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Vadim Andreevich Kozhevnikov
Peter the Great St.Petersburg Polytechnic University
Senior Lecturer
vadim.kozhevnikov@gmail.com

Alina Alekseevna Shmagina
Peter the Great St.Petersburg Polytechnic University
student
alinasha@mail.ru

THE SYSTEM OF AUTOMATIC CHECK OF WORK TO NORMALIZE RELATIONS

Abstract: We have developed a system designed for students to perform work on the normalization of relations and the subsequent automatic verification by the teacher of this work. The software allows to speed up the testing work and to exclude the subjectivity of the assessment. The work assessment algorithm developed and implemented in the program allows you to point out errors in the student's work and display a message if the work is not credited. This program allows you to perform the normalization of relations and can be used not only for training purposes, but in designing databases.

Key words: automatic check of normalization of relations, relational database, normalization of databases, normal form, functional dependence, decomposition.

Language: Russian

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СИСТЕМА АВТОМАТИЧЕСКОЙ ПРОВЕРКИ РАБОТ ПО НОРМАЛИЗАЦИИ ОТНОШЕНИЙ

Аннотация: Описана система, предназначенная для выполнения студентами работы по нормализации отношений и последующей автоматической проверки преподавателем этой работы. Программа дает возможность ускорить проверку работ и исключить субъективность оценки. Разработанный и реализованный в программе алгоритм оценивания работы позволяет указать на ошибки в работе студента и вывести сообщение в случае, если работа не зачтена. Данная программа позволяет выполнять нормализацию отношений и может быть использована не только в обучающих целях, но и при проектировании баз данных.

Ключевые слова: автоматическая проверка нормализации отношений, реляционная база данных, нормализация баз данных, нормальная форма, функциональная зависимость, декомпозиция.

Введение

Нормализация отношений является очень важной частью процесса проектирования баз данных. В процессе обучения студентов по дисциплинам, связанных с проектированием баз данных, проводятся проверочные работы по нормализации отношений. Работы выполняются в письменном виде и сдаются на проверку преподавателю. Проверка выполненных работ занимает немало времени (с учетом переписываний, их количество может достигать несколько сотен в семестр) и не исключает возможность допущения ошибок при проверке. Поэтому целью создания системы является

помощь преподавателю при проверке работ, ускорение процесса проверки, избежание возможных ошибок и субъективности при оценивании. В ходе изучения предметной области прямых аналогов подобной системы найти не удалось, поэтому создание данной системы представляется весьма актуальным. Разработанная система по автоматической проверке работ по нормализации отношений позволит существенно сократить время проверки работ, уменьшить нагрузку на преподавателя, исключить возможность человеческого фактора. Для студентов - ускорит процесс выполнения задания, не снижая степени сложности. На базе созданной системы путем небольшой модификации можно создать программу, которая позволит выполнять полуавтоматическую нормализацию отношений в реальном времени, что при применении в учебных целях позволит студентам лучше понять значимость нормализации в проектировании баз данных, и наглядно продемонстрирует процесс нормализации.

Анализ существующих подходов к автоматической нормализации отношений

Для обеспечения целостности данных при проектировании баз данных используется процедура нормализации. Процесс нормализации выявляет зависимости между атрибутами исходного отношения и позволяет снизить избыточность хранимых данных, устранить аномалии добавления, удаления и модификации [1- 3]. Нормализация - это процесс приведения исходного отношения к нормальным формам. Другими словами, нормализация – это разбиение отношения на две и более таблицы, которые обладают лучшими свойствами при добавлении, изменении и удалении данных. Существует семь нормальных форм, но в рамках выполнения данной работы рассматриваются шесть – 1 НФ, 2 НФ, 3 НФ, НФБК, 4НФ, 5НФ. Мы не будем приводить здесь определения нормальных форм, подразумевая, что читателю они хорошо известны (см., например [1-3]), напомним только важное свойство нормальных форм, заключающееся в том, что по определению - если отношение находится в какой-то нормальной форме, то оно находится и во всех предыдущих нормальных формах. При декомпозиции отношений не должны теряться атрибуты и данные. Данные можно считать не потерянными в том случае, если возможна обратная операция - по декомпозированным отношениям можно восстановить исходное отношение в точности в прежнем виде. Операцией, обратной операции проекции, является операция соединения отношений. Т.к. при восстановлении исходного отношения путем соединения проекций не

должны появиться новые атрибуты, то необходимо использовать естественное соединение. Таким образом, без дополнительных ограничений на отношение нельзя говорить о декомпозиции без потерь. Такими дополнительными ограничениями и являются функциональные зависимости. Основной смысл теоремы Хеза заключается в доказательстве того, что при этом не появятся новые кортежи, отсутствовавшие в исходном отношении.

Современные СУБД не предусматривают автоматизацию процесса нормализации. Следовательно, задача по автоматической нормализации отношений остается актуальной. Мы проанализировали существующие алгоритмы [4-7], которые осуществляют автоматическую нормализацию до третьей нормальной формы или до нормальной формы Бойса-Кодда. Среди существующих подходов в области автоматической нормализации отношений следует отметить работу [8]. В ней описывается работа программы, которая автоматизирует процесс нормализации отношения по алгоритму И.А. Зорина. Алгоритм основан на графовом анализе и позволяет формализовать процесс выполнения нормализации реляционной базы данных. Однако рассмотренный алгоритм имеет существенное ограничение функциональности: он обеспечивает перевод проектируемой БД к третьей нормальной форме на основе рассмотрения в предметной области только нетривиальных зависимостей вида А→С и не устраняют возможные многозначные зависимости, например, между ключевым (А) и неключевым (С) атрибутами в приведенном к 3НФ отношении (т.е. если семантически С является многозначным атрибутом для некоторого объекта). Приведение БД к нормальной форме Бойса-Кодда (НФБК) с использованием этого алгоритма невозможно. Данный программный продукт позволят автоматически нормализовать отношение. Все рассмотренные нами алгоритмы по автоматической нормализации приводят исходное отношение только к 3НФ или, в лучшем случае, к НФБК. Как пишут авторы алгоритмов, приведение исходного отношения до 3НФ вполне достаточно для поддержания целостности базы данных. Однако, задача, которая поставлена в данной работе, несколько отличается от задачи, которую решают эти алгоритмы. Задача нашей системы состоит не только и не столько в нормализации исходного отношения и приведения его к максимально возможной нормальной форме, но и, главное, в оценке, насколько студент может самостоятельно определить потенциальные ключи и функциональные зависимости отношения для каждой нормальной формы. Задача состоит в том, чтобы предоставить возможность студенту

самому провести нормализацию. В процессе работы над системой появилась идея создания полуавтоматической нормализации исходной таблицы, которая позволила бы проводить нормализацию от формы к форме поэтапно. Новые экземпляры отношений формируются исходя из указанных функциональных зависимостей. Если согласно указанным ФЗ декомпозиция не выполнилась, то программа сообщает об ошибке выбранных зависимостей. При выполнении работы от студента требуется понимание, как именно происходит переход от одной нормальной формы к другой. Разработанное приложение как раз и отвечает этим требованиям.

Разработка архитектуры системы

Разрабатываемая система должна обеспечивать взаимодействие трех составляющих - студент, преподаватель и задание. Задание представляет собой исходное отношение (таблицу) и текст задания, описывающий ограничения, накладываемые на исходное отношение. На выходе система должна выдать результат проверки работы студента. Задача внутри системы разбивается на две составляющие. С одной стороны, это взаимодействие студент-система, где исходными данными является задание, а результатом - выполненная работа студента. С другой стороны, это взаимодействие преподаватель - система, где исходными данными будут выполненная работа студента и знание о правильном решении, а итогом взаимодействия будет проверка работы с выводом соответствующих результатов.

Как уже отмечалось, задача стоит в том, чтобы не только проверить правильность проведенной нормализации, но и оценить выполненную работу. Оценивание выполненного задания происходит по определенным критериям и не все допущенные ошибки являются показателем неверно выполненной работы (оцениваемой на неудовлетворительно). Выполнение нормализации по какому-либо алгоритму позволит автоматически нормализовать отношение, но оно не сможет дать оценку выполненной работе. Тем более что верных решений при нормализации может быть несколько (например, если в исходном или получившемся на каком-то шаге нормализации отношении несколько потенциальных ключей). Поэтому разрабатываемое приложение выполняет две функции. С одной стороны, это пошаговое выполнение нормализации, где приведение к следующей нормальной форме должно осуществляется пользователем, так как проверяется умение нормализовать отношение. С другой стороны, это проверка проведенной нормализации. И для осуществления этой

проверки в любом случае необходимо указать исходные данные - зависимости и ограничения. В результате произведенного анализа, лучшим вариантом решения было выбрано сравнение выполненной работы студента с эталонным решением преподавателя, которое записано в файл.

