DEUTSCHE internationale Zeitschrift

für zeitgenössische Wissenschaft

№21
2021

DIZZW 2020

DEUTSCHE internationale Zeitschrift
für zeitgenössische Wissenschaft

DIZZW 2020

DEUTSCHE internationale Zeitschrift
für zeitgenössische Wissenschaft

ISSN (Print) 2701-8369
ISSN (Online) 2701-8377

Deutsche internationale Zeitschrift für zeitgenössische Wissenschaft

• • •

№21 2021

Deutsche internationale Zeitschrift für zeitgenössische Wissenschaft ist eine internationale Fachzeitschrift in deutscher, englischer und russischer Sprache.

Periodizität: 24 Ausgaben pro Jahr
Format - A4
Alle Artikel werden überprüft.
Freier Zugang zur elektronischen Version des Journals

German International Journal of Modern Science

• • •

№21 2021

German International Journal of Modern Science is an international, German/English/Russian/Ukrainian language, peer-reviewed journal.

Periodicity: 24 issues per year
Format - A4
All articles are reviewed.
Free access to the electronic version of journal.

- Edmund Holst (Salzburg) AT
- Michaela Meissner (Köln) DE
- Klara Amsel (Liège) BE
- Briana French (Cambridge) GB
- Joleen Parsons (Manchester) GB
- Dragomir Koev (Sofia) BG
- Stanislav Štěpánek (Praha) CZ
- Valeriya Kornilova (Kyiv) UA
- Dmitriy Aksenov (Lviv) UA
- Valentin Bragin (Moscow) RU
- Mirosław Bednarski (Warsaw) PL
- Daniela Villa (Florence) IT
- Mattia Molteni (Rome) IT
- Sylwia Krzemińska (Ljubljana) SI
- Käte Kraus (Vienna) AT
- Eleonora Lehmann (Berlin) DE
- Alexander Dressler (Marseille) FR
- Zdzisław Małecki (Warsaw) PL
- Adrián Borbély (Budapest) HU

Artmedia24

Anschrift: Industriestraße 8,74589 Satteldorf Deutschland.

E-mail: info@dizzw.com
WWW: www.dizzw.com

Chefredakeur: Reinhardt Roth

Druck: Einzelfirma Artmedia24, Industriestraße 8,74589 Satteldorf Deutschland

Artmedia24

Address: Industriestrasse 8,74589 Satteldorf Germany.

E-mail: info@dizzw.com
WWW: www.dizzw.com

Editor in chief: Reinhardt Roth

Printing: Artmedia24, Industriestrasse 8,74589 Satteldorf Germany.

Edition: № 21/2021 (November) – 21th

Passed in press in November 2021

Printed in November, 2021

Printing: Artmedia 24, Industriestrasse 8,

74589 Satteldorf, Germany.

CONTENT

ARTS

BIOLOGICAL SCIENCES

ECONOMIC SCIENCES

MEDICAL SCIENCES

PEDAGOGICAL SCIENCES

PHILOLOGICAL SCIENCES

PHILOSOPHICAL SCIENCES

SOCIAL SCIENCIES

ARTS

RITUAL FOLKLORE OF THE KAZAKHS AS ANCIENT PLAST OF NATIONAL CULTURE

Kuzbakova G.,
PhD in Musicology,
Kazakh National University of Arts
Tauelsizdik, 50, Nur-Sultan
Imasheva A.
PhD in Pedagogical Sciences,
Kazakh National Conservatory named after Kurmangazy
Abylai Khan Avenue 86, Almaty
DOI: 10.24412/2701-8369-2021-21-4-6

Abstract
The article is devoted to ancient family-ritual songs of Kazakhs. The study shows the basis of figurative and artistic poetics of ritual genres. Songs of maternity, wedding and funeral rites are described as an ancient layer of national cultural traditions, preserved by the Kazakhs to this day. The main constants of the worldview of the family-ritual song genres of the Kazakhs are revealed - Tengrian mythopoietic ideas and beliefs about life and death, an animistic understanding of nature, the human life cycle, the idea of reincarnation.

Keywords: Kazakh song folklore, Kazakh music, cultural traditions, ritual songs, traditional art, tengrinism, wedding ceremonies, farewell songs of brides, traditional worldview

The process of globalization and integration, which is constantly expanding and has a huge impact on the existence of societies and States, is known to be an integral feature of our time. In the context of information openness, national communities are increasingly entering into economic, political and cultural interactions. In this regard, in the twenty-first century, in a globalizing world, the problem of preserving spiritual and cultural traditions is acute for each individual state. Opposition to total integration is the aspiration of peoples to preserve the values and achievements of national culture, identity, spirituality.

In the musical and poetic work of the Kazakhs, a system of genres of epic, song and instrumental traditions has been preserved, rooted in the depths of centuries. The earliest layer of Kazakh traditional music - ***family-ritual song folklore***, seems to have played a primary role in the formation of professional branches of Kazakh musical art - song, epic and instrumental. The genres of Kazakh ritual folklore are songs of maternity rites and rites related to birth and childhood ("Әldi", "Bala Uatu". "Besik Zhyry", "Tұsau Kesu" etc.), Wedding ("Synsu', "Қoshtasu", "Tanysu", "Zhar-Zhar", "Toibastar", "Betashar", etc.) and funeral cycles ("Zhoқtau", "Zhila'u", Zar).

Ritual songs performed in a family circle reflected the deep layers of collective memory, ancient beliefs, ideas about macro- and microcosm. Ritual rhythmoformules performed in syncretism with intonation are carriers of constants of a traditional worldview. Alexandr Zataevich wrote: "…not a single girl had the moral right to marry without her own composed song. …The death of a person also gave birth to a new song" [3, page 193]. Thus, the ritual song performed in close syncretic unity with ritual action.

Thanks to the artistic imagery created by musical and poetic art, when "thoughts take on a more convincing and intelligible form than abstract ideas..." [3, p. 93], the customs, traditions of moral unwritten steppe laws, views and beliefs are preserved to this day. Through music and poetry Kazakhs carried out the transfer from generation to generation of worldview with its religious, cosmogonic and environmental ideas. So, in the song "Elimai" about the separation of tribe, the dombra kuy-legend "Ақsaқ құlan" and other works of folklore and oral-professional music, the zhoқtau ritual theme-formula sounds like a symbol of loss, thereby summarizing the content of music.

There are images of the sun and moon, fire, water, totemism, nature are in the poetry of almost all ritual genres. The collectiveness of these images indicates the capture in the people historical memory of beliefs and ideas about the world, which laid the foundations for the worldview of the Kazakhs, which influenced the mentality of the Kazakh ethnic group, which had an enduring effect on the spiritual primevoles, which crystallized in the collective unconscious.

Musical and poetic formulas in ritual genres go back to Tengrian mythopoietic ideas. So, "the cult of fire among the Turks, like the Mongols, was associated with the belief in his powerful cleansing power from evil, granted by Tengri. The information of the Byzantine ambassador Zemarch (568), who was cleared by fire before being admitted to the kagan, has been preserved. The funeral rite of the Turks is associated with the cult of fire - the custom of burning the dead. The "ot" ('fire') found in poetic texts of funeral and memorial lamentations is an echo of the oldest belief of the khazaks. The fire is elevated to the status of a deity, it must be maintained as a living pervasive entity [8, c.106].

The reflection of sun-light in the songwriting of Kazakhs in this regard is evidenced by the so-called *steppe* songs. Alexandr Zataevich in a note to his collection "1000 songs of the Kazakh people" cites interesting facts testifying to the existence of ancient ritual songs that met sunrise in the steppe [3, No. 124].

The moon as a celestial light was also an object of worship, its veneration arose much later and was only

among the traditions associated with the lunar calendar [7]. The figurative opposition of the "ai – kүn" – "sun and moon", typical of the worldview of the Kazakhs, is found in the Betashar song:

Ïilip bir jat elge kelip tursıñ,	*You came to someone else's people*
Aldıñnan ay-kün twıp jarılqasın	*Let the bright sun and the moon meet you!* [1]

Widely known for the philosophy and religion of Buddhism, the idea of reincarnation is also characteristic of Kazakhs. In the world perception of the Turks, death did not have the character of a final event, but was thought of as a transitional stage preceding a new birth. Associated with it is a wedding rite, saturated with the symbolism of transition. The idea of initiation - death in one quality and birth in another, threshold-border of the worlds, permeating the ritual actions of the wedding, objects endowed with sacrality, is directly reflected in the poetic metaphors of wedding farewell songs.

In the wedding rite of the Kazakhs, the symbolism "living-dead" is played. The marriage of a girl is perceived in the traditional concept as a mythological, ritual death. Natural in this regard in poetics to a "*Synsu*" is the opposition of life and death.

This is how the famous scientific geographer and traveler, a member of the Russian Geographical Society Victor Radlov describes the departure of the young bride: "By the departure of the newlyweds from the father of the young woman, the whole aul in which she lived is gathered. Here the father solemnly presents his son-in-law with a dowry on camels and horses, and then makes his daughter his instruction, exhorts her to be faithful and virtuous, says goodbye to her and, finally, putting her on a horse, brings her for an occasion to her husband. Young spouses usually go with the tears and cries of the women gathered for goodbye" [9]. Let us give an example of the wedding farewell song of the bride Syңsu (Example of "Wedding Song of the Bride"), recorded in the Karaganda region in 1986 (Fund of the Folklore Laboratory of the Alma-Ata State Conservatorie named after Kurmangazy), the poetic text of which confirms what was said.

The following poetic text also confirms marriage as death:

Bazardan kelgen tört kilem,
Törtewi de tüs kilem,
Bararda-aw, tiri-aw, ketti demeseñ,
Ölgennen munıñ nesi-aw, kem

The idea of reincarnation is also associated with the idea of circular time, which exists today. So, the ritual song toybastar is performed before the start of the feast on the occasion of any celebration related to the birth of a child, matchmaking, wedding, anniversary, mush-toy, initiation, moving to 'jailau'(steppe) , *tұsau kesu, syndet toy*, etc. The *toybastar* rite can also be performed at the end of the feast. The owners take out gifts and a new treat on the tray, which is played out by the guests. After performing a song or cuya, gifts are distributed among guests. "In no case should a happy and successful wedding one end, at the end it must definitely give rise to the next, the same happy toy" [6, c.19]. This ceremony is the key to the continuity of well-being - the hosts of future festivities will take the baton, which is associated with the Tengrian ideas about maintaining the continuity of the "good, happy" Time.

In the farewell songs of brides, a wide variety of established poetic categories should be noted, metaphors and images, the genesis of which leads to ancient Turkic, Kazakh mythology (images of birds and trees) and Tengrianism (celestial luminaries of the moon and sun) [1, 5; 10].

The figurative and poetic system of ritual poetry is unusually rich. The rite "seems to highlight the side of things, actions, phenomena that are obscured in ordinary life, are not visible, but in fact determine their true essence. Hence, the duality of all phenomena and the switching from the level of daily life to the level of current values" [4]. This can explain the system of prohibitions in prescribing behavior in Kazakh traditional society. So, it is forbidden to step on the threshold, the center, since it is the abode of spirits, to step and scatter ash so as not to desecrate the spirit-owner of fire, offend the old, since they are close to the world of the dead, etc. The roots of such a behavioral stereotype lie in the animosity of the traditional Kazakh worldview, which also dates back to Tengrianism.

Thus, the ritual songs of the Kazakhs, rhythmic formulas like the established musical and rhythmic forms of the embodiment of the poetic line, give the key to a deeper, adequate understanding of ritual themes as signs of the Kazakh culture. The figurative and poetic system of ritual folklore of Kazakhs reflects a systemic factor - life cycle stages birth, wedding, death. The main content of the ritual forms of music and poetry is the life-affirming idea, the idea of the unity of man and nature, the anthropological model of the world, the absence of pathos of the struggle against nature inherent in the collectivism of settled agricultural peoples.

Being associated with the native strata of national culture, Kazakh family-ritual folklore provides a powerful channel for translating spiritual values to the level of mass social consciousness. Sacred ritual songs are a kind of media encoded through musical and poetic means of the original cultural meanings that determine the appearance of the entire national culture. In the music of a later time - oral-professional tradition and the period of creativity of composers of the Soviet and post-Soviet periods - the ritual tastes isolated from the original syncretism of music and action are included as symbols and stylistic details.

[1] From the Folklore Laboratory Fund of the Kurmangazy Kazakh National Conservatory

References

1. Abuov A.P. Religious views of the ancient Turks: Tengrianism or shamanism // Ancient Turkic civilization: written monuments. - Almaty, 2001. – P.217-222. [Published in Russian]
2. Baikadamova K., Temirbekova A. Kazakh customs and traditions (tutorial) - Almaty, 2001. [Published in Russian]
3. Zataevich A. 1000 songs of the Kazakh people. - Almaty, 2004. – 607 p. [Published in Russian]
4. Zemtsovsky I. Genre, function, system // Soviet music, M.: - 1971 - № 1. [Published in Russian]
5. Kazakhs. Historical and ethnographic research. – Almaty: Kazakhstan, 1995. – 352 p. [Published in Russian]
6. Mukhambetova A.I. Tengrian calendar and time in Kazakh culture //Eurasia.– 2001. – № 2. [Published in Russian]
7. Nurzhanov A. Tengrianism as a cult, spiritual symbols of the Turkic-speaking peoples in the Middle Ages. - KazNPU Bulletin. - Almaty, 2013. [Published in Russian]
8. Orynbekov M.S. Beliefs of ancient Kazakhstan. - Almaty, 1997. [Published in Russian]
9. Radlov V.V. From Siberia. M: Publishing house of the Academy of Sciences of the USSR, 1989. – P. 312 –313. [Published in Russian]
10. Tursunov E. The emergence of bucks, akyns, sere and zhyrau. - Astana: Foliant, 1999. - 252 p. [Published in Russian]

JOHANN SEBASTIAN BACH
TOCCATA AND FUGUE D-MOLL "DORIAN" FOR ORGAN BWV 538
In search of the original source

Prodma T.
Candidate of art criticism
ORCID 0000-0001-9180-1935
DOI: 10.24412/2701-8369-2021-21-6-9

ИОГАНН СЕБАСТЬЯН БАХ
ТОККАТА И ФУГА D-MOLL «ДОРИЙСКАЯ» ДЛЯ ОРГАНА BWV 538
В поисках первоисточника

Продьма Т.Ф.
кандидат искусствоведения
ORCID 0000-0001-9180-1935

Abstract

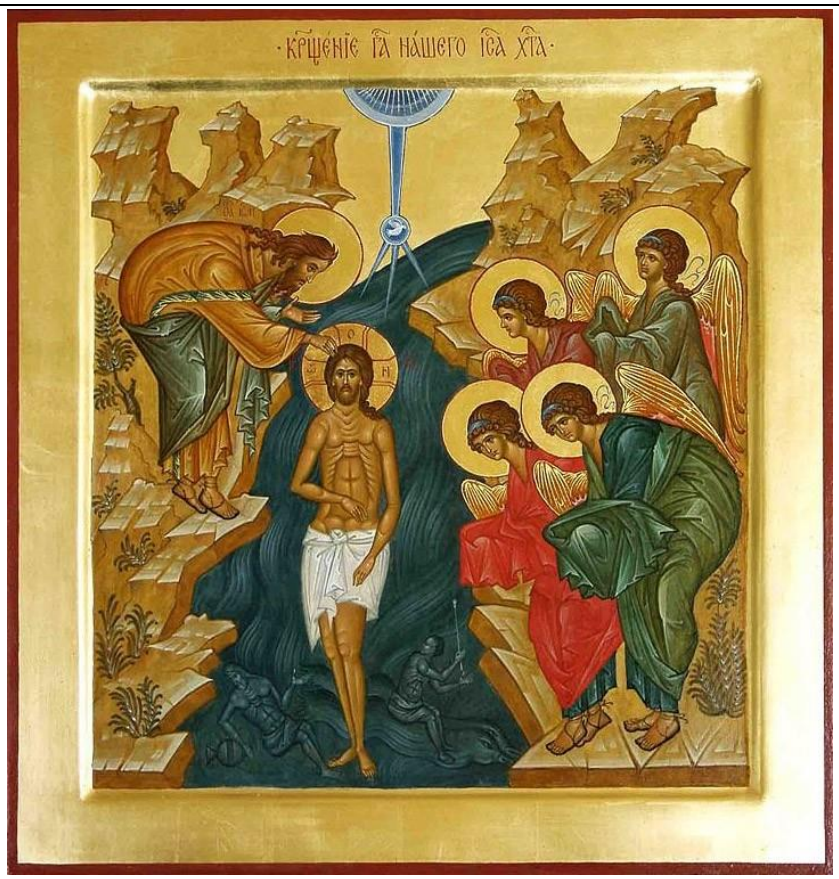
This article raises a question regarding search for a musical source for Toccata and the fugue d-moll "Dorian" BWV 538. I am proposing a version for consideration: Bach could choose the chorale "Christ, unser Herr, zum Jordan kam" as the source for the creation of the organ toccata's cycle BWV 538. The conclusions are based on a comparative analysis of the melody of this chorale with the beginning of the toccata and the theme of the fugue "Dorian". The chorale's treatments "Christ, unser Herr, zum Jordan kam" BWV 684 and BWV 685 are involved in the comparative analysis. The general techniques of musical development and sound images are considered as a binding component present in the melody of the chorale and in all the above-mentioned works.

Аннотация

В данной статье поднимается вопрос, касающийся поиска музыкального первоисточника для Токкаты и фуги d-moll «дорийской» BWV 538. Предлагается на рассмотрение версия: при создании органного токкатного цикла BWV 538 Бах мог избрать в качестве истока хорал «Christ, unser Herr, zum Jordan kam». Выводы основываются на сравнительном анализе мелодии данного хорала с началом токкаты и темой фуги «дорийских». К сравнительному анализу привлекаются хоральные обработки «Christ, unser Herr, zum Jordan kam» BWV 684 и BWV 685. В качестве скрепляющего компонента рассматриваются общие приёмы музыкального развития и звукоизображения, присутствующие в мелодии хорала и во всех вышеназванных произведениях.

Keywords: J.S. Bach. Toccata and the fugue d-moll "Dorian" BWV 538; the chorale "Christ, unser Herr, zum Jordan kam" as a musical source; choral preludes for organ «Christ, unser Herr» BWV 684 and BWV 685.

Ключевые слова: И.С. Бах. Токката и фуга d-moll «дорийская» BWV 538, хорал «Christ, unser Herr, zum Jordan kam» как музыкальный первоисточник; органные хоральные прелюдии «Christ, unser Herr» BWV 684 и BWV 685.

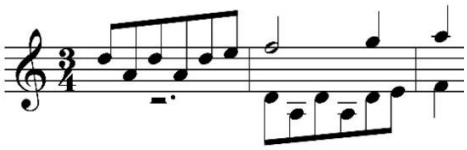


Крещение Господне
Школа Андрея Рублева, начало XV века

Токката и фуга d-moll «дорийская» BWV 538 была завершена Иоганном Себастьяном Бахом к началу 1717 года (21.II.1717) [5, с. 699]. Правда, в зарубежном музыкознании время создания этого органного полифонического цикла указывается с меньшей степенью определённости [2, с. 316]. Сохранилась Токката и фуга d-moll «дорийская» не в подлиннике, а благодаря хорошей старинной копии [4, с. 40]. Уточнение в названии — «дорийская» — не принадлежит Баху. Оно привнесено извне, более позднего происхождения и обусловлено тем, что тональность *d-moll* выписана в этом цикле без знаков у ключа, что условно указывает на дорийский лад.

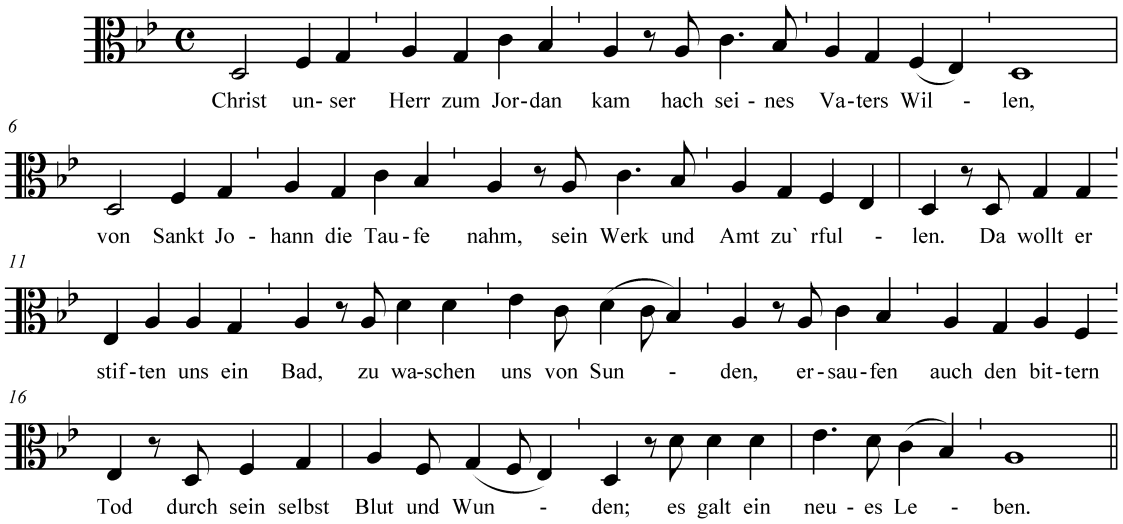
В музыковедении затрагивался вопрос о первоисточнике для токкаты «дорийской». Один из основоположников французской школы исторического музыкознания *Андре Пирро* назвал в качестве *возможного* источника фрагмент пьесы Андре Резона, опубликованной Гильманом (пример 1) [4, с. 142].

Пример 1
Андре Резон



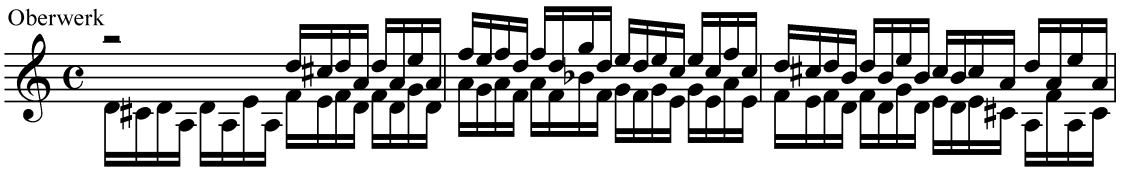
В настоящей статье предлагается на рассмотрение версия: Бах, вероятнее всего, использовал в качестве мелодической основы для Токкаты и фуги d-moll «дорийской» оригинальную песню Лютера, ставшую затем протестантским гимном, — «Christ, unser Herr, zum Jordan kam» («Христос, наш Господь, пришёл на Иордан»), посвящённую празднику Крещения Господня (пример 2).

Пример 2
Хорал «Christ, unser Herr, zum Jordan kam»

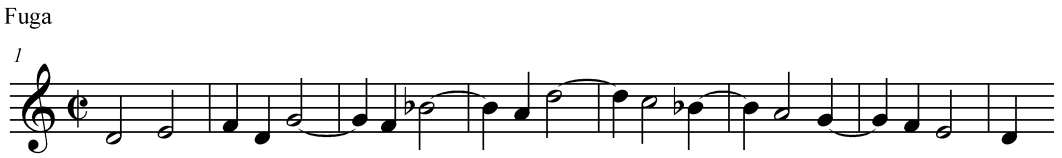


Можно сказать, что с точки зрения композиции обе части цикла «дорийского» представляют собой хоральные обработки различных типов: свободную фантазию на хорал (токката) (пример 3) и фугу на хорал (фуга). В фуге определённо узнаваема мелодия хорал «Christ, unser Herr»; при этом, тема фуги — это не краткая интонационная ячейка, как в старинных ричеркарах, а развитая мелодия протяжённостью в две фразы хорала (пример 4).

Пример 3
Токката и фуга d-moll «дорийская» BWV 538, токката



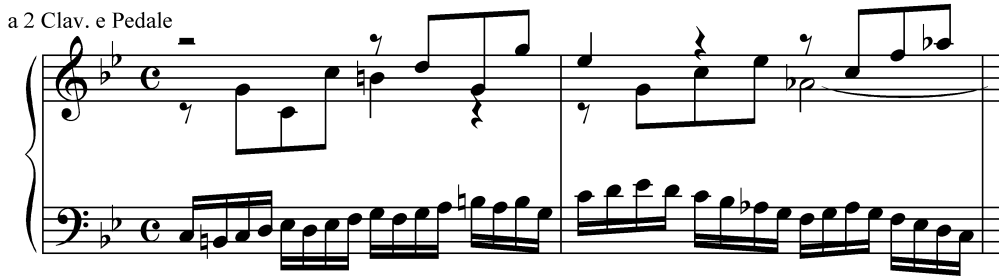
Пример 4
Токката и фуга d-moll «дорийская» BWV 538



Начинается токката «дорийская» октавным каноном. Такие каноны в XVII и XVIII веках нередко назывались фугами. Слово *фуга* в латинском и итальянском языках буквально означает бег и быстрое течение. Была известна и музыкально-риторическая фигура *fuga, alio nempe sensu* (фуга в другом смысле) — мелодическое движение мелкими длительностями, часто с имитациями, изображающее бег. Избирая каноническую (фугированную) технику изложения музыкального материала, Бах мог передать в первых тактах токкаты «дорийской» мерный бег реки Иордан. Мотивы из шестнадцатых, с которых начинается эта токката, основанные на фигурах circulatio, со свойственной им монотонной ритмикой, но постоянно изменяющейся линией рисунка, воспринимаются как звукоизображение неприхотливо струящихся вод Иордана, в которых произошло Крещение Господне. Этими мотивами будет пронизана вся фактурная ткань токкаты.

К живописанию водных потоков Бах обращался во всех своих произведениях, написанных на хорал «Christ, unser Herr», и, как видно, не случайно. *Струящиеся воды* указывают не только на реку Иордан. В христианстве *вода* является видимым знаком *Таинства Крещения*. Обратим внимание на то, что в пространной хоральной обработке «Christ, unser Herr, zum Jordan kam» BWV 684 волнообразные мотивы в нижнем мануальном голосе почти совпадают с начальными мотивами токкаты «дорийской (пример 5).

