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Economic sciences

DIRECTIONS OF INCREASING ECO-FRIENDLY FOODS PRODUCTION

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It is known that food is the most important means of consumption in human demand. However, it is well known that food products have a direct effect on health. When people eat food, they include some harmful substances. Food products have the ability to absorb and accumulate harmful products from the environment. This proves the importance of ecologically clean product production. (1) Contaminants can accidentally enter food. The research concluded that products containing starch (potato, corn, grain, etc.) are among the dangerous foods. Because practically all of them contain a substance called acrylamide (AA).

The chemicalization of the environment, the intake of food substitutes, and the imbalance of the food ration lead to illness, premature aging, and shortening of life. This situation deepens due to the low level of effective nutrition culture of the population and the lack of healthy lifestyle habits. (2)

Each country has important issues that it pays attention to when providing the population with food products. One of them is to provide the population with quality, safe food products. Because the safety of food raw materials and food products is one of the main factors that determine the health of the population. According to scientific studies, the number of sick people in the world is more than the number of healthy people. The main reason for this is environmental pollution, poor quality food products, psychological stress, stressful lifestyle, etc.(3). In recent times, the safety of food products has become one of the urgent problems. This is due to the fact that the production technology is changed, newer chemicals are added to food, and the number of contaminated food products and raw materials increases due to the ecological situation of the environment.

They assess the safety of food raw materials and ready-made food products according to the quantity or quality of microorganisms in their content. (4)

As we mentioned, the problem of safety of food products in the modern era is of a global nature. Violation of the ecological balance, increase in the number of vehicles, various natural and man-made accidents cause the increase of many dangerous chemical compounds in food products. The World Health Organization (WHO) and many international organizations have been dealing with this problem for many years, and the health authorities of many countries are trying to control and certify the quality of food products

In economically developed countries, a system such as Hazard Analysis and Critical Point – HACCP was created by designing a hazard analysis system based on critical test points. This system deals with quality and safety control and solutions in the production of food products. This system takes a leading place in the world food industry. The HACCP system ensures the safety of food raw materials and food products, and ensures the purchase of ecologically clean products in accordance with state standards.

HACCP control system includes 7 main stages. They are as follows:

- 1) analysis of dangerous microorganisms in the product;
- 2) determination of the critical production stage with the possibility of contamination;
- 3) determination of limit norms for production processes and equipment
- 4) monitoring of the entire technological process of production;
- 5) development of measures for the correction of production processes;
- 6) registration of technological parameters;
- 7) data analysis, implementation of measurement system.

Hygienic monitoring is also important when considering the ecological safety aspect of food products.

Purpose of research. Contaminants can accidentally enter food or be introduced as food additives. These substances can cause food poisoning, which poses a threat to human health. Prevention of pollutants is one of the most important issues today.

Importance of research. As the ecological problems of the environment are increasing, diseases are increasing among more people. Therefore, it becomes necessary to investigate the dangers posed by harmful substances to the human body and to reveal their relationship with the human body.

Food safety refers to food products that meet the needs of the present generation and do not endanger the needs of future generations. However, the issue of proper nutrition also arises here. Because many pollutants do not cause disruption of biochemical processes in a healthy body.

Solutions ways.

The population's demand for food products should be formulated in such a way that environmental pollution should be taken into account and at the same time it is necessary to neutralize the polluting substances (preservatives) used to extend the shelf life of food products. Thus, it is possible to reduce the harmful effects of the environment on the body to a certain extent. Also, the quality and safety of those food products should be strictly controlled by state authorities. Assessment of the risks that food and feed products can pose to life and health is carried out by the body (institution) determined by the relevant executive authority. (5)

Standardization works are carried out in the field of ensuring the quality and safety of food products. Here, requirements for the quality and safety of products, production, transportation, storage, and packaging conditions are determined. Standards and requirements related to the raw materials, equipment and tools used are developed and come into force after approval in the prescribed manner. As mentioned, nutrition is of great importance in people's lives. According to the WHO, 60% of the deaths occurring in the world are related to changes in the global food ration.

Among the places where food products are prepared, the first place is people's residences, the second place is catering establishments (canteens, cafes, restaurants, kindergartens and school food blocks, etc.), and the third place is food industry establishments (6). Pathogenic microorganisms in food, artificial and natural radionuclides, nitrate, nitrite and nitroso compounds, pesticides, salts of heavy metals, as well as food additives such as preservatives and dyes, etc. more dangerous for the human body. Food products have the ability to absorb more harmful substances from the environment. Up to 70% of toxins of various origins entering the human body from the environment pass through food products.

Conclusion. Based on what has been mentioned, it can be concluded that people in the ecological system should pay serious attention to their feeding methods. Because the main problem of the society should be the quality and safety of food. The problem of food ecology has already become one of the pressing issues all over the world. Based on research, it can be concluded that practically all products containing enough starch (potatoes, corn, cereals, flour products, etc.) contain acrylamide (AA).

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THE IMPACT OF ONLINE ADVERTISING ON CONSUMER BEHAVIOR

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ВПЛИВ ОНЛАЙН-РЕКЛАМИ НА ПОВЕДІНКУ СПОЖИВАЧІВ.

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Abstract

This article examines the impact of different online advertising techniques on consumer behavior. In particular, the study focuses on six prominent digital marketing methods: search engine marketing, social media marketing, display advertising, influencer marketing, words of mouth marketing, and reviews. The research aims to determine the effectiveness of each method in influencing consumer behavior and to identify the factors that contribute to their success. The findings suggest that different digital marketing methods have different levels of impact on consumer behavior and that their effectiveness is influenced by various factors such as the target audience, the type of product or service being marketed, and the tone and messaging of the advertising.

Анотація

У цій статті розглядається вплив різних методів онлайн-реклами на поведінку споживачів. Зокрема, дослідження зосереджено на шести відомих методах цифрового маркетингу: маркетинг у пошукових системах, маркетинг у соціальних мережах, медійна реклама, маркетинг із впливовими особами, маркетинг із вуст у вуста та відгуки. Дослідження спрямоване на визначення ефективності кожного методу впливу на поведінку споживачів та виявлення факторів, які сприяють їх успіху. Результати показують, що різні методи цифрового маркетингу мають різний рівень впливу на поведінку споживачів і що на їхню ефективність впливають різні фактори, такі як цільова аудиторія, тип продукту чи послуги, що продається, а також тон реклами.

Keywords: online advertising, consumer behavior, digital marketing, search engine marketing, social media marketing, word of mouth marketing, reviews.

Ключові слова: онлайн-реклама, поведінка споживачів, цифровий маркетинг, маркетинг у пошукових системах, маркетинг у соціальних мережах, маркетинг із вуст у вуста, відгуки.

Вступ: Доступність інформації в мережі Інтернет повністю змінила процес вибору та здійснення покупок. Сьогодні споживачі можуть приймати більш обґрунтовані рішення перед покупкою, маючи можливість читати відгуки та порівнювати ціни на різних сайтах та платформах, що призвело до більш конкурентоспроможних цін і кращих пропозицій. Маючи більше інформації, споживачі можуть швидше оцінити переваги та недоліки різних продуктів і послуг, тим самим зробити більш обґрунтований вибір за менший час.

Реклама в Інтернеті стала ключовим інструментом для завоювання цільової аудиторії та просування товарів чи послуг. Зростання популярності цифрових медіа забезпечило широкий спектр видів реклами, що ускладнило визначення найефективнішої форми онлайн-реклами.

Mema cmammi полягає у вивченні та аналізі теоретико-практичних основ використання різних видів онлайн-реклами з метою впливу на поведінку споживачів.

Згідно з дослідженнями, найбільш ефективними формами онлайн-реклами є:

- Маркетинг у пошукових системах (англ. Search Engine Marketing (SEM);
- Реклама у соціальних мережах (англ. Social Media Marketing (SMM));
- Медійна реклама (англ. Display Advertising);
- Інфлюенсерський маркетинг (англ. Influencer Marketing);

- Маркетинг із уст в уста (англ. Words of mouth marketing);
- Відгуки та рейтинги;

<u>Маркетинг у пошукових системах</u> (англ. Search Engine Marketing (SEM). Цей тип онлайнреклами передбачає використання платних результатів пошукових систем, таких як Google AdWords, для охоплення потенційних клієнтів і залучення трафіку на веб-сайти. За останні роки SEM став найбільш популярним засобом просування в Інтернеті через наступні переваги:

- Цільове охоплення: однією з ключових переваг SEM є його цільове охоплення. SEM можна адаптувати для охоплення певної аудиторії на основі ключових слів, географічного розташування та інших критеріїв. Це дозволяє замовникам охоплювати свою цільову аудиторію з високим ступенем точності, що призводить до вищих коефіцієнтів конверсії та збільшення рентабельності інвестицій.
- Високоякісний трафік: SEM охоплює користувачів, які активно шукають продукти чи послуги, пов'язані з певним бізнесом. Це означає, що SEM може залучати високоякісний трафік на веб-сайт, оскільки користувачі вже зацікавлені в тому, що пропонується. Це, у свою чергу, призводить до підвищення рівня конверсії та збільшення продажів.
- Вимірні результати: SEM надає замовникам можливість відстежувати та вимірювати результати кампаній. Це включає такі показники, як кліки, покази, коефіцієнти конверсії та рентабельність інвестицій. Ці показники дають цінну інформацію про ефективність SEM і дозволяють приймати рішення щодо оптимізації та вдосконалення просування;
- Гнучкість: SEM можна налаштувати на певний період часу з можливістю поновлення або припинення за потреби. Це дозволяє коригувати свої стратегії відповідно до потреб і цілей, що змінюються, гарантуючи, що вони завжди отримують найкращі результати.
- Рентабельність: SEM є рентабельною формою онлайн-реклами, замовники платять лише тоді, коли хтось натискає на рекламу, що дає їм змогу контролювати витрати на рекламу та бюджет.

Існує дві моделі оплати SEM:

- замовник оплачує кожний перегляд реклами (англ. pay per click (PPC));
- замовник оплачує кожні 1000 показів (англ. cost per thousand (CPM)) [1].

Багато науковців досліджували вплив SEM на поведінку споживачів. Так Бхандарі Р. та Бансал А. емпірично довели, що SEM позитивно впливає на лояльність до бренду, впізнаваність та імідж бренду, ціну продукту, відгуки користувачів та онлайн поведінку споживачів [2]. Інше дослідження науковців Байє М., Де лос Сантос Б. та Вайлденбіст М. вивчало вплив SEM на залучення на веб-сайти органічного трафіка (відвідувачі, які переходять на сайт із звичайних результатів пошуку, а не платних рекламних оголошень). Вони виявили, що чим кращі налаштування тим вище пошукові систем розміщують посилання на веб-сайт і це призводить до додаткових кліків, оскільки споживачі схильні натискати посилання на більш вигідних позиціях, особливо це стосується людей с вищим рівнем доходів [3].

Однак є й інші дослідження які показали, що SEM не такий прибутковий, як здається. Про це свідчить високий відсоток незадоволених клієнтів [4]. Крім того, через відображення нерелевантної або низькоякісної реклами споживачі можуть мати негативного ставлення до рекламованих брендів або частіше ігноруватимуть або уникатимуть рекламу, яка сприймається як нав'язлива.

<u>Реклама у соціальних мережах</u> (англ. Social Media Marketing (SMM)). Форма онлайнмаркетингу, яка передбачає просування бренду, продукту чи послуги за допомогою платформ соціальних мереж, таких як Facebook, Twitter, Instagram, LinkedIn тощо. Компанії використовують рекламу в соціальних мережах для охоплення певної цільової аудиторії на основі таких факторів, як демографічні показники, інтереси та поведінка користувачів. Реклама в соціальних мережах особливо ефективна для підвищення впізнаваності бренду та взаємодії зі споживачами на особистому рівні. Переваги SMM:

- Широке охоплення: Платформи соціальних медіа мають мільярди користувачів, що дає змогу швидко й ефективно охопити широку аудиторію;
- Цільовий маркетинг: SMM пропонує різні варіанти таргетування, такі як демографічні показники, інтереси, поведінка та місцезнаходження, що дає змогу охопити конкретну цільову аудиторію;
- Рентабельність: порівняно з традиційними методами реклами, SMM є відносно недорогим і може бути дуже ефективним;

- Збільшення залученості: SMM надають можливості для двостороннього спілкування між компаніями та клієнтами, сприяючи підвищенню залученості та побудові міцних стосунків із клієнтами;
- Поінформованість про бренд: соціальні мережі можуть допомогти підвищити поінформованість про бренд і створити позитивний імідж для бізнесу;
- Інформація про клієнтів: платформи соціальних мереж можуть надати цінну інформацію про думки, поведінку та вподобання клієнтів, які можна використовувати для покращення бізнес-стратегій.

До негативних рис SMM дослідниця Рабіа Ф. відносить неправдиву рекламу у соціальних мережах. Вона відзначає, що товар, котрий рекламують, може значно відрізняєтися від оригінального зовнішнім виглядом або властивостями і це, у свою чергу, призводить до значного погіршення репутації компанії [5].

Підсумовуючи, маркетинг у соціальних мережах є цінним інструментом для компаній, які прагнуть охопити свою цільову аудиторію та взаємодіяти з нею. Завдяки широкому охопленню аудиторії, підвищенню залученості, вимірним результатам, економічній ефективності та підвищеній впізнаваності бренду SMM надає компаніям ефективний спосіб досягти своїх маркетингових цілей і досягти успіху в сучасну цифрову епоху.

<u>Медійна реклама</u> (англ. Display Advertising). Онлайн-реклама яка розміщена на веб-сайтах, платформах соціальних мереж та інших цифрових ресурсах у вигляді банерів та відео реклами. Найпоширеніші види медійної реклами:

- Банерна реклама: це найпоширеніша форма медійної реклами, зазвичай прямокутної форми, яка відображається у верхній або нижній частині сторінки веб-сайту.
- Відеореклама: форма медійної реклами, яка містить відео, часто зі звуком, яке автоматично відтворюється на веб-сайті.
- Мультимедійна реклама: інтерактивна реклама, яка використовує анімацію, ігри та інші мультимедійні елементи для залучення аудиторії.
- Нативна реклама: медійна реклама, яка плавно зливається з контентом сторінки, часто з'являється як рекомендована або реклама в стрічці.
- Проміжні оголошення: повносторінкові оголошення, які з'являються між двома сторінками.
- Оголошення, що розгортаються: оголошення, які починаються з маленького розміру, а потім розширюються до більшого розміру, якщо натиснути або навести курсор.
- Рекламні шпалери: фонові рекламні оголошення, які охоплюють весь екран позаду вмісту веб-сайту.
- Оголошення в лайтбоксі: накладаються оголошення, які з'являються поверх вмісту та затемнюють фон, щоб привернути увагу до оголошення.
- Слайдер-реклама: показ реклами, яка переміщується від краю екрана, а потім закривається, коли її відхиляють.

Ануша Г. стверджує, що медійна реклама позитивно впливає на купівельну поведінку споживача, оскільки підвищує його обізнаність про товари або послуги. Крім того, забезпечує передовий метод таргетування з негайним ефектом. Це також знижує вартість. До негативних рис медійної реклами автор відносить нечесну рекламу та шахрайство в Інтернеті [6].

У іншому дослідженні Сама Р. порівнював ефект від реклами на телебаченні, радіо, у новинах, з ефектом медійної реклами. Він зазначає, що остання має більший вплив на поведінку споживачів ніж інші медіа разом [7].

<u>Інфлюенсерський маркетинг</u> (англ. Influencer Marketing). Вид онлайн-реклами який для просування продукту чи послуги передбачає партнерство з людьми, які мають значну кількість підписників у соціальних мережах, таких як Instagram, YouTube і TikTok. Завдяки партнерству з впливовими особами бренди можуть охоплювати свою цільову аудиторію більш автентичним і привабливим способом, що може призвести до підвищення впізнаваності бренду та зміцнення.