Для дальнейшей разработки системы надо понимать, какие требования предъявляются к выполнению задания, как должно выглядеть выполненное студентом задание. Как уже говорилось, задание - это исходное отношение, то есть таблица. Нормализация – это разбиение исходной таблицы на две и более. На каждом этапе приведения к следующей нормальной форме для каждой таблицы необходимо указать первичный ключ, набор альтернативных ключей и функциональные зависимости. Последующие таблицы формируются исходя из выявленных функциональных зависимостей. Следовательно, в итоге должен получиться некий набор таблиц и для каждой должна сохраняться информация о ключах и зависимостях. Для того, чтобы студент смог выполнить задание, необходима визуализация исходного отношения и визуализация экземпляров отношений, которые будут получены на каждом этапе приведения исходного отношения к следующей нормальной форме. А так же необходим некий интерфейс для ввода студентом информации по каждой таблице, с возможностью последующего сохранения этих параметров. Задание по нормализации отношений для выполнения студентами представляет собой таблицу и текст. Эту таблицу необходимо каким-то образом передать в систему для дальнейшей обработки, то есть осуществить с помощью системы приведение исходного отношения к пятой нормальной форме. Как вариант решения этой задачи - это загрузка в систему таблицу из файла. Решением такой задачи является разработка программы, которая будет позволять вводить данные пользователям, хранить таблицы, отображать таблицы и сохранять для каждой таблицы информацию о ней, визуализировать процесс нормализации и иметь возможность сохранения всех накопленных данных.

С точки зрения взаимодействия преподаватель-система исходными данными для системы будет выполненная работа студента. Так как результатом работы системы должна быть проверка выполненного студентом задания, системе каким-то образом необходимо сообщить о том, как правильно это задание должно быть выполнено. То есть, должен быть какой-то правильный, эталонный вариант решения. Для вывода результатов проверки так же требуется визуализация. Необходимо видеть, как студент выполнил задание, и какие данные указывал. При ошибке в каком либо из пунктов работы хотелось

бы, чтобы система указала на эту ошибку и вывела общий итог по проверке по системе зачет/незачет. Было бы удобно, если бы преподаватель получал от студента выполненную работу в виде файла. Так же, для удобства и во избежание ошибок, задание студенту может быть передано в виде файла, который загружается в систему.

Исходя из описанного выше, можно сформулировать основные функциональные требования к разрабатываемой системе автоматической проверки работ по нормализации отношений:

- Система должна иметь возможность работы с файлами (открыть, сохранить).
- Должна быть возможность указать информацию о студенте, который выполнил эту работу для последующей идентификации работы.
- Приложение должно хранить таблицы и иметь возможность манипулирования этими таблицами.
- Система должна выполнять визуализацию процесса нормализации.
- Для каждой нормальной формы должна быть возможность отобразить экземпляры отношений, указать для каждого экземпляра потенциальные ключи, выделить среди них первичный ключ, указать функциональные зависимости.
- Для исходного отношения должна быть возможность описать аномалии вставки, удаления, модификации.
- Для каждого экземпляра отношений должна быть возможность указать состояние, в котором находится отношение, и дать объяснение.
- Должна быть возможность просмотра исходного отношения в отдельном окне.
- При осуществлении проверки, система должна указывать, где именно была допущена ошибка.
- Система должна выводить сообщение, зачтена или не зачтена работа.

При выборе формата файлов необходимо учесть особенности использования этих файлов. Когда требуется создать много таблиц, для этого студентам и преподавателям удобнее и привычнее использовать формат файлов Microsoft Excel. Excel позволяет не только легко создать таблицу, но и вставить текст задания. Excel прекрасно подойдет для сохранения выполненного задания, так как это тоже таблицы и небольшой сопутствующий текст.

Для хранения и осуществления манипуляций над таблицами необходима реляционная база данных. Здесь нет необходимости использовать клиент-серверную архитектуру, следовательно, в качестве базы данных для хранения таблиц можно выбрать встраиваемую базу данных, например, SQLite.

Исходя из функциональных требований к системе, можно выделить основные классы, на которые она будет разделена:

- Класс, работающий с файлами типа excel. Класс читает данные из файла и сохраняет данные в файл. Так же в этом классе реализован алгоритм сравнения и оценки работы.
- Класс, обеспечивающий соединение и работу с базой данных SQLite. В этом классе так же создаются объекты, отображающие таблицы из базы данных, которые потом передаются в главное окно приложения и отображаются на форме. Эти объекты хранятся в списках для каждой нормальной формы.
- Основное окно приложения. Здесь студент вводит информацию о себе. Здесь отображаются нормальные формы и экземпляры отношений, сформированные в базе данных для этой нормальной формы.
- Класс для отображения нормальной формы.
- Класс для отображения экземпляра отношения.

Принцип работы системы

Опишем вначале действия, производимые системой при загрузке задания студентом. Студент нажимает кнопку «Загрузить задание» на главном окне приложения. Через класс, осуществляющий чтение файлов Excel, данные из файла-задания загружаются в программу. В базе данных создается исходное отношение и создается его представление для отображения в окне приложения на форме. Далее создается графический объект, отображающий на главном окне приложения интерфейс для исходного отношения, которое, исходя из условий задания, находится в первой нормальной форме. Объект формы запрашивает список с отображением таблиц, которые предназначены для текущей нормальной формы. Студент нажимает кнопку «Добавить экземпляр отношения» и исходное отношение отображается на форме.

Опишем теперь действия, производимые системой при проверке выполненной работы студента преподавателем. При загрузке файла с выполненной работой студента, сохраняются данные в программе, формируются все нормальные формы, формируются все таблицы и отображаются каждая на своей форме. При загрузке эталонного файла, сохраняются данные файла и осуществляется выполнение алгоритма проверки. При обнаружении ошибок информация о них передается в соответствующие формы.

Важно отметить, что для автоматизации процесса проверки требуется единообразие сбора информации и записи этой информации. При выполнении задания студент заполняет форму, согласно указаниям и тексту приложения. Таким

образом, информация по каждой таблице будет сохраняться одинаково для всех вариантов.

Сравнение результатов происходит по следующему алгоритму. Вначале происходит загрузка всех данных в программу. Данные по каждой таблице, номер нормальной формы сохраняются в структуры, структуры хранятся в списке. После загрузки данных из файла выполненной работы студента и файла с верным решением, получаются два списка - список со структурами по данным студента и список со структурами по данным преподавателя. Далее программа выполняет циклы. Первый цикл - это перебор нормальных форм. Цикл повторяется шесть раз. Внутри цикла выделяются структуры из списка, которые относятся к текущей итерации цикла, то есть к одной и той же нормальной форме. Создается коллекция для расстановки приоритетов, в которую входят индекс приоритета (key) и номер блока из набора структур

преподавателя (value). Создается список совпадений. Этот список содержит в себе структуры с данными о результатах сравнения по одному блоку: номер блока, 0 или 1 для ПК (первичный ключ), 0 или 1 для АК (альтернативный ключ), 0 или 1 для ФЗ (функциональная зависимость). Далее происходит сравнение данных из каждого блока студента с данными из каждого блока преподавателя. Для перебора всех блоков студента служит второй цикл. Третий цикл перебирает блоки преподавателя. Внутри этого цикла происходит проверка, сравнение данных из блока студента и блока преподавателя. Когда все блоки преподавателя будут рассмотрены, структуры с данными по сравнению записываются в список. В итоге получается некая матрица сравнения, пример которой приведен в табл. 1.

Таблица 1. Пример матрицы сравнения

Номер блока (таблицы) преподавателя	ПК	АК	ФЗ	Текст
0	0	0	0	""
1	1	0	0	""
2	1	1	1	""

Далее необходимо определить, какой из блоков преподавателя наилучшим образом совпал с блоком студента. Так как критерий определения правильного ответа не так очевиден, была

выведена таблица приоритета ошибок, которая приведена в табл. 2

Таблица 2. Таблица приоритета ошибок

ПК	АК	ФЗ	Приоритет
1	1	1	1
1	0	1	2
0	0	1	3
1	1	0	4
1	0	0	5
0	0	0	6

Приоритеты расставлены в соответствии с тем, насколько критична для оценки та или иная ошибка в блоке студента. Согласно этой таблице в качестве верного ответа выбирается тот номер блока, который получил наивысший приоритет. По этому принципу просматриваются все блоки студента. После чего данные по каждому блоку передаются в главное окно приложения, в котором, при возникновении ошибки, выводится сообщение, что работа не зачтена. Напротив тех пунктов, где эта ошибка была допущена,

появляются надписи красным цветом о типе ошибки.

Реализация системы

Система автоматической проверки работ по нормализации отношений реализована на языке программирования C++ с использованием фреймворка Qt [9] (поскольку в нем есть всё, что необходимо для реализации данного проекта - поддержка работы с базами данных, удобное создание графического интерфейса, система

сигналов и слотов, упрощающая взаимодействие между компонентами программы). Приложение создавалось в IDE Qt Creator 4.4.1, основанном на версии Qt 5.9.2, компилятор MinGW 5.3.0 32bit.