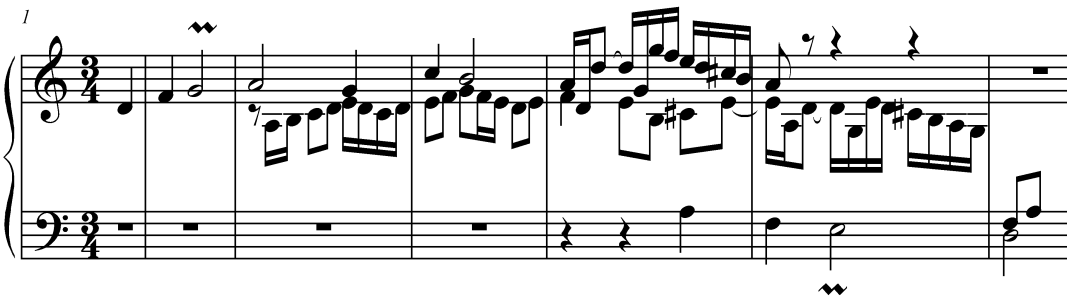
Пример 5
«Christ, unser Herr, zum Jordan kam» BWV 684



На хорал «Christ, unser Herr» Бахом были написаны кантата № 7 на день св. Иоанна (1724) и две органные хоральные обработки из Clavierübung III — BWV 684 и BWV 685 (1739). *А. Швейцер* пишет: «Фантазия на хорал “Christ, unser Herr, zum Jordan kam” (BWV 684) и оркестровое сопровождение первого хора кантаты № 7 на ту же мелодию изображают волны текущей воды. Поспешно пробегающие шумные шестнадцатые образуют прекрасные волнообразные линии, возвышающиеся над мелодией, проводимой в басу. Небольшая фантазия на тот же хорал (BWV 685) — одна из интереснейших миниатюрных работ, какими только располагает музыка. В ней использованы четыре мотива… Из взаимодействия этих четырёх мотивов возникает реалистически задуманное изображение больших и малых волн: они подымаются, опускаются, сталкиваются друг с другом» [5, с. 349–350].

Обратим внимание ещё на одну деталь, связанную со звукоизображением, присутствующую в Токкате и фуге «дорийской» и в хорале «Christ, unser Herr». Графический контур двух первых фраз хорала «Christ, unser Herr» и, соответственно, темы фуги «дорийской» имеет очертание возвышенности: мелодия в них сначала восходит, а затем нисходит. Бах внёс изменение лишь в диапазон мелодии: в хорале он равен септиме, а в теме фуги «дорийской» расширен до октавы. В этих звукоизобразительных штрихах и символике интонаций косвенно находит отражение сложный смысл Крещения Господня, как жертвенного пути, начавшегося на Иордане, а завершившегося восхождением на Голгофу (Голгофа — наименование возвышенности в Иерусалиме, на которой был распят Христос). Возникает вопрос: действительно ли мелодии лютеранских хоралов содержали элементы изобразительности? Что касается самого хорала «Christ, unser Herr» и одноименных баховских обработок, *изображение возвышенности* в них всегда присутствует. В хоральной обработке BWV 685 *возвышенность* очерчена в первых тактах контуром двух верхних голосов (пример 6). В большой хоральной обработке «Christ, unser Herr» BWV 684 она отображена в линии педального голоса в ритурнеле (см. пример 5). С длительного восхождения начинается второй раздел токкаты «дорийской» (см. такты 13 – 20).

Пример 6
«Christ, unser Herr, zum Jordan kam» (manualiter) BWV 685



Тема фуги «дорийской», имеющая контур *возвышенности*, заполнена восходящими чистыми квартами (см. пример 4). Эти энергичные (с отступлениями) квартовые ходы как будто передают напряжённый, тяжёлый, но, вместе с тем, уверенный шаг поднимающегося *в гору* человека. С момента Своего Крещения на Иордане Господь *вступил на путь* жертвенного служения, иными словами — *на путь,* ведущий на Голгофу, что отражено в тексте хорала «Christ, unser Herr».

References

1. *Bible.* Books of the Holy Scriptures of the Old and the Testament / With the blessing of His Holiness Patriarch of Moscow and All Russia Alexy II. Moscow: Publication of the Moscow Patriarchate, 1992. 1372 p. [Published in Russian].

2. (BWV^{2a}) Alfred Dürr, Yoshitake Kobayashi (eds.), Kirsten Beißwenger. Bach-Werke-Verzeichnis: Kleine Ausgabe nach der von Wolfgang Schmieder vorgelegten 2. Ausgabe. herausgegeben von Alfred Dürr und Yoshitake Kobayashi unter Mitarbeit von Kirsten Beißwenger. Wiesbaden: Breitkopf & Haertel, 1998. P. 311–355. [Published in Russian].

3. *Gero O.* Spiritual texts in Buxtehude’s music. Moscow: Publishing house “Classical-XXI”, 2010. 308 p. [Published in Russian].

4. *Keller H.* The Organ Works of Bach: A Contribution to their History, Form, Interpretation and Performance. Kazan: Publication of the Kazan State Conservatory, 2008. 360 p. [Published in Russian].

5. *Schweitzer A.* Johann Sebastian Bach. Moscow: Publishing house “Classical-XXI”, 2002. 802 p. [Published in Russian].

BIOLOGICAL SCIENCES

THE INFLUENCE OF AN EXPERIMENTAL MODEL OF INFLAMMATION ON RATS COGNITIVE FUNCTIONS AND BEHAVIOR

Tchang A.,
Student,
Department of Biology,
Samara National Research University, Samara, Russia
Belyakov V.,
Candidate of biological sciences, Associate professor
of Department of human and animal physiology,
Samara National Research University, Samara, Russia
Lemba Y.
Student,
Department of Biology,
Samara National Research University, Samara, Russia
DOI: 10.24412/2701-8369-2021-21-10-12

Abstract

The aim of the current study was to observe various behaviors of adult rats under experimental conditions of semi-chronic exposure to bacterial lipopolysaccharide. The rats' behaviors were studied using the "Open field" and "Elevated cruciform maze" setups. It was found that daily administration of *Salmonella typhi* lipopolysaccharide (50 μg/kg; intraperitoneal) for 10 days led to a decrease of motor and exploratory activity with an increase of anxiety in adult rats. The results of the study suggest that bacterial lipopolysaccharide (LPS) provides the development of an inflammatory response with the corresponding production of pro-inflammatory cytokines.

It is possible that the effect of inflammation on the brain structures e. g. cerebral cortex, limbic system etc. causes an inhibition of the exploratory behavior of rats in tested experimental conditions.

Keywords: inflammation, lipopolysaccharide (LPS), cognitive functions, behavior, rats.

Introduction. Current research suggests that inflammation of the central nervous system structures is a significant trigger of the discoordination of the brain function and causes a number of neurodegenerative diseases e.g, multiple sclerosis, Parkinson's and Alzheimer's diseases) [1-4]. However, there is limited research available on the influence of inflammation on the various aspects of adaptive behavior, so this problem remains poorly understood. In preclinical studies, the various experimental approaches are used for modeling peripheral and central inflammation in laboratory animals. An introduction of pharmacological agents from the class of immunomodulators containing bacterial LPS is one of the commonly used and scientifically recognized approaches.

Purpose of the study. The aim of the current study was to investigate the influence of an experimental model of inflammation (the effect of LPS) on the behavioral responses of adult rats in various experimental conditions.

Materials and Method. The participants of the study were 16 male adult rats (235±27 g). The selection of rats occurred with compliance to all bio-ethical norms of using animals in research. The protocol of the study was approved by the ethical committee of the Samara State University. The animals were kept in a vivarium under semi-natural conditions where the free access to water and food was created for them. The rats were randomly divided into experimental (n=8) and control groups (n=8). The LPS solution, Salmonella typhi lipopolysaccharide (50 μg/kg, i.p.; NRCEM named after N.F. Gamalei, Russia) was administered to the experimental group daily for 10 consecutive mornings. The rats of the control group were injected with 1ml of physiological saline solution. The behavior of rats in both groups was observed in "Open field" and "Elevated cruciform maze" setups (Openscience, Russia).

In the Open field setup, the following measures were coded and analyzed: horizontal locomotor activity (defined by the number of crossed sectors of the field), vertical locomotor activity (defined by the number of getting up on the hind legs), the level of anxiety (determined by the number of exits to the central sector of the field).

In the Elevated cruciform maze setup, the time (s) the rats spent in the open and closed sleeves of the maze was recorded, as well as the frequency of horizontal locomotor activity (determined by the number of sectors crossed by the rats in the open sleeves of the maze). The time the rats spent in the closed sleeves of the maze was coded as the high level of anxiety. The behaviour of the rats was video-recorded by a smartphone which was attached to a special tripod. The behavioral responses of the rats were assessed after one, three, five and ten days of LPS exposure.

Data were expressed as average ± SD. The collected data were statistically processed and analysed using the specialised statistical software SigmaStat 12.5. The data were considered statistically significant at $p < 0,05$.

Results. The results of the study suggest that the effect of the bacterial toxin induces the formation of a specific pattern of behavior in rats. In the Open field under the influence of LPS, there was a decrease in the motor and exploratory activity in rats (table 1).

Table 1

Behavior of rats in the test Open field

Behavioral reactions	Initial values		Day 5		Day 10	
	Control group	Experimental group	Control group	Experimental group	Control group	Experimental group
Physical activity	24,8±3,8	26,2±4,1	17,9±2,9	9,1±3,2 *	19,4±5,2	5,9±1,8 **
Outputs to the central sector	6,8±1,2	7,5±1,6	10,2±1,0	3,0±0,8 **	11,1±2,4	2,2±0,4 **
Research activity	9,8±1,6	8,8±1,7	8,4±,1,2	5,1±0,9 *	7,8±0,9	4,7±0,3 *

*Designations: * – p<0,05, ** – p<0,01 (differences between groups)*

On the 5th day of LPS administration – the number of crossed sectors decreased by 54,5% (p<0,01). Manifestations of anxious behavior also increased. The rats moved along the periphery of the test arena, the number of exits to the central sector decreased by 58 % (p<0,05). The greatest decrease in rats motor activity was observed on the 10th day. The movements through the sectors of the test arena decreased by 75% (p<0,01). The number of vertical motor reactions decreased by 14,5%. (p>0,05). LPS decreased the exploration by 50% (p<0,05).

The results obtained were confirmed in the Elevated cruciform maze test (table 2). On the 10 th day of the experiment, the time spent by rats from group experimental in the open sleeves decreased by 48,2% (p<0,05), the number of crossings through the sectors decreased by 34,7% (p<0,05).

Table 2

Behavior of rats in the test Elevated cruciform maze

Behavioral reactions	Initial values		Day 5		Day 10	
	Control group	Experimental group	Control group	Experimental group	Control group	Experimental group
Time spent in open heats (s)	22,8±3,1	24,0±3,6	40,0±4,0	14,0±1,1 **	37,0±4,9	13,1±0,9 **
Number of sectors crossed in open sleeves	8,7±1,9	10,2±1,5	16,7±3,6	12,9±4,2	18,4±5,2	11,6±2,3

Designations: table 1

Thus, the obtained results indicate that the administration of bacterial LPS leads to specific changes in rats behavior. Those changes are characterized by a deficit in motor and exploratory activity, a decrease in cognitive abilities associated with spatial memory and the ability to find a way out of a stressful situation quickly. Researchers refer to this behavior as «painful behavior» [5].

Discussion. The behavioral effects of bacterial LPS injections established in this study are possibly associated with the activation of immune processes and the triggering of the production of proinflammatory factors.

LPS administration is a way to model peripheral and central inflammation. Target cells for LPS are a variety of phagocytic cells expressing CD14 and Toll-4 receptors [6]. The LPS actions through Toll-4 receptors activating the production of pro-inflammatory cytokines (IL-1β, IL-6, TNF-α, etc.), chemokines (CCL2, CCL5, CXCL1), secondary messengers (NO and prostaglandins) and active forms of oxygen [7]. The action of proinflammatory cytokines on brain structures leads to neuroinflammation. The neuroinflammation activates microglia, which also produces proinflammatory cytokines. The influence of pro-inflammatory cytokines on the activity of neurons and the functioning of various neurotransmitter systems have been established. Peripheral administration of a high dose of LPS leads to a long-term neuroinflammation and neurodegeneration of the dopaminergic et al. systems of the brain [8-11]. An increase in the metabolism of monoamine mediators: dopamine, norepinephrine and serotonin (5-HT) in various areas of the brain has been shown. This causes an imbalance between individual monoaminergic systems and dysregulation of cognitive processes, motor and autonomic functions [12].

Elevated levels of IL-1β and IL-6 in the brain are associated with depression, anxiety, insomnia and sleep disturbance. The level of proinflammatory cytokines appears to be elevated in neurodegenerative diseases [13].

Conclusion. Based on the results obtained in the study and analysis of information sources, the following conclusions were made:

1. The daily administration of bacterial LPS for 10 days causes a progressive decrease in various types of motor activity, and increased level of anxiety in the "Open Field" setting.

2. The exposure of LPS causes a reduction of time the rats spent in the open sleeves of the “Elevated Cruciform Maze”, which also indicates the alarming effects of the use of an inflammation model.

3. It is hypothesized that the behavioral effects of LPS exposure are associated with the development of peripheral and central inflammation and the effect of proinflammatory cytokines on brain structures.

References

1. Regen F., Julian H-R., Erica C., Marcella R. Neuroinflammation and Alzheimer Disease: Implications for Microglial Activation // Current Alzheimer Research. – 2017. – 14 (11). – P. 1140-1148.

2. Ho M.S. Microglia in Parkinson's Disease. In: Verkhratsky A., Ho M., Zorec R., Parpura V. (eds). Neuroglia in Neurodegenerative Diseases. Advances in Experimental Medicine and Biology. V. 1175. Springer, Singapore. 2019. P. 273-324.

3. Lee J.-W., Chun W., Lee H.J. et al. The Role of Microglia in the Development of Neurodegenerative Diseases // Biomedicines. – 2021. – 9. – P. 1449-1466.

4. Oliveira J., Kucharska E., Garcez M.L. et al. Inflammatory Cascade in Alzheimer's Disease Pathogenesis: A Review of Experimental Findings // Cells. – 2021. – 10. – P. 2581.

5. Dantzer R. Cytokine, sickness behavior, and depression // Immunol. Allergy Clin. North Am. – 2009. – 29 (2). – P. 247-64.

6. Kawai T., Akira S. The role of pattern-recognition receptors in innate immunity: update on toll-like receptors // Nat. Immunol. – 2010. – V. 11. – P. 373-84.

7. Ciesielska A., Matyjek M., Kwiatkowska K. TLR4 and CD14 trafficking and its influence on LPS-induced pro-inflammatory signaling // Cell. Mol. Life Sci. – 2021. – 78. – P. 1233-1261.

8. Minga Z., Sawickiab G., Bekara L.K. Acute systemic LPS-mediated inflammation induces lasting changes in mouse cortical neuromodulation and behavior // Neuroscience Letters. – 2015. – V. 590. – P. 96-100.

9. Ming, Z., Wotton, C.A., Appleton, R.T. et al. Systemic lipopolysaccharide-mediated alteration of cortical neuromodulation involves increases in monoamine oxidase-A and acetylcholinesterase activity // J. Neuroinflammation. – 2015. – 12 (37). – 12 p.

10. Haba R., Shintani N., Onaka Y. et al. Lipopolysaccharide affects exploratory behaviors toward novel objects by impairing cognition and/or motivation in mice: Possible role of activation of the central amygdala // Behavioural Brain Research. – 2012. – 228 (2). – P. 423-431.

11. He J., Zhu G., Wang G., Zhang F. Oxidative Stress and Neuroinflammation Potentiate Each Other to Promote Progression of Dopamine Neurodegeneration // Oxidative Medicine and Cellular Longevity. – 2020. – V. 2020. – 12 p.

12. Fischer A.G., Ullsperger M. An Update on the Role of Serotonin and its Interplay with Dopamine for Reward // Front. Hum. Neurosci. – 2017. – V. 11. – 10p.

13. Voet S., Srinivasan S., Lamkanfi M., Loo G. Inflammasomes in neuroinflammatory and neurodegenerative diseases // EMBO. Mol. Med. – 2019. – 11 (6). – 16 p.

ECONOMIC SCIENCES

AGRICULTURAL DEVELOPMENT OF THE FEDERAL REPUBLIC OF NIGERIA

Aigbedion E.O.,
Master's student of the Department of Economic Theory EI «Grodno State Agrarian University»
Hanchar A.I.
Head of the Department Economic Theory EI «Grodno State Agrarian University», Grodno, Belarus
DOI: 10.24412/2701-8369-2021-21-13-20

Abstract
The article analyses the Nigerian government's agricultural development policies and the problems of improving economic efficiency. The national agricultural extension system has not improved, indicating unsatisfactory service delivery to farmers. There is a significant need for regular training of local agricultural producers. The authors also cite statistics on the production efficiency of Nigeria's major crops.

Keywords: Africa, Nigeria, World, GDP, development, agricultural, Yam, Cassava, Rice, Cashew nuts.

There is no separate developed policy for agribusiness development in Nigeria, except for the brief objectives outlined in the 1988 «Agricultural Policy of Nigeria» with respect to agro-processing. The objectives of this section of the agricultural policy are formulated as follows: to broaden the demand base for agricultural commodities and hence accelerate the growth rate of the agricultural sector; to preserve perishable agricultural products by reducing waste levels and the degree of seasonal price fluctuation; and to diversify rural employment opportunities through small-scale agricultural commodity-processing businesses [4].

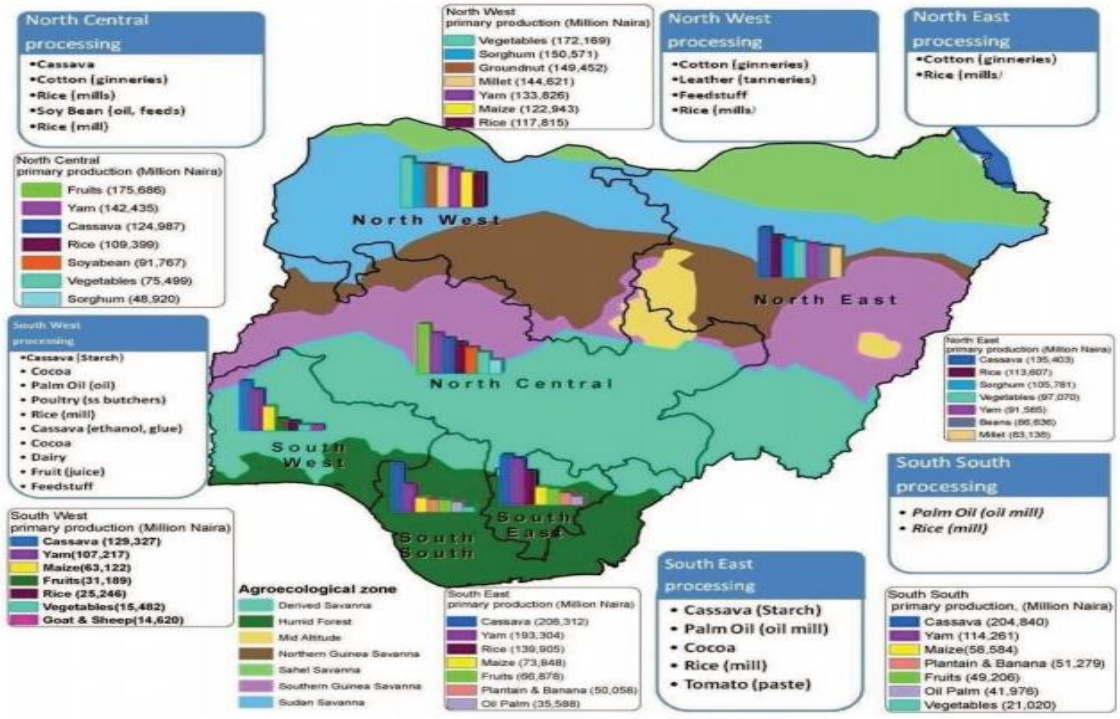


Figure 1
Location of production and processing of main agricultural commodities of the Federal Republic of Nigeria [4]

Agricultural development certainly contributes to job and income generation, contributes to the development of national gross domestic product and the expansion of manufacturing industry, contributes to socio-economic development, regional stabilisation and sustainability, integration into global markets, and increases food self-sufficiency.

-	Rank	Country	HDI value (2019)	Life expectancy at birth (years) SDG3	Expected years of schooling (years) SDG 4.3	Mean years of schooling (years) SDG 4.6	Gross national income (GNI) per capita (PPP $) SDG 8.5
	161	Nigeria	0.539	54.7	10.0	6.7	4,910
	162	Côte d'Ivoire	0.538	57.8	10.0	5.3	5,069
	163	Tanzania (United Republic of)	0.529	65.5	8.1	6.1	2,600
	164	Madagascar	0.528	67.0	10.2	6.1	1,596
	165	Lesotho	0.527	54.3	11.3	6.5	3,151
	166	Djibouti	0.524	67.1	6.8	4.1	5,689
	167	Togo	0.515	61.0	12.7	4.9	1,602
	168	Senegal	0.512	67.9	8.6	3.2	3,309
	169	Afghanistan	0.511	64.8	10.2	3.9	2,229
	170	Haiti	0.510	64.0	9.7	5.6	1,709

Figure 2 – Human Development Index (HDI) Ranking

The economy of the Federal Republic of Nigeria is one of the largest in Africa. Thanks to rising oil prices, the country's transport, construction and public service industries have grown rapidly since 1973. This has led to a large influx of the rural population into larger urban centres. Agricultural production gradually began to decline. Commodity crops such as palm oil, peanuts and cotton ceased to be significant export commodities [15].

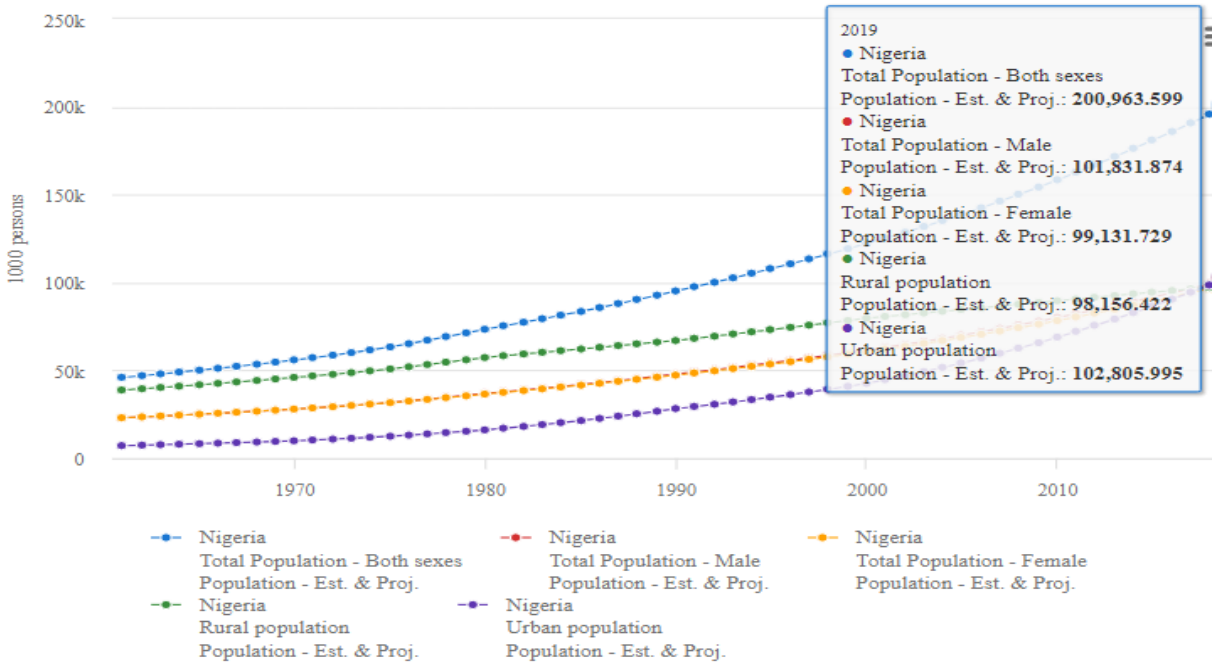


Figure 3 – Population of the Federal Republic of Nigeria [10]

Since 1975, Nigeria has had to import staples such as rice and cassava for domestic consumption. These problems were offset by large oil export earnings, but from the late 1970s the agricultural sector was in constant crisis due to the fluctuating global oil market and the rapid growth of the country's population. Although the majority of the population was still engaged in agriculture, too little was being produced, requiring increasingly costly imports. Government authorities tried to resolve the issue by banning imports of certain agricultural products, encouraging local agricultural production [15].