- В залежності від кількості підписників у блогера, виділяють наступні види Інфлюенсерського маркетину:
- Macro Influencer Marketing передбачає партнерство з блогерами, які мають понад 100 000 підписників у соціальних мережах. Макроінфлюенсери мають широке охоплення, і їх можна використовувати для просування бренду серед великої та різноманітної аудиторії.

- Micro Influencer Marketing передбачає партнерство з особами, які мають менше 100 000 підписників. Мікроінфлюенсери мають більш цільову та зацікавлену аудиторію, а їхні рекомендації мають велику вагу для їхніх підписників.
- Nano Influencer Marketing передбачає партнерство з особами, які мають менше 10 000 підписників на платформах соціальних мереж. Наноінфлюенсери мають дуже зацікавлених і відданих послідовників, і їх можна використовувати для охоплення певної нішевої аудиторії.

До інших видів Інфлюенсерський маркетингу можна віднести:

- Маркетинг знаменитостей (англ. Celebrity Influencer Marketing) передбачає співпрацю зі знаменитостями. Інфлюенсерів знаменитостей можна використовувати для охоплення великої та різноманітної аудиторії також вони можуть додати бренду престижу та довіри.
- Партнерський маркетинг (англ. Affiliate Marketing) передбачає партнерство з блогерами, які просувають бренд, продукт або послугу в обмін на комісію з продажів, здійснених через їхнє унікальне партнерське посилання.
- Контент-маркетинг (англ. Content Marketing) передбачає співпрацю з блогерами для створення контенту, наприклад навчальних посібників, відеоблогів і оглядів продуктів, який рекламує бренд, продукт або послугу.

Кожен тип має свої переваги та недоліки але успіх маркетингової кампанії буде залежати від вибору правильного блогера для просування та створення контенту, який максимально відповідає інтересам аудиторії.

Згідно з дослідженнями, споживачі більше ототожнюють себе з звичайними блогерами, ніж зі знаменитостями, тож і довіряють блогерам більше, ніж знаменитостям. Споживачі з більшою вірогідністю придбають продукт чи послугу, рекомендовану блогером, ніж знаменитістю [8]. Дослідження також виявили, що Інфлюенсерський маркетинг може бути особливо ефективним для певних продуктів, таких як предмети моди та краси, де візуальний контент є ключовим для прийняття рішення про покупку. Використання інфлюенсерів також може бути особливо ефективним для охоплення молоді, яка часто більш активна в соціальних мережах і, швидше за все, піддається впливу рекомендацій інфлюенсерів. Дослідники Богнар 3. та Пулжик Н. заявляють що вибираючи продукти серед конкурентів, 87% опитаних обирають продукт, котрий був рекомендований блогером [9].

Маркетологи також використовують Інфлюенсерський маркетинг для взаємодії з сегментом споживачів, які зазвичай блокують або уникають реклами. У такому випадку Інфлюенсерський маркетинг вважається ненав'язливим і більш привабливим засобом просування товарів та послуг [10].

<u>Відгуки та рейтинги</u> - це оцінки або думки інших споживачів про продукт чи послугу, які можуть мати значний вплив на поведінку споживачів. По-перше, відгуки надають споживачам цінну інформацію про продукт, наприклад про його якість та характеристики. Ця інформація може допомогти споживачам приймати більш обґрунтовані рішення, що призведе до більшого рівня задоволення від їхніх покупок. По-друге, позитивні відгуки можуть підвищити довіру споживачів до продукту чи послуги, збільшивши ймовірність їх придбання. З іншого боку, негативні відгуки можуть мати протилежний ефект, зменшуючи довіру споживачів і зменшуючи ймовірність придбання продукту.

Відгуки не завжди репрезентативні чи правдиві, іноді вони можуть бути упередженими. Крім того, деякі компанії можуть заохочувати споживачів писати позитивні відгуки, що може штучно завищити сприйману якість продукту. Щоб максимально використати інформацію, доступну у відгуках, важливо розглядати низку джерел. Крім того, важливо мати на увазі, що відгуки є лише одним з аспектів процесу прийняття рішень, і що інші фактори, такі як ціна та особисті переваги, також відіграють важливу роль.

Багато споживачів приймають рішення виключно на основі прочитаних відгуків. Дослідження, проведене Zhong-Gang et al. (2015) показує, що майже 60% споживачів переглядають онлайн-відгуки на товари принаймні раз на тиждень, і 93% з них вважають, що ці онлайн-відгуки допомагають їм приймати рішення про покупкою [11].

<u>Маркетинг із уст в уста</u>, або черезтинне радіо (англ. Words of mouth marketing, WOM marketing), використовувався протягом століть і завжди був важливим фактором впливу на поведінку споживачів. Через швидке зростання популярності соціальних мереж, підвищився і інтерес науковців до цього методу впливу. У 2008 році, Литвин С., Голдсміт Е. та Пан Б. одними з перших описали сучасний електронний маркетинг із уст в уста як будь-які спрямовані на

споживачів неформальні комунікації через мережу Інтернет які стосуються характеристик чи використання певних товарів і послуг або які мають відношення до продавців цих товарів чи послуг [12].

Дослідження показали, що люди більш схильні вірити порадам інших ніж діяти відповідно до того як їх переконає традиційна реклама. Така довіра особливо актуальні для продуктів і послуг, які мають високий рівень невизначеності, наприклад дорогих продуктів оскільки споживачі хочуть бути впевненими, що вони отримують найкраще співвідношення ціни та якості. Так само негативний WOM може відштовхнути людей від певних покупок, оскільки вони не хочуть, щоб їх асоціювали з поганим продуктом або досвідом.

Є багато стратегій, які компанії можуть використати, щоб отримати вигоду від Маркетингу із уст в уста. Компанії можуть заохочувати клієнтів залишати позитивні відгуки в Інтернеті та ділитися своїм досвідом із друзями та родиною. Крім того, компанії можуть налагоджувати відносини з впливовими особами у своїй галузі, щоб отримати доступ до більшої аудиторії.

Висновки. Підсумовуючи, онлайн-реклама є потужним інструментом впливу на поведінку споживачів. Найефективнішим типом онлайн-реклами є та, яка адаптована до конкретної аудиторії і бере до уваги потреби та інтереси окремих споживачів. Щоб досягти успіху важливо чітко розуміти свою цільову аудиторію та платформи, які вона використовує. Крім того, важливо регулярно відстежувати та коригувати свої кампанії, щоб переконатися, що вони працюють оптимально та дають бажані результати.

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Geographical sciences

DOMESTIC AND FOREIGN EXPERIENCE IN THE DEVELOPMENT OF ELECTRONIC INFORMATION SYSTEMS IN THE FIELD OF ENVIRONMENTAL MONITORING

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ОТЕЧЕСТВЕННЫЙ И ЗАРУБЕЖНЫЙ ОПЫТ РАЗВИТИЯ ЭЛЕКТРОННЫХ ИНФОРМАЦИОННЫХ СИСТЕМ В СФЕРЕ ЭКОЛОГИЧЕСКОГО МОНИТОРИНГА

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Abstract

This article discusses issues related to the development of electronic information systems operating in Russia, as well as in the European and North American regions of the world. The possibilities and principles of functioning of information systems are presented. The development of an electronic information system for implementation on the territory of Russia is proposed. The existing and proposed systems are compared. The advantages of the proposed information system are revealed.

Аннотация

В данной статье рассматриваются вопросы, связанные с развитием электронных информационных систем, действующих на территории России, а также в европейском и североамериканском регионах мира. Представлены возможности и принципы функционирования информационных систем. Предложена разработка электронной информационной системы для внедрения на территории России. Произведено сравнение имеющейся и предложенной систем. Выявлены преимущества предложенной информационной системы.

Keywords: Electronic information system, environmental information, environmental monitoring.

Ключевые слова: Электронная информационная система, экологическая информация, мониторинг окружающей среды.

В последние годы произошел существенный скачок в развитии информационной системы экологического мониторинга окружающей среды. Сбор информации осуществляется всевозможными методами от дистанционного зондирования Земли до полевого метода исследований.

При этом вопросы сбора, хранения и передачи информации каждое государство определяет для себя индивидуально. В большинстве стран документооборот осуществляется на автоматизированной основе, некоторые — до сих пор отдают предпочтение бумажным носителям с их последующей архивацией.

Тем не менее, практичность и эффективность использования электронных информационных систем ежегодно оправдывают своё предназначение[1,2]. Они позволяют

оперативно дополнять уже существующие данные, обрабатывать имеющиеся результаты, обмениваться требуемой информацией[3], осуществлять поиск необходимых материалов, а также систематизировать и осуществлять хранение поступивших данных.

В настоящее время на территории Российской Федерации государственный экологический мониторинг осуществляется с помощью наблюдательных сетей и информационных ресурсов в рамках подсистем единой системы такого мониторинга, а также государственного фонда данных государственного экологического мониторинга. «При этом на сегодняшний день этот фонд данных представляет собой не систематизированный набор информации о видах государственного экологического мониторинга и о компонентах окружающей среды, который не доступен для свободного и общего пользования.

К 2024 году в рамках национального проекта «Экология» планируют запустить новый федеральный проект «Комплексная система мониторинга качества окружающей среды». Система экомониторинга должна обеспечить сбор информации о состоянии окружающей среды по всей стране. К 2030 году система свяжет данные, в том числе находящиеся в иных информационных системах, о воде, почве, воздухе, недрах, выбросах и поглощении парниковых газов, а также источниках негативного воздействия на окружающую среду и объектах накопленного экологического вреда. Ресурсы системы будут доступны для граждан и юридических лиц.

Таким образом, создание «умных» информационных систем является актуальным направлением XXI века.

Современные информационные системы (далее — ИС) позволяют осуществлять информационные процессы (хранение, обработку, преобразование, передачу и обновление информации) с использованием компьютерной и другой техники. При этом, информационные процессы могут обеспечивать выбор и формировать цели, использоваться для разработки программы действий, а также гарантировать нормальное протекание экологических процессов и их регулирование[4]. Источниками информации могут выступать как результаты проведенных исследований и сопутствующих прогнозов, так и обратная связь о результативности предшествующих решений.

Информационные процессы уже положительно себя зарекомендовали в других областях, и показывают весьма ощутимые результаты своей работы во многих сферах деятельности. Данные результаты послужили поводом внедрения и апробации подобных процессов в экологическую сферу.

Многие страны Европы и Северной Америки уже имеют успешный опыт по внедрению информационных систем в сфере мониторинга и охраны окружающей среды. Например, системы Eionet и Reportnet уже успешно работают Европе на протяжении 2 лет[5]. США проводят апробацию системы EPA с последующим дальнейшим внедрением.

Данные системы функционируют в соответствии с принципами SEIS, включающими управление однократно собранной информацией на уровне ее источника. Важными принципами являются также оказание помощи органам государственной власти в выполнении их юридических обязательств по предоставлению отчетности и оценке состояния окружающей среды и эффективности проводимой экологической политики и в случае необходимости участие в разработке нового политического курса[6]. Подразумевается также помощь в проведении географических сравнений окружающей среды и предоставление гражданам полного доступа к информации для возможности их участия в разработке и внедрении экологического политического курса. И всё это базируется на использовании открытых стандартов.

В настоящее время на территории России реализуются несколько проектов, например, ECO-bridge, по обеспечению экологическими данными специалистов, широкий круг организаций и простых людей. Известны также совместные организации, (например, автономная некоммерческая организация «Центр энергетической эффективности (АНО«ЦЭЭ»), Карельский цент гидрометеорологии и мониторингу окружающей среды (КЦГМС), Институт окружающей среды Финляндии (SYKE, Йоэнсуу), Метеорологический институт Финляндии (FMI), Arbonaut Ltd), разработавшие общую базу данных о качестве воды, доступную финским и российским экспертам, часть информации которой была размещена на интеренет-сайте КагСНЕМ для открытого использования[6,7]. В результате развития электронной базы данных повысилась осведомленность населения и организаций по обе стороны границы.

Тем не менее, на сегодняшний день информация о состоянии окружающей среды в России осуществляется преимущественно на бумажных носителях, информация которых впоследствии оцифровывается и размещается в сети Интернет. Данный путь зачастую ставит под сомнение качество и достоверность итоговых показателей.

Кухтенковым Д.А. разработана ДЕМО-версия электронной информационной системы, позволяющей существенно сократить период получения, проверки, обработки и хранения фактических данных о состоянии окружающей среды. Нужно отметить, что в России в последнее время предпринимаются попытки создания автоматизированных систем сбора и хранения информации, в т.ч. экологической. Принципиальное отличие информационной системы (табл.1), предложенной автором статьи, является то, что сбор и подготовка данных к вводу в информационную систему осуществляется разными специалистами (буквально — собирают и передают в информационный центр одни, а вводят в систему — другие). Данный момент, по мнению разработчика, минимизирует возможность искажения (изменения) данных. Вышеуказанная разработка в настоящее время находится на стадии апробации.

Таблица 1 Сравнительная таблица общих принципов построения существующей в России и предлагаемой информационных систем

преолагаемой информационных систем					
Позиции	Существующая ИС	Предлагаемая ИС			
1.Сбор фактических	Протоколы измерений/ пробоотбора	Протоколы измерений/			
данных	(на бумажном носителе/скан)	пробоотбора (на бумажном			
		носителе/скан, на			
		электронном носителе)			
2. Ввод полученных	Ввод данных специалистами	Ввод электронных данных			
данных в	профильных/ заинтересованных	специалистами,			
информационную	организаций; систематизация	обслуживающими ИС			
систему	документов на бумажном носителе				
3.Верификация	Вручную специалистами/	Автоматически в системе			
(достоверность)	автоматически в системе				
данных					
4. Формирование	В бумажном и электронном	В электронном варианте.			
сводного отчёта	вариантах. Хранение в архивах	Размещение на			
	заинтересованных организаций.	информационных порталах			
	Необязательное размещение на	Интернета. Открытый			
	официальных сайтах в Интернете	доступ к информации.			

Использование предложенной информационной системы позволит добиться прозрачности использования и доступности данных для различных категорий потребителей информации, а также сократить время на подготовку результатов, проверку и публикацию их в сети Интернет на определенных информационных порталах. Тем более, что требование об общедоступности экологической информации о состоянии окружающей среды, отражено в Федеральном законе от 09.03.2021 № 39-ФЗ «О внесении изменений в Федеральный закон «Об охране окружающей среды» и отдельные законодательные акты Российской Федерации».

Кроме того, возможность фиксации электронного следа и логировка действий в системе позволит контролировать источник и движение информации посредством детального отчета об изменении данных внутри системы.

В заключении можно сделать выводы о том, что:

- 1. Информационные системы в сфере мониторинга окружающей среды успешно работают на протяжении нескольких лет и положительно зарекомендовали себя в европейском и североамериканском регионах.
- 2. На территории Российской Федерации в настоящее время значительная доля документооборота осуществляется на бумажных носителях.
- 3. Россия, внедряя зарубежный опыт использования информационных систем, находится в самом начале пути разработки единой электронной базы экологического мониторинга окружающей среды.

4. С целью развития электронного документооборота в информационной сфере авторами предложена разработка системы, оптимизирующая этапы сбора, обработки и хранения данных, а также повышающая степень доступности информации для различных уровней пользователей.

5.

