. Считается целесообразным иметь в критерии только один показатель (параметр). Но оптимизация в педагогике сложна. Причина этого в том, что невозможно разделить причинно-следственные связи процессов, происходящих в педагогической системе. Педагогический процесс считается оптимальным, когда студенты и преподаватели не перегружены и достигаются высокие результаты. Опыт показывает, что чрезмерная загруженность учителей и школьников снижает их работоспособность и отрицательно сказывается на здоровье.

В существующей литературе в качестве основного критерия оптимизации педагогического процесса учитываются 2 органически связанных друг с другом показателя: достижение максимально высоких результатов в обучении и развитии школьников; учитывать нормы времени, отводимые на уроки и домашние задания школьников этого возраста.

Методологической основой оптимизации является системный подход. Он требует брать компоненты педагогического процесса, закономерности взаимоотношений как единое целое, опираться на общую теорию управления сложными динамическими системами. Оптимизация считает целесообразным организовать педагогический процесс в соответствии со сложившейся ситуацией и условиями. Таким образом, он сам устанавливает новые условия и требует, чтобы педагогический процесс ему подчинялся. Здесь нет противоречия. Между этими двумя процессами существует взаимодействие.

Известны следующие уровни активности образовательного учреждения, учителя и учащихся: недостаточный уровень; кризисный уровень; соответствующий уровень; оптимальный уровень.

Предмет технологии считается оптимизированным, когда педагог владеет основными педагогическими знаниями и навыками, законами и принципами педагогики, технологией организации коллективной, групповой и индивидуальной деятельности, понимает задачи обучения, воспитания и развития. Выбрать оптимальный вариант можно, зная систему и каждый ее элемент. Если бы этого не было, то идея оптимальности оказалась бы в центре внимания как крайне сложное понятие и потеряла бы свое значение. При этом при оптимизации учитывается опыт ведущих преподавателей.

Исследования показывают, что для успешной оптимизации познавательной деятельности учащихся при обучении технологии учитель должен приобрести ряд качеств. Обратим на них внимание: творческий стиль мышления; гибкость мышления; конкретность мышления; к системности мышления; способность выжидать лимит времени на принятие решений и поступков; умение быстрее общаться и ждать педагогического такта и т.д. надо освоить.

Одним из основных и важных требований к всесторонне развитой личности является трудоспособность личности, умение работать в той или иной сфере производства, народного хозяйства, положительное отношение к труду и работникам. [4]

Актуальность проблемы. Пути развития познавательной активности младших школьников в процессе обучения технологии являются актуальным вопросом.

Новизна проблемы. В статье в центр внимания поставлена познавательная деятельность по подготовке к труду в начальных классах.

Практическая значимость проблемы. Статья будет полезна молодым исследователям

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