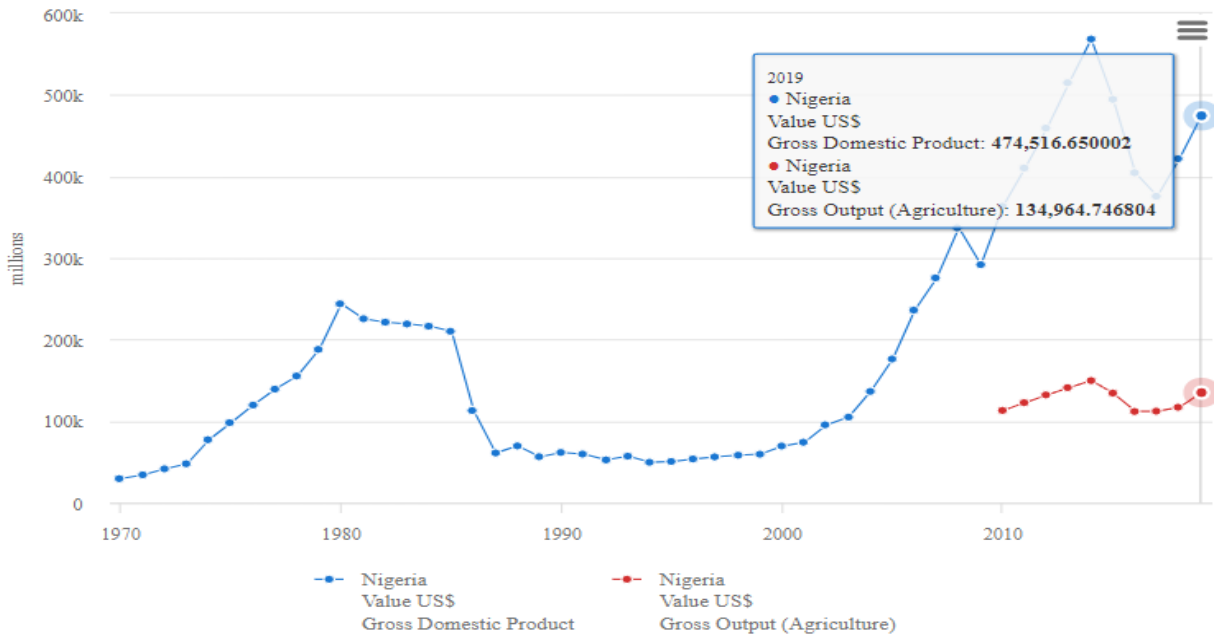


Figure 4 – Gross Domestic Product and Gross Agriculture Output of the Federal Republic of Nigeria [10]

Nigeria has no shortage of arable land in general, but there is extreme scarcity of agricultural land in the most densely populated areas of the south-eastern states and around Kano, Katsina and Sokoto. This has forced large numbers of Igbo, Ibibio and Hausa people to migrate to other parts of the country. However, cultural practices, such as the prohibition on selling family land, often limit access to farmland in some localities that appear to have abundant cultivable land, and in the far north, desertification has severely limited the amount of land available for cultivation [15].

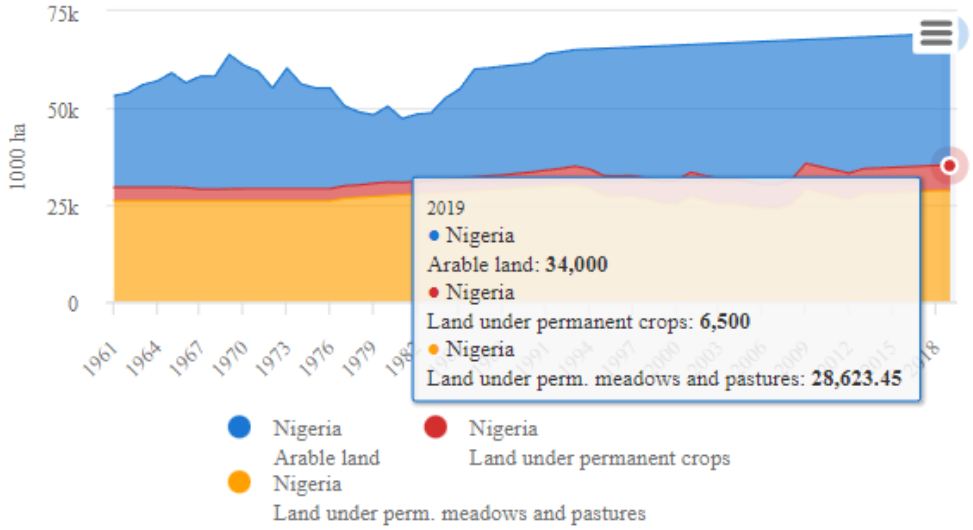


Figure 5 – Agricultural Area of the Federal Republic of Nigeria [10]

About one-fifth to half of all Nigerians live off agricultural production. Most are small-scale subsistence farmers who produce only a small surplus for sale and derive additional income from one or more cash crops and from the sale of local handicrafts. As the soil is not fully amenable to mechanised equipment, the hoe and machete continue to be the dominant farming tools. Lack of farmland in some localities and limited access to land in others are some of the factors that limit the amount of cultivable farmland per family. Environmental degradation, poor storage facilities, poor transport systems and lack of investment capital contribute to lower productivity and overall stagnation in agriculture. With rapid population growth and accelerating urbanisation, food shortages continue to worsen despite government efforts to remedy the situation [15].

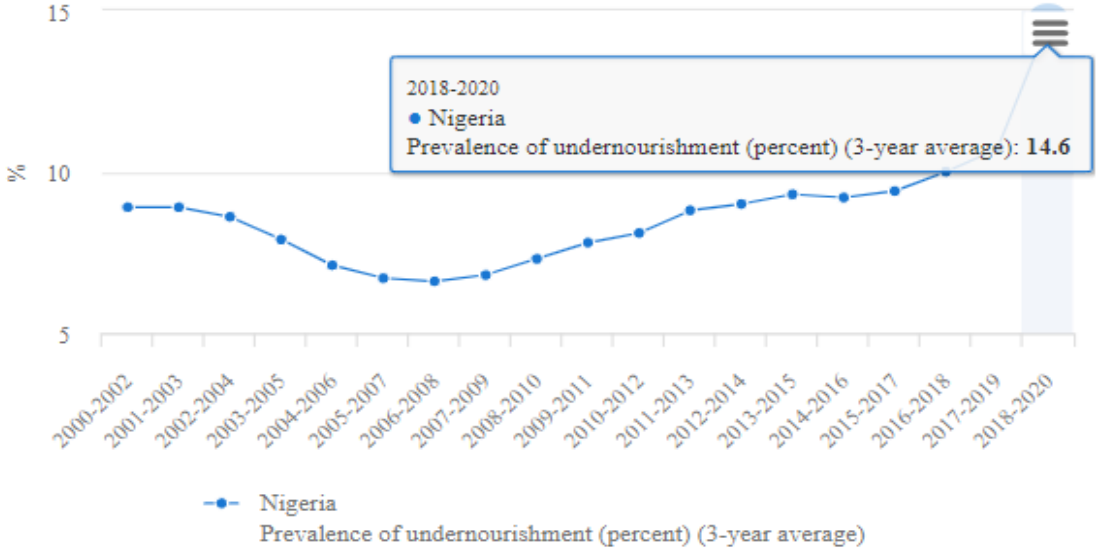


Figure 6 – Prevalence of undernourishment (%) (3-year average) of the Federal Republic of Nigeria [10]

The following export promotion measures are seen as most relevant to Nigeria's agricultural development, according to the World Bank Group:

1) establishing an electronic phytosanitary system to facilitate export and issuance of phytosanitary certificates locally;

2) reducing the time and cost of obtaining mandatory export documents specific to agriculture for each shipment of goods;

3) rationalization of export duties levied by the Nigeria Export Levy (NXL) and the Nigeria Export Supervision Scheme (NESS) to avoid 'double taxation' and remove bureaucratic obstacles to obtain support from the Nigerian Export Promotion Council (NEPC);

4) increased exports of agricultural commodities;

5) improving the quality of services and confidence of actors in export chains [9, p. 11].

The World Bank team has also developed some measures to support the production of one of Nigeria's main crops, rice. In particular, a strategy to improve the competitiveness of domestic rice has been proposed. The supply response to the import ban has dried up and it is clear that trade policy alone will not improve domestic competitiveness. The advice to invest in research and development to develop high-yielding varieties and improve the quality of local rice properties (taste, aroma, texture, etc.) under local growing conditions, combined with wide dissemination of information to farmers, is indisputable. Coordinated investment between farmers and mills to expand milling capacity while improving varieties with desirable characteristics should result in improved competitiveness of Nigerian rice. It is envisaged to turn farms into full-cycle companies. which could take a long-term investment approach to asset enhancement and service delivery in critical areas such as asset enhancement and service delivery in input delivery, irrigation management, extension and marketing. Improve post-harvest drying technology used by farmers to improve rice quality and reduce post-harvest losses [9, p. 15].

Table 1.

Yam production

Year	Africa			Nigeria		
	Area harvested (ha)	Yield (hg/ha)	Production (tonnes)	Area harvested (ha)	Yield (hg/ha)	Production (tonnes)
1990	2119568	97,188	20599757	1276000	106,771	13624000
1995	3077217	10,3557	31866717	2118000	107,734	22818000
2000	3885034	98,040	38088847	2647000	98,984	26201000
2005	4423267	10,7250	47439610	2868990	107,250	37328180
2010	4685206	116,226	54454100	5389870	84,748	45677939
2015	7556943	86,829	65616113	6080280	84,475	51362900
2016	8345068	86,601	72269435	6446110	83,900	54083100
2017	8816413	86,029	75846432	6067824	82,402	50000000
2018	8488986	84,499	71730960	6243881	80,163	13624000
2019	8724410	83,001	72413085	1276000	106,771	22818000

Source: FAOSTAT

Table 2.

Nigeria's share of global Yam production [10]

Year	World			Nigeria		
	Area harvested (ha)	Yield (hg/ha)	Production (tonnes)	Area harvested (ha)	Yield (hg/ha)	Production (tonnes)
1990	2247101	96,903	21774975	56,78	+9,87	62,57
1995	3237458	102,766	33269918	65,42	+4,97	68,58
2000	4033283	98,288	39642308	65,63	+0,70	66,09
2005	4927970	115,120	56730632	58,22	-7,87	65,80
2010	7745918	87,161	67514083	69,58	-2,41	67,66
2015	8536096	86,896	74175600	71,23	-2,42	69,25
2016	9001715	86,346	77726357	71,61	-2,45	69,58
2017	8686906	84,480	73387350	69,85	-2,08	68,13
2018	8910485	83,409	74321821	70,07	-3,25	18,33
2019	2247101	96,903	21774975	56,78	+9,87	104,79

Source: FAOSTAT

Market-oriented production requires real-time market information. Daily market price information can be found in newspapers for traditional export crops such as cocoa, but is completely absent for other industrial crops such as rice, sorghum, cassava, maize and horticultural crops. Many agribusiness firms and farmers cannot determine in advance where to buy or sell in order to maximise profits and reduce marketing risks. This has created a class of market agents who have benefited from this opaque market situation and lack of information. In general, the agribusiness sector in Nigeria is uncompetitive on prices and lacks service linkages to the financial technology and export sectors, mainly due to the lack of a national market information service [4].

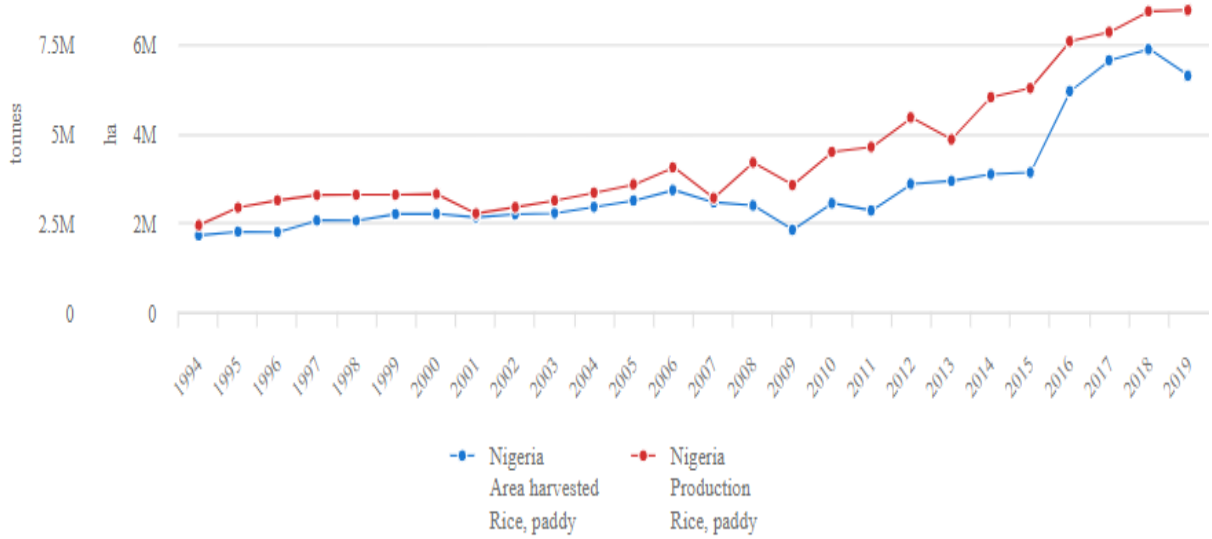


Figure 7 – Production/Yield quantities of Rice, paddy in Nigeria 1994 -2019 [10]

Nigeria is currently experiencing a rapid rise in food prices. Inflation in the country reaches more than 16%. Food accounts for the majority of the country's consumer price index at almost 65%. The government plans to increase food production, which should lead to lower food prices and thereby reduce the general price level in the country. Also seen as solutions are correct human resource policies in the Nigerian Ministry of Agriculture and Rural Development, changes in college curricula and giving local farmers access to improved varieties and fertilizers, as well as modernising rural production infrastructure. As in Sudan and Ethiopia, the African Development Bank (AfDB) Group for Reconstruction and Development has pledged financial support for the measures. The bank has also expressed interest in establishing a special industrial processing zone, calling it a medium-term plan to support the sector, in order to control the movement of financial assets. Both sides have set up a working group to develop an accelerated implementation plan within the next 60 days. The creation of a cluster in a single area cannot but raise concerns for the development of the entire Nigerian agricultural industry, as it is bound to lead to certain distortions in population growth and free capital spillovers in the country. But the success of countries in Sudan and Ethiopia that have already benefited from the AfDB's lending resources gives officials confidence in such initiatives by the financial institution [2].

Table 3.

The size of Nigeria's GDP and Gross Output (Agriculture) [12]

Year	Gross Domestic Product (millions)	Gross Output (Agriculture)	Value Added (Agriculture)
1990	61535.970793	–	–
1995	50486.420061	–	–
2000	69448.734169	–	–
2005	176134.042426	–	–
2010	363359.825763	113052.654049	84255.884351
2015	494582.603949	134324.926538	98409.470892
2019	474516.650002	134964.746804	99067.411241

The Nigerian government has set an ambitious target to increase the share of the agricultural sector in the country's total GDP from 23% in 2021 to 50% by 2031. The Nigerian federal government sees an increase in revenues from rice, cassava and yams entrepreneurs as an alternative to developing the oil and gas market. The country should be the world's number one producer of Cassava and Yam by 2031 and the largest producer of rice in Africa [14].

Table 4.

Cassava production

Year	Africa			Nigeria		
	Area harvested (ha)	Yield (hg/ha)	Production (tonnes)	Area harvested (ha)	Yield (hg/ha)	Production (tonnes)
2018	18,681,232	90,826	169,673,737	6,852,857	86,789	59,475,202
2017	18,559,628	90,707	168,348,511	6,629,632	89,524	59,350,878
2016	18,769,080	92,068	172,803,904	6,167,296	96,584	59,565,916
2015	19,408,117	88,985	172,702,171	6,216,434	92,727	57,643,271
2010	13,055,762	100,185	130,798,734	3,481,900	122,155	42,533,180
2005	12,265,453	92,181	113,063,613	3,782,000	109,902	41,565,000
2000	11,019,720	86,582	95,410,924	3,300,000	97,000	32,010,000
1995	10,049,158	82,502	82,908,042	2,944,000	106,671	31,404,000
1990	8,598,674	81,777	70,317,156	1,634,130	116,533	19,043,008

Source: UNDATA

When comparing official statistics, such stated objectives appear to be a very far-reaching prospect. Statistics also show a significant loss in the yields of these crops.

Table 5.

Nigeria's share of global Cassava production

Year	World			Nigeria		
	Area harvested (ha)	Yield (hg/ha)	Production (tonnes)	Area harvested (ha), %	Yield (hg/ha), +/-	Production (tonnes), %
2018	24,590,818	112,973	277,808,759	27,87	-26,18	21,41
2017	24,566,733	113,692	279,304,523	26,99	-24,17	21,25
2016	25,035,089	115,237	288,497,460	24,63	-18,65	20,65
2015	25,969,555	112,828	293,010,305	23,94	-20,10	19,67
2010	19,605,559	122,055	239,296,357	17,76	+0,10	17,77
2005	18,549,088	111,344	206,533,771	20,39	-1,44	20,13
2000	16,953,125	103,725	175,846,840	19,47	-6,72	18,20
1995	16,411,327	98,583	161,787,472	17,94	+8,09	19,41
1990	15,210,175	100,182	152,378,682	10,74	+16,35	12,50

Source: UNDATA

Nigeria has to pursue a dual strategy of transforming the cassava sector, focusing on improving the competitiveness of the industrial starch value chain and upgrading the food value chain to improve the quality of gari and high-quality cassava flour. Transforming the industrial starch value chain requires coordinated investment between researchers, farmers and the processing sector. Farmers need access to varieties that contain a high proportion of starch. They also need to produce for the specific needs of starch processors through vertical coordination schemes. Research and development needs to be complemented by an effective management system. The transfer of clean planting material to farmers must take place with simultaneous removal of old plants infected with Cassava Mosaic Disease (CMD) and tillage, as well as effective extension so that farmers apply the right agronomic practices and proper fertilisation.

Modernisation of value chains for cassava food products should focus on supplying healthy gari and

HQCF to meet the growing demand for healthy food and to meet the needs of the flour and bakery industry, baking industry. Coordinated investment between the cassava flour milling sector and the upstream segments (farmers and researchers) can help expand the market for high quality differentiated gari products, including by supplying low-starch varieties to farmers starch and with better flavour profiles [9, p. 15].

Nigeria currently produces about 97,000 tonnes of cashew nuts a year, less than 1.7 per cent of global cashew nut production. The cashew nut sub-sector contributes less than 0.1 per cent to agricultural GDP, with a gross production value of US$15 million in 2018, a small fraction of Vietnam's US$4.2 billion gross production value. The value of cashews has been estimated at US$1.5 billion. Globally, cashews are grown in most tropical countries around the world. However, most commercial cashew production is concentrated in Southeast Asia, West Africa, East Africa and Brazil. The five major producers of cashew nuts are Côte d'Ivoire, India, Vietnam, Benin and the Philippines [9, p. 84].

Table 6.

Cashew nuts (with shell) production

Year	Africa			Nigeria		
	Area harvested (ha)	Yield (hg/ha)	Production (tonnes)	Area harvested (ha)	Yield (hg/ha)	Production (tonnes)
1990	306,450	41,40	126,858	50,000	60,00	30,000
1995	669,912	45,87	307,270	155,000	61,29	95000
2000	1,157,001	76,47	884,749	259,000	179,92	466000
2005	1,672,051	72,63	1,214,473	309,000	192,23	594000
2010	2,441,826	69,74	1,702,877	382,509	206,98	791726
2015	3,705,395	48,07	1,781,213	131,529	73,86	97149
2016	3,220,289	50,78	1,635,149	141,175	69,62	98291
2017	3,946,505	54,44	2,148,339	140,000	71,43	100,000
2018	4,940,844	48,50	2,396,121	140,000	71,43	100,000
2019	4,704,272	49,62	2,334,405	140,000	71,43	100,000

Source: FAOSTAT

Although cashew nut production in Nigeria is expected to grow in the coming years as young trees reach maturity, the level is still well below the country's potential. Farmers need continued access to improved, high-yielding and early-maturing varieties to replace older trees. This programme requires strategic improvements in the institutional and enabling environment for agricultural production. Part of this requires strengthening and streamlining the mandates of tree crop development units (CWDUs) at federal and state levels, as well as the Cocoa Research Institute of Nigeria (CRIN). At present, there is no specific policy on cashew production and no strategy to promote the commodity. In contrast, Vietnam, a major cashew producer, has developed an industry-specific policy strategy to guide all aspects of cashew nut industry development. Production support for Vietnamese farmers has focused on providing high-yielding and early-ripening varieties to replace aging trees. In addition, the Vietnamese cashew industry has developed standards for the RCN trade. These standards provide the basis for grading and quality testing to support trade and dispute resolution for raw cashew nuts. It is intended to help the Vietnamese cashew industry to adapt to market demand by improving the quality and safety managing the quality and safety of RCN imports. It seems entirely appropriate to apply similar measures in the Nigerian context [9, p. 96].

Table 7.

Nigeria's share of global Cashew nuts (with shell) production

Year	World			Nigeria		
	Area harvested (ha)	Yield (hg/ha)	Production (tonnes)	Area harvested (ha), %	Yield (hg/ha), +/-	Production (tonnes), %
1990	1,763,330	46,90	826,939	2,84	13,10	3,63
1995	2,323,369	49,40	1,147,731	6,67	11,89	8,28
2000	3,303,615	56,73	1,874,152	7,84	123,19	24,86
2005	4,104,348	60,18	2,470,025	7,53	132,05	24,05
2010	5,131,189	59,64	3,060,225	7,45	147,34	25,87
2015	6,224,551	54,85	3,413,875	2,11	19,01	2,85
2016	5,734,496	55,41	3,177,373	2,46	14,21	3,09
2017	6,278,983	58,54	3,675,485	0,00	12,89	2,72
2018	7,312,357	55,97	4,092,959	0,00	15,46	2,44
2019	7,091,275	55,85	3,960,680	0,00	15,58	2,52

Source: FAOSTAT

It should be noted that the above measures to improve the production efficiency of the crops considered in the study, including those considered by the World Bank team, have been described and proposed earlier in studies of A.E. Agwu, C.C. Asiabaka, S. Morse, M. Owens [1; 3; 5; 7; 8]. As noted by A. Aphunu, C.S.O. Otoikhian, there is a yawning gap between theoretical strategies and the application of many impressive research results on the ground, and hence no tangible impact on overall agricultural production. The prerequisites for the effectiveness of extension agents are communication skills, attitude towards extension work, frequency of contact with farmers and local responsibility chosen by farmers. In 2008, the scientists recorded in their study that the National Agricultural Extension System had not improved, documenting unsatisfactory service delivery to farmers, especially after World Bank funding ceased, hence there is such a significant need for regular training in the form of seminars, workshops and on-the-job training for extension agents so that they can acquire sound domain knowledge and experience to improve their performance. Also in 2008, it was recommended that the government mobilise local funds and allocate more funds for ADPS to enhance their activities in terms of transport and logistics facilities and maintenance materials, and improve the frequency of consultant visits [6, p. 165–167].

Our study thus shows the persistence of the challenges facing the agricultural sector of the Nigerian economy, the repetitiveness of methods to improve the economic performance of local farmers, the lack of funding for education programmes, the absence of real planned development programmes even for competing export crops in world markets.

References

1. Adisa, B.O. and Okunade, R.O. Women in Agricultural and Rural Development / B.O. Adisa, R.O. Okunade // Adedoyin, S.F. (ed) Agricultural Extension in Nigeria: AESON. – 2005. – P. 69–77.

2. African Development Bank (AfDB) Group President, Akinwumi Adesina assures Nigeria of the Bank's Strong Support to Achieve Food Security / Federal Ministry of Agriculture and Rural Development [Electronic resource]. – Access mode: https://fmard.gov.ng. – Access date. 22.10.2021.

3. Agbamu, 1.U. Problems and Prospects of Agricultural Extension Services in Developing Countries / I.U. Agbamu // Adedoyin, S.F. (ed) op cit. – 2005. – P. 159–169.

4. Agro processing / Agriculture Nigeria [Electronic resource] – Access mode: https://www.agriculturenigeria.com/manuals/processing/agro-processing/. – Access date: 14.10.2021.

5. Agwu, A.E. Factors Influencing Adoption of improved cowpea Production Technologies in Nigeria / A.E. Agwu // Journal of International Agricultural and Extension Education. – Vol. 11. – No 1. – 2004. – P. 81–88.

6. Aphunu, A., Otoikhian, C.S.O. Farmers' perception of the effectiveness of extension agents of Delta State Agricultural Development Programme (DADP) / A. Aphunu, C. S. O. Otoikhian // African of General Agriculture. – Vol. 4. – № 3. – 2008. – P. 165–169.

7. Asiabaka, C.C., Morse, S., Kenyon, L. The Development, Dissemination and Adoption of Technologies Directed at Improving the Availability of Clean Yam Planting Material in Nigeria and Ghana / C.C. Asiabaka, M. Owens "Determinants of Adoptive Behaviours of Rural Farmers in Nigeria"; proceeding of the 18th Annual Conference of AIAEE: Durban, South Africa. – 2002. – P. 13–20.

8. Asiabaka, C.C., Owens, M. Determinants of Adoptive Behaviours of Rural Farmers in Nigeria / C.C. Asiabaka, M. Owens // Proceeding of the 18th Annual Conference of AIAEE, 2002, Durban, South Africa. – 2002. – P. 13–20.

9. Elliot W. Mghenyi, Cora Dankers, James Thurlow, Chidozie Anyiro. Nigeria Transforming Agribusiness for Inclusive Recovery, Jobs Creation and Poverty Reduction: Policy Reforms and Investment Priorities / Report № AUS0002162. – April 30, 2021. – Agriculture and Food global practice.

10. Food and Agriculture Organization of the United Nations / FAOSTAT [Electronic resource] – Access mode: https://www.fao.org/faostat/en/#country/159. – Access date: 14.10.2021.

11. Human Development Reports / WorldData.info [Electronic resource] – Access mode: http://hdr.undp.org. – Access date: 14.10.2021.

12. Macro Indicators / Food and Agriculture Organization of the United Nations [Electronic resource] – Access mode: https://www.fao.org/faostat/en/#data/MK. – Access date. 22.10.2021.

13. The largest countries of the world / United Nations Development Programmer [Electronic resource] – Access mode: https://www.worlddata.info/the-largest-countries.php. – Access date. 14.10.2021.

14. WFD: Agric minister says sector would contribute 50% of GDP by the year 2031 / Federal Ministry of Agriculture and Rural Development [Electronic resource]. – Access mode: https://fmard.gov.ng. – Access date. 22.10.2021.

15. Economy of Nigeria / MINDINVEST. Business portal. Economy, business and investment news [Electronic resource] – Access mode: https://mind-invest.ru/ekonomika-nigerii/. – Access date: 14.10.2021.