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Mathematical sciences

SOME CHARACTERIZATION OF THE FUNCTION SPACE TYPE OF LIZORKIN-TRIEBEL-LORENTZ-MORREY WITH MANY GROUPS OF VARIABLES

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Abstract

Starting new concept is exciting, but it also may be more important. Like any new concepts, in order to be important, it will require a commitment both learning and tring. Probably most courses of Mathematic Analysis take functional approach, relying on students to know something of Functional Analysis already. But mathematics has limited concepts of Lebesgue—Morrey type spaces and now I focused this paper on learning new type normed spaces. This paper consists of investigation new normed space type of Lizorkin—Triebel—Lorentz—Morrey. The first main result of this paper is giving and proving some properties for Lizorkin—Triebel—Lorentz—Morrey spaces. There is a very important normed space, namely Morrey space with many groups of variables. There are five sections in this paper. Each section begins with a set of some definitions, notations and mathematics concepts, which are very important for this paper. Some notations and symbols are given in first section. A definition is given in second section. Six important properties for this space are given in third section. These properties have been proved in forth section. In addition, particular attention was paid to developing a construction new normed function space of progression within problem types. Also I have focused on introducing functional ideas (also called mathematic structures) use mostly elliptic type equations. They are very important for mathematics.

Keywords: The space type of Lizorkin–Triebel–Lorentz–Morrey, the function space of differentiability function, some properties of these spaces.

1. Introduction

Let $G \subset \mathbb{R}^n$ and $1 \leq s \leq n$; s,n be naturals, where $n_1 + \dots + n_s = n$. We consider the sufficient smooth function f(x), where the point $x = (x_1, \dots, x_s) \in \mathbb{R}^n$ has coordinates $x_k = (x_{k,1}; \dots; x_{k,n_k}) \in \mathbb{R}^{n_k}$ ($k \in e_s = \{1,\dots,s\}$). More precisely, $\mathbb{R}^n = \mathbb{R}^{n_1} \times \mathbb{R}^{n_2} \times \dots \times \mathbb{R}^{n_s}$. Thus we consider the fixed, non-negative, integral vector $l = (l_1, \dots, l_s)$ such that, $l_k = (l_{k,1}; \dots; l_{k,n_k})$, ($k \subset e_s$) that is, $l_{k,j} > 0$, ($j = 1, \dots, n_k$) for all $k \in e_s$. Here we consider by Q the set of vectors $i = (i_1, \dots, i_s)$ where $i_k = 1, 2, \dots, n_k$ for every $k \in e_s$. The number of set Q is equal to: $|Q| = \prod_{k=1}^s (1+n_k)$. Therefore, to the vector $i = (i_1, \dots, i_s) \in Q$, we shall correspond the vector $l^i = (l_1^{i_1}; \dots; l_s^{i_s})$ of the set of non-negative, integral vectors $l = (l_1, \dots, l_s)$, where $l^0 = (0,0,\dots,0)$, $l_k^1 = (l_{k,1},0,\dots,0)$, ..., $l_k^{i_k} = (0,0,\dots,l_{k,n_k})$ for all $k \in e_s$. Then to the vector e^i , we let correspond the vector $\bar{l}^i = (\bar{l}_1^{i_1}, \bar{l}_1^{i_2}, \dots, \bar{l}_k^{i_s})$, where $\bar{l}_k^i = (\bar{l}_{k,1}^i, \bar{l}_{k,2}^{i_2}, \dots, \bar{l}_{k,n_k}^{i_k})$ ($k \in e_s$). Here the largest number $\bar{l}_{k,j}^i$ is less than $l_{k,j}^i$ for all $l_{k,j}^i > 0$, when $l_{k,j}^{i_k} = 0$ then we assume that $\bar{l}_{k,j}^i = 0$ for all $k \in e_s$ [4], [9].

Theremore, we consider $D^{\bar{l}^i}f = D_1^{\bar{l}_1^{i_1}} \cdots D_s^{\bar{l}_s^{i_s}}f$, $D_k^{\bar{l}_k^{i_k}}f = D_{k,1}^{\bar{l}_k^{i_k}} \cdots D_{k,n_k}^{\bar{l}_k^{i_k}}f$, $G_{t^\varkappa} = G \cap I_{t^\varkappa}(x)$, $I_{t^\varkappa}(x) = I_{t_1^{\varkappa_1}}(x_1) \times I_{t_2^{\varkappa_2}}(x_2) \times \cdots \times I_{t_s^{\varkappa_s}}(x_s)$, $I_{t_k^{\varkappa_k}}(x_k) = \left\{ y_k : |y_k - x_k| < \frac{1}{2} t_k^{|\varkappa_k|}, \ k \in e_s \right\}$ and $|\beta_k| = \sum_{j=1}^{n_k} \beta_{k,j}^{i_k} : |\beta_k^{i_k}| = \sum_{j=1}^{n_k} \beta_{k,j}^{i_k} : |\beta_k^{i_k}| = \sum_{j=1}^{n_k} \beta_{k,j}^{i_k} : |\beta_k^{i_k}| = \prod_{j \in e_k^i} \frac{dt_{k,j}}{t_{k,j}}$, we take $0 < \beta_{k,j}^{i_k} = l_{k,j}^{i_k} - \bar{l}_{k,j}^{i_k} \le 1$, when $l_k^{i_k} > 0$, but when $l_{k,j}^{i_k} = 0$, then $\beta_{k,j}^{i_k} = 0$; $t = (t_1, \dots, t_s)$, $t_k = (t_{k,1}, \dots, t_{k,n_k})$, $\omega = (\omega_1, \dots, \omega_s)$, $\omega_k = (\omega_{k,1}, \dots, \omega_{k,n_k})$ and we take $\omega_{k,j} = 1$, when $k \in e^i$, or we give $\omega_{k,j} = 0$, when $k \in e_s / e^i$, $e^i = \operatorname{supp} \bar{l}^i = \operatorname{supp} l^i = \operatorname{supp} l^i = \operatorname{supp} l^i = 0$. $\theta \le \infty$; $\theta \le \infty$. Here $\theta \le \infty$ is fixed vector and $\theta \le \infty$. $\theta \le \infty$; $\theta \le \infty$. Here $\theta \le \infty$. Here $\theta \le \infty$. Here $\theta \le \infty$ is fixed vector and $\theta \ge \infty$.

(2,2,...,2), and $\Delta_k^{\omega_k}(t_k)f = \Delta_{k,1}^{\omega_{k,1}}(t_{k,1})\cdots\Delta_{k,n_k}^{\omega_{k,n_k}}(t_{k,n_k})f$, $(k\in e_s)$, following $\Delta_{k,j_k}^{\omega_{k,j_k}}(t_{k,j_k})f$ are finite difference function, which has direction with variables t_{k,j_k} and with order ω_{k,j_k} , by step t_{k,j_k} for j=1 $1, \dots, n_k \text{ and for all and } k \in e_s, \text{ following } \Delta^1_{k,j_k}(t_{k,j_k})f(\cdots, x_{k,j_k}, \cdots) = f(\cdots, x_{k,j_k}, \cdots) - f(\cdots, x_{k,j_k}, \cdots), \text{ and } \Delta^{\omega_{k,j_k}}_{k,j_k}(t_{k,j_k})f(\cdots, x_{k,j_k}, \cdots) = \Delta^1_{k,j_k}(t_{k,j_k})\left\{\Delta^{\omega_{k,j_k}-1}_{k,j_k}(t_{k,j_k})f(\cdots, x_{k,j_k}, \cdots)\right\}, \text{ but } \text{ when } \omega_{k,j_k} = 0, \text{ then } \Delta^0_{k,j_k}(t_{k,j_k})f(\cdots, x_{k,j_k}, \cdots) = f(\cdots, x_{k,j_k}, \cdots). \quad [1, 4, 7]$

Conclusion: Essentially, whenever a generalized Lebesgue-Morrey type space can be given in type of function space with many groups of variables, the result will be important as only a few such function spaces are available in the science. In this section I have gave some notions which are very important for previous paper.

2. Materials and Methods

We knew that, normed Lorentz–Morrey space of locally summability, measurable functions f, on G, with finite norm ($N^i > l^i > m^i \ge 0$, i=1,2,...,n) defines following

$$||f||_{p,a,\varkappa,\tau:G} = ||f||_{\mathcal{L}_{p,a,\varkappa,\tau}(G)} = \left\{ \int_{0}^{\infty} \left[\prod_{k \in e_{s}} [t_{k}]_{1}^{-\frac{|\varkappa_{k}|a}{p}} \times ||f^{*}||_{p,G_{t}\varkappa(x)} \right]^{\tau} \prod_{k \in e_{s}} \frac{dt_{k}}{t_{k}} \right\}^{1/\tau} \\ sup_{0 < t < \infty} \left(\prod_{k \in e_{s}} [t_{k}]_{1}^{-\frac{|\varkappa_{k}|a}{p}} \times ||f^{*}||_{p,G_{t}\varkappa(x)} \right)$$
, (1)

where $|\varkappa_k| = \sum_{j=1}^{n_k} \varkappa_{k,j}$; $[t_k]_1 = \min\{1, t_k\}$ and $f^*(t)$ is the decreasing rearrangement of f[2, 5, 7]. **Definition 1:** Let $a \in [0,1], \tau \in [0,\infty]$

$$||f||_{\dot{F}_{p,\theta,a,\varkappa,\tau}^{< l>}(G,S)} = \sum_{i \in Q} ||f||_{L_{p,\theta,a,\varkappa,\tau}^{< l>}(G,S)'}$$

$$||f||_{\dot{F}_{p,\theta,a,\varkappa,\tau}^{< l>}(G,S)} = \left| \left\{ \int_{0}^{t_{0,1}^{i}} \cdots \int_{0}^{t_{0,s}^{i}} \left[\frac{\delta^{2\omega}(t,G)D^{l^{i}}f^{*}}{\prod_{k \in e^{i}} t_{k}^{|\beta_{k}|}} \right]^{\theta} \prod_{k \in e^{i}} \frac{dt_{k}}{t_{k}} \right\}^{1/\theta} \right|_{p,a,\varkappa,\tau:G} , (2)$$

and

$$\delta^{2\omega}(t)f(x) = \int_{-1}^{1} \cdots \int_{-1}^{1} |\Delta^{2\omega}(t,G_t)f^*(x)| dt,$$

$$\|f\|_{p,a,\varkappa,\tau:G} = \sup_{x \in G} \left\{ \int_{0}^{\infty} \cdots \int_{0}^{\infty} \left[\prod_{k \in e_s} [t_k]_1 \frac{-|\varkappa_k|a}{p} \|f^*\|_{p,G_t^{\varkappa}(x)} \right]^{\tau} \prod_{k \in e_s} \frac{dt_k}{t_k} \right\}^{1/\tau}.$$

Conclusion: In this section I fix the definition of the space type of Lizorkin-Triebel-Lorentz–Morrey with many groups of variables used in the paper. A large part of the previous section dealt with introducing Lizorkin-Triebel-Lorentz–Morrey with many groups of variables, that is, function space type of Lizorkin-Morrey and more generally, normed space.

3. Some properties

Let us give some characterization of $\mathcal{L}_{p,a,\varkappa,\tau}(G)$:

- 1) $\|\cdot\|_{p,a,\varkappa,\tau:G}$ is a qiasi-norm.
- 2) We must note that, for every $\tau > 0$

$$\mathcal{L}_{p,a,\varkappa,p}(G) = \mathcal{L}_{p,a,\varkappa}(G)$$

- $\mathcal{L}_{p,a,\varkappa,p}(G)=\mathcal{L}_{p,a,\varkappa}(G)$ 3) The space $\mathcal{L}_{p,a,\varkappa,\tau}(G)$ is complete. 4) For c>0 we have

$$||f||_{p,a,c\varkappa,\tau:G} = \frac{1}{c^{\frac{s}{\tau}}} ||f||_{p,a,\varkappa,\tau:G}.$$

5) For any $n = (n_1, ..., n_n) > 0$ we get:

$$a)||f||_{p,0,\varkappa,\infty:G} = ||f||_{p,G};$$

$$||f||_{n,1,\varkappa,\tau;G} \ge ||f||_{\infty,G}$$

b)
$$\|f\|_{p,1,\varkappa,\tau:\,G} \ge \|f\|_{\infty,G}$$
.
6) If $p \le q, \frac{1-b}{q} \le \frac{1-a}{p}, 1 \le \tau_1 \le \tau_2 \le \infty$ then

$$\mathcal{L}_{q,b,\varkappa,\tau_1}(G) \subset_{>} \mathcal{L}_{p,a,\varkappa,\tau_2}(G)$$

and

$$||f||_{p,a,\varkappa,\tau_2:G} \le ||f||_{q,b,\varkappa,\tau_1:G}. \tag{3}$$

Conclusion: This section starts with giving some fundamental properties for such function spaces type of Lizorkin-Triebel-Lorentz–Morrey with many groups of variables.

4. Main results

Proof 1. This property follows from known properties of rearrangement. Indeed

$$(f+g)^*(2t) \le f^*(t) + g^*(t),$$

thus

$$\begin{split} \|f+g\|_{\mathcal{L}_{p,a,\varkappa,\tau}(G)}^{\tau} &= \int\limits_{0}^{\infty} \left[\prod_{k \in e_{s}} [2t_{k}]_{1}^{-\frac{|\varkappa_{k}|a}{p}} \times \right. \\ & \left. \|(f+g)^{*}\|_{p,G_{t}\varkappa(x)}(2t)\right]^{\tau} \prod_{k \in e_{s}} \frac{d2t_{k}}{t_{k}} = \\ &= \int_{0}^{\infty} \prod_{k \in e_{s}} [2t_{k}]_{1}^{-\frac{|\varkappa_{k}|a\tau}{p}} \times \|(f+g)^{*}\|_{p,G_{t}\varkappa(x)}(2t)^{\tau} \leq \\ & \int_{0}^{\infty} \prod_{k \in e_{s}} [t_{k}]_{1}^{-\frac{|\varkappa_{k}|a\tau}{p}} \times \|f^{*}(t)^{\tau} + g^{*}(t)^{\tau}\| \prod_{k \in e_{s}} \frac{dt_{k}}{t_{k}} = \\ & \|f\|_{\mathcal{L}_{p,a,\varkappa,\tau}(G)}^{\tau} + \|g\|_{\mathcal{L}_{p,a,\varkappa,\tau}(G)}^{\tau} \end{split}$$

and constants implied are bigger than 1. [3, 6, 8, 12].

Proof 2. We must note that,

$$||f^*||_{\mathcal{L}_{p,a,\varkappa,p}(G)}^p = \int_0^\infty ||f^*(t)^p|| \times \prod_{k \in e_s} \frac{dt_k}{t_k} = \int_0^\infty \prod_{k \in e_s} [t_k]_1^{\frac{|\varkappa_k|a}{p} - 1} ||f^*|| > \prod_{k \in e_s} t_k ||\prod_{k \in e_s} \frac{dt_k}{t_k}.$$
(4)

Because of,

$$f^*(t) := \inf\{\prod_{k \in e_s} [s_k]_1 : |\{\|f\| > \prod_{k \in e_s} [s_k]_1\}| > \prod_{k \in e_s} [t_k]_1\}.$$

This implies immediately that,

$$|\{||f|| > f^*(t)\}| \le \prod_{k \in e_s} [t_k]_1.$$

In addition, we hold that,

$$\|(f > \prod_{k \in e_s} [t_k]_1)\| =$$

$$\|\{\prod_{k \in e_s} [s_k]_1 : f^*(s) > \prod_{k \in e_s} [t_k]_1\}\|.$$

Then (4) is equal to following equality

$$\int_{0}^{\infty} \prod_{k \in e_{S}} [t_{k}]_{1}^{\frac{|\mathcal{X}_{k}|a}{p}-1} \left\| \left\{ \|f\| > \prod_{k \in e_{S}} [t_{k}]_{1} \right\} \right\| \prod_{k \in e_{S}} \frac{dt_{k}}{t_{k}} = \int \|f\|^{p} \prod_{k \in e_{S}} \frac{dt_{k}}{t_{k}} = \|f\|^{p} \int_{\mathcal{L}_{p,a,\mathcal{X}}(G)} dt_{k}$$

Proof 3. Let $\{f_n^*\}_{n=1}^{\infty}$ be a fundamental consistent in $\mathcal{L}_{p,a,\varkappa,\tau}(G)$, that is, for all $\varepsilon > 0$, we can take number $n(\varepsilon)$, such that $n,m \geq n(\varepsilon)$,

$$sup_{x \in G} \left(\int_{0}^{\infty} \cdots \int_{1}^{\infty} \prod_{k \in e_{s}} [t_{k}]_{1}^{-\frac{|\mathcal{X}_{k}|a}{p}} \times \|f_{n}^{*} - f_{m}^{*}\|_{p,G_{t^{\mathcal{X}}}(x)} \right)^{\tau} \prod_{k \in e_{s}} \frac{dt_{k}}{t_{k}} < \varepsilon.$$
 (5)

Using [9], [14] we get

$$sup_{x \in G} \prod_{k \in e_S} [t_k]_1^{-\frac{|\mu_k|a}{p}} \times$$

$$||f_n^* - f_m^*||_{p, G_{r^{\varkappa}}(x)}) < \varepsilon$$
(6)

 $\|f_n^* - f_m^*\|_{p,\,G_{t^{\varkappa}(\mathcal{X})}}\Big) < \varepsilon$ and because of $\mathcal{L}_{p,a,\varkappa}(G)$ is complete, we have a function such that $f_0^* \in \mathcal{L}_{p,a,\varkappa}(G)$

$$\prod_{k \in e_{c}} [t_{k}]_{1}^{-\frac{|\mathcal{X}_{k}|a}{p}} \times ||f_{n}^{*} - f_{0}^{*}||_{p, G_{t^{\mathcal{X}}}(\mathcal{X})} \rightarrow$$

$$\rightarrow 0$$
, $(n \rightarrow \infty)$.