Исходными данными для выполнения задания студентом с помощью разрабатываемой системы является таблица, которая должна быть помещена в систему и с помощью манипуляций студента преобразована в несколько таблиц, то есть приведена к пятой нормальной форме. После выполнения задания студент сохраняет свою выполненную работу в файл. Преподаватель в качестве исходных данных получает файл с выполненной работой, плюс файл с правильным ответом на эту работу. Задание для студентов выдается индивидуальное, следовательно, преподаватель должен создать некоторое количество разных таблиц. Как уже говорилось, для этого удобнее использовать формат файлов Microsoft Excel. Excel так же позволяет вставить текст задания. Создание и редактирование таблицы при использовании текстового формата файлов, например txt или xml, несколько проблематично и ненаглядно, что будет усложнять задачу преподавателю при формировании задания студентам. С одной стороны, использование формата excel лишает систему кроссплатформенности и привязывает её к работе только с Windows, но с другой стороны, для решения учебных задач, не связанных с другими ОС, вполне достаточно и более привычным для большинства студентов является ОС Windows. Выбрав в качестве исходного формата формат excel, целесообразно не переходить к другим форматам файлов и сохранять решенное задание студента так же в формате excel. Использование файлов при работе с программой накладывает определенные ограничения и правила на создание таких файлов. Задание, которое формирует преподаватель должно быть записано в файл формата excel определенным образом. На первом листе в первой ячейке первой строки всегда должно быть название исходного отношения. Начиная со

второй строки должна располагаться сама таблица с заголовками. На втором листе размещается текст задания. Записи в файле excel выполненного студентом задания организованы следующим образом: в каждый лист файла записывается определенная информация в строго организованном порядке. Запись данных осуществляется по принципу "ключевое слово"-"текст". Первый лист содержит информацию о студенте. Номер группы, фамилия, имя, отчество, вариант задания, дата выполнения. Листы со второго по седьмой отведены под запись информации о таблицах для каждой нормальной формы. Помимо информации о таблице, на листе сохраняется текст комментария, который студенты должны давать в качестве пояснения, находится ли данная таблица в текущей нормальной форме. Кроме того, для исходного отношения необходимо указывать примеры аномалий (вставки, обновления и удаления). Этот текст записывается для первой нормальной формы и сохраняется в excel только на втором листе. На последнем, восьмом листе файла excel, сохраняется таблица исходного отношения. При вызове из меню программы подменю "Открыть" данные считываются по номерам листов. Сохраненная таблица на последнем листе необходима для построения всех таблиц, на которые оно разбивается в ходе декомпозиции. Аналогичным образом организован файл с верным ответом. Для универсальности нумерация листов и порядок остаются такими же, как и в выполненной работе студента.

Как уже отмечалось, при разработке архитектуры приложения было решено отказаться от клиент-серверной архитектуры в пользу локального приложения с использованием SQLite [10]. SQLite - это компактная встраиваемая реляционная база данных, которая может поставляться вместе с приложением. Использование SQLite делает систему автономной и независимой.

Примеры интерфейса приложения приведены на рис. 1 и рис. 2.
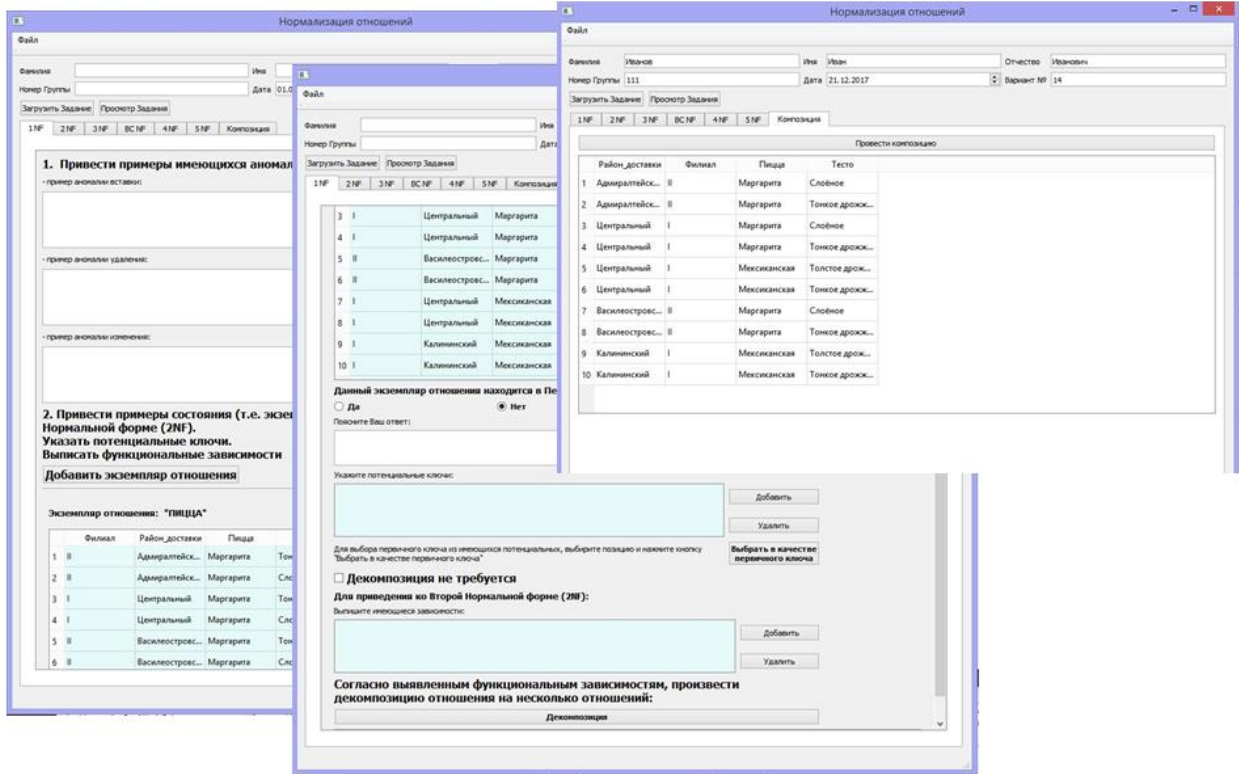
Рисунок 1. Внешний вид приложения
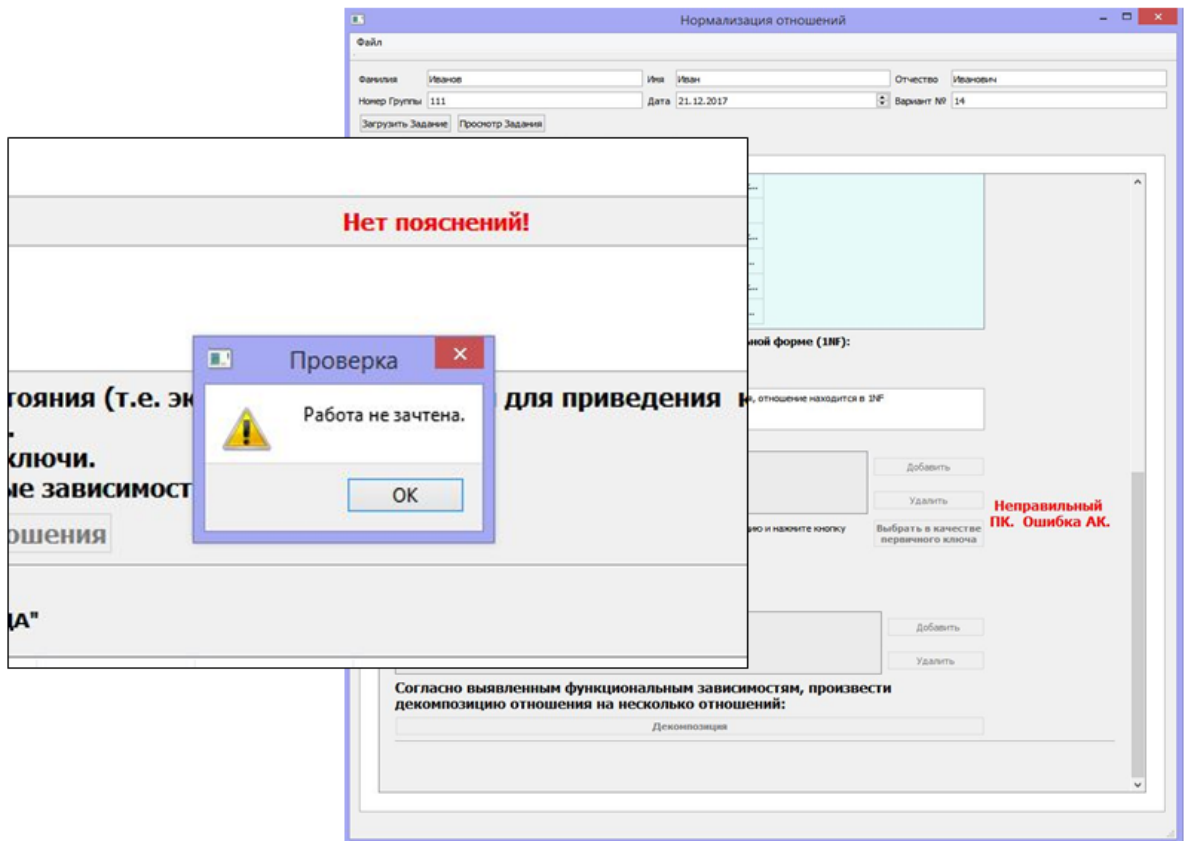
Рисунок 2. Пример проверки выполненной работы

Приложение было протестировано на работах студентов. Результаты автоматической проверки полностью совпадали с результатами проверки преподавателем.