MODEL FOR THE IMPLEMENTATION OF INNOVATIVE INTEGRATION OF ENTITIES IN THE FORMATION OF THE INFRASTRUCTURE OF ENTERPRISES

Seliverstov Y.I.,
Professor,
BSTU named after V.G. Shukhov , 46 Kostyukova street,
Belgorod, 308012, Russian Federation
Lavrova Y.S.
Senior Lecturer,
BSTU named after V.G. Shukhov , 46 Kostyukova street,
Belgorod, 308012, Russian Federation
DOI: 10.24412/2701-8369-2021-21-21-25

МОДЕЛЬ РЕАЛИЗАЦИИ ИННОВАЦИОННОЙ ИНТЕГРАЦИИ СУБЪЕКТОВ В ФОРМИРОВАНИИ ИНФРАСТРУКТУРЫ ПРЕДПРИЯТИЙ

Селиверстов Ю. И.,
д. э. н., профессор
Россия, 308012, г. Белгород,
ул. Костюкова 46, БГТУ им. В. Г. Шухова
Лаврова Ю.С.
стар. преподаватель
Россия, 308012, г. Белгород,
ул. Костюкова 46, БГТУ им. В. Г. Шухова

Abstract
This article is devoted to the study of integration processes within enterprises in the environment of innovative transformations, as well as internal reorganizations associated with the creation of innovative clusters of regional economies, increasing their competitiveness as a result of the generation of innovative projects. In connection with the current global policy, consideration of indicators of the state of unrealized opportunities, it is impossible to exclude the analysis of the regional structure of entrepreneurial potential.

Аннотация
Настоящая статья посвящена исследованию интеграционных процессов внутри предприятий в среде инновационных преобразований, а также внутренних реорганизаций, связанных с созданием инновационных кластеров региональных экономик, повышения их конкурентоспособности в следствии генерации инновационных проектов. В связи со сложившейся общемировой политикой, рассмотрение индикаторов состояния нереализованных возможностей, невозможно исключая анализ региональной структуры предпринимательского потенциала.

Keywords: innovation, entrepreneurial potential, integration of subjects, competitive ability, innovation clusters.

Ключевые слова: инновации, предпринимательский потенциал, интеграция субъектов, конкурентная способность, инновационные кластеры.

Внешняя инновационная среда определяет условия и факторы, влияющие на функционирование бизнеса в регионе. Внутренняя инновационная среда включает факторы, поддающиеся регулированию в рамках региона. Таким образом, инновационная среда и ее составляющие имеют прямое влияние на развитие инновационного предпринимательства в регионе.

Формирование благоприятной инновационная среда является ключевым фактором инновационного развития региона. Благоприятная инновационная среда региона определяется совокупностью условий и факторов, которые существенно влияют на формирование и эффективную работу предпринимателей. Выделяют 4 основных группы таких факторов: макроэкономические; потенциал региона (в т.ч. и предпринимательский потенциал); финансовый потенциал бизнес-среды; институциональное обеспечение.

Модель инновационной среды представлена на рис. 1. Обеспечение и рост конкурентоспособности экономики отдельных регионов РФ предопределяют необходимость приращения их субъектного потенциала. При этом наиболее востребованным становится системный предпринимательский потенциал. Его формирование начинается с развития необходимых способностей отдельных представителей территориального сообщества, продолжается путем формирования и развития предпринимательского потенциала отдельных структурных образований при участии субъектов малого и среднего бизнеса, а завершается формированием предпринимательского потенциала интегрированного субъекта всей системы экономики региона. Особую ценность в этом процессе приобретают кластерные структуры, которые формируются в региональной сфере малого и среднего предпринимательства.

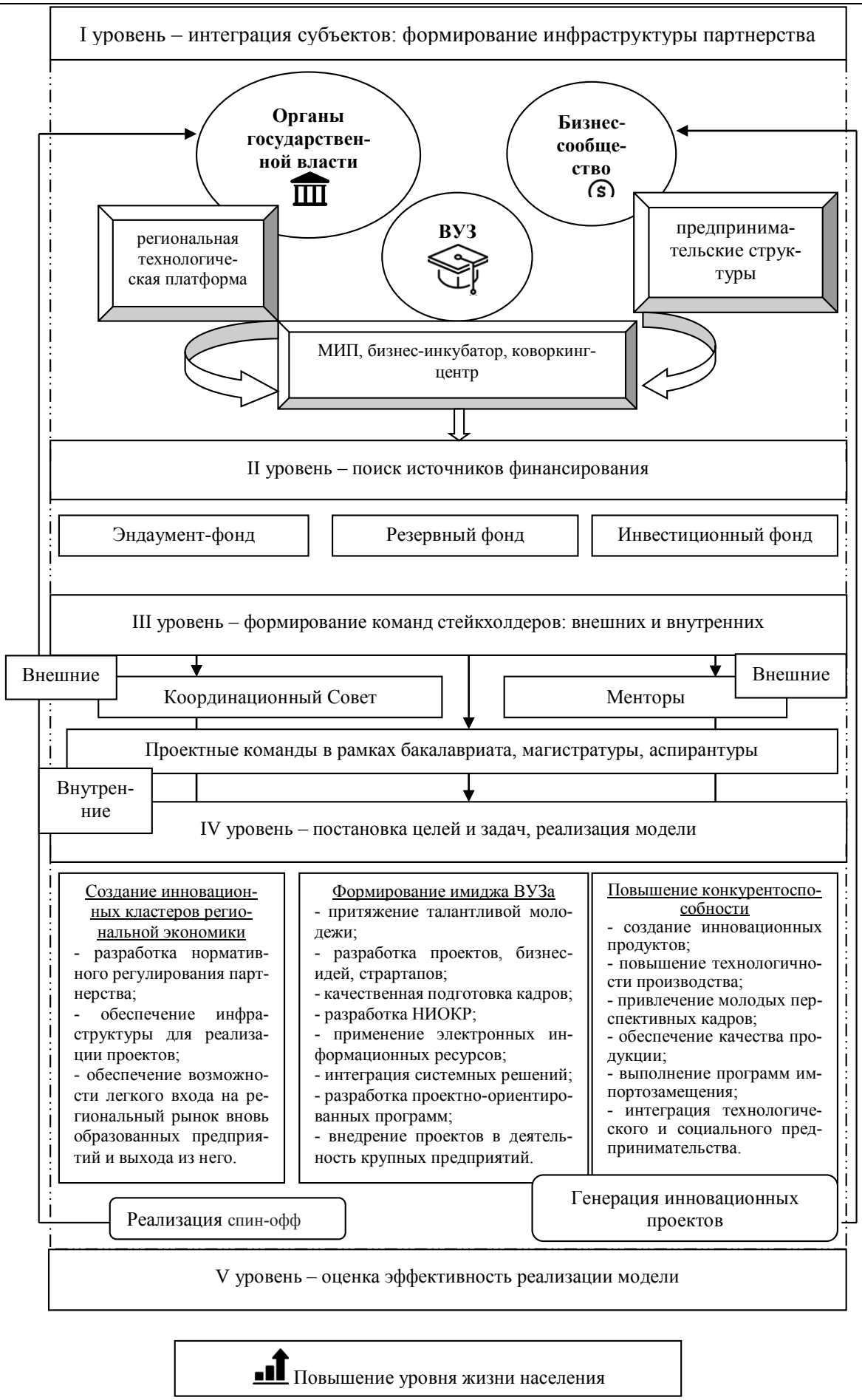


Рис. 1. Модель инновационной среды (разработка авторов)

Основные особенности инновационного бизнеса, как ориентация на местный рынок, решение, прежде всего региональных и муниципальных проблем, предопределяют то, что именно данный сектор национальной экономики обязан стать основой для формирования оптимальной структуры экономики регионов России. Курс на инновационное развитие российской экономики существенное влияет на формирование политики обеспечения эффективного развития инновационного бизнеса со стороны органов местной и федеральной власти. Создание необходимых условий для такого развития в каждом регионе России становится ключевой проблемой государственного управления, поскольку без активного участия малого и среднего бизнеса невозможна трансформация национальной экономики РФ в современную социально-ориентированную рыночную экономику. При этом многолетний опыт рыночных преобразований в России свидетельствует, что спонтанное развитие инновационного бизнеса обусловливает необходимость повышения эффективности государственного управления, прежде всего, на региональном уровне, где в основном и формируются необходимые условия развития предпринимательства.

Современные инновационные процессы в значительной степени базируются на среде малого и среднего бизнеса, сосредоточенной преимущественно на региональном уровне. Малый и средний бизнес является инновационным по своей природе, что обусловлено такими специфическими его чертами, как гибкость, адаптивность, ориентация на достижение максимально возможного результата, возможность рисковать, мобильность в быстро меняющейся ситуации, высокая отдача на единицу финансовых вложений в НИОКР. Существенными преимуществами инновационного бизнеса являются ярко выраженная творческая инициативность, самостоятельность в принятии важных решений, способность к быстрым переменам, способствующие созданию и внедрению инноваций. Для открытия инновационных предприятий бизнесу требуется значительно меньше затрат, они способны в кратчайший срок перепрофилировать свое производство на новой технической основе. Выпуск инновационной продукции для этих предприятий является единственным средством выхода на рынок и сохранения на нем своих позиций, поэтому они смело идут на риск внедрения инноваций. Сегодня очень перспективным направлением развития инновационного бизнеса является венчурное инновационное финансирование. Однако в РФ доля этого сектора предпринимательства пока еще невелика. Поэтому поддержка становится основным приоритетным направлением деятельности всех региональных и муниципальных органов власти России.

В табл. 1 представлены показатели предпринимательской активности предприятий РФ по состоянию на 2020 г. Из данных табл. 1 видно, что в общей численности предприятий только 0,72% относятся к быстрорастущим и 1,27% имеют высокий потенциал роста при оценке по численности персонала. При оценке по обороту предприятий 2,23% относятся к быстрорастущим и 3,03% имеют высокий потенциал роста. При этом 3,89% предприятий относятся к «угасающим». Такие показатели свидетельствуют об очень низкой степени использования предпринимательского потенциала в народном хозяйстве России в целом. По отдельным отраслям экономики следует отметить достаточно высокую долю «угасающих» предприятий в таких отраслях как обрабатывающая промышленность (5,43%), строительство (4,51%), наука и образование (3,37%), торговля и ремонт (2,71%). Наиболее высокая доля быстрорастущих предприятий и предприятий с высоким потенциалом роста (по численности персонала) отмечается в отраслях энергоснабжения (2,01 и 3,6%), добывающей промышленности (1,37 и 3,0%), здравоохранении (1,34 и 2,81%), водоснабжении и утилизации отходов (1,28 и 2,25%).

Таблица 1

Показатели предпринимательской активности предприятий в группировке по видам экономической деятельности по Российской Федерации в 2020 г.

	Кол-во активных предприятий	Количество растущих предприятий				Количество «угасающих» предприятий
		по численности		по обороту		
		быстро растущих	с высоким потенциалом роста	быстро растущих	с высоким потенциалом роста	
Всего	3802007	27347	48268	84770	145722	147988
Сельское, лесное хозяйство, охота, рыболовство и рыбоводство	99831	809	1660	7027	9156	5314
Добыча полезных ископаемых	15793	264	474	797	1034	935
Обрабатывающие производства	313598	3759	7172	14420	20661	17024
Обеспечение электрической энергией, газом и паром; кондиционирование воздуха	17521	352	630	1082	1408	1411
Водоснабжение; водоотведение, организация сбора и утилизации отходов, деятельность по ликвидации загрязнений	24323	311	548	994	1454	1480
Строительство	474447	3902	6410	9778	16795	21384
Торговля оптовая и розничная; ремонт автотранспортных средств и мотоциклов	1460021	7575	12727	18665	38380	39645
Транспортировка и хранение	207362	1468	2516	4411	7130	7077
Деятельность гостиниц и предприятий общественного питания	102390	871	1656	3133	5509	6566
Деятельность в области информации и связи	122229	1045	1846	2568	4567	4528
Деятельность финансовая и страховая	60593	563	969	1325	2438	2530
Деятельность по операциям с недвижимым имуществом	240579	1842	3362	6476	11727	14363
Деятельность профессиональная, научная и техническая	329609	1933	3348	5586	10926	11096
Деятельность административная и сопутствующие дополнительные услуги	173292	1498	2617	4372	6933	9088
Образование	12916	43	85	129	324	335
Деятельность в области здравоохранения и социальных услуг	52186	697	1467	2357	3973	2128
Деятельность в области культуры, спорта, организации досуга и развлечений	34303	140	252	396	755	796
Предоставление прочих видов услуг	61014	275	529	1254	2552	2288

При оценке по обороту следует отметить отрасли сельского хозяйства (7,04 и 8,96%), энергоснабжения (6,18 и 10,78), добывающей промышленности (5,05 и 7,03%), обрабатывающей промышленности (4,6 и 6,47%), здравоохранения (4,52 и 6,48%). Таким образом, в экономике РФ наиболее активно развиваются и имеют высокий потенциал предприятия коммунального хозяйства, промышленности, АПК, здравоохранения. Однако ни в одной из отраслей доля быстрорастущих и обладающих высоким потенциалом предприятий не достигает даже 10 % (кроме энергоснабжения при оценке по обороту). Позитивным можно считать и то, что доля «угасающих» предприятий во всех отраслях меньше 5%, за исключением обрабатывающей промышленности.

Для успешного развития предпринимательского потенциала регионов России крайне важен опыт развитых стран, прежде всего ЕС и США. Комплексная государственная политика формирования предпринимательского потенциала в ЕС и США сочетает в себе стабильную экономическую систему, развитую рыночную инфраструктуру, защиту интеллектуальной собственности, а также упрощенные административные процедуры. Поддержка бизнеса является одним из генеральных направлений деятельности развитых стран, благоприятно влияет на социально-экономическое положение конкретной страны и мирового сообщества в целом.

Опора преимущественно на внутренние ресурсы развития экономики регионов РФ, локализованные в предпринимательском потенциале региона, обусловливает активное использование возможностей государственно-частного партнерства (ГЧП) на региональном уровне. Динамичное развитие многообразных разновидностей ГЧП во всех странах мира в последние десятилетия, их применение в различных сферах и отраслях экономики регионов позволяют считать ГЧП характерным признаком современного этапа развития региональной экономики. Одним из перспективных направлений применения ГЧП является системное преобразование старых индустриальных зон больших российских городов. Данное преобразование имеет целью привлечение инвестиций в развитие городских агломераций РФ, формирование новых зон роста, диверсификацию региональной экономики и ее вывод на траекторию устойчивого развития. Опыт Западной Европы показал, что в преобразованных индустриальных зонах городов формируются плацдармы постиндустриальных преобразований, создаются новые высококвалифицированные рабочие места, образуются инновационные организационные механизмы.

References

1. Global Innovation Index 2020. World Intellectual Property Organization. [Electronic resource]. https://www.wipo.int/global_innovation_index/ru/2020/ [Published in Russian]

2. Kadatskaya D.V., Lavrova Y.S. Development trends of innovative technological entrepreneurship in the digital economy. Innovation economy issues. - 2020. - T. 10. - No. 2. [Published in Russian]

3. Kadatskaya D.V., Lavrova Yu.S. Methodological approaches to assessing the strategic development of entrepreneurship in the light industry as the main driver of the region's development // Creative Economy. - 2019. - Volume 13. - No. 7. [Published in Russian]

4. Rudenko L. Mechanism of innovative infrastructure of support of small business development. Vestnik Universiteta. 2019;(1):64-71. [Published in Russian]

5. Seliverstov, Yu.I. Development of information and communication technologies and their impact on the competitiveness of the enterprise / Yu. I. Seliverstov, A. A. Blinova // Actual problems of economic development: Collection of reports of the XI International correspondence scientific and practical conference, Belgorod, September 01 - 01 2020. - Belgorod: Belgorod State Technological University named after V.I. V.G. Shukhova, 2020 . [Published in Russian]

MEDICAL SCIENCES

UDC159.9.072.423; 616.31-085; 614.39

RESOURCE APPROACH TO THE ORGANIZATION OF THE WORKPLACE OF A DENTIST THERAPIST TAKING INTO ACCOUNT THE 5S SYSTEM

Chernavsky A.F.,
Doctor of Ps. s., Deputy Chief Physician for the medical part of the State Medical Institution SO "SP No. 12", Associate Professor of the Department of Therapeutic Dentistry and Propaedeutics of Dental Diseases of the Ural State Medical University of the Ministry of Health of Russia, Yekaterinburg, Russia, 28, Technicheskaya str., Yekaterinburg, 620050
Rusakova I.V.,
Candidate of Medical Sciences, Associate Professor of the Department of Health Organization of the Ural State Medical University of the Ministry of Health of Russia, Yekaterinburg, Russia
Belova O.E.
Candidate of Medical Sciences, Deputy Chief Physician for medical and Preventive Work of the State Medical Institution SO "SP No. 12"
DOI: 10.24412/2701-8369-2021-21-26-31

Abstract

Subject. In modern approaches to education, the 5S system and lean technologies are used as an active method of learning for the development of both educational and practical skills. Standardization in training can be used for both group and individual work with students and doctors of practical healthcare, which allows to increase interest in the topic being studied, to strengthen the motivation of trainees to acquire practical skills. [1, 2, 3, 4, 5, 6, 7, 8].

Relevance. The system of general education implements Federal state educational standards based on the system-activity approach as a priority in combination with other modern approaches in education (personality-oriented, psychological, etc.). The mission of modern education is to create conditions that promote personal development and successful socialization of medical workers in practical healthcare in modern conditions of medical activity. Among the requirements for the conditions of the organization of the educational process, it is possible to single out the updating of the content and modernization of educational technologies, which is due to modern requirements for medical activity [9, 10, 11, 12, 13].

Goal. Synthesis of theoretical knowledge obtained during training to achieve the necessary result of practical results.

The tasks of standardization of the workplace of a dentist therapist taking into account the epidemiological risks of training:

Application of the acquired knowledge in dental practice.

The ability to use the available interactive tools to find the necessary information.

The ability to explore an unknown topic and find solutions independently in books or electronic resources.

The ability to communicate in a group and with patients, to offer their ideas for solving the task, to complement the ideas of others with their assumptions.

Development of logical thinking and attention.

Methodology. The use of 5S technology in the educational process allows residents to independently choose and structure the material, analyze the information received, learn to make decisions independently to obtain the desired result, comprehend the elements of practical work.

Results. One of the psychological ways to stimulate interest in practical work in healthcare is innovations in the organization of standardization of the workplace of a dentist therapist taking into account epidemiological risks using various modern training technologies. Non-standard approaches to the organization of natural science classes, taking into account the interests of residents, the first and second years of study, based on independent research activities, stimulate the formation of cognitive interest in practical dentistry

Conclusions. The use of standardization of the workplace of a dentist therapist taking into account epidemiological risks when using the 5S technology allows you to perform a number of professional educational tasks combining theory and practice in the best way:

- solving information problems (including the search for necessary information, etc.); - self
-learning and self-organization;
- teamwork (planning, distribution of functions, mutual assistance, mutual control);
- the ability to find several ways to solve a problem situation, determine the most rational option, justify your choice;
- public speaking skill;
- development of communication skills;
- formation of skills to make the optimal decision or offer solutions in a difficult situation (for example, through the use of computer games focused on optimizing decision-making activities).

Keywords: Standardization of the workplace of a dentist therapist, epidemiological risks, psychological preparation for medical activity, communicative competence, interactive technologies, psychosucation, professional self-determination, professional orientation.

Introduction

One of the main tools for the introduction of a new model of primary health care is standardization (5S). The 5S system applies a unified approach to the standardization of the workplace of a dentist therapist, taking into account epidemiological risks, and makes it unique for each area. Uniqueness implies quality, safety and a unified approach, and this is exactly the approach of the 5S system. The introduction of this system will allow all medical workers to provide medical care in optimal conditions and will simplify the mechanism of interchangeability when changing jobs, an easier period of adaptation [14, 15, 16, 17, 18, 19, 20].

The developed technology of using a standardized workplace of a dentist - therapist will reduce the loss of time in providing medical care to a patient, increase the efficiency of the doctor's work, solve the problems of unification and reduction of epidemiological risks of the dentist's work at a therapeutic appointment.

Materials and methods of research

A study was conducted using methods of observation, questioning, questioning, timing and introspection of the state of a number of mental and psychophysiological functions of medical workers in a professional environment.

Methodology

The stages of implementation are defined:

1. The ascertaining stage. A draft (project proposals) has been prepared, a schedule for the inspection of workplaces has been developed.

The authors have developed recommendations for the implementation of measures for the rational organization of the workplace of a specialist doctor in a dental polyclinic under the 5S system:

1.1 Visualize the initial state of the workplace and take photos: the

working area, the location of medical equipment, filling the drawers of the doctor's work table, etc.

1.2. Divide dental materials and workplace devices into "primary" and "secondary", sterile, disposable, materials, auxiliary tools, taking into account the importance of use.

1.3. Clean the work surface from "secondary" materials and devices.

1.4. Structure the workplace according to the configuration of dental materials and equipment, for better perception, mark the allocated spaces and distribute materials and tools in accordance with the proposed color scheme.

1.5. Develop skills of regular cleaning, find and eliminate sources of problems and pollution.

1.6. To form a "habit" of placing medical materials and equipment in strictly designated places, to consolidate the skill of observing the rules through daily monitoring.

2. The formative stage.

Scanning of the intended objects (inspection of workplaces) was performed.

The stage of the study included photochronometric observations of the dentist's work, from the moment of the start of the appointment. Measurements were carried out using a stopwatch and filling in specially designed checklists. At the time of the timing, there were 2 dentists working in the office with the participation of one nurse. The results showed that the average time for performing medical manipulations is 33 minutes and 50 seconds. An analysis of the timing showed that the losses also include the choice of materials located in the bedside table.

When observing the work of doctors, it was noted that the location of consumables in the work table differs.

2.1. Preliminary sorting and removal of unnecessary has been carried out.

2.2 .The rational arrangement of furniture in the dental office was determined, both in the patient reception area and in the nurse's work area, and the boundaries of the location of PPE items and disinfectants were determined.

2.3. Variants of placement of medical furniture, dental materials of PPE and dez are offered. funds with subsequent control.

When observing the work of doctors, it was noted that the location of consumables in the work table differs. In order to increase convenience, ergonomics and control of infectious safety, it was decided to develop an adapted model of a (standardized) work nightstand.

Table 1.

The degree of risk of infections associated with the provision of medical care.

Box	Degree of risk		Filling
1	High		Sterile and disposable instruments that come into contact with the patient's mucous membrane
2	Medium		Long-term storage materials that come into contact with the patient
3	Low	Very low	Drugs for anesthesia
3			Personal protective equipment for doctor and patient

From the perspective of a risk-oriented approach, the drawer of the bedside table is marked depending on the filling and the degree of risk.

In order to control the correctness of filling and placement of materials in the doctor's work tables, it is recommended to additionally issue an order of the head: 1. Include in the internal quality control journal an item about weekly rounds of offices. 2. Include in the dentist's job description, as one of the points of compliance with quality control – self-control. 3. Assign responsibilities to the senior nurse of the institution, conduct weekly rounds of the offices, with further filling in the internal quality control log.

Table 2.

Control of the occurrence of infections associated with the provision of medical care.

Color coding of the box	The degree of occurrence of HAI	Actions of medical personnel to prevent risks	Control and multiplicity
Green	Very low	Quantitative filling check	Weekly
Yellow	Low	Checking the expiration dates	When filling the table compartment
		Recheck mark	At the beginning of each shift
		Quantitative filling check	Weekly
Blue	Medium	Checking the expiration dates	Upon receipt of materials and filling out the desktop
		Recheck mark	Once every 2 weeks
		Quantitative filling check	Weekly
Red	High	Checking the expiration dates	Upon receipt of materials and filling out the desktop
		Recheck mark	At the beginning of each shift
		Quantitative filling check	At the beginning of each shift

2.4. Standardization of staffing in accordance with the requirements of equipping dental offices.

The developed technology of the dentist's workplace allowed the introduction and effective use of a unified dentist's place for 3 years, which reduced the incidence of infections associated with the provision of medical care, led to a reduction in the time spent by the dentist when performing his professional activities, increased the efficiency of the dentist and facilitates the introduction to the profession and adaptation of specialists in the workplace. Scaling is recommended.

In view of the different numbers of boxes in the workplace, the management of the polyclinic, in accordance with a risk-oriented approach, may decide to separate the filling with the appropriate labeling. Such an arrangement of materials in the doctor's bedside table is not only convenient, but also visually memorable - which corresponds to the concept of lean manufacturing.