Obviously, for all $t \in (0, \infty)$ and for every $x \in G$, we hold

$$\left(\prod_{k \in e_s} [t_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f_n^* - f_0^*\|_{p, G_{t^{\varkappa}}(x)}\right)^{\tau} \times \prod_{k \in e_s} \frac{1}{t_k} \to 0 \ (n \to \infty).$$

Then using theorem Fatou we get

$$\begin{split} &\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_S} [t_k]_1^{-\frac{|\mu_k|a}{p}} \|f_n^* - f_0^*\|_{p,G_{t^{\varkappa}}(x)} \right)^{\tau} \times \\ &\prod_{k \in e_S} \frac{dt_k}{t_k} \leq \sup_{m \geq n(\varepsilon)} \int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_S} [t_k]_1^{-\frac{|\mu_k|a}{p}} \times \|f_n^* - f_m^*\|_{p,G_{t^{\varkappa}}(x)} \right)^{\tau} \prod_{k \in e_S} \frac{dt_k}{t_k}, \end{split}$$

for $n \ge n(\varepsilon)$ and for all $x \in G$. Then we have

$$sup_{x \in G} \int_{0}^{\infty} \cdots \int_{0}^{\infty} \left(\prod_{k \in e_{S}} [t_{k}]_{1}^{-\frac{|\varkappa_{k}|a}{p}} \|f_{n}^{*} - f_{0}^{*}\|_{p, G_{t^{\varkappa}}(x)} \right)^{t} \times \prod_{k \in e_{S}} \frac{dt_{k}}{t_{k}} < \varepsilon.$$

Because of $\{f_n\}_{n=1}^{\infty}$ is fundamental consistent in $\mathcal{L}_{p,a,\varkappa,\tau}(G)$, then

$$||f_0^*||_{p,a,\varkappa,\tau:G} \le ||f_n^* - f_0^*||_{p,a,\varkappa,\tau:G} + ||f_n^*||_{p,a,\varkappa,\tau:G} \le \varepsilon + M, (M > 0),$$

that is $f_0^* \in \mathcal{L}_{p,a,\varkappa,\tau}(G)$.

But it means that, the space $\mathcal{L}_{p,a,\varkappa,\tau}(G)$ is complete. [11, 13, 15].

Proof 4.

$$\begin{split} & \|f^*\|_{p,a,c\tau,\varkappa:\,G} = \\ & \sup_{x \in G} \left[\left(\int\limits_0^\infty \cdots \int\limits_0^\infty \prod_{k \in e_s} [t_k]_1^{-\frac{c|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_tc\varkappa(x)} \right)^\tau \times \\ & \prod_{k \in e_s} \frac{dt_k}{t_k} \right]^{1/\tau} = \sup_{x \in G} \left[\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [t_k^c]_1^{-\frac{|\varkappa_k|a}{p}} \times \right)^{1/\tau} \right] \\ & \|f^*\|_{p,\,G_tc\varkappa(x)} \right]^\tau \prod_{k \in e_s} \frac{dt_k}{t_k} \\ & = \\ & \sup_{x \in G} \left(\frac{1}{c^s} \int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \prod_{k \in e_s} \frac{du_k}{u_k} \right)^{1/\tau} = \frac{1}{c^{s/\tau}} \times \\ & \sup_{x \in G} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \sup_{x \in G} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \right) \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \right) \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \right) \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \right) \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty \cdots \int\limits_0^\infty \left(\prod_{k \in e_s} [u_k]_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty (u_k)_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty (u_k)_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \frac{1}{c^{s/\tau}} \left(\int\limits_0^\infty (u_k)_1^{-\frac{|\varkappa_k|a}{p}} \|f^*\|_{p,\,G_u\varkappa(x)} \right)^\tau \times \\ & \frac{$$

$$\prod_{k \in e_S} \frac{du_k}{u_k} \bigg)^{1/\tau} = \frac{1}{c^{S/\tau}} \|f^*\|_{p,a,\varkappa,\tau: G}.$$

Proof 5. It is easy to verify 4(a). Let us proof 4(b). It is known that

$$||f^*||_{\infty,G} \le ||f^*||_{p,1,\varkappa:G}$$
.

Then taking the inequality "(3)" in [9] then it completes proof 4(b). [14-15] **Proof 6.** Everybody know that

$$||f^*||_{p,a,\varkappa:G} \le ||f^*||_{q,b,\varkappa:G}$$

following for any t, $0 < t \le 1$,

$$\prod_{k \in e_{s}} [t_{k}]_{1}^{-\frac{|\varkappa_{k}|a}{p}} \|f^{*}\|_{p, G_{t^{\varkappa}}(x)} \leq
\leq \prod_{k \in e_{s}} [t_{k}]_{1}^{-\frac{|\varkappa_{k}|b}{q}} \|f^{*}\|_{q, G_{t^{\varkappa}}(x)}$$

then we get

$$\begin{split} \prod_{k \in e_{S}} [t_{k}]_{1}^{-\frac{|\varkappa_{k}|a}{p} - \frac{1}{\tau_{1}}} \|f^{*}\|_{p, G_{t^{\varkappa}}(x)} \leq \\ \leq \prod_{k \in e_{S}} [t_{k}]_{1}^{-\frac{|\varkappa_{k}|b}{q} - \frac{1}{\tau_{1}}} \|f^{*}\|_{q, G_{t^{\varkappa}}(x)'} \\ sup_{x \in G} \left[\int_{0}^{1} \cdots \int_{0}^{1} \left(\prod_{k \in e_{S}} [t_{k}]_{1}^{-\frac{|\varkappa_{k}|a}{p}} \|f^{*}\|_{p, G_{t^{\varkappa}}(x)} \right)^{\tau_{1}} \times \right. \\ \left. \prod_{k \in e_{S}} \frac{dt_{k}}{t_{k}} \right]^{1/\tau_{1}} \leq sup_{x \in G} \left[\int_{0}^{1} \cdots \int_{0}^{1} \left(\prod_{k \in e_{S}} [t_{k}]_{1}^{-\frac{|\varkappa_{k}|b}{q}} \times \right. \\ \left. \|f^{*}\|_{q, G_{t^{\varkappa}}(x)} \right)^{\tau_{1}} \prod_{k \in e_{S}} \frac{dt_{k}}{t_{k}} \right]^{1/\tau_{1}}. \end{split}$$

Taking

$$1 \le \tau_1 \le \tau_2 \le \infty$$

 $1 \leq \tau_1 \leq \tau_2 \leq \infty$ then we get "(3)". In addition for every t>1

$$\begin{split} & \prod_{k \in e_s} [t_k]_1^{-\frac{1}{\tau_1}} \|f^*\|_{p,G_{t^{\varkappa}}(x)} \leq \\ & \leq \prod_{k \in e_s} [t_k]_1^{-\frac{1}{\tau_1}} \|f^*\|_{q,G_{t^{\varkappa}}(x)} \end{split}$$

and

$$\begin{aligned} sup_{x \in G} \left[\int_{1}^{\infty} \cdots \int_{1}^{\infty} \left(\|f^*\|_{p, G_{t^{\varkappa}}(x)} \right)^{\tau_1} \prod_{k \in e_s} \frac{dt_k}{t_k} \right]^{1/\tau_1} \leq \\ \leq sup_{x \in G} \left[\int_{1}^{\infty} \cdots \int_{1}^{\infty} \left(\|f^*\|_{q, G_{t^{\varkappa}}(x)} \right)^{\tau_1} \prod_{k \in e_s} \frac{dt_k}{t_k} \right]^{1/\tau_1}. \end{aligned}$$

Here again using $1 \le \tau_1 \le \tau_2 \le \infty$ then we get "(3)" [10-13, 14, 16].

Conclusion: In 1997 Ferreyra that, it is important to increase Stein-Weiss theorem on the Lorentz spaces. This is one of the most important theorems in Function Anaysis. To establish the building of some new normed space in Lebesque–Morey type space, we get that is a new type of the Lorentz–Morrey of normed space, namely normed Lizorkin–Triebel–Lorentz–Morrey type space with many groups of variables. The aim this paper is to prove an embedding theorem and an interpolation theorem on Lizorkin—Triebel—Lorentz—Morrey type spaces with many groups of variables. That is, why I introduce several properties of Lizorkin-Triebel-Lorentz-Morrey type spaces with many groups of variables. In addition, they have been proved. This is new normed type space. According these properties one can prove needing lemmas. All this will be basic tools to construct needing embedding theorems. But it is very

important to study solutions of elliptic type equations. The paper focused on the concepts and skills that are now a fundamental part of a regular higher mathematics schools.

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Pedagogical sciences

THE INEXTRICABLE CONNECTION OF VERBAL TECHNIQUES IN THE TEACHING OF THE PRIMARY CLASS "NATURAL SCIENCES"

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Abstract

The article describes the specific possibilities of oral methods in teaching primary school Natural Sciences on the example of Natural Sciences.

Keywords: natural science, methodology, verbal method, story, explanation, introductory conversation.

When teaching primary school "Natural Sciences", there are all kinds of educational techniques that provide a wide opportunity to master students ' knowledge without inextricable connection with each other.

The main form of teaching is a lesson, which, through teaching "Natural Sciences", develops in the minds of students concepts about nature, worldview, thinking, practical skills.

The teaching method is understood as the interconnected activities of the teacher and students, in the process of which knowledge, learning and skills are mastered by students, their perception skills develop, a view of the world is formed¹.

The methods of teaching natural sciences are divided into three main groups.

Verbal techniques - teacher's verbal statement of material, conversation, work with a book;

Visual techniques - demonstration (show), independent observations, excursions;

Practical techniques-oral and written exercises, graphic (drawing) and laboratory work².

Oral methods of teaching Natural Sciences³:

The story - is the leading method of giving knowledge to students, the Living Word of the teacher is the story. It harmonizes with reading reading books, displaying objects, objects and phenomena, using technical means of teaching, putting questions in front of students, reading fiction, literature, etc. The story depends on the personality of the teacher, so it retains a huge range of opportunities for spiritual influence on students..

The author of the descriptive story, Khisiya and Ishila Baendira. A story about the teacher of sharp observations of kilgan holda Kyrgyzstan each method and a single logical method stillari (analysis, review, generalization) kyzyuvchilarga kyzylgan Kyrgyzstan beradi.

During the conversation, issues related to compliance with regulatory legal acts, negotiations, negotiations were discussed.

Telling is such a type of statement in which specific events, events, processes or actions are told fluently. The story is about a witness (traveler, young naturalist, traveler, participant in a discovery, etc.).) is conducted on behalf of.

Description-The author is used in the consistent statement of the objects and phenomena of being (minerals, features of the flora and fauna, the climate of one or another natural zone).

Characterization is a kind (one view) of definition, which consists in listing the signs and characteristics of a body (thing) or phenomenon (characteristic of mountains, rivers, natural zones).

An explanation is a type of statement in which new concepts, terms are revealed, a connection of causes and consequences, subordination is established, that is, the logical nature of this or that phenomenon (for example, why there is a long night and a short day in the tundra, why the day and night,

¹ Ўша манба 151 бет

² Р.Малонова, Н.Рахманқулова, К.Матназарова М.Ширинов, С.Хафизов Умумий педагогика. Дарслик

[&]quot;Инновацион ривожланиш наширёти-матбаа уйи". Т.: 2020. 152 бет

³ Шарипова Д., Ходиева Д., Ширинов М. Табиатшунослик ва уни ўкитиш методикаси. Дарслик. - Т.: "Баркамол файз медиа", 2018. 255 бет

the seasons of the year alternate) is revealed. The explanation is used in all lessons, most often it is harmonized with discussion.

Discussion is a statement in which the consistent development of rules and proofs that lead readers to conclusions and wives is given. This type of story is used when it is necessary to analyze the phenomenon under study (for example, the influence of climate on changes in the flora and fauna, the properties of water, metal).

Application of exhibitionism (photo, table, technical means)⁴. The use of various means of exhibitionism throughout the story contributes to the formation of clear representations in readers, to support attention and interest in the material being studied, to its conscious assimilation. Schemes, tablisas, a picture of experiments, a whiteboard and a notebook (term) and conclusions facilitate the assimilation of educational material.

However, the use of the indicated didactic techniques is not enough for the maximum activation of the mental activity of students. A problematic statement will help to cope with this task, it will be based on the independent activities of students and will consist in solving the issues and problems posed by the teacher.

The method of conversation-conversation is more often used in natural science lessons than in a story. The essence of this method is that it allows the teacher to get to know students better, teaches them to think independently, helps team work (observe bodies of a lively and inanimate nature, work with a textbook, watch educational telephones, motion pictures, etc.).k.) attracts.

The interview is used in the study of new material, in the conclusion of observations or practical work, when conducting excursions, repeating the material studied, as well as in the laying and demonstration of experiments, when working with natural, illustrative and screen means, literature for textbook, extracurricular reading. The main goal of the conversation is that under the guidance of the teacher, the right ideas and concepts about the bodies and phenomena of nature are formed in the minds of students.

At the first stage of acquaintance with nature, the conversation will take shape in which the teacher will ask questions and answer students called to them. Then the conversation will become richer and wider. For example, by asking a question to a class based on the practical work carried out, the teacher receives different answers from the students to the same question itself; who thinks differently? Who says more clearly? it encourages them by addressing them with questions such as: As a result, the qualities necessary for the development of creative activity are gradually formed in students. In addition, the conversation allows you to correct the shortcomings in the work of students, opens up ample opportunities for the implementation of the rule of a one-on-one approach.

Depending on what place the conversation occupies in the learning process and what didactic goal it is intended for, the following are distinguished: introductory conversation, repetitive conversation, narrative conversation and closing types of conversation.

The introductory conversation is used before the study of a new section or a new topic. Its purpose is to identify or restore visions on the issue to be studied in the lesson. Chunonchi, standing at the entrance to the study of the topic "ornamental plants" in the 3rd grade, at the time of the introductory conversation, children should be asked these questions: give an example of ornamental plants? How do they grow? What ornamental plants do you know? What kind of technical plants do you know? only then does the teacher proceed to explain the new material.

A repetitive conversation helps to consolidate and interpret the material studied. It is held in the same lesson itself after the study of a new material or after the study of a topic or section and can take from 5 minutes to 20-25 minutes. Even during a repetitive conversation, the same visual weapon and handout in the study of the subject is used natural science material.