Заключение

Нами были проанализированы существующие подходы по нормализации отношений. Исследованы возможные варианты решения поставленной задачи и выбран на наш взгляд наиболее удобный и функциональный из них. Разработанная система позволяет с одной стороны выполнять работу по нормализации исходного отношения, с другой стороны автоматически проверить результат выполнения работы студентом. Для проведения автоматической проверки был разработан алгоритм, при выполнении которого не только оценивается работа студента, но и указываются допущенные ошибки.

Помимо проверки работ студентов, разработанный программный продукт может быть использован при проектировании баз данных. Он является независимым приложением и не привязан к конкретной СУБД.

В настоящее время ведется работа по увеличению функциональности системы, наделения её новыми функциями. Например, создание режима, который будет сразу же сообщать пользователю, правильно ли выбран первичный ключ и указаны функциональные зависимости - получится полуавтоматическая система по нормализации отношений. Другой возможный режим программы - это проведение проверки на наличие аномалий в существующем исходном отношении.

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Dildora Toshova
Secondary school 56
Uzbek literature teacher, Gijduvan, Bukhara region

Durdona Tosheva
Secondary school 12
Primary school teacher, Zarafshan, Navoiy region

Dilora Hamidova
Secondary school 22
Primary school teacher, Gijduvan, Bukhara region

Shaxzoda Toshova
Secondary school 56
Uzbek literature teacher, Gijduvan, Bukhara region

IMPROVING EARLY LEARNING: DIVERSITY AND TRANSITIONS OF SCHOOLS, TEACHERS AND CLASSES

Abstract: In this paper work it is studied content of the primary education system and program which include integrated and result-oriented school teaching methodology. Methods and means of teaching integrated learning in primary school, integration and innovation in teaching subjects. Main objectives of the paper is find out root cause of the integration study, interdisciplinary communication in the teaching process, integrated lessons in the primary education, integrated planning, the development of children's development, individual development of children and classes. Purpose of the current paper are defined teaching pedagogical strategy and find out the most relevant of teaching methods for primary education in case of diversity obtain prominent results among schools, teachers and classes. Outcomes of the article are integration ways of science cycles, as well as the plan of the primary educational plan, raising visibility of schools and students among others and the implement modern psychological, pedagogical and innovative target-oriented methods and hints, analysis of the experimental performance of the homework distributed.

Key words: primary education, school, class, diversity, innovation, cooperation.
Language: English
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Classifiers: education.

ABSTRACT

Today's knowledge-driven world is built on a strong foundation of education. If you are part of the knowledge economy, you can succeed. If not, the personal costs can be painfully high.
(Statement from UNESCO, UNICEF, UNDP, UNFPA and World Bank the EFA convening agencies, on the occasion of the High-Level Group 2008 (16-17 December) Investing in Education for All Lasts A Lifetime)

INTRODUCTION

Provincial Directorate of Public Education on "Improving the quality and effectiveness of teaching and upbringing through the modernization of primary education" teachers of primary education teachers in Uzbekistan. On the theme "Improve the quality and

Clarivate Analytics indexed

effectiveness of the educational process through modernization of primary education" by the Ministry of Public Education jointly with the Ministry of Higher and Secondary Special Education organized a forum for the first time in order to improve the quality and efficiency of primary education, including foreign language learning, introduction of modern pedagogical and information-communication technologies, improvement of teachers' creativity and professional skills, promotion of advanced work experience.

Primary education of harmoniously developed generation is one of today's actual issues. This issue is also widely recognized in the work of President Islam Karimov "High Spirituality - Invincible Power": "Another important factor that directly affects the development of spirituality is that it is closely linked to the innovative student oriented educational system. Of course, education is the most important factor that shapes and enriches the consciousness and the level of consciousness. Therefore, it is impossible to develop the spirit without changing the educational system and on that basis."

This article describes the essence of the learning, essence of integration, its scientific and social aspects, the content and orientation of integrated learning. In the education system, the integration of the course as a subject of the main part of the current problem. Based on the study of a complex subject of primary education as an elementary education curriculum is highlighted.

LITERATURE REVIEW

The literature provides diverse approaches to the modelling of educational effectiveness. As a first example—from the domain of the economics of education— we mention the education-production function. The aim of this model is to estimate the relationship between the inputs in schools (specific, often material or financial facilities, teacher salaries, pupil/teacher ratio, et cetera) and 'educational outcomes (for example: pupils 'academic achievement), taking into account diverse background factors such as the pupil's-economic environment (Monk, 1992). Instructional effectiveness models offer an alternative point of view. Such models are concentrated on the micro level only, i.e.: on the class level. Typical characteristics encountered in those models with the aim of explaining pupils' achievement are: the 'amount of subject matter covered', the 'quality of the instruction' and psychological variables such as the motivation and the intelligence of the pupils. A typical example is the model by Carroll (1963) (see Figure 1). Several authors (amongst others: Scheerens & Bosker, 1997; Creemers, 1994) identify it as the first instructional effectiveness model.

As mentioned before, from the nineties onwards a number of authors (amongst others: Creemers, 1994; Scheerens, 1990; Stringfield & Slavin, 1992) have made an effort to unify the findings of school effectiveness research, instructional effectiveness research and input-output studies. The ensuing models can be described as integrated multilevel1educational effectiveness models—see, for example, the representation of Creemers'(1994) model in Figure the fact that pupils are grouped in classes and that classes belong to schools 2. Thirdly, the variables involved are embedded in a complex causal structure. These models have a number of common characteristics. First, they distinguish between the input, the process and the output. Secondly, they take into account the hierarchical, multilevel structure of the educational system, i.e.: they allow for improving early learning at primary school.
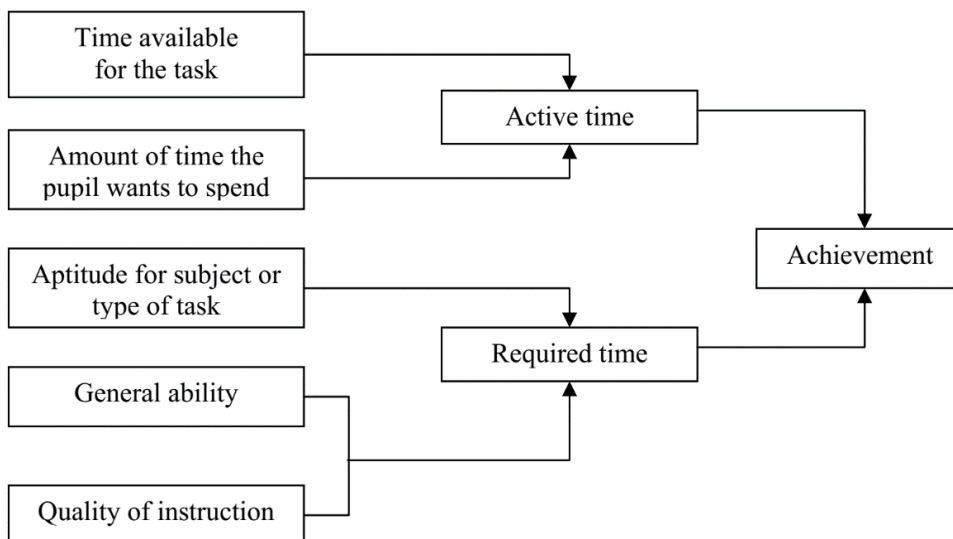

Figure 1. Carroll's model of school learning (1963) [1]

RESULTS

For the first time in partnership with the Education School of Vilnius, the Forum was attended by representatives of the Ministry of Public Education of the Republic of Uzbekistan, broad introduction of communication technologies, improvement of teachers' creativity and professional skills, promoting successful work experience. Another point is globalization of education system in a single effective teaching system by UNESCO and UNDP programs. Following studies are mainly targeted transition of the pupils, schools and classroom management system totally innovatively.

Requirements to knowledge, skills and qualifications of students in science

Within the framework of the curriculum for integrating education in the elementary school, the Bachelor's Degree:

1. The essence of integrative approach to education and upbringing; the features of primary education; must know that the pedagogical process is progressive;

2.Application of integration methods in primary education; Differentiation and planning of the general and specific aspects of the subjects taught in the primary classes; students should have the skills to develop the types of thinking that are related to the integration process based on integration.