3. Control stage Analysis of the effectiveness of the selected solution according to the established indicators

At the final stage, photochronometric observations were repeated, according to the results of which the time of medical manipulations was reduced by 3 minutes 32 seconds. (Fig. 1)

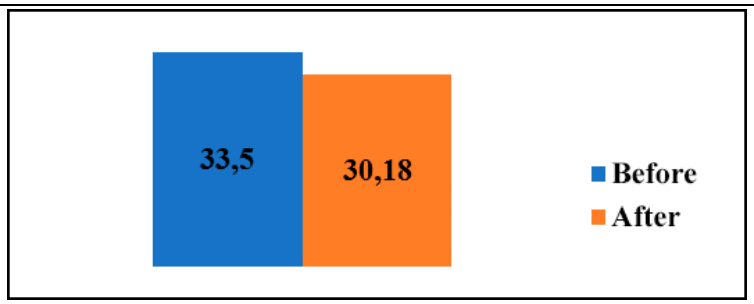


Fig.1. Average time of performing medical manipulations before and after the introduction of a standardized work table, min

The survey of employees showed that Standardization made the work of both doctors and assistants more convenient, to bring movements to automatism and reduce epidemiological risks (Fig. 2 and 3)

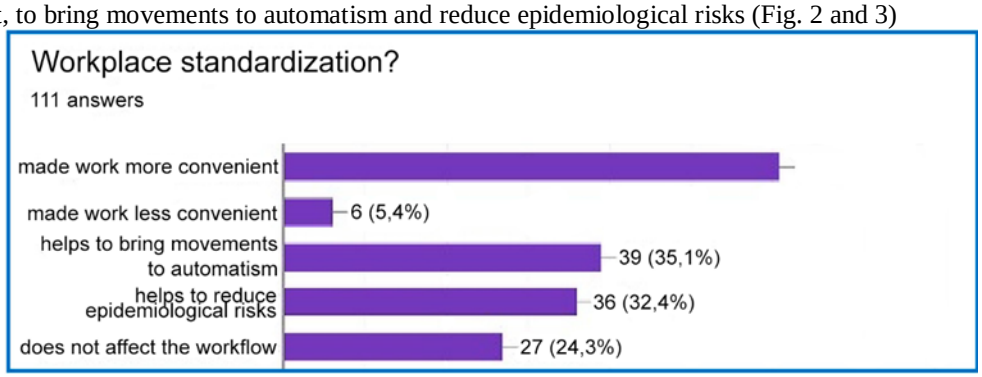


Fig. 2 Responses of doctors on workplace assessment after standardization

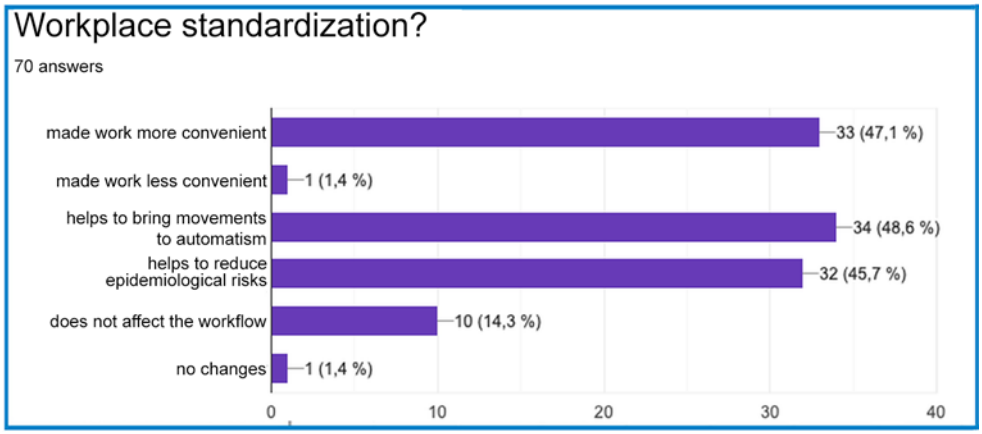


Fig. 3 Answers of assistants on workplace assessment after standardization

Identification and analysis of risks in the implementation of the project:

There is a risk that some practitioners may accept this innovation with a certain degree of skepticism. Especially doctors with a certain experience are those who are used to the previously existing system of chaotic filling of the workspace. As the experience of implementing this project shows, the result depends on the authority of the manager, the interest and involvement of the team in the process of optimizing the improvement of the quality of medical care. By solving this risk, we can propose the gradual introduction of a standardized workplace in the clinic, using the example of a manager.

Results and their discussions

Time frame – from 2018 to the present

Human resources: The project involves the Department of Public Health and Public Health of the Ural State Medical University, the Department of Therapeutic Dentistry and Propaedeutics of Dental Diseases, the State Medical Institution SO "SP No. 12" the project has been implemented in all departments of the Dental Polyclinic No. 12. Yekaterinburg (GAU SO "SP No. 12"), providing therapeutic dental care to the population.

From an economic point of view, the calculation of the implementation of the project has been worked out in stages. Calculation of project implementation

1) Evaluation of the initial state

The work of the project team in the field

Cost per person/hour = 300 rubles.

Calculation of the cost of evaluation = 6 (number of sites) x3 (average sample – the number of estimated bedside tables) x300=4800 rubles.

2)Intelligent product development

Cost Calculation = 30 (hours)x300 (Man/hour)=9000 rubles.

3)Marking of a bedside table 77(workplaces) x70 (the cost of marking one bedside table, rub)=5390 rubles

4)Standardization of the bedside table in accordance with the developed scheme

Calculation = 38 (hours - 30 minutes for 1 bedside table)x300 (person/hour)=11400

5)Personnel training

calculation = 300 (person/hour) x6 (number of sites))=1800 rubles

6)Certification of personnel based on the results of studies

Calculation= 51 (308 people for 10 minutes) x300 (person/hour) =15400

total 47790

The standardization of the dentist's workplace is manifested not only on the internal, but also on the external conditions of medical care. Thus, according to the conditions of the 5S technology, not only the unification of the filling of the workplace in accordance with the color marking was made, but also psychological comfort was achieved for medical workers and patients. Psychological and pedagogical support of the process of implementing the standardization of the dentist's workplace included diagnostic and corrective effects on the psycho-emotional stability of employees, contributed to improving the professional effectiveness of the specialist, his involvement in innovative processes [21, 22, 23, 24, 25].

As a result of the project, a Standard Operating Card (SOC) Standard for equipping a dentist's workplace was created, implemented and recommended for replication.

SAI "DC №12"				Standard operating card (SOC) Dentist Workplace Equipment Stand		SOC №1	
Subdivision	Department	Cabinet. №	Takt time, sec.	Rational ergonomic, taking into account a risk-based approach, equipment of the dentist's workplace		Valid from 2019	Number of sheets
THERAPEUTIC DEPARTMENTS	TD 1,2,3,4,5. TPD 1,2	all	Min, sec.	Standart			

Step number	marking	Working step by step sequence Risk-oriented layout	Indicators before (min, sec)	 after (min, sec)	Key instructions	Layout scheme in work sequence
1.	red	Disposable and sterile materials			• ⌂	
2.	blue	Guta-perchas, paper pins, calibrated and sized, separate box with a palette of filling materials, primers, polishing pastes and gels			• ◊	
3.	yellow	Anesthetic cartridges, box with needles of different sizes			• ⌂	
4.	green	Disposable wipes, disposable masks, disposable gloves Saliva ejectors, disposable gloves, saliva ejectors			• ☆	
		Outcome	11,17	8,48		
		Average time to complete medical procedures, min 20 0 11,17 8,48 Before After Working hours			• ⌂ ◊ ☆	

						Symbols	Standard stock	Security	Quality control	Skill required	Critical point
	Medical gown, mask and cap	Medical gloves	Filling materials	needle	carpules	Disposable	•	⌂	◊	☆	▽

Row "Before" Point "Working hours"
Value: 33.5

Executor	Head of the department	Epidemiologist Assistant / Epidemiologist	Compiled by	FULL NAME	Signature	Date
Doctor, nurse	TD 1,2,3,4,5. TPD 1,2	Noskov S.A.	Deputy Chief Physician	Belova O.E.		
2. Head nurse	Chief Nurse of the Polyclinic	Svalova M.V.	Approved by	Chernavskiy A.F.		
3. Occupational safety engineer	Occupational safety engineer	Mikhaleva T.V.	Chief physician	Petrov I.A.		

Fig. 4 Standard Operating Card (SOC) Standard for equipping a dentist's workplace was created, implemented and recommended for replication

Conclusions

1. Reduced epidemiological risks in the provision of dental care at a therapeutic appointment;

2. Reduced search time – materials and tools have a permanent location and are always where you expect to see them;

3.The workplace (Com) has been rationally used, comfortable working conditions, ergonomic working environment, standard equipment have been created as a fundamental element of the complex of measures to control the quality and safety of medical activities, optimization of dental care in accordance with standards and treatment protocols;

4. A positive environment has been formed for the growth of psychological and moral satisfaction of the staff from the results of work. The best motivation is pride in the workplace;

5. Increased patient satisfaction with the quality and availability of care.

References

1. Lean production [Electronic resource] // Wikipedia. Free encyclopedia. URL: https://ru.wikipedia.org/wiki/Бережливое_производство (accessed: 04/22/2016).

2. Lean service in medical institutions [Electronic resource] // Consulting city centre. URL: http://www.siti-centre.ru/lean/31 (accessed 20.04.2018).

3. Bondarenko, A. F. Psychological care: theory and practice. — M.: Nezavisimaya firma "Klass", 2001. — 336 p.

4. GOST R 56020-2014. The National standard of the Russian Federation "Lean manufacturing. Basic provisions and dictionary". - Introduction. 2015-03-01. - Moscow: Standartinform, 2015. - 15 p.

5. Zaripova, E. M. Organizational and psychological factors in the formation of stress-tolerance in the professional activity of dentists / E. M. Zaripova, I. A.

Petrov, A. F. Chernavsky, M. A. Chernavskii // Ural medical journal. — 2016. — № 7 (140). — S. 68-72.

6. Kozhabayev, N. M. Analysis of methods of implementation of lean production. James Wumek Implementation Algorithm // Russian entrepreneurship. — 2011. — № 8 (2). — Pp. 62-68.

7. Kulikov, O. V. Lean manufacturing as a basic tool for ensuring the quality and safety of medical activity [Electronic resource]. - Access mode: http://loposm.ru/wp-content/uploads/2017/04/1-Kulikov-OV.pdf (accessed: 03/16/2018).

8. Strategy for the development of medical science in the Russian Federation for the period up to 2025 [Electronic resource]. - Access mode: https://www.rosminzdrav.ru/ministry/61/23/stranitsa-967/strategiya-razvitiya-meditsinskoy-nauki-v-rossiyskoy-federatsii-na-period-do-2025-goda (accessed: 29.10.2021).

9. Passport of the priority project "Creation of a new model of a medical organization providing primary health care": approved by the Presidium of the Council under the President of the Russian Federation for Strategic Development and Priority Projects (Protocol No. 26 July 2017 8) [Electronic resource]. - Access mode: http://government.ru/news/28674 (accessed: 03.02.2018).

10. Rusakova, I. V. Improving the system of legal training of dentists taking into account the requirements of the new professional standard / I. V. Rusakova, N. V. Nozhkina // Innovative technologies in education and science. Sat. mat. II International Scientific and Practical conf. Editorial Board: O. N. Shirokov [et al.]. - 2017. - pp. 162-166.

11. Chernavsky, A. F. Guidelines for risk reduction and quality improvement in the provision of dental care in medical organizations in the conditions of municipal formation (ELECTRONIC VERSION) / A. F. Chernavsky, I. V. Rusakova, A. B. Bichun // Yekaterinburg, 2019. - 115 p.

12. Chernavsky, A. F. Psychology of fear // Collective monograph, Ministry of Education and Science of Russia. Federation, Ural. federal. un-T. - Yekaterinburg: Ural Publishing House. un-ta, 2018— - 216 p.

13. Chernavsky A. F. Substantiation of the prospects and strategies for creating a program to optimize the organization of dental care based on a resource approach // German International Journal of Modern Science, No. 20, 2021 VOL. 1 p. 15-19

14. Ivanova, E. S. the Effectiveness of psychological counseling administrations and staff offices of the reorganized companies / E. S. Ivanov, F. A. Chernavskii, A. I. Petrov // Problems of dentistry. - 2016. - Vol. 12, No. 3. - Yekaterinburg, UMMU. - pp. 75-83.

15. Petrov, I. A. Organizational development of determinants of professionalism of medical workers in the conditions of a municipal institution / I. A. Petrov [et al.] // Ural Medical Journal . — 2016. — № 10 (144). — Pp. 80-90.

16. Chernavsky, A. F. Psychological justification of the use of gaming practices and principles of gamification in teaching dental patients a healthy lifestyle / A. F. Chernavsky, I. V. Rusakova, I. A. Petrov // Problems of dentistry. - 2018. - Vol. 14, No. 3. - pp. 91-96.

17. Chernavsky, A. F. Formation of psychological stability of dentists of UIA "SP No. 12" in the provision of medical services / A. F. Chernavsky, I. A. Petrov, O. E. Belova // Problems of dentistry. -2016. - Vol. 12, No. 2. - Yekaterinburg, UGMU. - pp. 116-124.

18. Chernavsky, A. F. Empirical study of stress resistance in the conditions of a dental municipal institution / A. F. Chernavsky [et al.] // Problems of dentistry. - 2016. - Vol. 12, No. 3. - Yekaterinburg, UMMU. - pp. 107- 112.

19. Chernavsky A.F. Resource approach to the formation of stability of stress tolerance in professional activity on the example of dental doctors // Deutsche internationale Zeitschrift für zeitgenössische Wissenschaft №3 2020 VOL. 1 From 44-50/

20. Neupokoeva, L. Yu. Identification of working time losses using the tools of "lean technologies" in the provision of surgical dental care / L. Yu. Neupokoeva, I. V. Rusakova // Topical issues of modern medical science and healthcare: mat. III International Scientific and Practical Conference of Young Scientists and Students, Yekaterinburg, April 3-5, 2018 - Yekaterinburg: Publishing House of UGMU. -2018. - Vol. 2. - pp. 69-74.

21. Chernavskii, A. F. an Empirical study of the factors of psychological stability of the medical staff in the offices of the municipal institution / F. A. Chernavskii, A. I. Petrov, M. V. Bogush // Ural medical journal. — 2016. — № 7 (140). — S. 80-85.

22. Chernavskii, A. F. the Psychology of fear // Collective monograph, the Ministry of education and science of Russian Federation. Federation, Ural. federal. un-T. - Yekaterinburg: Ural Publishing House. un-ta, 2018— - 216 p.

23. Chernavsky A. F. Resource approach to the formation of a mentoring system in medical or ganizations that provide dental care to the population on the example of mau "sp # 12" // Scientific discussion (Praha, Czech Republic) ISSN 3041-4245 VOL 1, 23-32.

24. Chernavsky A. F. Resource approach in psychological support of subjects of the educational process // Sciences of Europe (Praha, Czech Republic) ISSN 3162-2364 VOL 2. With 61-64.

25. Chernavsky A.F. Resource approach to determining human resources in medical organizations // German International Journal of Modern Science. 2021. No. 11-1. pp. 4-9.

A SEMISYNTHETIC COMPOUND FROM THE ALKALOIDS OF CHELIDONIUM MAJUS L. AND THIOPHOSPHORIC ACID TRIAZIRIDIDE NSC631570 AND ITS INFLUENCE ON CHILDREN (A REVIEW OF CASE REPORTS)

Romanchuk V.O.
Graduate Student
Lviv National Ivan Franko University
Henerala Chuprynky Street, 49, 79044, Lviv, Ukraine
https://orcid.orq/0000-0003-1594-3995
DOI: 10.24412/2701-8369-2021-21-32-35

Abstract

The article deals with the theme of the treatment of cancer diseases nowadays. The author describes the patient cases of adults as well as of children who have already exhausted all conventional methods of therapy after what they began treatment with the semisynthetic compound from the alkaloids of Chelidonium Majus L. and thiophosphoric acid triaziridide named NSC631570 (Ukrain). The author makes a detailed review of clinical reports.

Keywords: cancer, disease, patients, NSC631570, children, diagnosis, treatment, conventional method, brain tumor, Xeroderma pigmentosum, astrocytoma, patient cases, clinical reports, WHO statistics.

In 2000 Dr. Burkhard Aschhoff ("Villa Medica Clinic", Edenkoben) from Germany presented results of the treatment of 203 patients with various cancer diseases. These advanced-stage cancer patients with different types of cancer had already exhausted all other forms of the conventional therapy and after that were treated with the anti-cancer preparation NSC631570 (Ukrain) in the period between August 1997 and the end of 1999 at the „Villa Medica Clinic" in Germany. 76 patients (37.4%) were simuitaneousiy treated with regional deep hyperthermia. Patients also received complementary oncological treatment with seien, Cimetidine, thyme extract and vitamin A. The results of therapy were surprising. 41 patients (20.2%) achieved total remission, 122 (60.1%) partial remission and only 40 (19.7%) did not respond to treatment. (2)

NSC631570 (Ukrain) is a semisynthetic compound from the alkaloids of *Chelidonium majus L.* and thiophosphoric acid triaziridide, which has already been shown to have considerable promise in the treatment of a variety of oncological diseases (14, 6, 11, 3, 13). The mechanism of action of this preparation has not yet been elucidated, but nevertheless it has demonstrated efficacy only against cancer cells while leaving healthy cells undamaged (4).

In vitro tests at the National Cancer Institute (Bethesda, USA) showed that NSC631570 is effective and malignocytolytic against all human cancer cell lines tested (8). NSC631570 has been shown to induce apoptosis (programmed cell death) in malignant cells (5).

NSC631570 corrects the immune response of patients, especially T-cell mediated response as well as enhanced cell-mediated cytotoxicity with an increase in the T-lymphocyte count and normalization of the T-helper/-suppressor ratio (9).

Patients received NSC631570 at a dose of 0.3 mg/kg b.w., 3 times per week for 3 weeks. The preparation was administered with a standardized 250 ml 5% glucose infusion solution with the addition of vitamin C (Pascoe, Giessen, Germany) at 0.3 g/kg b.w. 76 patients also received regional deep hyperthermia in which tumor tissue was heated to a temperature of >42.5 °C. After immune phenotyping patients received accompanying complementary oncological treatment with seien (Biosyn, Fellbach, Germany), Cimetidin (ct-Arzneimittel, Berlin, Germany), thyme extract (Dr. Aschoff, Edenkoben, Germany) and vitamin A (Jenapharm, Jena, Germany).

203 patients had a mean age of 46.3 years (22 months to 74 years). There were 14 children among them below the age of 16 (8 girls and 6 boys) and 189 adults (107 women and 82 men). 76 (37.4%) were simultaneously treated with regional deep hyperthermia in treatment cycles of 3 weeks with a 3-4 week pause between cycles. Patients underwent 1-15 cycles (average 2.6 cycles).

NSC631570 was generally well tolerated. Typical adverse effects were temperature increases of up to 2-3 °C, feelings of warmth, stabbing pains, itching and tingling sensations at the sites of tumors or metastases. Some patients reported feelings of nausea after the first NSC631570 injection but not after subsequent injections. 3 patients presented skin rash. All these adverse effects disappeared spontaneously and none required medication or additional therapy. Interruption of NSC631570 therapy as a result of adverse effects was not indicated in any of the patients.

These adverse effects appeared in patients who responded to therapy and disappeared as the tumor mass became smaller. It can therefore be concluded that they were caused by the influence of tumor degradation products rather than by NSC631570 itself.

Immune phenotyping before and 3-5 days after each treatment cycle showed that on average the lymphocyte count increased by 122%, total T-lymphocytes by 87.2% and natural killer cells by 87.2%. Total CD4 lymphocytes increased by 113% and total activated CD4 lymphocytes by 98.2%.

Patients who responded to NSC631570 therapy showed an improvement in their general condition, with reduced pain, increased appetite, increased vitality, a more positive attitude and normalization of sleep patterns.

These results of NSC631570 therapy are outstanding, especially in view of the fact that these patients had exhausted all conventional forms of cancer therapy. The improvement in immune status brought about by

NSC631570 is also noteworthy. The greatest changes occurred in patients whose immune systems were most damaged. As immune levels returned within the normal range the influence of NSC631570 was reduced, leading to the conclusion that the drug is an immunocorrector.

The results of the treatment were as follows: among adults there was a complete remission in **16.58%** of cases, it was possible to achieve a partial remission in **62.57%** of cases and for **20.86%** of patients did not respond to treatment. At the same time very interesting were the comparative results of the treatment of children: complete remission **62.5%,** partial remission **31.25%** and no influence **6.25%.**

In accordance with the WHO statistics 400 000 children from 0 up to 19 years receive diagnosis "cancer disease" all over the world each year. (https://www.who.int/news-room/fact-sheets/detail/cancer-in-children) 20 % of them have relapse so it is impossible to help them.

To show the potential and influence of this medical preparation without any side effects on the children we present 6 patients cases which are documented and listed below.

1. A medical story of the patients Daniel B. suffering from xeroderma pigmentosum. Daniel was a case of Xeroderma pigmentosum, which was confirmed by genetic examinations at the University of Tuebingen (Germany). As Daniel was between the ages of 6 and 16 a total of 56 operations were necessary, especially on the face. He had already had all forms of skin cancer from the relatively harmless basal cell carcinoma to malignant melanoma. It should be noted that the life expectancy of these patients is only 16 years of age and Daniel, who is in the meantime over 36 years-old, has fortunately lived considerably longer. Dr. Burkhardt Aschhoff rom Germany began his treatment on 27.08.2001 and observed that from the beginning of treatment basically no further tumours formed. Over the last 11 years on average one smaller excision per year was performed, which were found to be semi-malignant tumours. Only in 2010 Dr. Aschhoff removed two small tumours, which were malignant melanomas, from the skin in the region of the right knee. An examination of the sentinel lymph node showed that no metastases were present and no relapses or lymphomas have been observed now. The tests during treatment were first carried out at Fachklinik Hornheide and later at the University of Tuebingen (both in Germany). It has been demonstrated that this treatment of the young man has been highly effective in preventing further malignant tumors as well as preventing the spread of metastases. No side-effects have yet appeared as a result of treatment with NSC631570. The regular laboratory tests carried out during treatment showed no changes in the blood count nor changes in liver, kidney, pancreas and other metabolic levels. I was also able to demonstrate and confirm this with other documented case reports. The young patient works regularly, primarily on the night shift. (http://www.ukrin.com/docs/daniel-b-english.pdf, 1)

Daniel mit 3 Jahren
Auch hier ist die Hyperpigmentierung zu erkennen

Fig. 1

Daniel mit 6 Jahren
Multiple Hauttumore sind zu erkennen

Fig. 2

Daniel nach einem großen Transplantationseingriff

Fig. 3

Daniel, Januar 2012

Fig. 4

2. Patient S.S., an 8 years old boy, was presented with an ulcering lesion of the nose. As he was 10 months old, xeroderma pigmentosum was diagnosed. Until the age of three years the number of skin lesions increased considerably. In May 2002 skin cancer (squamous cell carcinoma) at the nose was diagnosed, T4NXM0, histologically verified. From May till June 2002 three cycles of chemotherapy were administered (cyclophosphamide, vincristine, and vinblastine). The therapy failed and the tumors grew up. Clinical investigation in April 2004 revealed deforming malignant melanoma of the nose with invasion into the cartilage of nasal septum, measuring 3x3 cm. On 20 May 2004 the therapy with NSC631570 was started, 5 mg intravenously twice a week, up to a total dose of 85 mg. One month after the last administration of NSC631570 a complete regression of the tumor was revealed. The skin defect was partially replaced with connective tissue. Xeroderma skin lesions improved throughout the body. (**https://ukrin.com/en/xeroderma,** 10)

Fig. 5
Patient S.S. before the therapy with NSC631570. Deforming invasive malignant melanoma of the nose. April 2004

Fig. 6
Autofluorescence of NSC-631570 at the melanoma area under UV-light during the first intravenous injection. May 2004.

Fig. 7
Patient S.S. in December 2004. Complete regression of the tumor, with connective tissue substitution.

The 3 years-old Stefan Dan with the diagnosis of generalised lymphangiomatosis was sent home by doctors in 1995 as having exhausted all forms of therapy. (http://www.ukrin.com/en/obstructive-tactics-consequences) From the medical records of the Universitaetstsklinik fuer Kinderheilkunde, Vienna (Austria): "After consultation with our oncologist tumour progression cannot be counteracted either by chemotherapy or radiotherapy. Surgery is also no longer possible so that further therapy can only be palliative". (https://ukrin.com/docs/zusammenfassung-kg-dan.pdf) After that the treatment with NSC631570 has begun and an unexpected improvement occurred. The next cource with the NSC631570 began in September 2000 and the condition of the child gradually improved. (https://ukrin.com/docs/zusammenfassung-kg-dan.pdf) Stefan is now 29 years old. He is intelligent, can read, write and paint and plays the piano.

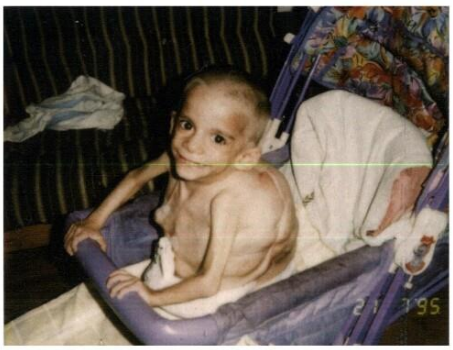


Fig. 8

Fig. 9

Fig. 10

Fig. 11

4) A 13-year-old girl Mariana Katic with tuberous sclerosis and subependymal giant cell astrocytomas was treated with NSC631570. Although neurosurgical operations were also performed, complete tumor excision was not possible. In view of the young age of the patient and the development of the clinical picture of hypertension in CSF pathways, the therapeutic approaches in this case were limited. While a number of symptomatic neurosurgical operations were performed, progressive growth of intracranial tumors made the prognosis unclear. NSC631570 administration led to a great improvement in clinical status and also to partial regression of astrocytoma growth, which can be observed to date. Mrs. Katic has given birth to a healthy son. (https://ukrin.com/docs/uk7nowicki.pdf , 7)

5) An 8-years-old girl was twice operated for a Grade I astrocytoma of the chiasma. First the girl was operated on 13th December 1989. "Beginning 1991 a definite recurrence of the right-sided tumor could be demonstrated and the right eye was blind". The second operation was implemented on 25th April 1991. "Hemianopsia on the left visual field developed; blindness at right. No changes since October 1993; (…)". Treatment with Ukrain was initiated. It started on 21th April 1994 and continued until 27th March 1995. After treatment with Ukrain: "Patient feels well and is doing well at school. (…) **To date therapy with Ukrain in this patient is a complete success and calls for further clinical studies**". (http://www.ukrin.com/docs/steinacker_1996_2.pdf , 12)

6) Dr. Frank Daudert from Bayern (Germany) reported on his therapeutic success with a girl diagnosed with a brain tumor. "After 14 days I was astounded to see that her symptoms of paralysis were declining, the oblique position of the head had returned to normal and the child was again able to swallow. After a further 14 days the child once more attended the UNI-Klinik in Munich to check if the tumor was operable. During the course of further examinations, it was found that the tumor had in fact reduced in size and the tumor was operable. The operation was carried out successfully and suffered no relapse later". (http://www.ukrin.com/de/node/308)

All these facts mentioned above should compel to think seriously about the potential of the medical anticancer preparation under the title NSC631570 especially for young patients, because all these children mentioned above were in a hopeless condition from a medical point of view.