The narrative conversation implies the observation by the readers themselves of the bodies and phenomena of being. Students, directed by the teacher, get acquainted with new objects and phenomena for themselves. As a result of observations of objects of nature and experiments carried out in the corner of Living Nature, students form a research approach to the surrounding world, which is of great importance for the comprehensive development of personality.

The narrative conversation has a research character, since it is based on the observation of students' natural objects. An example would be to cover the progress of research on these questions:

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⁴ Шарипова Д., Ходиева Д., Ширинов М. Табиатшунослик ва уни ўкитиш методикаси. Дарслик. - Т.: "Баркамол файз медиа", 2018. 324 бет

1.Tell the plants with ildismeva? 2.Why is space left between plants with ildismeva? 3.Why do plants with ildismeva need to be yagana and plucked?

For example, a teacher grows cabbage seedlings and conducts work with students using research elements during their experience and control. Based on practical work after the experiments carried out, with the help of the interview, the following determines: 1. Why is the root tip wilted before transplanting a cabbage seedling? 2. For what purpose are cabbage seedlings planted at intervals of 70 cm? Thus, in the course of the narrative conversation, Research elements are introduced into the mental activity of students, differing from the introductory conversation.

Closing conversation. The closing conversation is held so that students can draw conclusions on the topic studied. For example, after studying the topic" granite", a closing conversation is held on the following questions: What topic did we get acquainted with? What news did we know? What structure does granite have? What does the color of granite depend on? What is included in the composition of granite? How is quartz in Granite determined? What is formed as a result of the erosion of granite?

A conversation based on the display of illustrative weapons. In natural science classes, pictures are often used. For example, when studying the topic" steppes", the teacher licked a photo called" steppe in spring " and a conversation is held on it.

Readers should answer these questions:

What is depicted in the photo? What plants do you see in the photo? (sand cocaine, Tulip, gulsapsar, saxaul). Why are there few plants in the steppe? Why are there no tall trees in the steppe? List the animals depicted in the photo (Eagle, snake, Vulture, steppe Crow, Aquilon, sand rabbit). What do these animals feed on?By analyzing the photo on auxiliary questions, students receive new information, since the teacher complements, explains and identifies the answers of the students. Conversation based on the article of the textbook read. The purpose of the conversation is to determine whether this or that natural phenomenon is correctly understood by children, to consolidate and systematize new knowledge obtained from reading a natural science article.

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THE USE OF VARIOUS TECHNICAL MEANS IN EXTRACURRICULAR MUSICAL, CULTURAL, EDUCATIONAL ACTIVITIES

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СЫНЫПТАН ТЫС МУЗЫКАЛЫҚ-МӘДЕНИ, ТӘРБИЕЛІК ІС-ШАРАЛАРДА ТҮРЛІ ТЕХНИКАЛЫҚ-АҚПАРАТТЫҚ ҚҰРАЛДАРДЫҢ ҚОЛДАНЫЛУЫ

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Abstract

This article states and proves that since the music lesson is an art lesson and conducting extracurricular musical, cultural, educational activities with the help of technical means, the level and quality of the lesson and educational activities on various topics will be increased. At present, many general education schools, art schools, and children's studios lack technical equipment. This prevents music lessons and many extracurricular activities from taking place at their level. Therefore, it is believed that teachers and persons responsible for activities should be equipped with the necessary technical means with the help of the head of the school and institution.

Аннотация

Бұл мақалада музыка сабағы өнер сабағы болғандықтан және сыныптан тыс музыкалық-мәдени, тәрбиелік іс-әрекеттерді техникалық құралдардың көмегімен өткізу, сабақтың және түрлі тақырыптағы тәрбиелік іс-шаралардың деңгейі мен сапасы арттыратындығы келтіріліп, дәлелденген. Қазіргі кезде көптеген жалпы орта білім беретін мектептерде, өнер мектептерінде, балалар студиясында болсын техникалык құралдардың жетіспеушілігін көруге болады. Бұл музыка сабағын, сыныптан тыс көптеген тәрбиелік іс-шаралардың өз деңгейінде өтуіне кедергі жасайды. Сондықтан мұғалімдер мен іс-шараларға жауапты тұлғалар мектеп пен мекеме басшысының көмегі арқылы, талапқа сай техникалық құралдармен қарулануы қажет екендігі қарастырылады.

Keywords: Innovations, education, children, programs, computer, sound, video recording, equipment,

Кілт сөздер: Инновация, оқыту, балалар, бағдарламалар, компьютер, дыбыс, бейне жазу, аппаратура.

«Қазақстан 2030» стратегиялық бағдарламасы приоритетінің бірі ұлттық білім моделін қалыптастыру тенденциясымен және Қазақстандағы білім беру реформаларының жалпы мақсаты білім беру жүйесін жаңа әлеуметтік-экономикалық ортаға бейімдеу болып табылады. [1]. Қазір бүкіл әлемде индустриялық қоғамнан интерактивті қатынас жасауға оны жүзеге асыратын техникалық мүмкіндіктерді дамытып отыра алатын информациялық қоғамға, тасымалдау, тарату және пайдалану қызметтерін атқаратын жаңа қоғамға көшу процесі

жүріп жатыр. Бүгінгі күні инновациялық әдістермен оқытуды қолдану арқылы оқушының ойлау қабілетін арттырып, ізденушілігін дамытып, құзыреттілігін қалыптастыру, тарихи объективизимді ұстана отырып шынайы дерек көздерінен мәліметтерді жинақтау ең негізгі мақсат болып айқындалады.

Қазіргі таңда жас буынға оқу-білім, тәрбие беру саласында, оқудың инновациялық жолдарын енгізіп, пәндік сабақтарды бүгінгі күн талаптарына сай өткізудің қажеттігі туындайды. Мектептегі музыкалық-эстетикалық тәрбие беретін музыка сабағының, сыныптан тыс музыкалық-мәдени, тәрбиелік іс-шараларды дұрыс жүргізілуі үшін техникалық құралдарды қолдану бүгінгі күннің өзекті мәселелерінің бірі болып табылады.

Қазіргі уақытта компьютерлік технологияның даму деңгейі жаңа дәуірдің мультимедиялық, телекоммуникациялық мүмкіндіктері мен артықшылықтарын көрсететін, толыққанды сапалы, нақты алғышарттар болып табылады [2]. Компьютерлік технологиялардың жаңа заманғы әлем бізге өте үлкен көлемді есептерді шешуге мүмкіндік береді, аз уақыт ішінде ақпараттың өте үлкен санын өңдеуге көмектеседі.

Компьютер құрамдастардың даму жылдамдығы тек математикалық, графикалық есептерді шешіп қана қоймайды. Бүгінгі күні видео және аудио ақпаратты өңдеу және бейнероликтерді құру аса қиындыққа соқпайды.

Білім беруді ақпараттандандыру процесі пән мұғалімдеріне, әдіскерлерге, білім мекемелерін басқарушыларға жаңа ақпараттық технологияны өз қызметтеріне жан-жақты пайдалану саласына үлкен талап қояды. Ақпараттық —коммуникациялық технологияны бәсекеге қабілетті ұлттық білім беру жүйесін дамытуға және оның мүмкіндіктерін әлемдік білімдік ортаға енудегі сабақтастыққа қолдану негізгі мәнге ие болып отыр[3].

Ақпараттық технологияны пайдалану жөніндегі қызметтің мақсаты:

- оқушының шығармашылық әлеуметін дамыту; коммуникативтік әрекеттерге қабілетті болуды дамыту;
 - сараптамалық зерттеу қызметі дағдыларын дамыту; оқу қызметі мәдениетін дамыту;
- оқу-тәрбие үрдісінің барлық деңгейлерін қалыптастыру, оның тиімділігі мен сапасын арттыру;
- қазіргі қоғамның ақпараттануымен байланысты пайда болатын әлеуметтік тапсырысты өткізу.

Ақпараттық технологияны пайдаланудың мәні компьютерлік техниканың мүмкіндіктерін баланың жеке тұлғасын дамыту мәселесінің жанына топтасқан дидактикалық-әдістемелік проблемалық міндеттерді шешу болып табылады [4]. Сондай-ақ педагогтың компьютерлік сауаттылығы ақпараттық технологияны пайдаланудағы жеке тәжірибесін тұжырымдау есебінен сапалы түрде артады.

Интерактивті жүйе дербес компьютерді қолдану, бейнемагнитофон, бейне дискілі құрал, теледидар кешендері негізінде құрылады, білім алушы мен техника құралдары арасында екі жақты қарым-қатынас орнайды, көрнекілік пен кері байланысты қамтамасыз етеді. Олай болса, оқытудың жаңа ақпараттық технологияларын техникалық және адам ресурстарын және олардың өзара әрекеттесуін ескере отырып, білім беру формаларын оңтайландыру үшін рецептивті немесе интерактивті түрдегі электронды оқытуды жасау және жүзеге асырудың жүйелі әдісі деп санауға болады.

Қазіргі кезде қолданылатын техникалық құралдарға: фото, кино, бейне аппаратура, магнитофон, магниттік жазу, грамжазба, диапроектор, диафильм, синтезатор, компьютерлік техника, ксерокөшірме т.б. жатады.

- 1. Фотоаппаратура арқылы көрнекілік құралдар музыкалық диафильмдер, фотосуреттер (үлкен, кіші ауқымды) өткізілетін музыкалық іс-шараларды фото бейнеге түсіріп алуға мүмкіндік туындайды. Ноталық материалдарын (ән, шығарма, күй т.б.), композиторлардың, белгілі музыкалық білім беру мен өнер тұлғаларының портреттерін, жалпы сабаққа, түрлі іс-шараларға қажетті кез-келген құжаттарды, оқу-әдістемелік материалдарды көбейтіп тарату, үлкейту операцияларын орындау үшін ксерокөшірме аппараттары үлкен көмек көрсете алады;
- 2. Проекциялық аппарат- проектор арқылы анық бейнелерді, диафильм немесе слайд арқылы сабақ, түрлі іс-шаралар кезеңі, арнайы жабдықталған кабинетте көрсетіледі. Мысалы: сазгер өмірі туралы диафильм, қосымша магниттік жазу, музыка, текст (түсіндірме) қолданса сабақ жоғары деңгейде өтетін болады;

- 3. Кино және бейнефильмдер, теледидар және бейнемагнитофон, кинопроектор. Бұл аппараттар арқылы сабаққа немесе іс-шараларға қатысты үзінділерді, сазгер өмірбаяны туралы түрлі документалды фильм (концерт, опера, балет т.б.), өткізілген музыкалық ісшараларды қөрсетуге болады. Сол сияқты музыкалық аспаптардың түрлері (ішекті, ұрмалы, үрмелі, ыспалы) туралы, олардың шығу тарихын, сол аспаптың дыбысталуын естіртіп бейнежазбалар арқылы көрсетілсе оқушылардың да, көрермендердің де тіпті қатасып отырған ата-аналардың тақырыпты тереңірек түсінуіне ықпалын тигізеді.
- 4. Бейнекамера арқылы ән орындау, көркем өнер үйірме жұмысын, сахна қойылымдарын түсіріп балаларға көрсету арқылы оқушы жұмысын қарап, талдап ойларын білуге пайдасы өте зор. Әсіресе вокалды-хор жұмыстарында кездесетін қиыншылықтарды экран арқылы немесе аудиожазба арқылы көрсетілсе, мұғалімнің көптеген жұмысын жүргізу жеңілдетіледі;
- 5. Теледидарда көрсетілетін оқу бағдарламаларының тақырыбына қарай үй жұмысын орындатуға болады. Яғни үйде көріп келу, сабақты немесе түрлі тәрбиелік іс-шараларды, байқауларды мысалы: «Балдаурен», «Айгөлек», «Бала дауысы», «Жас өрен», т.б. көптеген балаларға арналған фильмдерді «Алпамыс мектепке барады», «Менің атым, Қожа», «Көксерек», «Адамдар арасындағы бөлтірік», «Дети небес», «Рай океана», «Один дома» т.б. талдау тәрбиелі, инабатты, шыншыл, жанашыр болып өсуіне, өнерге деген сүйіспеншілігі артып, өзгенің қайғысын түсінетін, өзгенің қуанышына қуана білетін, қиындықты жеңуге, деген құштарлығы оянады;
- 6. Магнитофон, магнитолла (баспатабақ) сабақ кезеңінде қолдануға ыңғайлы аппарат болып табылады. Тақырыптарға байланысты материалды алдын-ала магнитофон, дыбыс жазу кассетасына қондыру, мұғаліммен жекшінің уақытын үнемдеуге үлкен септігін тигізеді. Сол сияқты ән, музыкалық шығармалар үйрету кезеңінде әр дауыстың, әр партияның, әр аспаптың орындалуын жазбада тыңдатса оқушы алдына қойылған талаптарды дұрыс орындауына мүмкіндік туады. Хор үйірмелері жұмысына да осы тәсілді пайдалануға болады. Қазіргі СD компакт дискілер де сабаққа қолдану өте тиімді. Біріншіден таза, сапалы жазу, екіншіден жаңа технология;
- 7. Қазіргі музыка сабақтарында, түрлі іс-шараларды өткізуде синтезаторды қолданылады. Бұл электронды аспапта орындаудың жаңа тиімділігі, техникалық өзгешелік, дыбыс тембрінің көптігі, әр түрлі функцияларды, яғни музыкалык жанр, стильді көрсете алуға болатындығы, диапозон ұзақтығы жұмыс жүргізуді жеңілдетіп және жаңа технологияны жан-жақты енгізудің керектігі осыны дәлелдейді. Синтезатор банкі дәстүрлі және этикалық аспаптар дауысын бере алады. Мектеп балалар театрын музыкамен безендіру осы синтезатор көмегімен іске асырылады. Балалар шығармашылығын дамытуға да үлкен әсер етеді. Бұл аспапта көне ән, би, музыкалық шығармаларды орындау үшін әртүрлі музыкалық аспаптардың дауысын бір уақытта дыбыстай алу немесе музыка мұғалімі мен жетекшінің жеке орындап көрсетуі оқушы қызығушылығын арттыратынын мектеп тәжірибесі дәлелдеп отыр. Сонымен қоса түрлі музыкалық аспаптарда меңгеріп, ойнау музыка мұғалімінен сазгерлік, дыбыс режиссерлік біліктілікті талап ететіндігін айтып кету болады;
- 8. Қазіргі жаңа ақпараттық технологиялық құралдарды да сабақ кезеңінде қолдану музыка сабағын өткізудің жаңа әдісіне жатқызуға болады. Компьютер сыныбы арқылы балалармен музыка әлеміне саяхатқа шығу, музыка өнері туралы ақпарат табу. Интернет жүйесімен жұмыс жаңа заман талабының бірі болып табылады. Түрлі компьютерлік музыкалық бағдарламалар, электронды оқулықтарды да сабақ кезеңіне колдану бүгінгі мұғалімге керекті құрал;
- 9. Түрлі-түсті жарық-музыка кұралдарын қолдануға болады. Ол әр мұғалімнің шығармашылық жұмысына, ізденісіне байланысты, бұл кұралдарды сауаты пайдалану, кез-келген іс-шара болсын, сабақ болсын сапасын арттыруға септігін тигізеді. Көпшілік музыкалық-тәрбиелік жұмыс және үйірмелік жұмыстардың барлығы осы құралдарды қолданудың арқасында талапқа сай өз деңгейінде өте алады.