3.Integration of teaching in primary education; elementary school characteristics, elementary education concept, education science, basic subjects: mother tongue, elementary education pedagogy and methods of educational work, basics of natural sciences, labor techniques; the age characteristics of learners and the principles of integrated learning; language, elementary education pedagogy and methodology of educational work, technology of modeling and integration of natural sciences; technological features of teaching, textbooks and teaching manuals; Principles of integrating basic subjects with such subjects as fine arts, music, labor and physical education; technical means of teaching and educational work; have the skills of independent learning and independent work organization.
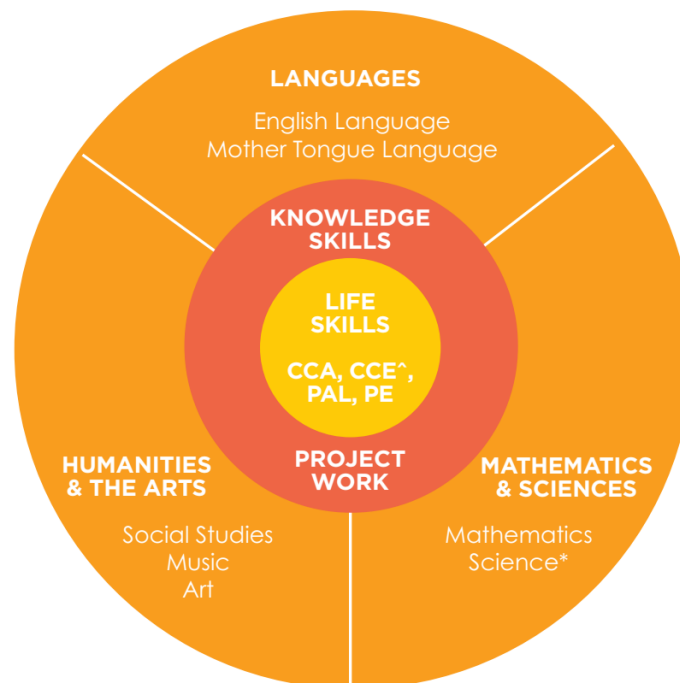
Figure 2. Curriculum for Well-Rounded Learning

Source: PRIMARY SCHOOL EDUCATION Preparing Your Child For Tomorrow, Ministry of Education Singapore, page 4.

Standard Subjects:
English Language, Mother Tongue Language, Mathematics, Science.
Foundation Subjects:
Foundation English Language, Foundation Mother Tongue Language, Foundation

Mathematics, Foundation Science
Optional Subject:
Higher Mother Tongue Language LEGEND
CCA Co-curricular Activities
CCE Character and Citizenship Education
PAL Program for Active Learning

PE Physical Education

Finding solutions to every problematic issue and attracting masters to the use of virtual library funds will help you to gain a deeper knowledge. Using controls such as test, writing, and colloquium in controlling and evaluating pupil's knowledge increases the interest in learning. It affects the effectiveness of integrated lessons factors.

Obtain best results in various subjects logical and interconnected teaching methodology of integration instruction, lessons of reading (reading and writing); In the first integrated classroom lesson, the entire process is organized as follows:

a) a textbook as a reading tool to improve reading skills learned in reading;

b) text as speech, speech development;

c) The book world as a choice of dialogue.

The initial integrated courses include subjects such as native language, reading, natural sciences, reading and music, natural sciences, mathematics, geography English language in Uzbekistan.

Basic interdisciplinary integration in the elementary education didactic system. Equivalence of instructor's activities and teaching activities (learning and memorizing activities). Main objective of the activity: goals, incentives, content, tools, outcomes, control. Control of quality of the joint - mutual assessment and mutual control taking into account the synthesis of various objects at classes.

Integrated approach to primary education and methods.

Integrated approaches and methods include: intriguing conversations, interviews with the generalization plan, excursion; creative work; Visual methods of teaching: independent work; oral presentation in reading classes; pantomime scenes; to read the landscape paintings in classes, to write dictates with the content of natural sciences in the native language; solving mathematical problems on the basis of regional studies.

A study of the effects of schools (or teachers or classes)—in order to assess the impact of the allocation of a pupil to a school (or teacher or class)—calls for a number of decisions:

1. It is necessary to choose explicitly the criterion on which comparisons between the schools (or teachers or classes) will be based.

2. Given a criterion, different effect measures can be distinguished: 'raw' versus net' effects, and within the latter category: so-called 'type A' and 'type B' effects.

In this case some assessment indicators have been studies for further development.

What is INES?

The Indicators of Education Systems (INES) program is an authoritative source for accurate and relevant information on education around the world. It provides data on the performance of the education systems in the OECD's 34-member countries and a set of partner countries, including non-member G20 nations. INES enables education systems to assess themselves in light of other countries' educational performance by providing a rich and internationally comparable set of indicators on:

• The output of educational institutions and the impact of learning on economic and social outcomes.

• The financial and human resources invested in education.

• Access to education, participation and progression.

• The learning environment and organization of schools.
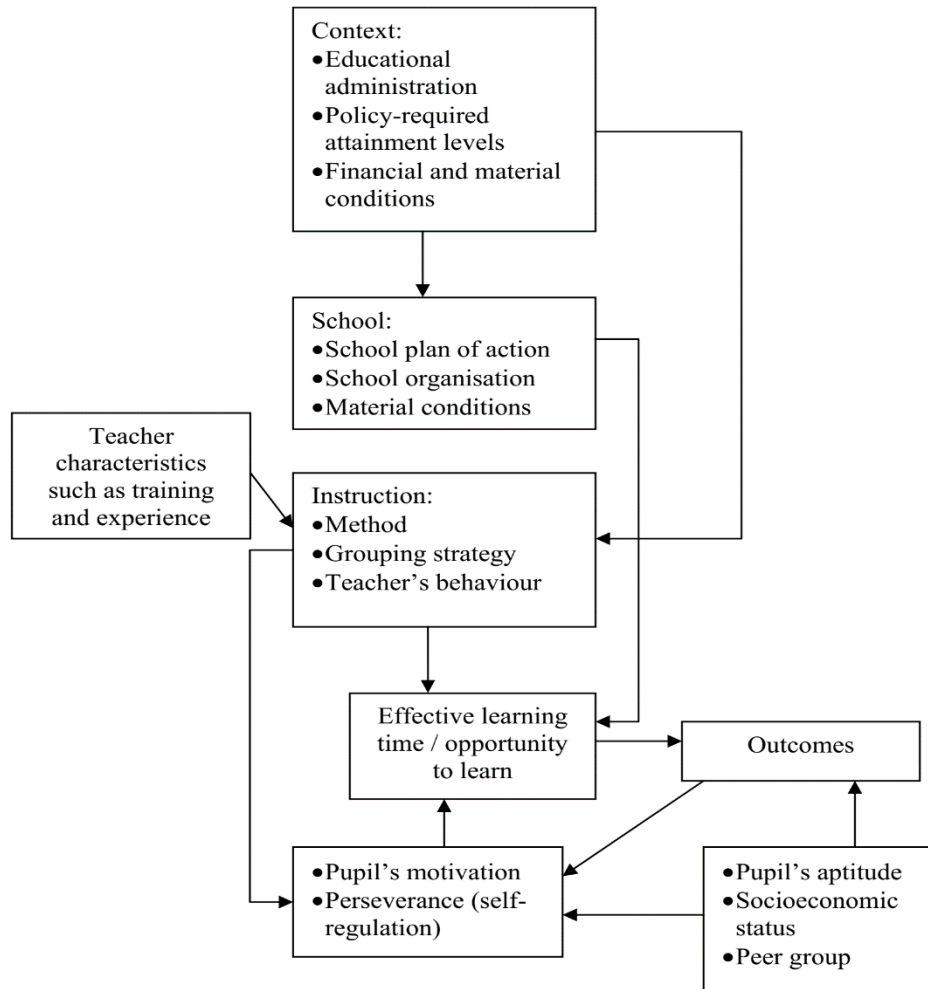
Figure 3. Creemers' model of school learning (1994) [3]

DISCUSSION

Integration system - is a diversity of teaching, which is full of world outlook, ability to independently analyze the existing knowledge and to educate a young person with a knowledge of unconventional approach to solving various problems. Learning integration is the first step to learning how to read the universe in a single context and to imagine that all its elements are interconnected Figure 2. Integration is a traditional learning tool; to fill in the unknown ones before the crossing of the existing knowledge, to establish a link between them; Increase student awareness by updating existing narrow specialization in teaching.

What issues does INES address?

INES offers detailed, comprehensive data on:

• The entire national education system of participating countries, regardless of who owns or sponsors the institutions concerned, or how education is delivered.

• All levels of education, including early childhood education, primary and secondary education, tertiary education, and adult education and training.

• Different types of students, including students from different age groups and social backgrounds.

• Different kinds of education, including public education, government-dependent and independent private

education, vocational education and training, special education programmers, and other specialized programmers. [4]

In modern development international law pushes forward some principles about inform a rights-based approach in education. According to this primary education should be as follows:

• **Universality and inalienability:** Human rights are universal and inalienable, the entitlement of all people everywhere in the world.

• **Indivisibility:** Human rights are indivisible. Whether civil, cultural, economic, political or social,

they are all inherent to the dignity of every person. Consequently, they all have equal status as rights and cannot be ranked in a hierarchy.