References

1. Aschhoff B. Clinical improvement of a patient with xeroderma pigmentosum after treatment with Ukrain: a case report. Int. J. Immunother. 2003, XIX (2-4): 105-108.

2. Aschhoff B., Retrospective Study of Ukrain Treatment in 203 Patients with Advanced-Stage Tumors. DRUGS EXPTL. CLIN. RES. XXVI (5/6) 249-252 (2000).

3. Bondar G., Borota A., Yakovets Y., Zolotukhin S. Comparative evaluation of the complex treatment of rectal cancer patients (chemotherpay and X-ray therapy, Ukrain monotherapy). Drugs Exptl. Clin. Res., 24 (5/6), 221, 1998.

4. Liepins A., Nowicky J.W. Ukrain is selectively cytostatic and/ or cytotoxic to human tumour and HIV-infected cells but not to normal human cells. Prog. 17th Int. Cong. Chemother., Berlin1991, Abst. 163, 2660-2661.

5. Liepins A., Nowicky J.W., Bustamante J.O., Lam E. Induction of bimodal programmed cell death in malignant cells by the derivative Ukrain (NSC631570). Drugs Exptl. Clin. Res., 22 (Suppl.), 73, 1996.

6. Musianowycz J., Judmajer F., Manfreda D., et al. Clinical studies of Ukrain in terminal cancer patients (phase II). Drugs Exptl. Clin. Res., 18, 45, 1992.

7. Nowicki G., Zahriychuk O. Ukrain treatment of astrocytomas in girl with tuberous sclerosis: a case report. Int. J. Immunotherapy XIX (2-4) 95-97 (2003).

8. Nowicky J.W., Hiesmayr W., Liepins A. Influence of Ukrain on human xenografts in vitro. Drugs Exptl. Clin. Res., 22 (Suppl.), 93, 1996.

9. Nowicky J.W., Staniszewski A., Zbroja-Sontag W., Sesak B., Hiesmayr W. Evaluation of thiophosphoric acid alkaloid derivatives from Chelidonium majus L. (Ukrain) as an immunostimulant in patients with various carcinomas. Drugs Exptl. Clin. Res., 22 (2), 139, 1991.

10. Skivka L., Nowicky J.W. Anti-cancer preparation NSC631570 (Ukrain) in the treatment of malignant melanoma and xeroderma pigmentosum. Journal of Psychiatry, Materials of the World Congress on Psychiatry and Psychological Syndromes and 29th International Conference on Adolescent Medicine and Child Psychology, December 06-07, 2018, Rome, Italy.

11. Staniszewski A., Slesak B., Kolodziej J., Harlozinska-Smyrka A., Nowicky J.W. Lymphocyte subsets in patients with lung cancer treated with thiophosphoric acid alkaloid derivatives from Chelidonium majus L. (Ukrain). Drugs Exptl. Clin. Res., 18, 63, 1992.

12. Steinacker J., Korsh O.B., Melnyk A. Ukrain therapy of a recurrent astrocytoma of the optic nerve (case report). In: Drugs. Exptl. Clin. Res. XXII (Suppl.) 207-209 (1196).

13. Uglyanitsa K., Nefyodov L. Nowicky J.W., Broszko W. The effect of Ukrain on cancer of the urinary bladder. 17th Int. Cancer Cong., Rio de Janeiro, 24-28 August, 1998, pp. 1065-1068.

14. Vatanasapt V., Wongpratoom W., Mairiang P., et al. Preliminary report on clinical experience in the use of Ukrain. Thai Cancer J., 17 (1-2), 20, 199.;

EFFECTS OF CARCINOGENIC SUBSTANCES ON THE HUMAN BODY

Sailauova A.,
2nd year Master's student
Kh. Dosmukhamedov
University of Atyrau
Republic of Kazakhstan, Atyrau,
1 Student Ave.
Tlepbergenova A.,
Candidate of Pedagogical Sciences
Kh. Dosmukhamedov
University of Atyrau
Republic of Kazakhstan, Atyrau,
1 Student Ave
Yessenamanova M.,
Candidate of Technical Sciences
Kh. Dosmukhamedov
University of Atyrau
Republic of Kazakhstan, Atyrau,
1 Student Ave
Yessenamanova Z.
Doctor of Philosophy (PhD)
Kh. Dosmukhamedov
University of Atyrau
Republic of Kazakhstan, Atyrau,
1 Student Ave
DOI: 10.24412/2701-8369-2021-21-36-40

ВОЗДЕЙСТВИЕ КАНЦЕРОГЕННЫХ ВЕЩЕСТВ НА ОРГАНИЗМ ЧЕЛОВЕКА

Сайлауова А.
Студент 2-го курса магистратуры
Атырауский университет им.
Х. Досмухамедова
Республика Казахстан,
г. Атырау, пр. Студенческий 1
Тлепбергенова А.
Кандидат педагогических наук
Атырауский университет им.
Х. Досмухамедова
Республика Казахстан,
г. Атырау, пр. Студенческий 1
Есенаманова М.
Кандидат технических наук
Атырауский университет им.
Х. Досмухамедова
Республика Казахстан,
г. Атырау, пр. Студенческий 1
Есенаманова Ж.
Доктор философии (PhD)
Атырауский университет им.
Х. Досмухамедова
Республика Казахстан,
г. Атырау, пр. Студенческий 1

Abstract

The article presents a general characteristic of carcinogenic substances on the human body and their effects. It also shows the distribution and types of carcinogens in the environment. We draw conclusions on the basis of statistical data on people suffering from cancer in our country.

Аннотация

В статье представлена общая характеристика канцерогенных веществ на организм человека и их влияние. Также показаны распространение и виды канцерогенных веществ в окружающей среде. Делаем

выводы на основании статистических данных о людях, страдающих онкологическими заболеваниями в нашей стране.

Keywords: carcinogen, health, benzene, industry.
Ключевые слова: канцероген,здоровье, бензол,промышленность.

Введение. Как известно, на сегодняшний день одной из важнейших проблем в городе Атырау являются экологические проблемы, такие как загрязнение атмосферы, почвы. Одной из причин этого можно назвать объекты предприятий, которые в развитые времена работали с целью удовлетворения потребностей людей. Одной из причин, по которой население города страдает от различных заболеваний, возникновения заболеваний дыхательных путей и кожных заболеваний, является распространение в атмосферу примесей, загрязняющих воздух, выбрасываемых из этих промышленных предприятий.

Люди по-разному и непрерывно подвергаются воздействию широкого спектра различных агентов, которые повреждают ДНК, некоторые из которых классифицируются как канцерогены. Канцероген-это любое вещество, которое образуется в натуральных и синтетических веществах, радионуклидах или радиации, которое способствует канцерогенезу и раку. Это связано со способностью повреждать геном или нарушать процессы клеточного метаболизма. Радиоактивные вещества считаются канцерогенами, но их канцерогенная активность связана с излучением, таким как гамма-лучи и альфа-частицы. Некоторыми примерами нерадиоактивных канцерогенов являются ингаляционный асбест, некоторые диоксины и табачный дым.

Очевидно, что канцерогены опасны во многих отношениях. Воздействие канцерогенов угрожает здоровью и жизни работников, а также их участию в работе и уровню производительности, что приводит к негативным последствиям для компаний и работодателей. Поэтому необходимо исключить или уменьшить воздействие канцерогенов на рабочем месте. Если на рабочем месте будут приняты соответствующие меры, то бремя онкологических заболеваний может значительно снизиться. Некоторые канцерогены могут, например, попасть в кровь и органы, в том числе в мозг. Другие могут проникать в кожу.

Несмотря на то, что на территории республики ежегодно увеличивается число заболевших раком, канцерогенные вещества, выделяющиеся из воздуха и сферы производства этого заболевания и регионов, до сих пор до конца не изучены. Тем не менее, по методологии оценки риска для здоровья, разработанной в 80-х годах прошлого века, в мире уже упоминалось и предупреждалось о распространенности различных видов заболеваний, начиная от рака и заканчивая распространением среди населения, часто контактирующего с химическими веществами [1]. В том числе, рекомендовано строго принимать во внимание те регионы, которые считаются производственными центрами (где наблюдалось самое грязное количество воздуха). Сейчас, наблюдая за общественно-экономическими показателями как главным индикатором окружающей среды, делают выводы. Этим обуславливается экологическое “политическое” положение государства. Ведь загрязнение воздуха оказывает существенное влияние на жизнь человека, которое является главной ценностью государства.

Если посмотреть статистику, связанную с ситуацией в стране, то по итогам 2020 года заболеваемость злокачественными новообразованиями в республике составила 173,5 на 100 тыс. населения. В абсолютном выражении выявлено 32 526 новых случаев. Снижение заболеваемости составило 11,4%. Контингент онкологических больных в 2020 году составил 190 159 больных (в 2019 году – 186 326 пациентов).

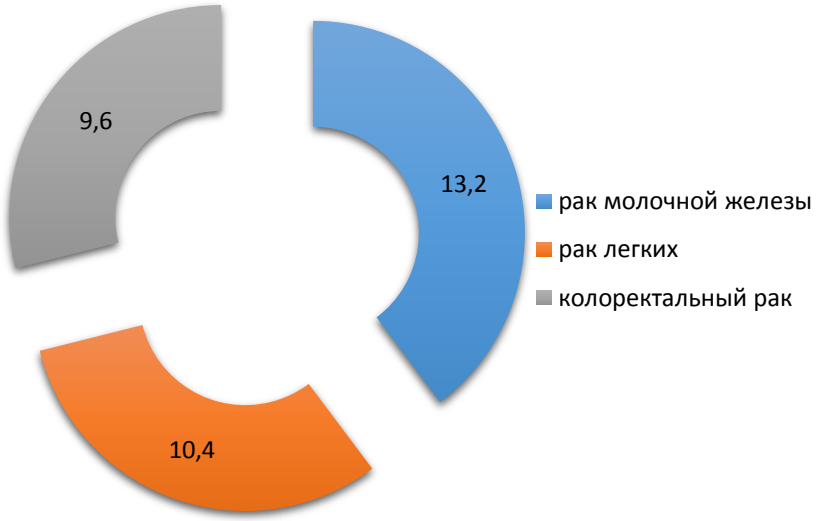


Диаграмма 1. Структура ОЗ

В структуре онкологических заболеваний(ОЗ) на первом месте находится рак молочной железы (13,2%), на втором – рак легких (10,4%), на третьем - колоректальный рак (9,6%). В возрастной структуре заболевших 56,0% - лица трудоспособного возраста. По данным электронного регистра онкологических больных в 2020 году показатель смертности от зд составил 75,5 на 100 тыс. населения, что составляет 14 150 случаев. Снижение смертности составило 0,7%.

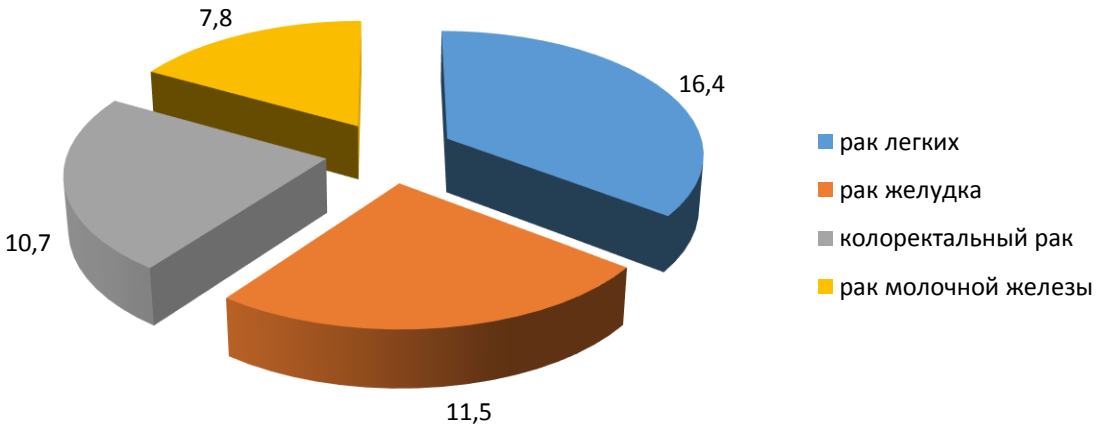


Диаграмма 2. Структура смертности

В структуре смертности на первом месте-рак легких (16,4%), на втором - рак желудка (11,5%), на третьем-колоректальный рак (10,7%) и рак молочной железы (7,8%). Ранняя диагностика онкологических заболеваний 0-I стадии в 2020 году составила 25,5% в общей структуре случаев новых ОЗ. Пятилетний уровень жизни по итогам 2020 года составил 54,0% (в 2019 году – 52,5%) [2].

Нефтедобывающая промышленность является первым источником дохода нашего государства, который влияет на формирование его позиции на экономическом рынке. Объекты добычи, переработки и хранения нефти и газа введены в эксплуатацию на территории нашей страны и до сих пор находятся на стадии планирования. Часто эти объекты, окруженные различными населенными пунктами, представляют прямую угрозу здоровью близлежащего населения. В связи с этим перед вводом в эксплуатацию необходимо предвидеть риски для здоровья, возникающие в результате воздействия

Пучков загрязняющих веществ в результате будущей работы промышленного объекта, и проводить профилактические мероприятия.

Большая часть государственных средств будет направлена на здравоохранение, лечебную работу второго и третьего этапов, регулирование клинической диагностики, процессы ее развития. Тем не менее, ряд заболеваний, смертность и техногенные факторы, влияющие на окружающую среду, не принимаются во внимание.

Ученые до сих пор не уточнили, как классифицировать вещества, влияющие на возникновение рака. Но в сложившейся среде его классифицируют как радиоактивный (под воздействием ультрафиолетовых лучей), генетический и под воздействием окружающей среды. Последний фактор заключается в табаке, алкоголизме, неправильном питании и работе с опасными химическими веществами и потреблении их. Канцерогены - одно из самых распространенных химических веществ, встречающихся в промышленности. Канцерогены содержатся во всем, что мы используем, начиная с пищи, которую мы потребляем ежедневно. Тем не менее, определенное его количество и вид могут нанести серьезный вред человеческому организму. Особенно это опасно для жителей, населяющих промзону. Известно, что он вызывает рак и различные кожные (дерматологические) заболевания.

Таблица 1

Химические вещества

Химические вещества	**CAS**	**Классификация**				**SFI**
		МАИР	**U.S.EPA**	**Россия**	**Казахстан**	
1	**2**	**3**	**4**	**5**	**6**	**7**
Оксид хрома (VI)		1	A	+	3	42,0
Бенз/а/пирен	50-32-8	2A	B2	+	1	3,1
Сажа		1	-	-	3	0,0155
Тетрахлорметан	56-23-5	2B	B2		2	0,053
Бензол	71-43-2	1	A	+	2	0,027
Бензин	8032-32-4	2B	B2	-	4	0,035
Формальдегид	50-00-0	2A	B1	+	2	0,046
Ацетальдегид	75-07-0	2B	B2	-	3	0,0077
Трихлорметан	67-66-3	2B	B2	-	2	0,008

Среди вредных веществ, выделяемых в воздух, как показано в таблице 1, лидируют бензол и бензапирен, обладающие канцерогенной способностью. В частности, по показателю международного агентства по изучению рака (МАИР)[3] и Казахстанских стандартов[4,5] можно наблюдать значительное влияние на организм человека. Соответственно, в дальнейшем при оценке уровня опасности этому веществу необходимо уделять гораздо больше внимания.

Таблица 2

Описание химических веществ

Химические вещества	**Описание**	**ПДК**		**Влияние на человека**
		мг/м^3$_{е.ж.б.р}$	**мг/м^3$_{о.т}$**	
Бензол	Бесцветная жидкость, содержащаяся в некоторых нефтяных бензинах в качестве добавки, также получается путем перегонки нефти, хорошо растворяется в воде.	0,3	0,1	Вызывает заболевания костного мозга, лейкоз и рак. Яд, воздействующий на нервную систему и кровь.
Толуол	Метилбензол представляет собой бесцветную жидкость с характерным запахом, смешанную с углеводородами, многочисленными спиртами и эфирами, не смешанную с водой, продукт каталитического риформинга бензиновых фракций нефти.	0,02	-	Пары могут проникать через неповрежденную кожу и органы дыхания, вызывая повреждение нервной системы. Поэтому работать с толуолом и входящими в него растворителями следует в хорошо проветриваемом помещении или под тягой в прочных резиновых перчатках.
Этилбензол	Бесцветная жидкость с запахом, напоминающим бензин; не растворяется в воде, растворяется в спирте, бензоле, эфире.	0,02	-	Этилбензол обладает общеотоксическим, наркотическим и кожно-резорбтивным действием, сильной кумулятивностью. Оказывает раздражающее действие на кожу и слизистую оболочку глаз.

Ксилол	Это вещество является ароматическим углеводородом. Слово "ароматический" в химической промышленности означает, что химическое вещество является летучим, легко испаряющимся соединением.	0,2	-	Регулярные вдыхания пара из этого продукта вызывают слабый наркотический эффект у людей, такой как вдыхание паров бензола или толуола. Любая работа с использованием этой жидкости должна проводиться в помещении с хорошей вентиляцией, а также вдали от любого источника огня.

Толуол, этилбензол или ксилол, относящиеся к группе БТЭК, влияют на работу центрального мозга и вызывают паралич [6]. Например, в период с 2005 по 2009 годы нефтедобывающие компании добывали 11,4 миллиона галлонов раствора, в котором встречается по меньшей мере один из элементов БТЭК.

Кроме того, одним из веществ, широко используемых в нефтяной промышленности, являются тяжелые металлы. Среди них можно отметить Fe, Mn, Cr, Co, Ni, V, Mo, Cu, Zn, Pb, Hg, Sn и особо заметные (V, Ni, Zn) металлы. Они поступали через живые организмы во время прошлого геологического процесса.

Чрезмерное поглощение или использование тяжелых металлов вызывает появление новых тканей в организме человека, вызывает слипание некоторых частей плазмы крови посредством окислительно-восстановительного процесса. Попадая в организм и накапливаясь, он оказывает канцерогенное действие. Например, Ni приводит к опухолям полости носа, горла и почек, Pb вызывает рак желудка, Cd лейкемию и опухоли половых органов. Но наиболее опасными считаются Zn и Fe, которые ниже по весу. Они попадают в организм через дыхательные пути. Это стало причиной повышения ответственности лиц, работающих на производстве, за меры предосторожности.

На предприятиях, производственные процессы которых являются источником канцерогенной опасности, необходимо проводить мероприятия, направленные на устранение или уменьшение этой опасности. Основные меры профилактики канцерогенной опасности можно разделить на следующие группы: санитарно-гигиенические, технологические, санитарно-технические и медико-профилактические [7].

Вывод: Согласно приведенным выше статистическим данным, с каждым годом в стране растет число людей, страдающих онкологическими заболеваниями. Одним из факторов, влияющих на это, является ежегодное увеличение количества производственных предприятий в стране и расширение проектов производственных предприятий на рынке, ежегодное увеличение объемов извлекаемой нефти, выбросы загрязняющих газов, вредных веществ в воздух на поля или продукты питания на открытых рынках. Пути решения этой проблемы в настоящее время разрабатываются, но количество больных онкологическими заболеваниями не снижается. В соответствии с вышеизложенным, должны проводиться ежегодные масштабные контрольные работы по канцерогенам, исследования, подтверждающие, что их остатки и концентрации находятся в нормальном количестве, должны быть опубликованы в открытом виде. Кроме того, при постоянном контроле за выбросами бензола следует стараться не допускать дальнейшего роста концентрации вещества в атмосфере (воздушном пути) региона проживания.

References

1. «Risk Assessment in the Federal Government: Managing the Process», Publisher, U.S. National Research Center (NRC), 1983

2. https://www.inform.kz/ru/kakov-uroven-onkologicheskoy-pomoschi-v-kazahstane_a3764015 [Published in Russian]

3. Agents Classified by the IARC Monographs, Volumes 1–123 https://monographs.iarc.who.int/wp-content/uploads/2018/09/ClassificationsAlphaOrder.pdf

4. Order on approval of technical regulations "Safety requirements for toxic and highly toxic substances".[Published in Russian]

5. Order "On Approval of Hygienic Standards for Atmospheric Air in Urban and Rural Residential Areas". [Published in Russian]

6. Production carcinogens. Passportization of carcinogen-dangerous production facilities: guidelines / I.A. Kurash, I.P. Semenov. - Minsk : BGMU, 2016. [Published in Russian]

7. Podavalov Y.A.P44 Ecology of oil and gas production.-Moscow:Infra-engineering, 2010. [Published in Russian]

PEDAGOGICAL SCIENCES

METHODS OF USING MULTIMEDIA TECHNOLOGIES IN TEACHING ENGLISH IN GRADES 9-11

Kulmagambetova S.S.,
candidate of pedagogical sciences, ass. prof.,
Makhambet Utemisov West Kazakhstan university
Uralsk, Republic of Kazakhstan
Kitym G.A.
master student of
Makhambet Utemisov West Kazakhstan university
Uralsk, Republic of Kazakhstan
DOI: 10.24412/2701-8369-2021-21-41-43

Abstract
Today it is impossible to imagine life without technologies, such as, for example, a computer or the Internet, surrounding us. And these multimedia tools are being actively introduced into all spheres of life. One of the layers of vital activity is education. This article will discuss what multimedia tools are, what they are, and how they can be used when teaching a foreign language, in particular the receptive side of foreign language speech.

Keywords: multimedia learning tools, multimedia, receptive side, foreign language speech, multimedia lesson, information and computer technologies, interactive whiteboard.

According to the dictionary of foreign words, multimedia is an information computer system with advanced functions, capable of working with image (video), sound, text and interactively combined with other systems. That is, based on the definition, it follows that the use of multimedia tools in the learning process presupposes the presence of a computer. In the history of the development of education, information technology is part of the medium used to convey the message of science to many people, ranging from printing technology a few centuries ago, such as printed books, such as telecommunications to media, voice recorded on tape, video, television, and CD [1].

According to another definition of this concept, very similar to the above definition, multimedia (multimedia, from English. multi - many and media – carrier, medium) is a set of computer technologies in which several information media are used simultaneously: text, computer graphics (photographs, animation, diagrams, 3D graphics, etc.), sound, video. The most commonly used technologies included CD players, personal computers, TV screens, and, in some cases, data projectors and smart phones [2, p. 11-27]. Multimedia tools (hereinafter referred to as MMS), which can be used in training, can be divided into static, dynamic and interactive. Static MMS includes photos, printouts, while dynamic ones include television, videos, cassettes, movies, CDs and DVDs. Interactive MMS: interactive television, Internet, computer [5, p. 629-633]. The benefit and advantage of a multimedia environment in practicing reading words is the ability of each student to practice reading words in class and immediately correct their mistakes and correct pronunciation. In addition, multimedia manuals can refer students to the relevant keywords that are placed in groups. The multimedia lesson is intended for studying new material and mastering new information, consolidating what has been passed and practicing skills and abilities, repeating and practical application of the acquired knowledge, generalization and systematization of knowledge [4, p. 108-115].

Information technologies arouse the child's interest: animation fragments make the material studied more accessible and closer to the child's life. The role of the teacher is to support and direct the development and creative search of students in the learning process. Under such conditions, it is necessary to revise the organizational forms of educational work that have developed today: to increase the independent individual and group work of students, to transform the traditional lesson with the predominance of an explanatory and illustrative teaching method, to increase the volume of practical and creative work of a search and research nature. This implies greater independence of the student, the search for the necessary information. Knowledge is extracted, and not presented in a ready-made form by the teacher. The student learns independence, relying on himself, his abilities and strength, which can have a beneficial effect on his future life and activities.

The use of information and computer technologies (hereinafter referred to as ICT) expands the teacher's capabilities in teaching his subject. Studying any discipline using ICT gives children the opportunity to participate in the course of work in the classroom, which contributes to the development of students' interest in the subject. Visual material is more interesting, especially if you remember about the initial stage of training, and it is easier to perceive. Given that the degree of perception and memorization is different for everyone, the proverb is still easily applicable to the bulk of students: "It's better to see once than hear a hundred times." Since it is much harder to perceive information by ear, and visual material is perceived much easier and clearer.

The elements of ICT that can be used more often during training include:

- interactive whiteboards;

- electronic textbooks and manuals displayed on the computer screen and multimedia projector;
- electronic encyclopedias and reference books;
- simulators and test type programs;
- Internet educational resources;
- various discs with paintings and illustrations (media files);
- audio and video equipment;
- interactive maps and atlases;
- interactive conferences and competitions;
- materials for distance learning;
- distance learning [3].

Teachers often use demonstration programs in their work, which, in addition to pictures, videos, photographs, include interactive atlases, computer lectures, and presentation lessons developed using various possible computer programs. They can be used both in lessons when consolidating knowledge, practical skills and skills, and in lessons of repetition and systematization of knowledge, evaluation and verification of acquired knowledge.

For example, an interactive whiteboard is a touch screen connected to a computer and transmits an image from it using a projector. Just one touch on the surface of the board is enough to start working on the computer. The interactive whiteboard has an intuitive, user-friendly graphical appearance. In the process of working with this board, the teacher uses various methods: learning styles: auditory, kinesthetic, or visual. Thanks to the interactive whiteboard, students can see large color images, drawings, and diagrams that can be moved as they wish. The interactive whiteboard allows you to use various visual materials in the classroom, which can consist of tables, abstracts, video clips, dictionary entries, and so on. Their use is an example of the principle of clarity, consistency and accessibility. You can use ready-made drawings on the selected topic, a variety of Internet resources. When using video material, you can create a speech situation, teach how to pose a question, compose a statement and / or a dialogue. Working with video materials significantly expands the volume of perceived information.

Multimedia tools are a good support for teaching the receptive side of speech activity. The receptive type of speech activity is based on the perception of language. This type includes listening and reading. That is, sensory organs such as ears (hearing) and eyes (vision) are involved. It is very important to teach how to perceive and understand foreign language speech, since without mastering these skills, it will not be possible to teach how to speak and write correctly in the future. Moreover, the purpose of learning is communicative, and without understanding the interlocutor it is impossible to build communication as a whole. Therefore, listening is considered a difficult activity that needs to be purposefully taught. And during the training, multimedia capabilities will provide great support and assistance, one of which is the means listed earlier.