Өткізілетін іс-шаралардың сценарийлерін дайындау жұмыстары:

Музыкалық тәрбиелік іс-шаралардың түрі өте көп: музыкалық концерттер, лекция концерттер, кездесулер, музыкалық байқаулар, дискотекалар, апталықтар. Бұл мәдени ісшараларды өткізу үшін сценарийлер немесе өткізу жоспарлары жасалынады. Өтетін іс-шараға жауапты сынып оқушылары мен сынып жетекшісі. Жоспарын жасап дайын болғаннан кейін, уақыттары келген кезде мектептің акт залында көрсетеді. Бұл мектеп техникалық аппараттарына жауап беретін мұғалім арқылы, іс -шараға қандай техникалық құралдар

керектігін анықтап, кеңеседі. Көбінесе өткізілетін іс-шараларға: магнитофон, микрофон қондырғылары, синтезаторлар, әртүрлі жарықшығаратын музыкалық аппараттарды, пайдалануға болады. Төмендегі кестеден өткізілетін іс-шаралар және керекті техникалық құралдартуралы білуге болады.

Жалпы білім беретін мектептердегі сыныптан тыс музыкалық тәрбиелік жұмыстардың бір формасына жататын түрі көпшілік музыкалық тәрбиелік жұмыстар болып табылады [5]. Жұмыстың аты көрсетіп тұрғандай бұл жұмыстар мектеп мұғалімдері ұжымымен, оқушылармен, ата-ана ұжымымен, сол сияқты түрлі қоғамдық ұжымдармен бірлесе отыра мектеп оқушысын тәрбиелеуге бағытталады.

Жүргізілетін жұмыстың түрлі формасына қарай көпшілік музыкалық тәрбиелік жұмыстар мектеп оқушысының сабақтан тыс бос уақытында музыка арқылы тынығуды ұйымдастырады. Мектептегі жүргізілетін көпшілік музыкалық тынығу тәрбиелік жұмыстарды ұйымдастырушы пән мұғалімі және мектеп ұжымы шығармашылық бірлестікпен жүргізулері қажет. Мектеп тәрбиелік жұмыстарының жыл бойғы бекітілген жоспары арқылы еліміздің тарихи даталы күндеріне арналған арнайы көпшілік тәрбиелік музыкалық жұмыстар ұйымдастырылады. Бұл жұмыстар мектеп оқушысының даму жас ерекшеліктеріне қарай топталып отырып жоспарланады.

Қазіргі кезеңдегі өткізілетін жалпы тәрбиелік даталы күндер бойынша мына мерекелер аталып өтіледі: «Конституция күні», «Білім күні», «Ұстаздар күні», «Республика күні», «Тәуелсіздік күні», «Жаңа жыл», «8 наурыз», «Наурыз», «Қазақстан халықтарыныңынтымақ күні 1 мамыр», «9 мамыр Жеңіс күні», «Соңғы қоңырау» т.б. Барлық музыкалық көпшілік тәрбиелік жұмыстардың алдын-алажоспар, сценарий құрылады. Оқушыларға арнайы тапсырмалар беріледі. Ата-ана ұжымын да іс-шара жүргізуге жұмылдырады.

Мектеппен ата-ана ұжымы байланысы жақсы деңгейде қалыптасқан [6]. Балаларының жан-жақты дамуына көмек көрсету мақсатында көптеген ата- аналар мектеп ұстаздар ұжымымен бірлесе отырып, оқушыларға арналған түрлі формадағы тәрбиелік жұмыстарды жүргізуге атсалысады. Көпшілік музыкалық тынығу тәрбиелік жұмыстары балалардың білімділігіне байланысты. Арнайы дағдыны талап етпесе де, олардың музыканы білуге деген ықыласы болуы керек. Бұл салаға дәріс-концерт, көпшілікпен бірге театрға, музыкалық киноларға бару, музыкалық кеш ұйымдастыру, жүргізу, карнавал, конкурс, байқаулар, дискотекалық мектеп кешін өткізу кіреді.

Мектеп кешін әзірлеудің маңызды да қиын сәті - сценарий құру. Онда мереке барысында болатын көріністер, тақырыпты ашатын фрагменттер, кештің бір бөлімінен екіншісіне ауысуы, оған қатысушылардың белсенділігін арттыру әдістері, яғни байқаулар, ойындар, тосын сәттер, мереке өтетін орынды безендіру мен жабдықтау рет-ретімен баяндалады. Сценарийде тек тақырыпқа сай материал берумен шектелмей, мерекенің идеясын ашып көрсету мақсат. Оның мазмұндылығы, көркемділігі автордың шеберлігіне, тәжірибесіне байланысты болғанымен, сценарийге қойылатын берік логика жеке эпизодтардың аяқталып тұруы, кештің шарықтау шегімен шешімі секілді негізгі талаптар сақталуы тиіс.

Музыкалық-тәрбиелік мәдени іс-шаралар	Қолданылатын техникалық құралдар
музыкалық кештер лекция	магнитофон
концерттер кездесулер	микрофон
музыкалық байқаулар	синтезатор
апталықтар жалпы концерттер	светомузыка (музыкалық
	турлі-түсті жарықтар)

Сыныптан тыс жүргізілетін музыкалық тәрбиелік жұмыстарды өміріміздегі болып жатқан түрлі жағдайларға байланысты жаңашыл бағытта ұйымдастырып, жүргізуге де болады, бұл жерде тағы да мектеп музыка пәні мұғалімінің ұстаздық, шығармашылық, ізденімпаздық іскерлігіне байланысты екендігін атап айтуға болады. Мектептегі музыка пәнінің сапасын көтеру, талапқа сай өткізу, музыкалық тәрбие жүйесіндегі шешілуі тиіс кешенді мәселелердің бірі болып табылмақ.

Қорытынды. Музыка сабағы балалардың музыкалық мәдениетін, талғамын қалыптастырады жөне ойын тұжырымдай білугедағдыландырады. Өтілген сабаққа байланысты балалардың өмірден, музыкадан алған тәжірибелерін әрі қарай тереңдете түсуі, белсенділігін арттыру, жаңа ережелермен танысу, музыкалық іс-әрекеттердің барлық түрінде де алған білімдерін бекіту[7].

Жалпы, бұл жұмыста мектепте өтетін музыка сабағының мазмұны, мақсаты, мәні, сабаққа қойылатын талаптар туралы жазылды. Сол сияқты қазіргі кезеңдегі музыка сабақтарында қолданылатын техникалық құралдар, оларды пайдаланудың тиімді жолдары қарастырылды. Музыка пәнінің сапасын көтеру, қазіргі заманғы жаңа технологиялық ақпараттық құралдарды пайдалану, оқушылардың білім деңгейін жоғары сатыға көтереді. Музыка сабақтарын оқу үрдісі кезеңінде бір сарынды өткізбей, ғылым мен жаңа техника жаңалықтарының соңғы үлгілерін пайдаланып, өркениетті еліміздің болашағы жас буынды, өз дәуіріне сай тәрбиелеу, оқыту, білім беру ұстаз алдындағы ең бірінші міндет болып табылады.

Оқытудың ақпараттық технологиялары осы ақпараттық білім жүйесінің шегінде жүзеге асырылатын болғандықтан, осы білім технологиясына ақпараттық және бағдарламалық қолдаумен көрсететін құралдар бір ғана компьютермен, оған енгізілген бағдарламамен шектеліп қалмауы керек. Шын мәнінде бәрі керісінше, оқытудың ақпараттық технологияларының бағдарламалық құралдары және білім технологияларының өздері ақпараттық білім ортасына — ақпараттық білім жүйесінен бөлінген жүйешелер түрінде қосылады.

Бұл жұмыста қарастырған тақырыпқа байланысты, музыкалық тәрбие беру саласындағы өзекті мәселелердің бірі екендігін толығымен дәлелдейді. Музыка сабағын техникалық құралдардың көмегінсіз өткізу мүмкін емес. Сондықтан болашақтағы жас маман ретінде, өз сабақтарымды да заман талабына сай өткізу үшін, қолдағы бар мүмкіндікті пайдаланудың қажеттігі туындайтынды ғына көз жеткіздік. Жоғарғы оқу орнындағы оқу үрдісі кезеңінде және де педагогикалық тәжірибеден үйренген оқу әдістерін, оның жаңа түрлерін, озық тәжірибелі ұстаздардың еңбегін үйрену бүгінгі жоғары оқу бітіруші бстуденттердің нақты міндеттерінің бірі екендігі дәлелденіп отыр.

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Philological sciences

THE MAIN PROBLEMS OF POLYSEMY IN THE LANGUAGE

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Word in lexicology

In order to study a word in all its aspects, first of all, it is necessary to determine what it is, how it differs from all other units of the language.

One of the central problems of lexicology is the problem of separating the word from the vocabulary of the language as an independent unit. The form and content of the word are inextricably linked: if we do not pronounce or write it, we cannot understand it. When the pronunciation combinations of sounds are devoid of meaning, it cannot be understood.

An important feature of a word is its lexical and grammatical reference: all words belong to certain parts of speech and have a certain grammatical structure. Words are characterized by repeatability: we do not reconstruct them each time from the morphemes present in the language, we repeat them in the form in which they appear in speech. The most important feature of many words is their nominative, that is, objects, qualities, actions, etc. However, modal words and pronouns, which are auxiliary parts of speech, do not have this feature.

The most important feature of a word is that it carries meaning, that is, it is a sign. At the same time, it has two types of meaning - lexical and grammatical. The lexical meaning arises as a result of the connection of the word (more precisely, its root) with some subject or conceptual sphere, and the grammatical meaning arises as a result of the connection of the affixes that make it up with categories such as objects and events.

When talking about words, that is, lexical units, it is enough to say that one of the most important differences between a word and the previous linguistic level unit - a morpheme - is that each morpheme has only one type of meaning. The word is characterized by the presence of two types of meaning and their interaction. The next characteristic of a word as a linguistic unit is its phonetic arrangement according to the phonetic laws of the language. In most languages, one of the signs of the phonetic design of a word is that the word has only one primary stress, not two.

The word is also characterized by a grammatical formalization according to the laws of the given language and a mandatory lexical-grammatical reference (that is, it always has the characteristics of a certain part of speech). A word differs from a morpheme in terms of freedom of position. Morphemes in the word have rigidly fixed positions, they cannot be changed or rearranged.

The next characteristic of a word as a linguistic unit is its syntactic independence. In a language, a word can have several lexical meanings (each is called a lexico-semantic variant) and several grammatical forms. In speech, a specific word form is used each time, where, as a rule, only one lexical meaning is realized.

Lexical meaning of the word

Now let's move on to the most important feature of the word - its lexical meaning. As we have seen, the relationship between the signifier and the signified is only created as a result of "interference". It becomes the representative of the signified in the mind of the person - the signer. The word used causes not the appearance of the designated object itself, but the thought of this object, its description in the mind of the listener.

All objects and events of reality have their own names in the language. The words refer to real objects, our attitude towards them in the process of getting to know the surrounding world, and the concepts of these objects that arise in our minds. This connection (proportionality) of the word with the phenomena of reality is understood as a non-linguistic meaning, which, however, determines the character of the word as a unit of sign. A concept is a reflection of the general and main characteristics of reality phenomena, ideas about their properties in the minds of people.

Types of lexical meanings of words: Basic and figurative meanings of words - the basic meaning of a word is the meaning that is directly related to the phenomena of objective reality. The transferable

(indirect) meanings of words arise as a result of the transfer of a name from one reality event to another due to their similarity, characteristics, functions and generality.

Indirect meanings appear in words that are not directly related to the concept, but relate to it with various associations that are clear to a person. Figurative meanings can retain figurativeness: black thoughts, black betrayal. Such figurative meanings are fixed in the language: they are shown in dictionaries when interpreting a lexical unit.

However, the etymological analysis establishes ancient ties of the word with other words and allows to explain the origin of its meaning. For example, etymological analysis allows to determine the historical roots of the words fat, feast, window, cloud and establish their relationship with the words live, drink, eye, drag.

The polysemy of the word

The ability of words to have several meanings is called polysemy: An <u>old</u> friend is better than two new friends (old); We visited the <u>old</u> apartment (past).

Lexical system of the language: The vocabulary of any language is a system of interconnected units - lexemes (words). Within this system, groups of words are distinguished and combined according to different criteria. "Relationship" thematic group: mother, father, son, daughter, brother, sister, aunt, uncle. etc.

Synonyms (Greek: synonimos – same name) are words that differ in sound, but have the same or similar meaning: easy - simple. When defining the same events, objects, signs, actions, several synonyms that are related to each other form a synonymous series. Most of the synonyms differ from each other in some way:

The arrangement of synonyms often leads to gradation (lat. gradatio - gradual increase), so that each subsequent synonym strengthens (or weakens) the meaning of the previous one: smile, laugh. Antonym relations - relations of semantic opposition. Antonyms (Greek anti - against) - words of the same part of speech with opposite meaning are considered: truth - lie, speak - silence.

Opposite meanings can also develop within the same word. This word is an internal antonymy (antonymy of the meanings of polysemantic words) - enantioemia. For example, the verb "to lend" can mean "to borrow" or "to lend".

Homonyms (Greek homos - same, onyma - name) are words with the same form but different meanings.

The main problems of polysemy in the language

Each word in the language consists of a certain set of semantic features. Thanks to the dynamic characteristics of these signs, words become flexible in the communication process, depending on the purpose and task of the situation, speech conditions, one or another semantic sign is activated, becomes prominent, or, on the contrary, becomes passive, goes into the background, and thus, the corresponding semantic sign serves to express the appropriate meaning. This feature is the logical-linguistic basis of the phenomenon of polysemy in the language. The manifestation and development of polysemy requires syntagmatic conditions. The fact that the word is ambiguous due to the intervention of other forms in the environment of other language units attracts attention as one of the indicators of the systematicity of the lexicon. One of the factors determining the emergence and development of polysemy depends on the character of the meaning of the word and the breadth of its use. The essence of polysemy is that the name of an object or event is transferred to another object or event, and thus one word serves to name several things or events at the same time.

One way to avoid problems with ambiguity is to be aware of the source of polysemy. As we know, a word can have different shades of meaning. The main characteristic of the language is that it is not the product of only a few years or a certain period. The process of the creation of the language continues for centuries, undergoes a process of development, is gradually formed and enriched. Since its inception, language has served equally as a means of communication among the members of the society it serves. From this point of view, language can be considered a social process.

A word is the main language sign, a two-way unit of sound as a whole structure, or a unity of grammatical and lexical meaning in a graphic language. Polysemy is a linguistic universal that is considered characteristic of any language. The presence of polysemy in a language is a sign that the lexical units in that language are constantly in motion. The term polysemy is used in linguistics to indicate that the same word has several additional meanings based on the main meaning. This means that the word retains its original meaning, but also has additional meanings. The main aspect for the meaning of

the word is that it is understood by everyone in the same way. If the meaning of a word is not understood in the same way by all speakers of a language, such words fall out of use.

In the language, especially at its lexicological level, the semantics and meaning of the word are studied. That is, lexical semantics, which is one of the most complex aspects of a word as a vocabulary unit, is involved in the research.

Let's look at some homonymous lexical units in English:

back(n) – back

back (adv) – back side, far

back (v) - go back - to return etc.

He turned his back nervously. He turned away in annoyance.

There have been quite different approaches to the lexical meaning of the word in linguistics and various definitions have been given to it. Each meaningful unit in the language has certain semantic properties. These properties have a dynamic character and are realized in the process of communication, depending on the task and purpose of the situation, speech conditions, the semantic sign emerges prominently, or becomes passive and goes into the background, and thus, the corresponding semantic sign belongs to the expression of the corresponding meaning. This feature is the logical-linguistic basis of the phenomenon of polysemy in the language. The emergence and development of polysemy depends on syntagmatic conditions. The transformation of a word into a polysemous form in other language units is an indicator of its lexical systematicity.

The factors determining the formation and further development of polysemy depend on the character of the meaning of the word and the breadth of processing. The words included in some fields have the same shape, have the possibility of similar relationships, and help to expand the polysemy: a person's head, leg, hand; upper, lower village; the head and foot of the village. Identical means of expression (words) that name the same objects and events that exist outside the language cannot be considered necessarily synonymous, and their conceptual basis cannot be completely identified.