• **Interdependence and interrelatedness:** The realization of one right often depends, wholly or in part, on the realization of others. For example, realization of the right to health may depend on realization of the right to information.

• **Equality and non-discrimination:** All individuals are equal as human beings, and by virtue of the inherent dignity of each person, are entitled to their rights without discrimination of any kind

• **Participation and inclusion:** Every person and all peoples are entitled to active, free and meaningful participation in, contribution to and enjoyment of civil, economic, social, cultural and political development, through which human rights and fundamental freedoms can be enjoyed.

• **Empowerment:** Empowerment is the process by which people's capabilities

to demand and use their human rights grow.
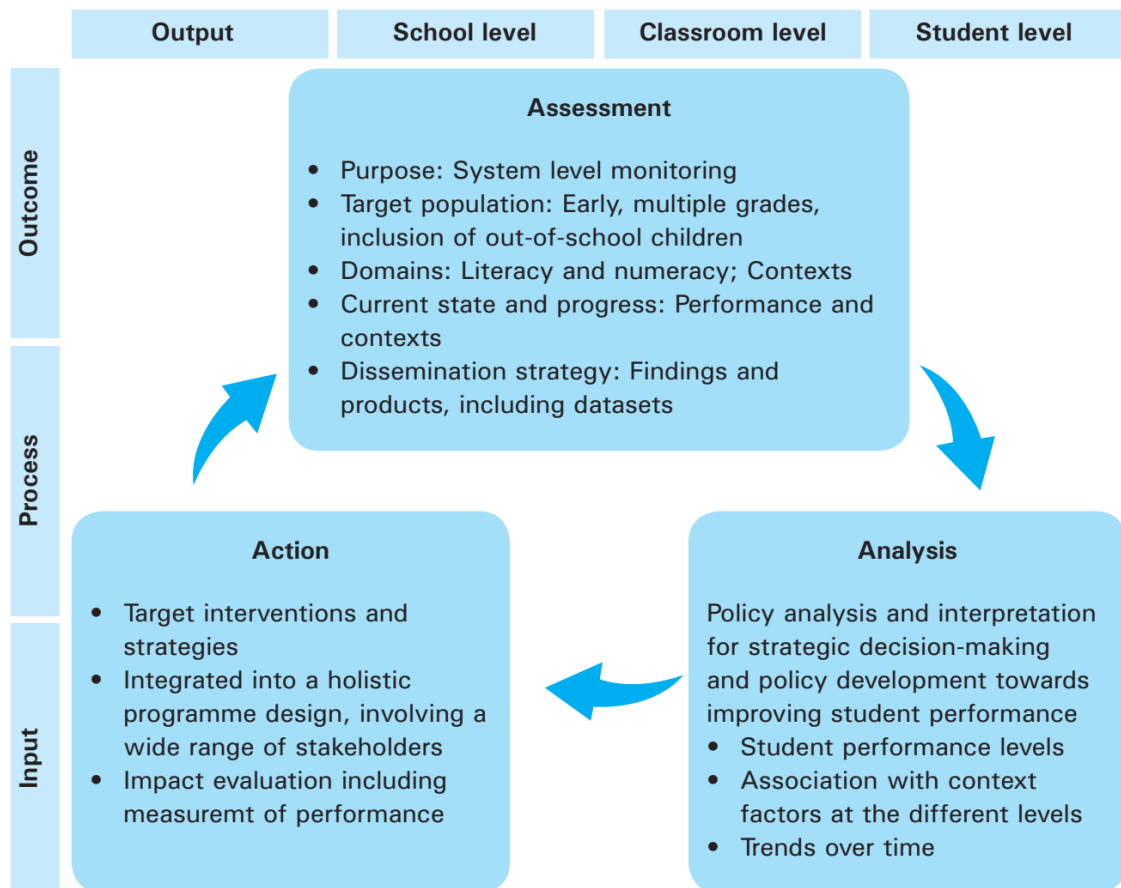
Figure 4. Evidence-based monitoring and intervention cycle [5]

Source: Tim Friedman, Ursula Schwantner, Jeaniene Spink, Naoko Tabata and Charlotte Waters Australian Council for Educational Research (ACER), Improving Quality Education and Children's Learning Outcomes and Effective Practices in the Eastern and Southern Africa Region Report for UNICEF ESARO, 2016, Page 1.

But fulfillment of the current policy and reforms there some problems in the system. Capacities of government and public authorities to fulfil obligations. Assessment of the capacities of government and public authorities to meet their obligations with regard to educational rights is key. Obstacles to complying with responsibilities may derive from:

• Lack of resources – financial (tax base or budget priorities) or human (skills

and institutional capacity).

• Lack of communication and information system

• Lack of responsibility at schools – refusing to accept obligations and demonstrating

• Lack of coordination between levels and sectors.

• Lack of knowledge [6]

Teachers need skills that enable them to help students achieve full potential, which are primarily those enabling them to European Commission.

• Define the needs of each individual student and respond to them by using a wide range of teaching strategies;

• Support the development of young people into becoming independent life-long learners;

• Help young people obtain competencies listed in the European Reference Framework of Key Competences

• Work in multicultural environments and understand the value of diversity and respect it;

• Cooperate closely with colleagues, parents and the broader community [7]

If we would like to raise visibility and ranking of the primary education at school, we must solve current problem related with professional management system

Classroom management system

Instrumental competences:
• Organization and planning skills
• Problem solving within the motivational sphere3
• Decision-making linked to classroom management

Interpersonal competences:
• Critical and self-critical abilities

• Group work & collaborative learning skills

Systemic competences:
• Application of knowledge to practice
• Adaptation to new situations
• Project design and management

Specific competences:
By the end of the course, students will be able to:

- Demonstrate a general understanding of the different aspects related to classroom management and class dynamics at a Secondary School level.

- Adapt their teaching style to their teaching context in Secondary Education.

- Plan and organize a classroom to enhance learning and organize students, their individual needs.

- Identify key issues to consider when organizing a course and establishing classroom rules in a secondary classroom.

- Design instructions and procedures that address different student needs and learning styles.

- Analyze their own teaching practice and identify areas for change and improvement.

- Anticipate difficulties and deal with problems in a proactive way.

- Identify factors that influence student motivation, learning, and pro-social behavior at a Secondary School level. [8]

Strategy	Action Steps
Emphasise communication	■ Communicate regularly and frequently with students, colleagues and parents. (e.g. Emails, newsletters, parent communication forms, suggestion boxes, input forms from parents)
Be there to show you care	■ Take an interest in what interests your students; ■ Attend student activities
Build Trust	■ Maintain confidentiality when students report dangerous activities or student infractions
Block Teaching in the junior departments	■ Organise classes so that students are taught most periods but fewer teachers. This allows for students and teachers to experience a closer bond
Mentoring Programmes	■ Implement a Check In Check Out Programme ■ Assign a staff members to mentor students who are at risk of academic or behavioural problems ■ Partner with community agencies to establish mentoring programmes
Use a firm but fair discipline system	■ Implement Positive Behaviour Supports
Communicate high academic standards	■ Couple high academic expectations with teacher support

Figure 5. There are several ways to build connectedness to school [9]
Source: An introduction to Effective School Principles for secondary schools, Produced in collaboration with the Ministries of Education in the Eastern Caribbean Region. For further information please contact the Ministry of Education in your country (UNICEF) Offce for the Eastern Caribbean Area, Page 25.

Good school some of the aspects that were taken into account include;

• Alignment of organizational structure to school mission and goals.

• Integration and effectiveness of management processes (resource allocation, budgeting, planning, performance evaluation etc.).

• Effective and valuable school facilities and utilities.

• Effective and valuable human resource processes.

• Knowledge sharing.

• Inclusive working and learning environment.

•Initiatives geared towards employee development (training and mentorship programs).

• Performance review and evaluation. [10]

For the best evaluation process pupils should for further development of the following approaches:

▪ I like what I read about in school;

▪ My teacher gives me interesting things to read;

▪ I know what my teachers expect me to do;

▪ I think of things not related to the lesson (reverse coded);

▪ My teacher is easy to understand;

▪ I am interested in what my teacher says; and

▪ My teacher gives my interesting things to do. [11]
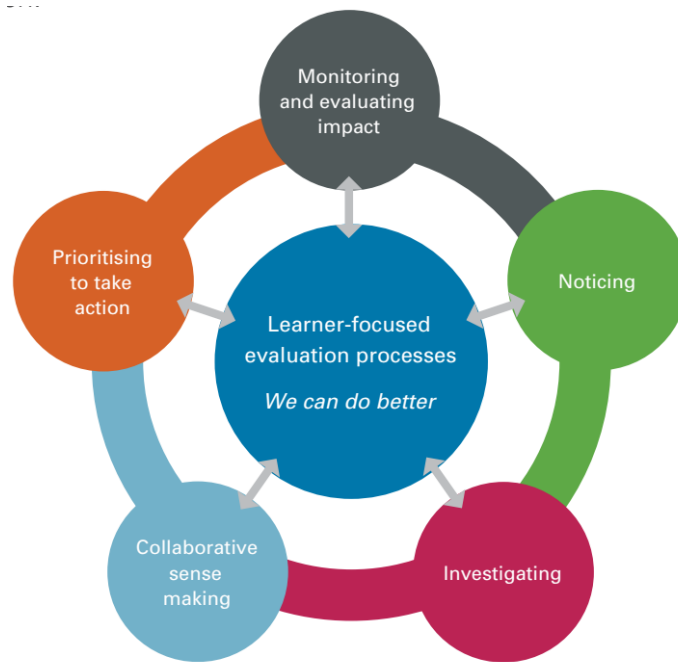
Figure 6. Effective School Evaluation: How to do and use evaluation for improvement and Internal Evaluation: Good Practice provide support for, and examples of, effective internal evaluation. [12]

Source: School Evaluation Indicators Effective Practice for Improvement and Learner Success, July 2016, page 32.