The use of multimedia technologies in a foreign language can increase the motivation of students to study the subject, develop listening, speaking, control and self-control skills. Software's are available to develop speaking skills. By incorporating suitable software through computers the students will play it again and again with their own interest and try to improve their speaking skills, which are most essential in this modernized IT world. The usage of headphones in the lab makes the students to have interest over the subject and induces them to repeat again and again instead of feeling boredom.

The main task of teaching listening at the senior stage (9th - 11th grades) it is the improvement of previously formed skills and, if necessary, their correction. Listening at this stage should be successfully carried out with a single presentation of an audio message. When listening to a text with an understanding of the main content, the student should strive to understand the text as a whole, even if it contains a certain percentage of unfamiliar words and expressions. Unfamiliar elements should not be key in the text, so that the listener can perceive the basic information without fixing his attention on the details. In order to successfully master both types of listening, the student must be able to use the formulas of questioning, involving clarification or clarification of the information provided by ear.

One of the most striking examples of students working with multimedia tools is their preparation of presentations. This may not be the work of one student, but of a group of students. Independent work of students gives them the opportunity to learn the material better. The transfer of this material, its presentation to others with the help of, for example, a presentation worked out by a student on a computer using slides makes it easier to assimilate the material. Further retelling of the information seen and heard and the active statements of other students indicate the involvement of the class. Teamwork brings students closer together, the use of multimedia technologies makes work more interesting and visual and involves students in work. For example, when studying the topic of holidays, you can set as homework the preparation of a presentation on a holiday with a subsequent presentation with it.

Thus, it can be emphasized that modern technologies have a positive impact on the learning process of artificial intelligent. Paying attention to the specifics of the subject, it should be noted that it is especially useful to use multimedia tools when teaching the receptive side of the language, because students in this situation have the opportunity to listen to the live speech of a native speaker of a foreign language and understand it. Summing up the above, we can conclude that the use of multimedia technologies in grades 9-11 can significantly transform the educational process, in particular, help the teacher when teaching a foreign language, increase the interest of students in its effective study.

References

1. Prinzessinnadia's Blog. The Evaluation of CDs Programs, February 1, 2013. [Electronic resource]. URL: https://prinzessinnadia.wordpress.com/ (date of access: 26.10.2021).

2. Bahadorfar M. The Impact of Computer-assisted Language Learning Training on Teachers' Practices // Journal of Language Teaching and Research 9 (6). 2018, pp. 11-27.

3. Mostaikina L. V. Multimedia tools as a means of improving the effectiveness of educational results in the implementation of the Federal State Educational Standard, 2018 [Electronic resource]. Access mode : https://www.uchportal.ru/fgos/9450 (acsessed date: 26.10.2021). [Published in Russian]

4. Popova A.V. Development of students' reading technique skills based on language multimedia programs. Tambov: Bulletin of TSU, 2015. Issue 4 (144). pp. 108-115. [Published in Russian]

5. Tumakova N. A., Zakharchenko E. A. Multimedia tools as a way to intensify the educational process at the university // Young scientist. 2015. No. 4. pp. 629-633. [Published in Russian]

THE ROLE OF THE QUESTION-ANSWER TECHNIQUES IN TEACHING A FOREIGN LANGUAGE

Potepkina V.
Senior Lecturer, Department of English Language
Saint-Petersburg State University of Economics
DOI: 10.24412/2701-8369-2021-21-43-44

Abstract
The article discusses the problem of students' difficulties in creating questions in the process of communication in a foreign language. Particular attention is paid to the role of work in small groups to reduce language tightness and create a psychologically comfortable atmosphere in the classroom.

Keywords: question-answer technique; lingual tightness; creating comfortable conditions; socialization; elimination of the language barrier.

Despite the fact that the question-and-answer technique and the method of group work in teaching a foreign language have been used since the beginning of the last century, not all advantages of combining these two methods have been sufficiently covered in the scientific, pedagogical and methodological literature. Studying the experience of university teachers and our own experience has led the author to the conclusion that students are more willing to talk about a topic prepared at home and have difficulties with spontaneous conversation in a dialogue or trilogy. The main difficulty lies in creating questions.

It is appropriate to note that the role of questions in communication is very significant. Well-known scientists in the field of psychology and educators T. Kerry and R. Fisher consider the process of generating questions to give a good help in developing a students' mental activity and learning process itself [5; 6].

B. Bloom and D. Krathwohl highly appreciate the role of questions in the development of thinking. According to their taxonomy, the thinking process is divided into low and high levels. A low level of thinking includes cognition/familiarization, understanding and application of information in practice. A high level of thinking implies the evaluation, synthesis and analysis of information. Moreover, understanding as a result of an active mental activity is more important than passive knowledge. An effective strategy for using questions can help to develop cognitive abilities, transition from familiarization and understanding to synthesis and analysis [3].

The most common form of working with questions in the classroom is a teacher asking and students answering form. We would like to turn to both the positive and negative sides of it. The positive side is likely to be the following:

-giving the teacher the opportunity to find out what difficulties or misunderstandings the students are experiencing;

-developing students' curiosity;

-motivating the trainees, giving responsibility to each member of the group and making the group more cohesive;

-leading to the processes of judgment, comparison and making up one's own opinion about a fact and an event;

-forming the skill of conversation and the ability to find a solution to a problem.

The disadvantage of using the direct question technique, when students only answer questions, according to R. Fisher, can be attributed to a certain passivity of the learning process. Especially often this phenomenon can be observed in a situation where a teacher asks too many questions. A large number of questions can lead to a decrease in the number of thoughtful and creative answers of students [5]. We socialize with R. Fischer in the fact that the process of developing students' skills and ability to ask, and not just answer questions, is a key factor in making the learning process more effective. In our opinion, the process of generating a question not only activates mental activity, but can have a significant effect on reducing the psychological tension of students.

The study of research literature let us suggest that it is possible to achieve a psychologically comfortable atmosphere in the classroom when working in small groups. Attention should be drawn to S. Adams who notes that being in a small working group, students do not feel the tension that hinders them with individual answers [1].

It is appropriate to assume that creating a psychologically comfortable atmosphere in the classroom can help students quickly bridge the gap between the program requirements for learning a foreign language at a

university and the basic knowledge of a school graduate. One of the tasks of work in a small group is to reduce the threshold of anxiety among students in any form of work. This factor is especially important when teaching first-year students. The author's practical experience, confirmed by experiment, has showed that using group work in the classroom can reduce stress and eliminate the psychological language barrier which is manifested in "language tightness" and students' fear to speak a foreign language.

There is no doubt that there is a sociological aspect of group work practicing. The desire for communication was originally inherent in the psychology of young people due to their age characteristics. Students want to communicate and belong to a peer group. In addition, they want recognition and personal gain for their position or role in the group. All these factors can be used in the process of forming an effective working group, whose members help and support each other, respect the opinion of each member of the group and work towards achieving the set goal. In a highly productive corporate study group, students fully trust, respect, and support each other. Group work is characterized by five distinctive features:

- cohesion in the group and understanding that the failure of one group member will lead to the failure of the entire group;
-supporting each other and being accountable to each other;
-help each other, joint clarification and explanation of problematic issues, inspiration and encouragement to each other;
-acquisition of social skills in a team;
- taking care of the individual progress of each student in the team [2].

As David W. Johnson, Roger T. Johnson, Edith D. Holubes note the corporate group (a group in which learning is carried out in collaboration) is recognized by the majority of the teaching community as the most effective. Results can be classified into three groups:

1. Obtaining great individual achievements, including high academic results and productivity, intrinsic motivation and motivation to obtain high results, as well as the development of critical thinking;

2. Creating a positive and friendly relationship between students in the group, including the personal and academic support of group mates, taking care of the progress in the work of each member of the group, and not just their own progress;

3. Improvement and consolidation of the psychological health of each student: psychological adaptation to work in a close team, awareness of their abilities, social development, social competence, self-esteem, the ability to cope with an unfavorable environment [4].

It is impossible not to consider the importance of motivational and practical factors in the use of work in small groups when teaching a foreign language. According to R. Fisher, the motivational aspect lies in the desire of the members of a small group to receive support and recognition from fellow members of the group, to justify their trust and to obtain an expanded amount of knowledge [5].

The results of the research of scientific literature, the experience of university teachers and our own experience, confirmed experimentally, show that group work can widely be used to perform a wide range of tasks. So, the tasks most often used by teachers are the following:

- drawing up a project plan;
- discussion of the problem and finding ways to solve this problem;
- developing new ideas;
- selection of the material and preparation of the presentation structure;
- creating a newspaper column or a mini-movie,
- conducting research;

Particular attention should be paid to the psychological function of the questioning techniques of work. In the process of creating an interesting question, students forget about their fears and tensions that they usually feel when listening to a teacher's question. A study of the practical experience of university teachers, has shown that when using question-and-answer communication in a small group, the level of anxiety among students decreases. Especially good results were shown by the students who were distinguished by psychological tightness when speaking a foreign language in the general study group.

Also, we should not forget about the role played by the method of question-and-answer communication in the process of socialization of students. This factor is especially important for newly created groups. Students learn more about each other, and conditions are created for the emergence of friendly relations.

It is appropriate to note that during group work there is a possibility of mutual learning of students. Students who have mastered the teaching material faster can explain and answer questions from students who are slower to master new material and hesitate to ask questions to the teacher.

Another advantage of group work in a question-and-answer form of training is the process of mutual examination of students' knowledge. Questions to each other for the purpose of mutual assessment motivate students to develop and use the skills necessary to assess their own knowledge. At the same time, as practical experience has shown, students work with concentration, try to concentrate as much as possible and do not experience nervous tension, which is usually observed when students answer to the teacher.

Summarizing the above, we can underline the important role of the question form of the group work in reducing the tension and psychological tightness of students which leads to an increase in the level of independent work of students.

References

1. Adams S. A Guide to Creative Tutoring. The Tutor Ascendant. Kogan Page Ltd, London, 1989.

2. Brieger N. Teaching Business English Handbook.-York: York Associates Publicatians,1997.

3. Bloom B., Krathwohl D.. Taxonomy of Educational Objectives. Handbook 1: Cognitive Domain, David Mckay, New York, 1956.

4. David W. Gohnson, Roger T.Gohnson, Edythe J.Holubec. Cooperative Learning in the Classroom Association for Supervision and Curriculum Development.-Alexandria, Virginia, USA,1994

5. Robert Fisher. Teaching Children to Learn. Nelson Thornes Ltd, 2001.

6. T.Kerry. Effective Questioning. Macmillan, London, 1982.

PHILOLOGICAL SCIENCES

MOBILE APPLICATIONS FOR LEARNING ENGLISH AS A MEANS OF ORGANIZING THE EDUCATIONAL PROCESS

Nurusheva T.I.,
Senior Lecturer
West Kazakhstan University M. Utemisov
Kazakhstan, Uralsk
Baimuratova K.R.
Teacher Comprehensive school 9
Kazakhsta, Uralsk
DOI: 10.24412/2701-8369-2021-21-45-49

Abstract
The article is devoted to the actual problem of the possibilities of using information and communication technologies in the process of teaching a foreign language. In the article we reveal the concept of mobile learning and consider its advantages in teaching foreign languages. In particular, a brief overview of mobile applications for teaching English and the experience of their use in the educational process is given.

Keywords: information and communication technologies; mobile learning; educational mobile applications; independent work of students.

Foreign language education is currently becoming one of the basic components in the structure of the competence model of training a future specialist. In this regard, the role of a foreign language in the training of specialists in educational organizations in which the foreign language course is communicative, pragmatic and professionally oriented is significantly increasing. Currently, the school faces the task of not only modernizing the content of training courses, but also introducing new technologies for the formation of foreign-language communicative competence of future specialists.

Based on the relevance of the issue in teaching a foreign language we can speak on the aims and tasks of the problem.

The purpose of our study is to select more effective and widespread applications for learning English in the organization of the educational process.

Our analysis of the latest research in the field of innovations in teaching foreign languages has shown that one of the relevant directions is the introduction of modern information and communication technologies into the educational process, in particular technologies related to mobile learning, which ensure the optimization of the educational process, accessibility and effectiveness of training, integration of students into the information society. This is expressed, in particular, in the gradual introduction of mobile phone applications based on various platforms into the learning process: **Android, iOS, Symbian Os, Windows phone,** etc.

The use of tablet computers, smart phones, mobile phones, iPads, iPhones and other technological innovations for educational purposes has led to the formation of a new direction within the framework of the **(Electronic learning)** concept – mobile foreign language learning **(Mobile learning**). Many scientists and educators are confident that the future of education with the support of information and computer technologies is connected precisely with the spread of mobile communications, the emergence of a large number of educational applications and programs, new technologies that expand the opportunities and quality of education.

Mobile learning today is a new, developing direction in education, the distinctive feature of which is the creation of a new learning environment. Due to the prevalence of mobile technologies and the constant growth of the functionality of mobile devices, UNESCO experts in the field of education suggest using their potential to improve the quality and accessibility of education, as well as building an individual learning trajectory [8].

The theory and practice of using mobile devices and mobile educational resources is actively discussed at scientific conferences and forums. Since 2002, a number of conferences and seminars have been held annually in Europe and the USA, where the use of mobile educational technologies or resources is discussed. Since 2002, the International Conference **"Mlearncon**" has been held on the problems of integrating mobile technologies into training, creating and using mobile learning content [4].

The International Conference on Mobile Learning was held since 2005 and is considered to be a platform for discussing the results of research in the field of mobile learning and achievements in this field [6]. The results of the project **"Mobile Technologies in Life-long Learning: best practices" are of interest.**

Within the framework of this project, studies are being conducted on the impact of mobile technologies on improving access to education, regardless of social and economic status, age, gender, religious, ethnicity, and physical disabilities [6].

In general, the majority of domestic and foreign researchers, in particular J. Traxler [7], S.V. Titova [2], V.A. Kuklev [1], H. Jarvis [5], M. Fine [3] come to the conclusion that the uniqueness of mobile learning compared to traditional teaching methods and modern methods such as e-learning and blended learning lies in the fact that students are primarily not tied to a specific

time and place, having access to educational material always, at any convenient time. Thus, the fundamental difference between mobile learning and Electronic learning is in two points:

- the informal nature of training, in which the proportion of independent work of students increases, essentially controlled or supervised self-learning;

- a constant learning process, blurring the boundaries between academic classes and extracurricular time, work in the classroom and beyond.

Mobile devices are successfully used in the study of various academic disciplines, and a foreign language is no exception. The expediency of using mobile devices in the process of learning a foreign language and language learning is beyond doubt, based at least on the fact that the modern generation of students, primarily teenagers and young people, perceives mobile devices with their attractive interface, interactivity, and a customized approach to user needs as an integral part of their lives. .

In our opinion, training in the use of applications for mobile electronic devices is particularly relevant at the moment. Currently, students, with all their education in the field of digital technologies, it seems to us are not sufficiently oriented in the market of services offered. The task of the teacher is to help students choose the necessary and suitable products that can maximize the learning of the language, thereby individualizing the learning process. To date, there are mobile applications and programs focused on various aspects of teaching a foreign language. The study of scientific literature, the market of mobile applications of foreign languages, as well as the systematization of the experience of using applications for learning a foreign language showed that they can be divided into the following main groups:

1) mobile applications aimed primarily at improving a certain speech skill;

2) mobile applications designed to develop language skills, for example, lexical or grammatical;

3) universal mobile applications designed for the comprehensive development of foreign language communicative competence.

Beyond doubt, this division is very stipulative, since most of the applications are not limited to working on one of the types of speech activity or a specific skill. For example, applications in which learning to listen is the dominant goal, one way or another, combine the perception of oral speech by ear with learning to **read, speak, and develop lexical skills.**

From the point of view of practical application in the process of teaching a foreign language, specialized mobile applications interested us as a means of optimizing and intensifying the educational process, as well as a resource base for the development of educational materials on the discipline "English". From our point of view, the practical application of mobile applications has a huge potential, but at the same time, the integration of working with applications into the structure of practical training presents certain problems and can be used quite limited. At the same time, the introduction of interactive technologies in the learning process in order to organize and intensify the independent work of students (mainly extracurricular) seems to us a very promising direction.

Thus, mobile applications can be used quite effectively to develop listening skills, due to the fact that modern mobile devices offer rich technical capabilities for watching videos, listening to audio fragments, recording speech fragments and videos. The developers present programs for those who want to improve their pronunciation skills, recognition of sounds by ear, correlation of the sound and visual image of the word. The most successful products include Sounds Right (British Council), as well as the Sounds: Pronunciation App **(Macmillan Education).** These applications include interactive phonetic tables for British and American versions of English, exercises, game tasks, tests. From the point of view of developing the skills of perception and understanding of speech by ear, BBC applications are extremely valuable, using which students can access authentic audio, video and text materials, for example, **Learning English for BBC, 6 Minute British English**. These applications can also be used for the development of other linguistic and linguistic-cultural competencies, since they include specialized sections dedicated to the study of vocabulary, grammar, the development of communication skills and speaking skills.

The free applications developed as part of the British Council training programs - Learn English Audio & Video, Learn English Great Videos, Learn English Elementary Podcasts - feature the best podcasts and videos designed for learning English. The applications are equipped with a number of additional functionality, such as interactive texts of audio recordings, interactive glossaries of keywords, exercises for understanding each part of the information material. They present materials of different levels of complexity that allow you to improve your listening skills, as well as replenish your vocabulary. Mobile **applications Two Minute English, Real English, Puzzle English**, built on teaching speech perception by ear, are also of considerable interest to English teachers and students, because they contain a huge amount of resources and tasks to work on this very popular and often insufficiently developed speech skills among students. In general, all the mentioned applications have a high motivational potential due to the wide variety of topics and forms, therefore they can be used for independent work of students.

Next, we will consider a number of applications designed for the formation and development of grammatical skills that can be used both for classroom work and for independent work of students. Among the mobile applications designed to work on the development of grammatical skills, it is necessary, first of all, to name the Learn English Grammar (British Council) application. It presents grammar exercises of four levels. The training tasks use 10 types of exercises, for example, filling in gaps, multiple choice, matching questions and answers. It should be noted that the Learn English Grammar app is in the first place in the iTunes Education category in 9 countries around the world, and is also in the top ten in more than 40 countries.

Another application of the British Council Johnny Grammar's Word Challenge is a quiz for English language learners, which will help to check not only the

general level of grammar proficiency, but also spelling and vocabulary used in everyday English. The tests are divided into categories **(Words, Grammar, Spelling)** within three levels of difficulty. The free **application for the My Grammar Lab** course published by Pearson contains mobile interactive exercises of various levels. The application gives the user the opportunity to choose topics and questions of interest to him and create their own collections of exercises and tests. This course is suitable both for independent preparation and for use as part of group classes in the English language course. Another convenient application for testing knowledge of English grammar is **English Grammar Test**. The application contains 60 tests, each of which is devoted to a separate grammatical topic. After completing the test, the application provides a list of correct and incorrect answers, as well as a simple and understandable explanation of the errors.

Next, we would like to focus on applications that are designed to develop lexical skills and expand the vocabulary of students. We used many of these electronic applications in classes, which are also built on a game basis, in particular, students themselves used applications for self-study of foreign languages at home.

The My Word Book application, available on the British Council website, is designed as an interactive notebook for English language learners. The vocabulary in the application is presented in the form of sets of interactive flashcards, organized both in random order and in the form of thematic groups distributed by difficulty levels. Each flashcard is provided with a definition and an example of usage from **the Cambridge University Press dictionar**y, a translation, fields for notes, an audio sample, an image. **The "Practice" category** contains five types of tasks, after which the user can move a word to the list of studied vocabulary. Among other applications popular with users, designed to work on expanding vocabulary with the help of exciting activities in a playful way, we can name **English with Words, Easy ten, Polyglot. English words, Memrise**. These applications are distinguished by an individualized approach to the user's needs, in particular, they include such functions as the ability to create individual word lists, voiced words and usage contexts, an individual training schedule, various types of training tasks, interactive and game components (for example, user success statistics, cards for repeating the material passed, a point reward system).

Sections for the development of lexical skills are also included in other applications that we have discussed above **(Johnny Grammar's Word Challenge, Learning English for BBC, Puzzle English and many others).**

In our opinion, many applications for vocabulary replenishment can be used, first of all, for independent work of students, for activation and development of lexical skills within the framework of the studied topics, for self-examination. At the same time, it should be noted that not all applications have high-quality language content, various types of tasks and do not fully use the technical capabilities that modern mobile devices are endowed with.

Accordingly we held the Experiment on the theme under investigation: **"Mobile applications for learning English as a means of organizing the educational process**". The experiment was held at the M. Utemisov West Kazakhstan University, at the Department of Philology, with 4th-year respondents on the discipline **"Language for Academic Purposes".**

During the experiment, we used up-to-date applications for learning English, and relying on previously known technologies, we put forward two experimental groups of 25 students. The experiment was carried out in two stages:

1) At the first stage, the educational characteristics of students were studied and the level of English language proficiency was revealed; a plan and methodology of experimental work, its methodological support were developed. At this stage, the main program of experimental work was implemented.

2) At the second stage, statistical processing of the data obtained during the study was carried out, the results were summarized and formalized, conclusions and recommendations for improving the process were formulated.

As a result of studying the level of possession and interest of students in the first week of using mobile applications, the following results were presented in diagram 1:

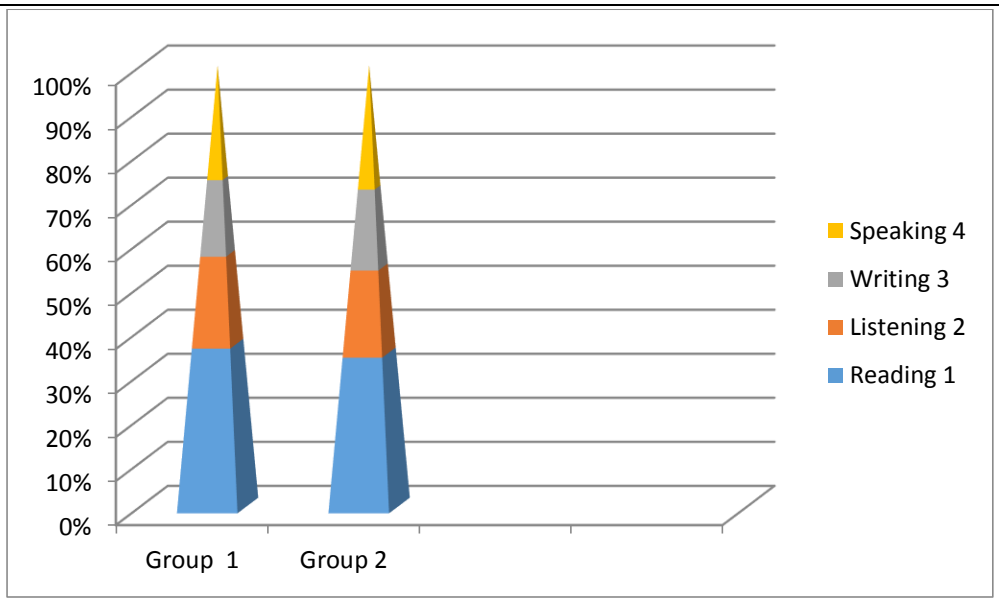


Diagram 1

In summing up the results of the experiment, we found that interest in learning English through mobile applications has grown and the level of English language proficiency has improved. **In diagram 2**, we can see the results of using the mobile app after 2 months:

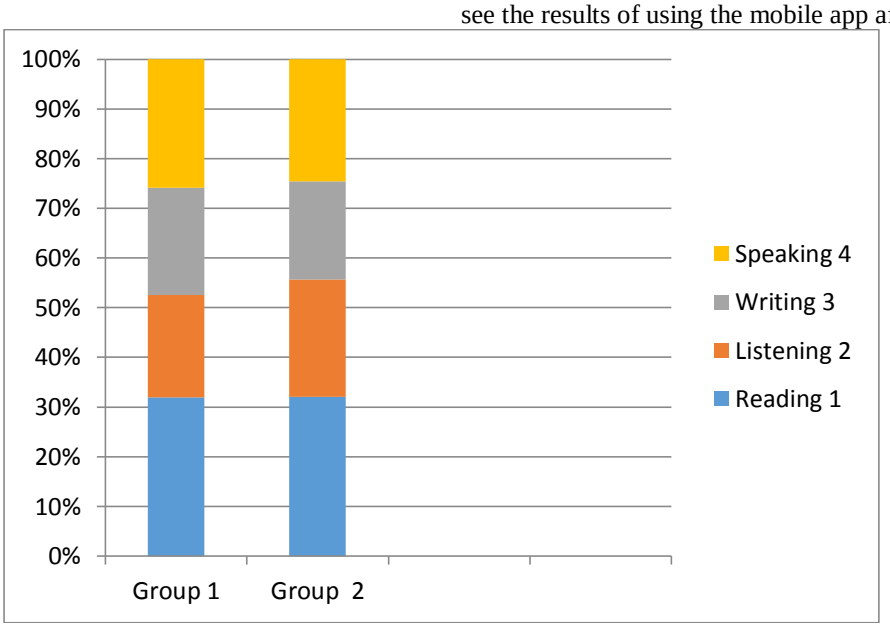


Diagram 2

Students studied English both in class and independently during extracurricular time. We exchanged experiences and achievements on a daily basis, which contributed to a favorable result.

The conducted review allows us to conclude that today a significant number of mobile applications and programs for learning a foreign language have been developed, aimed both at the formation of various skills and abilities, and at the development of different types of speech activity. A fairly wide range and variety of existing mobile learning resources allow you to choose applications in accordance with individual needs, interests and the level of language training of the student. Almost all the mobile applications that have been described above can be used quite effectively for independent work.