Whether the language form is the carrier of this or that content is regulated by the impulses received in the thinking process, certain logical-conceptual semantics in our thinking are potentially dispersed into some form, and one of these uncertainties is selected for specific speech conditions. In connecting individual words and expressions, the carriers of the content, which at first glance appear to be revealed by the intervention of the context, have a formal character, the communication value of this or that lexical unit is determined by the laws of thought, the proposition that the language sign is arbitrary is confirmed.

The accentuation of any of the words, carrying a communicative function, is revealed in certain speech conditions, and this revelation is perceived as a new content fact every time. In fact, the polysemanticity of this process-word, as we mentioned above, appears as a result of the multicomponentity of the concept. It seems that in this opinion, the fact that the word is a fact of language and speech, the diversity of its processing in nominative and communicative acts, and finally, the virtuality based on the multicomponentity of the meaning capacity of the word, have not been taken into account.

In addition, the processing of a word, especially a polysemantic word, in a certain syntactic environment, associating with various lexical and grammatical units determines its communicative value, brings the word from the syntactic sphere to the dynamic sphere and turns it into an element of a new mechanism. It should be noted that the tools that create connections between components in phrases and sentences are available in a wide range as formal grammatical indicators. This case also applies to phraseological units in our modern language.

Findinas

So, overall, the language constantly equips its vocabulary with new words, and this is mainly done through word correction. It is because of this that, unlike other language systems, transliteration more accurately and honestly reflects the changes taking place in the environment. The problem of polysemy in cognitive linguistics is considered one of the important and still needs to be researched issues. Polysemous words have an indispensable role in the expansion of the vocabulary of the language, and it is not an easy process for students to understand the close meanings of the word at the same level and quickly. As we know, polysemy is the phenomenon of one phonological form having several close meanings. Traditionally, research on polysemy has been carried out within the context of history and lexical semantics, with an interest only in the language itself, leaving out the cognitive factor. Today, polysemy has become one of the most important issues investigated by linguistics and cognitive sciences.

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It can be said that psycholinguists have also emphasized the importance of context for disambiguation. As a result of the research, it was concluded that polysemantic phenomena have always been an actual problem.

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INTERCULTURAL ASPECT OF ORAL BUSINESS COMMUNICATION

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МЕЖКУЛЬТУРНЫЙ АСПЕКТ УСТНОЙ ДЕЛОВОЙ КОММУНИКАЦИИ

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Abstract

In this article deals with the intercultural aspect of oral business communication. Here, first of all, the goal of developing communication skills and skills among representatives of different cultures is touched upon. Three types of intercultural relations are indicated and these types are analyzed one by one. The article also discusses the national and cultural specifics of business communication. It is a question of business communication, which has national and cultural specifics. It is noted that it is necessary to take into account the peculiarities of the culture of speech and the real behavior of representatives of different peoples. Ways to achieve a certain success are indicated, which are necessary for a general idea of the mentality of a foreign business partner.

Аннотация

В статье говорится о межкультурном аспекте устной деловой коммуникации. Здесь затрагивается, в первую очередь цель развития коммуникативных навыков и навыков у представителей разных культур. Указываются три типа межкультурных отношений и эти типы разбираются каждый по одному. В статье, также рассматриваются национально-культурная специфика делового общения. Говорится о деловом общении, имеющем национально-культурную специфику. Отмечается, что следует учитывать особенности культуры речи и реального поведения представителей разных народов. Указываются пути достижения определенного успеха, необходимого для общего представления о менталитете иностранного делового партнера.

Keywords: intercultural, aspect, specificity, mentality, people, business communication, culture, partner, nation, speech.

Ключевые слова: межкультурный, аспект, специфика, менталитет, народ, деловая коммуникация, культура, партнёр, нация, речь.

Межкультурные отношения и их виды. Сопротивление процессу культурной глобализации начинается от неприятия достижений культур до различных форм активной борьбы с их распространением и ассимиляцией. Такая необходимость привела к созданию новой области науки —

«Межкультурная коммуникация». Цель – развитие коммуникативных навыков и навыков у представителей разных культур. Тема «межкультурной коммуникации» родилась в США и развивалась из практических интересов американских дипломатов, политиков и бизнесменов.

Межкультурные отношения проявляются в трёх типах. Во-первых, это утилитарные отношения, которые требуют от культуры отказа от своей индивидуальности и добровольного подчинения другой культуре. Второй тип — непереносимость. Этот тип предполагает существование эгоцентричных культур, культур, замкнувшихся на себе и не желающих вступать во взаимоотношения с другими культурами. Третий тип отношений, учитывающий взаимное влияние культур. В это время разные культуры выступают равноправными субъектами по отношению друг к другу. Этот третий тип культурных отношений является наиболее прогрессивным, потому что он основан на следующих принципах:

- Каждая культура состоит из набора незаменимых и неповторимых ценностей. Благодаря этому каждый народ имеет возможность существовать в мире и взаимодействовать с другими народами;
- Все нации являются общими культурными наследниками человечества. Культурное своеобразие народов определяется и обогащается в результате культурных отношений с другими народами;
- Хотя каждая нация имеет право на защиту своей уникальности, она не может претендовать на право быть универсальной для других наций;
- По отдельности культурные особенности каждой нации не противоречат принципу единства общечеловеческих ценностей. Эти ценности являются ценностями, объединяющими общество и делающими его жизнедеятельность продуктивной и прогрессивной.

Национально-культурная специфика делового общения. Деловое общение имеет национально-культурную специфику. Поэтому следует учитывать особенности культуры речи и реального поведения представителей разных народов. Для достижения определенного успеха необходимо иметь хотя бы общее представление о менталитете иностранного делового партнера. Кроме того, для эффективного взаимодействия необходимо уметь извлекать пользу и использовать собственные национальные и культурные традиции в сфере делового общения.

Одной из главных особенностей международного делового этикета является различие в невербальном поведении. Международное общение требует осторожного использования невербальных жестов. Их можно интерпретировать таким образом, который не соответствует нашей интерпретации. Это может привести не только к непониманию поступающей информации, но и к нарушению этических правил и даже к оскорблениям.

Одной из главных особенностей международного делового этикета является различие в невербальном поведении. Международное общение требует осторожного использования невербальных жестов. Их можно интерпретировать таким образом, который не соответствует нашей интерпретации. Это может привести не только к непониманию поступающей информации, но и к нарушению этических правил и даже к оскорблениям.

В разных странах одни и те же жесты могут иметь совершенно разное значение. Говоря о себе, европейцы указывают на грудь, а японцы — на нос. В некоторых африканских странах смех является признаком удивления или даже смущения, а не признаком веселья. В Греции и Турции нельзя показывать официанту два пальца (обычно мы просим принести два кофе) — это жестокое оскорбление. Часто один и тот же жест имеет не только разное, но и противоположное значение. Так, американцы и представители многих других народов, указывающие большими пальцами и образующие из пальцев кольцо, говорят, что дела идут «хорошо». Тот же жест используется, когда речь идет о деньгах в Японии. Этот жест означает ноль во Франции. В Греции и на Сардинии один и тот же символ выражается как знак прогресса и развития.

Во Франции или Италии, если чью-то идею сочтут глупой, как правило, человек выразительно наклоняет голову и бьет себя по лбу, как бы говоря: «Ты сумасшедший». Тем же жестом испанец показывает свое удовлетворение. Если голландец хлопает себя по лбу и поднимает указательный палец, это показывает, что он ценит ваш интеллект. Французы выражают свои чувства в национальном стиле, у них много невербальных жестов. Когда француз чем-то доволен, он соединяет кончики трех пальцев, подносит их к губам, высоко поднимает подбородок и шлет в воздух тонкий поцелуй. Если он потирает указательным пальцем нижнюю часть пальца, это означает предупреждение: «Здесь что-то нечисто», «Будьте осторожны», «Этим людям нельзя доверять». Такую же информацию («Будьте осторожны, впереди опасность») передают итальянцы, постукивая пальцем по носу. На голландском языке такой сигнал переводится как «я пьян» или «ты пьян». В то же время для англичан это означает конспирацию и секретность. Весьма характерный жест — движение пальцем из стороны в сторону — в США и Италии это означает легкий упрёк, угрозу или приглашение выслушать изменение, а в Нидерландах — отказ. Если русские в деловых отношениях, не придают значения левой или правой стороне, то на Ближнем Востоке, нельзя левой рукой дарить кому-то подарок или деньги. Потому что левая рука считается нечистой у тех, кто принимает ислам, и может быть и оскорблением делового партнера.

Специалисты по коммуникациям отмечают, что они, обычно придают большое значение жестам, левой или правой руки. Поэтому, если ваш партнер жестикулирует левой рукой в

деловом общении, есть вероятность, что он недоверчиво или просто негативно относится к окружающим. Иногда даже небольшое изменение жеста может полностью изменить его значение. Этот жест в Англии делается двумя поднятыми пальцами пальцами, в виде (V): Если два поднятых пальца указывают на другого человека, это ужасное оскорбление. Если оно направлено на себя, то это первая буква слова («победа»). Этот жест используют как известные политики, так и их приветствующие.

Аспект невербального взаимодействия также имеет межкультурные характеристики. Например, личное пространство для общения, которое считается приемлемым для американца, составляет 60 см. Когда американец общается с испанцем или японцем, который старается быть как можно ближе к своему собеседнику, американец будет склонен к тому, что такой партнер ему не нравится. В этой ситуации латиноамериканцы воспримут американца как высокомерного и горделивого человека, и оба будут неправы по отношении друг к другу, поскольку во время разговора была нарушена привычная дистанция, которая может вызвать взаимное недовольство.

Люди разных культур отличаются друг от друга своим восприятием пространства. «Американец на службе должен быть в распоряжении других». Открытый офис — это своеобразный сигнал сотруднику, он говорит ему, что его хозяин на месте и, главное, ему нечего скрывать. Многие небоскребы в Нью-Йорке полностью сделаны из стекла, и их можно увидеть. Здесь все, от директора компании до мессенджера, всегда находятся во внимании. Это создает определенный стереотип поведения у сотрудников и ощущение, что они «делают что-то общее вместе». Традиционные формы немецкой организации рабочего места принципиально отличаются. В первую очередь важным условием для построек являются двойные или очень надежные двери. Если дверь открыта, это доказательство беспорядка для немцев.

Для американца отказ разговаривать с человеком, находящимся с ним в одной комнате, указывает на его негативное отношение к нему. В Англии это общепринятое правило. Американец, который хочет побыть один, идет в комнату и закрывает за собой дверь. У англичан же этот метод не используется для изоляции от людей.

В Англии американцы часто предпочитают говорить громко и использовать интонационную атаку, в то время как англичане предпочитают говорить как можно более спокойным тоном. В Америке этот «шёпот» их беспокоит. Если у европейцев нормальным считается приветствие руками, то индусам больше нравится, когда приветствие осуществляется жестом: два пальца соединены и направлены к подбородку, голова слегка наклонена. В Японии не принято рукопожатие. Наиболее важным элементом хорошего поведения является поклон. Для торжественного приветствия достаточно поклониться пятнадцать раз. Чтобы произвести хорошее впечатление, нужно поклониться сорок пять раз, семидесятикратный поклон выражается как особое уважение со стороны молящегося. Самого уважаемого человека приветствуют поклоном девяносто раз подряд.

Если европейские приветствия в целом короткие и сухие, то в исламских странах, например, в арабских странах приветствие превращается в целую процедуру, мужчины обнимаются, слегка касаются друг друга щеками, спиной и прижимаются друг к другу плечами.

Иногда эти культурные различия создают стереотипы: «шумные американцы», «снобы англичане», «агрессивные немцы», «кланяющиеся, корчащиеся японцы». Однако не следует забывать, что это не признаки национальной культуры, а разные способы делового общения, которые следует узнавать и понимать при деловом взаимодействии. Этот вид общения должен осуществляться посредством искусного переводчика.

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Psychological sciences

UDC 159.9 TRANSFORMATION OF MENTAL TRAUMA IN CHILDREN USING THE HIBUKI - THERAPY METHOD

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Abstract

The article examines the problem of transformation of mental trauma of children resulting from extreme situations. Hibuki - therapy is proposed as an adequate method of psychological assistance for children who have experienced a traumatic experience. The essence and role of Hibuki - therapy as a method of toy therapy in working with children who have experienced severe emotional stress are described. The process of formation of the therapeutic model of Hibuki - therapy is analyzed. It is emphasized that the author's model is based on the principle according to which children who actively resist experienced stressful situations can transform their fears and better adapt to life after any mental trauma.

Keywords: art therapy, toy therapy, transformation, emotional stress, Hibuki-therapy, doll therapy, mental trauma, therapeutic model.

Problem statement. Emotional states of children suffering natural disasters or local wars is a global problem of our time, characteristic for many countries and peoples, in particular Israel, Bosnia and Herzegovina, Syria, Japan. Currently, this problem has become particularly acute in Ukraine, whose residents are forced to endure difficult trials, including genocide, mass extermination of people, destruction of ordinary life and family ties.

During the war, children experience many different mental traumas. They witness murders, violence and destruction of houses. Together with their parents, they run away from their place and this travel is often dangerous and dramatic. That is why children should have a developed ability to overcome experienced stress. The stronger the stress, the more vital resources a child needs to overcome it.

As work experience shows, art therapy is an effective mean of working with children's mental injuries, which helps children build an adequate system of psychological protection (Valdes, 2005).

Art therapy as a special direction of psychotherapy was formed at the turn of the 19th and 20th centuries. The psychoanalytic theories of Z. Freud and K.G. Jung influenced the ideas of the 20th-century leading art therapists – M. Naumburg, E. Kramer, M. Liebmann and others – about the human psyche. In the second half of the 20th century, American researchers proposed the phenomenological approach (E. Husserl, M. Heidegger) for the organization of an art therapy process. Studies by such scientists as D. Waller, R. Wolf, T. Dalley, and E. Zierer are also of interest. Hanna Kwiatkovska had a great influence on the development of art therapy, she included it into diagnosis and treatment of families (Kopytyn, 2002).

Toy therapy is an art therapy method intended for an individual work. This method is based on a child's identification with a favorited character of a cartoon, a fairy tale or a favorited toy. A toy is used as an intermediate object, a mediator in the relationship between a child and an adult (psychologist, teacher, doctor). F. Zimbardo devoted one of his works to this method (Zinkevich-Evstigneeva, 2001).

Toy therapy is used to help in resolution of intra- and interpersonal (internal and external) conflicts; to improve social adaptation; in corrective work, to relieve children's fears, stuttering, behavioural disorders or emotional injuries; to prevent maladaptive behaviour of children and adolescents (correction of protesting, oppositional, demonstrative behaviour via acting out typical conflict situations from a child's life together with their parents or peers by using toys).

An Israeli clinical psychologist, Dr. Shai Hen-Gal, has conducted research and proposed toy therapy for children who survived war and natural disasters. Currently, various forms of art therapy exist and are being developed.

Analysis of recent research projects and publications. The studies related to mental traumas and their consequences were mainly carried out within medical, general psychological and medical-psychological research projects (Yu. Vashchenko, B. Karvasarskyi, R. Lazarus, K. Maksymenko, G. Mozgova, V. Myasishchev, etc.). Some studies clarified the specifics of stress experienced because of armed hostilities (S. Balashova, O. Boyko, M. Varii, G. Dubrovynskyi, A. Romanyshin, etc.).