The primary school curriculum is designed to give your child a strong foundation that includes:

- Nurturing sound values;
- Loving Uzbekistan;
- Developing literacy and numeracy.

The curriculum offered by the Ministry focuses on three main aspects of education – subject disciplines, knowledge skills and character development.

• Subject disciplines comprise subject areas such as languages, humanities and the arts, and mathematics and sciences, designed to give your child a good grounding in

different Felds of study.

• Knowledge skills focus on developing your child's thinking and communication skills. Knowledge skills are taught through a variety of subjects and often through a project work approach. This enables your child to tap into his knowledge skills, and clearly demonstrate what he has acquired, either individually or collaboratively in teams.

• Character development is facilitated through daily interactions, as well as the different learning experiences planned by the school. These experiences focus on instilling sound values and building character in your child. Your child will have many opportunities to develop values and skills for life and civic responsibility through Character and Citizenship Education, and Co-curricular Activities.

DOMAINS	STANDARDS
TEACHING AND LEARNING	
Learner outcomes	Pupils: enjoy their learning, are motivated to learn, and expect to achieve as learners have the necessary knowledge and skills to understand themselves and their relationships demonstrate the knowledge, skills and understanding required by the primary curriculum achieve the stated learning objectives for the term and year
Learner experiences	Pupils: engage purposefully in meaningful learning activities grow as learners through respectful interactions and experiences that are challenging and supportive reflect on their progress as learners and develop a sense of ownership of and responsibility for their learning experience opportunities to develop the skills and attitudes necessary for lifelong learning
Teachers' individual practice	The teacher: has the requisite subject knowledge, pedagogical knowledge and classroom management skills selects and uses planning, preparation and assessment practices that progress pupils' learning selects and uses teaching approaches appropriate to the learning objectives and to pupils' learning needs responds to individual learning needs and differentiates teaching and learning activities as necessary
Teachers' collective / collaborative practice	Teachers: value and engage in professional development and professional collaboration work together to devise learning opportunities for pupils across and beyond the curriculum collectively develop and implement consistent and dependable formative and summative assessment practices contribute to building whole-staff capacity by sharing their expertise
LEADERSHIP AND MANAGEMENT	
Leading learning and teaching	School leaders: promote a culture of improvement, collaboration, innovation and creativity in learning, teaching and assessment foster a commitment to inclusion, equality of opportunity and the holistic development of each pupil manage the planning and implementation of the curriculum foster teacher professional development that enriches teachers' and pupils' learning
Managing the organisation	School leaders: establish an orderly, secure and healthy learning environment, and maintain it through effective communication manage the school's human, physical and financial resources so as to create and maintain a learning organisation manage challenging and complex situations in a manner that demonstrates equality, fairness and justice develop and implement a system to promote professional responsibility and accountability
Leading school development	School leaders: communicate the guiding vision for the school and lead its realisation lead the school's engagement in a continuous process of self-evaluation build and maintain relationships with parents, with other schools, and with the wider community manage, lead and mediate change to respond to the evolving needs of the school and to changes in education
Developing leadership capacity	School leaders: critique their practice as leaders and develop their understanding of effective and sustainable leadership empower staff to take on and carry out leadership roles promote and facilitate the development of pupil voice, pupil participation, and pupil leadership build professional networks with other school leaders

Figure 7: Quality Framework for Primary Schools – Overview [13]

Source: Looking at our School 2016, A Quality Framework for Primary Schools A Quality Framework for Primary Schools, page 12.
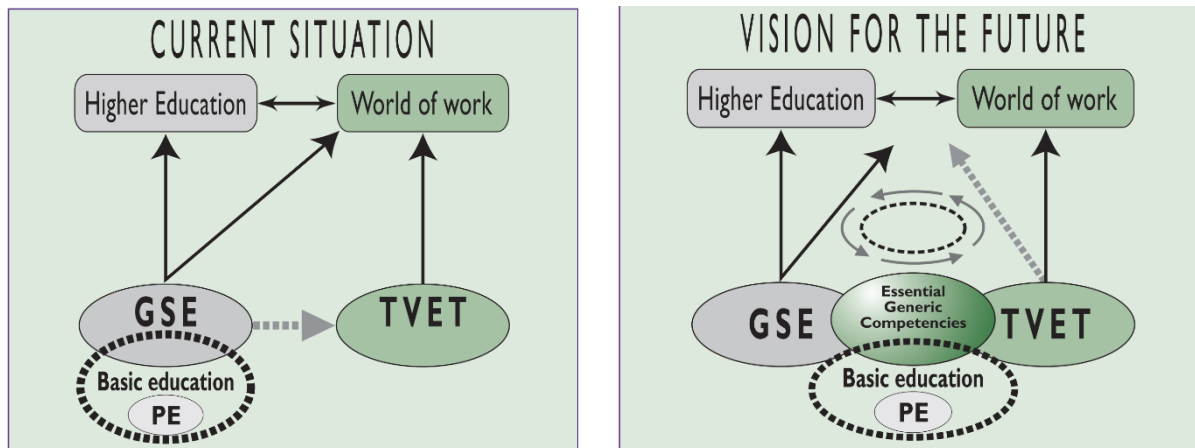
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Figure 8. GSE and TVET articulation: Current situation and vision for the future

KEY: GSE = General Secondary Education **TVET** = Technical & Vocational Education & Training **PE** = Primary Education.

According to this model, channeling (streaming or tracking) students into general and vocational streams will be deferred for as long as possible to ensure that all learners benefit from a shared foundational period to acquire a sound core of essential generic competencies and practical skills. Moreover, creativity, analytical skills, lateral thinking, problem solving, the ability to learn independently as well as to work in a team will be stimulated and encouraged at this stage. Greater emphasis will be placed on knowing how to use the tools for seeking and processing rapidly growing bodies of knowledge, rather than merely acquiring knowledge for its own sake. The deferral of channeling may have positive effects also in helping overcome social inequity. [14]

Conclusion

At the 9th session of the Oliy Majlis of the Republic of Uzbekistan "Education and the National Program for Training Personnel is a key element in raising the younger generation prospects and directions. The cardinal improvement of education in the National Program for Training Personnel the main trends in "Continuous education is a creative, socially active, the formation of a wealthy rich person and the preparation of highly qualified competitive staff "It creates the necessary conditions for us." The program also includes: "Teaching creation of advanced educational technologies, modern educational-methodical complexes and teaching didactic "process as one of the main objectives of general secondary education defined. Indeed, innovative technology is the productivity of the learning process independent thought processes, increased enthusiasm and knowledge, and knowledge develop skills in practice. Today, the diversity of innovative technologies into the primary educational process from the elementary school the process of accelerated development of the educational process in Uzbekistan.

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Utkirjon Mutalibjonovich Mukhtarov
Andizhan State University
Doctorate,
Republic of Uzbekistan

STUDYING OF SCIENTIFIC-PHILOSOPHICAL HERITAGE OF THE EAST RENAISSANCE INTELLECTUALS IN DEVELOPMENT OF PHILOSOPHICAL EDUCATION

Abstract: *The development of philosophical education is an interconnected process connected with human development. It is important to pay a special attention to the comprehensive study of the scientific philosophical heritage of the Oriental thinkers, in particular, the scholars of the Islamic world, who made a worthy contribution to the development of our society in further development of philosophical education.*

For this purpose, first of all, it is necessary to create real-world research, new generation textbooks, books, program guides. Because during the Soviet regime, the social and philosophical heritage of our people was abolished, artificially, materialistic and atheistic tendencies were recommended, without denying the specific historical conditions, and other thought-provoking researchers were condemned as bourgeois.

Based on the original sources of research in Uzbek scholars, philosophical views of Oriental philosophers such as Forobi, Ibn Rushd, Ibn Bajja, Ibn Sina, Abu al-Ghazali have been studied in more detail.

A. L. Orientalists such as Kazibberdiev, S, Serebryakov, Azkul Karim, Alber Nasri have made a serious scientific work on translation of these philosophers' brochures, commenting on each concept, and the translation dictionary of their works.

Therefore, this article analyzes the views of scientists of the Oriental Reformation period on the study of the scientific philosophical heritage, and highlighted the importance of the development of philosophical education in Uzbekistan.