As a result of the experiment, the practical application of mobile applications carries a huge potential in increasing the efficiency of the process of learning foreign languages and is able to significantly improve the process of foreign language training of students, open up new sides of it and turn it from a serious time-consuming process into an exciting activity. Practice shows that they have a considerable advantage over traditional teaching methods: intensification of independent activity, individualization of learning, increase of cognitive activity and motivation of learning. At the same time, the use of mobile technologies in the learning process contributes not only to the enrichment of the educational process, but also to the acquisition by students of skills and abilities, the formation and development of which on the basis of traditional learning tools seems to be quite time-consuming.

In conclusion, we would like to note that the use of mobile technologies in the educational process contributes to the improvement of the process of formation

of foreign language skills and abilities of students, provides effective independent work, increases motivation and cognitive activity of students, interest in the subject, helps to intensify and individualize learning.

References

1. Kuklev V.A. The formation of a mobile learning system in open distance education : abstract. dis. ... Doctor of Pedagogical Sciences / V.A. Kuklev. - Ulyanovsk, 2010. - 48 p.

2. Titova S. V. Mobile learning today: strategies and prospects / S. V. Titova // Bulletin of the Moscow University. Series 19: Linguistics and Intercultural Communication. - 2012. - No. 1. - pp. 9-23.

3. Fine M. Mobile learning in the educational process: Foreign experience. Modern Scientific Research and Innovation, No. 1, online: http://web.snauka . ru/problems/2015/01/43006 (2015)

4. International Conference on Mobile Learning. Online: http://mlearningconf.org/

5. Jarvis H. From computer language learning (CALL) to the use of mobile language (MALU) / H. Jarvis, M. Achilleos // Electronic Journal of English as a second language. - 2013. - Vol.16, No. 4. - p.1-12.

6. Mobile technologies in lifelong learning: recommendations. online: http://www.motill.eu 7. Traxler J. The current state of mobile learning / J. Traxler// Mobile learning: Transforming the provision of education and training. - 2009. - p.9-24.

8. Guiding principles of UNESCO's Mobile Learning Policy. online: http://unesdoc . unesco.org/images/0021/002196/219641E.pdf

9. Zou B. Studying mobile applications for teaching and learning English / B.Zou, J.Li// Proceedings of the EUROCALL 2015 conference. - Padua, Italy, 2015. - pp.564-568.144 VECTOR CHANGE

PHILOSOPHICAL SCIENCES

HANS JONAS' LEGACY IN RUSSIA

Pugacheva N.P.
D. in Philosophy
Penza State Agrarian University
Russia, Penza, st. Botanicheskaya, 30
DOI: 10.24412/2701-8369-2021-21-50-51

DAS ERBE VON HANS JONAS IN RUSSLAND

Pugacheva N.P.
PhD in Philosophie
Staatliche Agraruniversität Pensa
Russland, Pensa, st. Botanicheskaya, 30

Abstract
The article is devoted to the philosophy of the famous thinker of the XX century – Hans Jonas, whose works are widely known throughout the world. However, in Russia, his doctrine of life and the body is still poorly understood. And the ethics of responsibility is interpreted one-sidedly. The author's task is to popularize the legacy of Jonas and his followers in Russia.

Die Zusammenfassung
Der Artikel widmet sich der Philosophie des berühmten Denkers des XX Jahrhunderts – Hans Jonas, dessen Werke in der ganzen Welt bekannt sind. In Russland wird seine Lehre vom Leben und vom Organismus jedoch noch wenig verstanden. Und die Verantwortungsethik wird einseitig interpretiert. Die Aufgabe des Autors besteht darin, das Erbe von Jonas und seinen Anhängern in Russland bekannt zu machen.

Keywords: Hans Jonas, responsibility, ethics of life, A. Schweitzer, N. Fedorov, Russian cosmism, organism, heteronomous and autonomous ethics.
Schlüsselwörter: Hans Jonas, Verantwortung, Ethik des Lebens, A. Schweitzer, N. Fedorov, Russischer Kosmismus, Organismus, heteronome und autonome Ethik.

Hans Jonas (1903-1993) ist ein berühmter deutsch-amerikanischer Philosoph. Die beliebtesten auf der ganzen Welt sind seine Werke: «Organismus und Freiheit. Ansätze zu einer philosophischen Biologie» (1973) [3], «Das Prinzip Verantwortung. Versuch einer Ethik für die technologische Zivilisation» (1979) [1], «Der Gottesbegriff nach Auschwitz. Eine jüdische Stimme» (1987) [2]. Zuletzt suchte Jonas verantwortungsethischen Ansatz auch für konkrete Anwendungsfelder wie die Ökologie, die Medizin und insbesondere die Biomedizin zu präzisieren. Von besonderer Bedeutung ist sein Beitrag zur Theodizeefrage nach Auschwitz.

Dieser Vortrag wurde im Hans-Jonas-Zentrum, das das Gedächtnis über den bemerkenswerten Menschen und den Denker bewahrt, im Jahre 2013 gehalten. Die Zeit beweist die Rechtlichkeit und die Voraussicht seiner Blicke wieder.

In erster Linie will ich die Situation in der Forschung der Jonas' Lehre charakterisieren. Im Jahre 2003 habe ich für mich unbekannten Name zum ersten Mal gehört. Mein wissenschaftlicher Leiter wusste über Hans Jonas durch Doktor Irrlitz. Jonas war dem engen Kreis den Wissenschaftlern als der Historiker der Religion, und zwar des Gnostizismus, bekannt, dank der veröffentlichten in 1998 Übersetzung von Schtschukina aus Englisch des Buches «The Gnostik Religion».

Insgesamt, war am Anfang des 21. Jahrhunderts der weltbekannte Philosoph tatsächlich in Russland unbekannt. Nur zwei Bücher in Deutsch könnte man in den Bibliotheken in Moskau finden: «Das Prinzip Verantwortung» und «Technik, Medizin und Ethik». Über Jonas selbst war tatsächlich unmöglich etwas zu finden. Zum Beispiel, der kleine Artikel in zwei Absätze in der Neuen philosophischen Enzyklopädie. Man muss sagen, dass die gegebene Ausgabe in Russland als das vollste Nachschlagewerk in Philosophie angenommen wird. In anderen enzyklopädischen Ausgaben waren keine abgesonderten Artikel, die von Jonas gewidmet sind. Die vollste Arbeit über die Blicke von Jonas war der Artikel von D-r Gadschikurbanowa «Die Angst und die Verantwortung: die Ethik der technologischen Zivilisation von Hans Jonas» in der Zeitschrift «Ethischer Gedanke» (№ 4, 2003) [4], die vom Institut der Philosophie der Russischen Akademie der Wissenschaften verlegt wird. D-r Gadschikurbanowa ist auch ein Autor des Artikels in der Neuen philosophischen Enzyklopädie und der Reihe einiger kleinerer Arbeiten über Hans Jonas.

Nur in Jahre 2004 war die erste russische Übersetzung des Buches «Das Prinzip Verantwortung» (in der Übersetzung I. Machankow) veröffentlicht, das zu jener Zeit schon auf viele Sprachen (in 2001 auf Ukrainisch) übersetzt wurde. Die Verweise auf das grundlegende Werk von Jonas erschienen allmählich in den abgesonderten Artikeln, die der moralischen oder juristischen Verantwortung gewidmet sind, in einigen Lehrbüchern in Ethik (A. Rasin). Viele Zitate wurden wiederholt, Jonas wird in Zusammenhang mit der Verantwortung für die Zukunft und dem Prinzip der Heuristik der Furcht erwähnt. Man muss sagen, dass zurzeit

solche Bezugnahmungen öfter wurden, Jonas wird öfter erwähnt. Ich kann nicht sagen, inwiefern oft ist, da es in vollem Umfang zurückzuverfolgen unmöglich ist. Jedoch bemerke ich mit der Freude, dass der Name des Menschen, der mir den Weg in die Philosophie geöffnet hat, bekannt allmählich wird. In unserer Hochschule in der Stadt Pensa im Unterricht in Philosophie analysieren wir mit den Studenten die modernen philosophischen Probleme. Und viele Studenten lernen mit dem Interesse die Arbeiten von Jonas und würden wünschen, diese auf Deutsch oder englisch durchzulesen.

Nichtsdestoweniger, viele Ideen von Jonas, die viele moderne philosophische Forschungen vorwegnahmen, bleiben im Schatten. Zum Beispiel, seine Überlegungen in der Bioethik und in der Philosophie der Technik, sein Lernen über die Subjektivität, über das sittliche Recht der Natur und so weiter.

Jetzt sage ich ein paar Worte darüber, was mich in der Jonas' Philosophie interessiert. Ich meine, dass in Russland gerade die Vermutungen von Jonas in die Philosophie der Biologie und des Organismus, eigentlich in die Philosophie des Lebens nützlich und aktuell. Ich behaupte, dass es die Ethik des Lebens ist. Das Begreifen der Tatsache der prinzipiellen Verletzbarkeit des Lebens und der Drohung des Verschwindens alles Lebendiges infolge der globalen technischen Einmischung in die Natur wurden ins XX. Jahrhundert vom Grund der Revision des traditionellen physikalischen Weltbildes. Man kann die Konzeptionen des Organizismus (Whitehead), Biosphäre, Holismus, Koevolution, global Evolution nennen, in deren Grundlage gerade das biologische Herangehen an das Problem des Lebens oft liegt.

Die mehrere russische Arbeiten der sowjetischen und sogar gegenwärtigen Periode, ungeachtet der Versuche des philosophischen Verständnisses und der Erklärung, betrachten das Leben im Aspekt des materialistischen, dialektischen Lernens, Evolutionstheorie, der Theorien der Kybernetik und der Systemanalyse. Es ist nötig, den riesigen Einfluss der Biologie nicht nur auf die Naturwissenschaft, sondern auch auf die sozial und Geisteswissenschaften zu bemerken, worüber das Erscheinen solcher Fächer, wie Soziobiologie, Bioethik, Biopolitik, Bioästhetik und sogar die Biolinguistik zeugt. Diese Fächer sind heute in Russland auch sehr populär. Das Leben ist heute unbedingt nicht nur biologische Kategorie. Der Lebensbegriff füllt sich vom philosophischen Inhalt an und wird in der kosmischen, ontologischen, politischen Perspektiven betrachtet.

In Russland wird der Lebensbegriff in der sogenannten Biophilosophie produktiv untersucht. Die Biophilosophie ist nichtsdestoweniger nur eine der Abteilungen der Philosophie der Biologie. Der Begriff der Ethik des Lebens wird heute oft nur auf den Begriff des Ethos des menschlichen Lebens zurückführt.

Die Ethik des Lebens soll aber auf das Niveau des ontologisch-metaphysischen Verständnisses des Lebens nicht nur als des biologischen Phänomens oder der objektiven Realität, sondern auch als des ontologischen Hauptprinzips unvermeidlich hinausgehen. Mit anderen Worten soll die Ethik den Grund in solchem Bereich finden, wo es das Ethisches selbst nicht gibt.

Dieser Variante der Ethik des Lebens sind im XX. Jahrhundert die Konzeptionen «der Ehrfurcht vor dem Leben» von A. Schweizer und ontologische Axiologie von H. Jonas relevant. Ich möchte verschiedene Ethik vergleichen: Achims, Schweizer, Tolstoi, Jonas.

Die geteronomische Variante der Ethik des Lebens ist ontologische Axiologie von H. Jonas, der den Wert des Lebens selbst behauptet, unabhängig vom Erscheinen darin des Menschen. Die autonomische Variante ist die Ethik «der Ehrfurcht vor dem Leben» von A. Schweizer, darin ein beliebiges Leben als menschliches betrachtet werden soll. Und das Ausgangsprinzip ist die Form «des individuell verantwortlichen Verhaltens». Allgemeines für diese zwei Varianten ist die Unvermeidlichkeit der Verantwortung des Menschen als die Folgerungen seiner Freiheit, das Leben zu zerstören (zu sagen «Nein» dem Dasein, nach Jonas). Diese verständlichen offensichtlichen Überlegungen werden in Russland mit Hans Jonas leider nicht verbunden.

Und jetzt folgt der letzte Teil meines Vortrags. Ein interessantes Phänomen ist meiner Meinung nach die Verwandtschaft einiger Ideen von Hans Jonas und der russischen Philosophie des «Silbernen Jahrhunderts». Das sind das lebendige Interesse von Jonas für den konkreten Menschen und die Menschheit, die heiße Sorge um menschliche Zukunft, das Verständnis der Ethik als der praktischen Philosophie, die Lehre über leidenden Gott und anderes. Der religiösen Variante des russischen Kosmismus sind nah die Ideen von Jonas über die Unzulässigkeit des Todes, d.h. des Nichtseins des Lebendiges.

Die Philosophie des allgemeinen Werkes von Nikolaj Fedorov enthält die Idee der allgemeinen Auferstehung unabhänglich von dem sittlichen Zustand des Menschen. Ich meine, dass es sich um die Idee des Menschen handelt. Wir können deswegen Philosophie von Jonas und Philosophie von Fedorov vergleichen. Auch kann man über Supranaturalismus und Supramoralismus bei diesen zwei Philosophen erwägen.

Bekannter russischer Philosoph Vladimir Solov'ev sprach über die Schuld vor dem Schaffen infolge der Ursünde. Damit können wir diese Vermutungen zur Jonas' Lehre über die Ursünde im Licht der ökologischen Deutung führen. Und natürlich sind die Konzeption der Biosphäre, Noosphäre und des Lebensstoffs von Jonas und Vernadskij vergleichbar.

In diesem Zusammenhang baben wir das Neuland sogar der einfachen komparativen Analyse.

References

1. Jonas H. The principle of responsibility. An attempt at ethics for technological civilization. Insel-Verlag, Frankfurt am Main 1979 [Published in German].

2. Jonas H. The concept of God after Auschwitz. A Jewish voice. Suhrkamp, Frankfurt am Main 1987 [Published in German].

3. Jonas H. Organism and Freedom. Approaches to a Philosophical Biology. Vandenhoeck & Ruprecht, Göttingen 1973 [Published in German].

4. Hajikurbanova P.A. Fear and responsibility: ethics of technological civilization of Hans Jonas // Ethical thought. 2003. No. 4. P. 161-178 [Published in Russian].

SOCIAL SCIENCIES

DELINQUENT BEHAVIOR OF TEENAGERS AND THEIR LEGAL RESPONSIBILITY FOR OFFENSES IN THE EDUCATIONAL ORGANIZATION

Belyaeva E.A.,
Master student
Tyumen State University
625000, Russia,
Tyumen, Volodarsky, 6
Popova O.A.
PhD in History, Tyumen State University
625000, Russia,
Tyumen, Volodarsky, 6
DOI: 10.24412/2701-8369-2021-21-52-53

DELINQUENTES VERHALTEN VON JUGENDLICHEN UND IHRE RECHTLICHE VERANTWORTUNG FÜR STRAFTATEN IN DER BILDUNGSEINRICHTUNG

Belyaeva E.A.
Magistrantin,
Tjumener Staatliche Universität
625000, Russia,
Tjumen, Volodarskij, 6
Popova O.A.
Kandidat der historischen Wissenschaften,
Tjumener Staatliche Universität
625000, Russia,
Tjumen, Volodarskij, 6

Astract
This article examines the concepts of delinquent behavior of adolescents and their legal responsibility under administrative law, as well as the legal responsibility of a teenager for illegal behavior in an educational organization and the responsibility of this organization for delinquent behavior of adolescents.

Die Zusammenfassung
Dieser Beitrag untersucht die Konzepte des straffälligen Verhaltens von Jugendlichen und ihre verwaltungsrechtliche Verantwortlichkeit sowie die rechtliche Verantwortlichkeit eines Jugendlichen für illegales Verhalten in einer Bildungseinrichtung und die organisationsrechtliche Verantwortlichkeit für straffälliges Verhalten von Jugendlichen.

Keywords: adolescents, delinquent behavior, legal responsibility, educational institutions, delinquent, parents, educators.
Schlüsselworter: Jugendliche, delinquentes Verhalten, gesetzliche Verantwortung, Bildungseinrichtungen, Delinquenten, Eltern, Erzieher.

Die Erforschung des delinquenten Verhaltens von Jugendlichen ist eines der aktuellen Themen der Neuzeit. Sehr oft zeichnen sich Minderjährige durch die Manifestation von Aggression und Grausamkeit aus, führen einen asozialen Lebensstil - Alkoholismus, Drogensucht, Landstreicherei, Prostitution und andere – benehmen sich so, dass ihr Verhalten als kriminell gekennzeichnet ist - dies ist ein illegales Verhalten, das der öffentlichen Ordnung und dem Wohl der Menschen bedroht.

In das kriminelle Umfeld hineingezogen, wird delinquentes Verhalten für einen Teenager zu einer normalen Reaktion auf die Bedingungen, in denen er sich befindet, die für einen Teenager nicht normal sind, weil die gemeinsame Kultur der Kommunikation für ihn schon erschöpft ist.

Die Dynamik der von jungen Straftätern begangenen Straftaten in Russland zeigt uns, dass im Zeitraum von Januar bis Dezember 2019 jede fünfundzwanzigste Straftat (das beträgt 3,9 % der Gesamtzahl dieser Straftaten) von Minderjährigen oder mit deren Beteiligung begangen wurde. Im Vergleich mit dem Jahr 2018 wurden 4,0 % der von Minderjährigen oder mit deren Beteiligung begangenen Straftaten registriert [2].

Auf dieser Grundlage können wir sagen, dass die Jugendkriminalität in den letzten zwei Jahren nicht zugenommen, aber auch nicht zurückgegangen ist.

Kriminelles Verhalten wird in vielen Bereichen untersucht: Soziologie, Kriminologie, Psychologie, Pädagogik usw. Gleichzeitig gibt es in der Literatur keinen einheitlichen Ansatz zur Definition vom Begriff „delinquentes Verhalten“.

Die ausländischen Forscher N. Smezler und V. Fox glauben, dass kriminelles Verhalten eine Art von sozial inakzeptablem Verhalten ist.

Delinquentes Verhalten ist nach der Definition des Inlandsforschers A.E. Lichko „eine Kette von Vergehen, Delikten, geringfügigen Delikten, die sich von Straftaten unterscheiden und nach dem Strafgesetzbuch strafbar sind.“[2, S. 52].

Aus der Sicht von E.V. Zmanovskaya ist "delinquentes Verhalten" die Handlungen einer bestimmten Person, die nicht den in einer bestimmten Gesellschaft festgelegten Normen entsprechen und zu einem bestimmten Zeitpunkt das Wohlergehen anderer Menschen bedrohen und strafrechtlich durch ihre extremen Manifestationen verfolgt werden"[1, S. 4].

Basierend auf der Analyse dieser Ansätze haben wir festgestellt, dass "delinquentes Verhalten rechtswidriges Verhalten ist, das sowohl einem einzelnen Bürger als auch der Gesellschaft insgesamt schadet."

Für unerlaubtes Verhalten wird rechtlich gehaftet, dies gilt insbesondere auch für Minderjährige. Im Verwaltungsrecht beginnt die rechtliche Verantwortlichkeit für Ordnungswidrigkeiten ab dem 16. Lebensjahr gemäß Art. 2.3 Verwaltungsgesetzbuch der Russischen Föderation. In diesem Zusammenhang gibt es eine Reihe von Fällen, für die Minderjährige in die Verwaltungsverantwortung gebracht werden können, hier können wir einschließen:

- Verletzung der Verkehrsregeln;
- kleinlicher Rowdytum;
- Alkoholtrinken an öffentlichen Orten oder Betäubungsmittel, Gebrauch der psychotropen Substanzen;
- Auftreten an öffentlichen Orten im Rauschzustand;

Als Strafe für eine Ordnungswidrigkeit können Minderjährige beantragen:

- eine Warnung;
-eine Strafe (aber wenn das unabhängige Einkommen von einem Teenager fehlt, wird eine Geldstrafe von seinen gesetzlichen Vertretern eingezogen) [4, S. 130; 131].

Unter Hinweis auf andere Rechtsvorschriften weisen wir jedoch darauf hin, dass gemäß Artikel 8.1 des Bundesgesetzes "Über die Grundlagen des Systems zur Verhütung von Jugendstraftaten" sieht man folgende Strafen für jugendliche Straftäter vor:

-eine Warnung;
-Tadel;
-schwerer Verweis;
-Überstellung eines Minderjährigen unter Aufsicht der Eltern oder gesetzlichen Vertreter sowie auf deren Antrag unter Aufsicht eines Arbeitskollektivs oder einer öffentlichen Organisation;
- Überweisung an eine spezielle medizinische und pädagogische Einrichtung;
-Wegweiser eines Minderjährigen zu einer sonderpädagogischen Einrichtung [3].

Die oben genannten Strafen können nicht nur für Minderjährige zwischen 16 und 18 Jahren, sondern auch für Personen unter 16 Jahren verhängt werden.

Sehr oft begehen Jugendliche, ohne ihr Verhalten zu kontrollieren, in Bildungseinrichtungen rechtswidriges Fehlverhalten. Insbesondere können hier diese Handlungen als Disziplinarmaßnahmen qualifiziert werden, für die auch eine Haftung vorgesehen ist. Unter Bezugnahme auf das Bundesgesetz "Über die Bildung der Russischen Föderation" und insbesondere auf Teil 4 Artikel 43 ist es wichtig zu beachten, dass bei Nichteinhaltung oder Verletzung der durch lokale Vorschriften in einer Bildungseinrichtung festgelegten Regeln folgende Disziplinarmaßnahmen gegen Schüler verhängt werden können:

- Anmerkung;
- Verweis;
- Ausschluss aus der Bildungseinrichtung.

Wenn ein Teenager in Bildungseinrichtungen illegale Handlungen begeht, ist es wichtig herauszufinden, wer dafür verantwortlich ist. Nach dem Familiengesetzbuch der Russischen Föderation, Art. 64 weist darauf hin, dass die Eltern verpflichtet sind, die Rechte und legitimen Interessen von Kindern zu schützen. Die Eltern treten als gesetzliche Vertreter für ihre Kinder auf und wahren deren Rechte und Interessen im Rahmen der Beziehungen zu juristischen und natürlichen Personen sowie in der Justiz, ohne ihre Befugnis dazu zu bestätigen [4].

Begeht ein minderjähriges Kind Straftat, sollen in diesem Fall die Eltern oder andere gesetzliche Vertreter gemäß Art. 5.35 des Gesetzes über Ordnungswidrigkeiten der Russischen Föderation wegen Nichterfüllung ihrer Verpflichtungen für den Unterhalt und die Erziehung von Kindern administrative Verantwortung übernehmen [3].

Bei der Erforschung dieses Themas möchten wir darauf hinweisen, dass das delinquente Verhalten von Jugendlichen eines der akuten Probleme der Gesellschaft ist, einschließlich einer Reihe von Problemen, die natürlich untersucht und gelöst werden sollen.

Quellennachweis

1. Zmanovskaya EV Deviantologie: (Psychologie des abweichenden Verhaltens): Lehrbuch. M., 2008. 288 S.
2. Kozlov Yu. M. Kommentar zum Gesetzbuch der Russischen Föderation über Ordnungswidrigkeiten. M. 2002. 979 S.
3. Lichko AE Psychopathien und Charakterakzentuierungen bei Jugendlichen, 1983. 255 S.
4. Chudin NM School als Instrument zur Lösung der Probleme der Prävention von Jugendkriminalität. 2014. Nr. 1. 436 S.

References

1. Zmanovskaya EV Deviantology: (Psychology of deviant behavior): textbook. M., 2008. 288 pp.
2. Kozlov Yu. M. Commentary on the Code of the Russian Federation on Administrative Offenses. M. 2002. 979 pp.
3. Lichko AE Psychopathies and Character Accentuations in Adolescents, 1983. 255 pp.
4. Chudin NM School as a tool to solve the problems of youth crime prevention. 2014. No. 1. 436 pp.

Deutsche internationale Zeitschrift für zeitgenössische Wissenschaft

• • •

№21 2021

German International Journal of Modern Science

• • •

№21 2021

Deutsche internationale Zeitschrift für zeitgenössische Wissenschaft ist eine internationale Fachzeitschrift in deutscher, englischer und russischer Sprache.

Periodizität: 24 Ausgaben pro Jahr
Format - A4
Alle Artikel werden überprüft.
Freier Zugang zur elektronischen Version des Journals

German International Journal of Modern Science is an international, German/English/Russian/Ukrainian language, peer-reviewed journal.

Periodicity: 24 issues per year
Format - A4
All articles are reviewed.
Free access to the electronic version of journal.

- Edmund Holst (Salzburg) AT
- Michaela Meissner (Köln) DE
- Klara Amsel (Liège) BE
- Briana French (Cambridge) GB
- Joleen Parsons (Manchester) GB
- Dragomir Koev (Sofia) BG
- Stanislav Štěpánek (Praha) CZ
- Valeriya Kornilova (Kyiv) UA
- Dmitriy Aksenov (Lviv) UA
- Valentin Bragin (Moscow) RU
- Mirosław Bednarski (Warsaw) PL
- Daniela Villa (Florence) IT
- Mattia Molteni (Rome) IT
- Sylwia Krzemińska (Ljubljana) SI
- Käte Kraus (Vienna) AT
- Eleonora Lehmann (Berlin) DE
- Alexander Dressler (Marseille) FR
- Zdzisław Małecki (Warsaw) PL
- Adrián Borbély (Budapest) HU

Artmedia24

Anschrift: Industriestraße 8,74589 Satteldorf Deutschland.

E-mail: info@dizzw.com
WWW: www.dizzw.com

Chefredakeur: Reinhardt Roth

Druck: Einzelfirma Artmedia24, Industriestraße 8,74589 Satteldorf Deutschland

Artmedia24

Address: Industriestrasse 8,74589 Satteldorf Germany.

E-mail: info@dizzw.com
WWW: www.dizzw.com

Editor in chief: Reinhardt Roth

Printing: Artmedia24, Industriestrasse 8,74589 Satteldorf Germany.

ISSN (Print) 2701-8369

ISSN (Online) 2701-8377

Edition: № 21/2021 (November) – 21th

Passed in press in November 2021

Printed in November, 2021

Printing: Artmedia 24, Industriestrasse 8,

74589 Satteldorf, Germany.