Post-traumatic stress disorders were studied mainly from the perspective of the psychology of an individual's emotional sphere of (Yu. Aleksandrovsky, F. Vasylyuk, T. Kyrylenko, T. Tytarenko, O. Sannikova, O. Chebykin, etc.). The following factors influencing the occurrence of post-traumatic mental disorders were examined in different works: the peculiarities of reactions to stressful events (H. Selye, T. Holmes), the specifics of a personal profile (F. Alexander, H.F. Dunbar), some personal traits (O. Zhuzzhanov, V. Symanenkov, O. Telnova), types of social-psychological maladaptation (T. Aivazyan, Yu. Gubachov, N. Zavatska, etc.). The studies carried out by V. Abramov, O. Gavrilov, K. Maksimenko, N. Maksimova, G. Mozgova, K. Ostrovskaya, L. Shestopalova, L. Yuryeva revealed the main studying directions and problems of an individual's post-traumatic stress disorders – medical and psychological, social-psychological, psychological-pedagogical.

The article purpose is to substantiate theoretically the essence of Hibuki-therapy as a method of toy therapy and to reveal its assistance in overcoming children's mental trauma.

The study objectives are:

- 1. To analyse the concept of mental trauma and its impact on a child's personality.
- 2. To analyse theories of mental trauma
- 3. To substantiate the therapeutic model of Hibuki-therapy and discuss how it supports the rehabilitation of children's mental health.

Research methods. To achieve the study goal, the following theoretical methods were used: analysis, synthesis, generalization, analogy in order to formulate the main scientific problem of the study and to determine its methodological foundations.

The main research material. The problem of mental traumatization in childhood remains actual for many decades, it is studied because of the demands of psychological theory and practice, since human life includes many traumatic experiences. Difficult life situations accompany an individual even during seemingly the happiest period of his/her life - childhood. The cases of traumatic experiences can be physical abuse, separation from significant others or their loss, emotional coldness on parents, adverse life events.

The representatives of various psychological theories point to the pathogenic influence of mental trauma on the further development of a child's personality and psyche.

"Psychological trauma" means a life event that affects significant aspects of an individual's existence and leads to deep psychological experiences. A preschool-age child is unable to overcome independently a psychological trauma developed a result of a stress reaction, so, without an external help, it leads to severe mental breakdowns in the most cases (Valdes, 2005).

In the modern scientific works, mental trauma is also defined as a state of intense fear experienced by a person under a sudden, potentially life-threatening event that exceeds his/her capabilities and that, therefore, he/she is unable to control or react effectively (Levine, 1998; Zettl & Josephs, 2001).

A mental shock is a threat to life and imprints deeply in human consciousness. Negative manifestations of a traumatic impact may occur not immediately, but after a long time or even decades later. Many researchers examined the influence of a past psychological trauma on an adult's personality (Mendelevich, 2002).

The concept of mental trauma was introduced by the German neurologist A. Eulenburg in 1878. The history of the "mental trauma" concept goes back to the early works of Z. Freud and pre-Freudian works of J. M. Charcot and J. Breyer. The most comprehensive study of this problem was carried out within the psychoanalytic approach (Thoma H., Kachele H., 1996).

The concept of "trauma" was borrowed by Z. Freud from medicine and literally translated from Greek means "wound", "damage", "result of violence". Borrowing this concept, psychoanalysis transferred it to the psychological level (Mendelevych, 1995).

Z. Freud created the first psychoanalytic theory of trauma, where this phenomenon was considered as an affect deeply rooted in the unconscious and having a pathogenic effect on the human psyche that was the basis of neurotic disorders. He saw the source of trauma not in external events, but in the psyche itself, in the splitting of the "Ego", which led to traumatic anxiety based on unconscious fantasies. According to Z. Freud, unpleasant painful experiences were repressed, while the affects associated with

them continued to develop and led to attempts to put an end to unbearable torment and, as a result, to neurotic disorders. The mechanism that triggers neurotic disorders was external trauma and the internal psychological shock that accompanied it.

Z. Freud's ideas influenced new approaches to mental trauma. The idea on fixation on a trauma, which was studied by his students S. Ferenczi and G. Simmel, became a key moment in the modern treatment of post-traumatic stress disorder (PTSD) (Thoma H., Kachele H., 1996).

Mental traumas were also studied in analytical psychology, founded by K.G. Jung. From his point of view, disturbances in "Ego" functioning were caused not only by a sexual trauma, but by all tragedies, all misfortunes of human life, each of which, in its own way, was unique (Jung, 1995).

K.G. Jung no less than Z. Freud tried to find a universal complex behind neurotic disorders, but his own research led him to understanding the multiplicity of traumas, the idea on many different individual stories and fantasies about trauma. K.G. Jung believed that mental trauma always disturbed affectivity and this disturbance went on throughout life.

Mental trauma is also examined within the ideas of modern psychoanalysis, in particular, in the theory of object relations, which includes a fairly wide theoretical range of different schools and directions, but with one common point: they believe that relationship with an object plays the main role in a child's mental life.

The foundation for this new psychoanalytic direction was the theory of hospitalism (R. Spitz) and John Bowlby's attachment theory. Studying deprived children, the scientists came to the conclusion that the absence of a mother led to irreversible consequences for their development: a lost object of love was a mechanism triggering psychosomatic diseases, so that children became more vulnerable to the influence of life stresses, their biological regulatory processes were destroyed (Thoma H., Kachele H., 1996).

The modern theoretical concept of the therapeutic model for trauma (M. Murray) is based on the psychoanalytic tradition (Murray, 2004). The main provisions of this theory are presented in the declaration of vital needs, significant for a child's development, namely, the need for safety, security, stability and permanence. Their satisfaction contributes to the formation of a "natural child" who is able to understand and express his/her feelings due to existing abilities and aptitudes. Mental injuries, deprivation and violence cause him/her unbearable mental pain, so by growing up, he/she tries to protect him/herself by suppressing painful feelings via pain relief (using food, alcohol, tobacco, drugs, etc.) and techniques for distraction (such as relationships with other people, work or computer overuse, etc.). These protective mechanisms provide temporary anaesthesia to reduce the mental trauma impact. Over time, this way of pain avoiding turns into addictive behaviour. Suppressed painful feelings and defence mechanisms contribute to a powerful potential for aggression. In this way, a "natural child" is suppressed and a person loses the ability to perceive life, enjoy it and find satisfaction.

The theory of mental trauma was also developed in the context of stress theory (Selye H.) (Selye H., 1992). The scientist considered mental trauma as a special form of stress reaction. According to his concept, traumatic stress occurs when a stressful factor is intense, long-lasting and, overloading a person's capabilities, leads to physiological and psychological traumatization. In this case, we are talking about a traumatic event, which in terms of strength and duration goes beyond the existing experience and regulatory capabilities of a child, and can cause clinical forms of stress, usually associated with post-traumatic stress disorder.

An interesting theory was proposed by the well-known American scientist and P. Levine (Levine, 1997), who believed that mental trauma could be caused by events such as war, abuse, including emotional, physical and sexual violence, deprivation, accidents or natural and man-made disasters. His approach to understanding trauma and post-traumatic stress disorders can be classified as integrative, as the author widely used developments in the humanities and natural sciences, relied on knowledge in the field of biology, neurophysiology, neuropsychology and immunology.

So, we have examined different scientific approaches to understanding mental trauma. There are also various methods of psychotherapeutic influence on children and adults to correct it.

A toy is used for mental trauma correction to help establish an emotional contact, remove emotional tension, develop mental processes, expand the worldview on the surrounding world and prevent maladaptive behaviour. A toy encourages a child to play, while a psychologist uses the therapeutic influence of games to help adults or children overcome psychological and social difficulties that hinder their personal and emotional development.

The psychological corrective effect of games for children is achieved due to an established positive emotional contact between children and adults. The game corrects negative emotions, fears, self-doubt, expands children's communicative skills and increases the range of actions with objects available to children. Toy therapy means interactions of an adult with a child on the latter's own terms, giving him/her an opportunity to freely express him/herself with the simultaneous acceptance of his/her feelings. Today, the scope of toy therapy has expanded significantly.

Playing is also the main method for work with children from 2 to 12 years old, due to their agelimited cognitive development and poor ability to verbalize their thoughts and feelings. Games is an integral part of children's lives; they help learn social rules and establish relationships with the surrounding people. This method is effective if a client manages to play freely and with joy.

Z. Freud, describing children's games (the story of Hans, a boy, etc.), pointed out that the child turns what he experienced passively into active play. In the 20s of the last century, M. Klein first began to use toys in the psychoanalysis of children. She considered children's games to be an analogue of free associations that open access to unconscious material (Thoma H., Kachele H., 1996).

Playing is the only activity where children are free from coercion and pressure from a hostile environment. And therefore, children obtain more opportunities to express unconscious drives, feelings and experiences, which cannot be accepted and understood in the real relations of children with the world. M. Klein believed that almost any playful action of a child had a certain symbolic meaning, expressing the child's conflicts and repressed urges. This symbolic meaning must be interpreted by a therapist and brought to the child's consciousness.

Games were firstly used by A. Freud in her work with children survived the bombing of London during the Second World War. If a child had an opportunity to express his/her experiences in a game, he/she was freed from fear and this experience did not develop into a psychological trauma (Freud, 1997).

In the book "Children and the War", A. Freud vividly described the differences in the ways how adults and children expressed their reactions to the bombing of London. After a raid, adults talked again and again about the horror they experienced. Children who experienced the same almost never talked about it. Their reactions to what they experienced were expressed in the game. Children built houses out of cubes and "dropped bombs" on them. The toy buildings were in "fire", sirens sounded. An "ambulance" took the killed and wounded to hospitals. Such games lasted several weeks. A. Freud discovered that games were an important factor in establishing emotional contacts with children as they helped children expressed themselves freely.

Following Z. Freud, T. Hug-Hellmuth was a strong advocate for the use of play in child psychoanalysis, and she offered toys to children with whom she conducted play therapy so that children could express themselves. Chronologically, her work precedes the work of A. Freud and M. Klein, and she did not formulate a certain approach and used play materials only with children aged 6 and older. Nevertheless, she drew attention to how difficult it was to apply the methods used in therapy with adults to work with children.

In 2006, an Israeli program (using a toy) was created to help children after the Second Lebanon War. Later, in 2011, it was used to work with Japanese children (to reduce the impact of trauma from the tsunami that hit Japan).

This program is called "Hibuki", which means "hugs" in Hebrew. The central "person" of the program is a soft plush dog with a sad face and long paws - a toy that "came to life", very cute, who hugs children and asks them to tell about their fears and problems. In Japan, along with the Israeli program, Japanese doll therapy was also used.

The program was designed specifically for post-traumatic psychological recovery by the American-Jewish Joint Distribution Committee ("Joint") in cooperation with the Israeli Ministry of Education, the Psychological Counselling Service and the Faculty of Psychology of Tel Aviv University.

"Joint" experts emphasize that the experience accumulated in Israel about acting in emergency situations and after them in order to overcome stress and injuries is quite rich and can really help in other countries as well.

The work of these Israeli specialists in countries such as Haiti and South Asia has shown that treating of trauma, especially for children affected by war or natural disaster, is a vital step in their recovery.

The idea to create the first soft therapeutic toy — Huggy-Puppy (Hibuki, translated into Hebrew) belongs to the Israeli doctor Shai Hen-Gal. The aim of intervention (a short-term intervention involving

one or two meetings with a child) is to encourage children to care for Hibuki they were given. Research by Shai Heng-Gal and his colleagues confirmed the effects of this intervention, which requires minimal resources.

According to Dr. Heng-Gal, the therapeutic effect of his method is that children feel support from Hibuki. An adult gives a child this toy dog and says that the child should take care of it. If the dog gets scared at night, the child should help it fall asleep. It is necessary to calm it down and take it to a kindergarten or school. Children take on an active role that promotes self-soothing. Instead of focusing on their own anxieties, they shift their focus to caring for their new friend.

As Dr. Hyun-Gal has noted, children who received this toy suffer less from anxiety and depression. The more they care about Hibuki, the better they feel. The therapy dog has amazing healing power for children who have experienced severe mental trauma.

The Israeli psychologist was motivated to choose the described intervention by the analysis of the literature, which suggested that responsibility for caring for others and encouraging active overcoming of difficulties during stressful periods expanded people's capabilities and made them less vulnerable and susceptible to stressful situations. From the point of view of child development, this game has also an important developmental function.

The literature about toy therapy suggests that children are more likely to project their feelings and anxieties onto toy figures (especially animals) in order to identify with these feelings and regulate these emotions while caring for the toy figures.

Another perspective of the study refers to the literature on attention, anxiety and stress reactions. It has been suggested that anxiety disorders (in both adults and children) result from attentional biases and are associated with fear-inducing stimuli.

In addition, anxious people tend to focus on themselves; their feelings and their mental processes are related to fear; and attention training and self-awareness reduction can lead to significant reductions in anxiety levels in such individuals.

The proposed method encourages a child to focus on the toy dog's feelings and needs, as well as on the child's role as caregiver, thereby offering a distraction from their own fears and anxieties. Taking care of a soft toy, the child can dispel his/her fears and worries. It is very important that the child begins to feel like a competent caregiver, and not a restless person who needs help.

Parents of the children are also involved into this process, and they receive instructions on how to care for Hibuki.

The latest research has evaluated the potential effectiveness of the method proposed by Dr. Hen-Gal for young children who have experienced psychological trauma.

The program proposed by Dr. Heng-Gal has been developed into our therapeutic model "Hibuki", which involves a longer intervention (three to six months). The model developed by us is based on the principle that children who actively confront experienced stressful situations can alleviate their fears and better adapt to life after any trauma (parental divorce, accident, combat, etc.).

The components of therapeutic help for children to cope with their mental trauma are:

- active position of the child;
- shifting/transfer the focus of attention;
- transfer of the emotional state from the child to Hibuki;
- confidence and self-development.

More than 100,000 children in Israel have been treated with the aforementioned therapeutic model, and recent studies conducted at Tel Aviv University have shown that this model does show very effective results in reducing post-traumatic reactions and stress among the children participated in the program.

Therefore, the goal of the "Hibuki" therapy model is to support and rehabilitate the mental health of children who have suffered from war or other adverse life events.

A child is introduced to Hibuki by an adult who has completed the appropriate training course. By playing with the dog, the child transfers its difficult experiences and emotions to Hibuki and in this way starts the recovery process after the injury. The dog does not leave any child indifferent because of its sad face, long paws that allow Hibuki to "hug" the child all day and other special features. This approach has been repeatedly tested in practice.

A team of Israeli experts has already introduced Hibuki therapy to thousands of volunteers in Ukraine and refugee shelters in Europe and Israel.

Training is carried out in long and short seminars and includes:

- training of therapists;
- introduction Hibuki to children (the child finds a Friend and takes care of him);
- therapy

The advantage of the therapeutic model is that a therapist can receives quick feedback.

Today, Hibuki is an important tool that helps Ukrainian children cope with the trauma of war. Doctors, psychologists and volunteers in Ukraine and abroad are asking for Hibuki so that children they care for it. Cuddle toys are needed by everyone - both children and adults. Such a conclusion can be made by the results of the scientific research examining the importance of hugs in the life of every person.

Psychologists say that, in order to feel good, we need at least eight hugs a day. And people who hug more than twelve times a day are the most harmonious and happy.

Moreover, positive changes occur in the body at the chemical level: when hugging, the so-called happiness hormone – endorphin – is released into the blood, as well as the well-known trust hormone – oxytocin, – which reduces anxiety and increases the feeling of security. At the same time, the level of stress hormones decreases, along with which tension and carelessness disappear. It turns out that the more hugs and touches are used, the higher happiness is. This is especially important for the harmonious development of children.

Conclusions. As a result of the theoretical study, we determined that the concept of "mental trauma" implied damage caused to a person's mental health under the intense influence of adverse environmental factors or acute emotional, stressful effects of other people on the person's psyche.

Based on the literature review concerning the problem of mental trauma in childhood, we noted the complexity of this phenomenon and the lack of a unified approach to its understanding.

We have determined that an early trauma not necessary become an emotional experience of a small child, but later it might manifest itself and determine his/her personality in adult life.

The perspective of further study of our therapeutic model can be an empirical study on the impact of Hibuki- therapy on children's mental health recovery.

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