Key words: *Eastern repercussions, Eastern peripatetism, philosophy, philosophy of the East and West, philosophical education, philosophical thought, philosophical heritage.*

Language: *English*

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Classifiers: *Philosophy.*

Introduction.

Nowadays, the essence of reforms in the field of education based on the "National model" is not to ensure the priority of national values, but also to build an education system that builds on the development of the new era on the basis of great achievements in the world science and education system and national self-promotion. . In this regard, the need for philosophy education and the development of philosophical thinking in young people will need to be addressed on the basis of new paradigms. Therefore, for many centuries the philosophical thinking of young people on the basis of international philosophy, in particular

on the basis of national philosophy, the inclusion of the ability to think in the continuous education system, contributes to the further development of our national mentality based on national ideology. Today it is important to study the fundamental works of Oriental scholars in the development of philosophical education. In this regard, the President Sh.M.Mirziyoev said: "The issue of further development of fundamental research has remained unanimous in our attention today. We see that the rapidly developing countries of fundamental research have made a considerable progress in the development of other economic development countries. It is not

accidental that the achievements of science in the world have been achieved in fundamental research. Therefore, full support of fundamental sciences and provision of this sector with gifted young cadres are put on the agenda as one of the important tasks of our state. "[Mirziyoev SH, 2017. 171]. From this point of view, philosophical thinking may, depending on its content and influence, divide or unite members of the society, or increase or decrease the status of the state in the world, or advance to the degradation of nations.

There are a number of reasons why there is a strong need for philosophy in general. The globalization and integration process, covering all aspects of life in all countries of the world, is the first and foremost one. In the context of globalization, it is impossible to find dialogues between different countries without a broad philosophy, and to find ways to resolve the emerging conflicts. Serious changes in the development of fundamental sciences became the second factor that created a strong need for philosophy. After all, physics, physiology, psychology and, in general, all the major fields of science have been independent of philosophy in their research, and now it is impossible to overcome it. This was the case when quantum mechanics, general relativity theory, neurophysiology, and other fields were encountered, and the complex and numerous problems faced by them could not be solved in the narrow sphere of science, and the need to think in the field of broad philosophical horizons. These two factors have further demonstrated that no knowledge and activity can replace the deeper philosophical culture. Indeed, philosophy as true wisdom is a spiritual value that expresses man's perception of the universe, nature, the direct relationship to existence, the way of existence.

Therefore, it is important to pay a special attention to the comprehensive study of the philosophical heritage of the Oriental thinkers, in particular the scholars of the Islamic world, who make a worthy contribution to the development of our society in the further development of philosophical education.

Shavkat Mirziyoev, President of the Republic of Uzbekistan, addressed the Oliy Majlis of the Republic of Uzbekistan as the main objective of further development of the social sphere in the year 2019 - "The Year of Active Investments and Social Development". "In particular, the study of the ancient and rich history of our Homeland, we need to strengthen scientific research and support the activities of scientists in the humanitarian sphere.

The evaluation of the past must be absolutely unbiased, and most importantly, without any ideological views. "[Mirziyoev Sh.M. lex.uz]. For this purpose, first of all, it is necessary to create real-world research, new generation textbooks, books, program guides. Because during the Soviet regime, the social and philosophical heritage of our people was abolished, artificially, materialistic and atheistic tendencies were recommended, without denying the specific historical conditions, and other thought-provoking researchers were condemned as bourgeois.

Therefore, in the study of the scientifically-philosophical heritage of the Oriental renaissance period scientists during that period, the materialistic spirit prevailed and historical truths were distorted. In this sense, the objective study of the historical justice, the influence of our scientists on the development of world science and philosophy is a timeframe.

Here are some of the first words of our President Islam Karimov: "From the oldest stories and writings created by the minds and geniuses of our ancestors, thousands of manuscripts kept in the treasury of our libraries today, including samples of folklore, history, literature, art, politics, ethics , valuable works of philosophy, medicine, mathematics, mineralogy, chemistry, astronomy, architecture, farming and other spheres are our great spiritual wealth. The people with such a great heritage are rarely found in the world. A comprehensive study of the spiritual heritage left by our ancestors serves as an important factor in the development of philosophical education in Uzbekistan.

The importance of the issues raised in this article is also highlighted in the June 23, 2017 Decree by the President of the Republic of Uzbekistan Shavkat Mirziyoev "On Measures to Establish the Islamic Culture Center in Uzbekistan" at the Cabinet of Ministers of the Republic of Uzbekistan, "Library and archives, great scholars and thinkers, saints, scholars and religious schools, founded by them, are preserved in our country and abroad. Imam al-Bukhari, Imam Termizi, the great scholars who have contributed greatly to the development of Islamic religion, including the manuscript and luggage books, historical proofs and documents, archaeological findings, artefacts, contemporary scientific research works, books and collections, video and photo documents , Scientific research on the scientific basis of scholars, such as Hakim Termizi, Abu Mansur Moturudi, Abu Muin Nasafi, Kaffol Shashi, Abdulkholiq Gijduvoniy, Najmiddin Kubro, Burhoniddin Marginiani, Bahouddin Nakshband, Khoja Ahror Valiy, their scientific and spiritual courage, wide propagation of great human qualities "[1].

It is possible to observe certain results, even the great discoveries, in the life of society in the harmony of philosophical, religious, secular doctrines, ideals, ideas and activity, and the scientific heritage of scholars from the East in the IX-XII century. The ideology of each era is based on philosophical, religious and secular roots. But philosophical, religious, and secular roots are trying to subdue the rest of the world, with the rest of the world going. This leads to various disagreements and negative consequences. It is worth noting that in this field of

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pre-independence studies, it is no secret that the dominant ideology in society has the same or the same level of reflection in any sphere. Some studies conducted at that time were known to have an unanimous, atheistic nature. Therefore, in the article, these sources are scientifically critical, appealed. The results of the analysis show that the scientific and philosophical heritage left by the scientists of the Oriental Renaissance has attracted great interest not only for the development of our country's science, but also on the world science with its rich, informative ideas.

It is difficult to achieve certain results without the knowledge of foreign scientists, especially Western scientists, about the rich experience of studying the philosophical heritage of the Oriental Reformers in the development of philosophical education in Uzbekistan. However, the experience gained by Western researchers, the study and evaluation of achievements has shown that sometimes the question of studying the philosophical heritage of the Oriental Reformers is not objectively neutral. Western civilization and science have studied the spiritual heritage of our ancestors and have tried to absorb the aspects that are in line with their social spirit, which are necessary for their own benefit and development. They are considered unnecessary for the advancement of Western civilization, which are incomprehensible to them, and the inward elements of their souls are regarded as bidat, religious superstition, retardation, ignorance. Even some European scholars have a greater awareness of the true nature of the Oriental culture and their socio-philosophical ideas, or misinterpretation. For example, one of the scholars of the Russian philosopher V. Solovev believes: "In the Muslim world there is no positive science (the secular science is envisioned), and there is no theoretical theology, but some of the peculiar dogma of the Qur'an and the mass philosophical concepts derived from Greeks and the experimental data [Mukhtarov O. M., 2015. B. 46]. In the views of this philosopher, we can see that the attitude toward the Oriental peoples is a poverty-stricken nation. Also, G. Vamberi's remarks are also remarkable: "Not all Asian nations, except for Japanese, can develop themselves independently of progress and renewal. Asians can only achieve culture by direct or indirect effects of Europe "[Vamberi G, 1913. 707]. This philosopher has the ability to look at the Oriental people as well. Moreover, one of the Western philosopher scientists, Oriental Thoughts, "painted with supernatural dyes," states the German philosopher Carl F., 1922. B. It is not necessary to dwell on our European thinking so far apart from the concept of world outlook of these nations [2, p.234].

Many of the above-mentioned points in the scientific philosophical heritage of the Oriental Reformers are not alien to us. It can be said that these sides, which seemed to be "backward", "defective"

from European perspectives, can be a solid foundation for the rise of our spiritual outlook.

Taking into account the fact that the totalitarian socialist ideology of the past has preserved national philosophy within the cage for over seventy years and the need to re-examine the scale of the changes that took place during this period in the world philosophical thinking and the past and forgotten or forgotten spiritual values, It is acknowledged that there are still many things to do to restore the original state of philosophy in the CIS. In this study we have to admit that in the present-day Western culture, the ancient philosophy has become increasingly recognizable as a science, and now it needs to restore this forgotten position of philosophy [3, p.88].

Therefore, a subjective study of this problem can be subject to subjective judgment. For example, some Uzbek and Russian scholars can only see the influence of their work in this field on the factual data, their ideological views on translating and publishing them. It is worth mentioning that the works of translation and publishing of several major works by Uzbek and Russian scientists were initially carried out in the middle and end of the 20th century. Such scientists or philosophers, E.A. Frolova, M.T.Stepanyants, A.Agnatenko, N.AIvanov, GS Shaimuhambetova and others. Researchers in these studies have tried to give information about the world, especially in the East and the West, in general. At the same time, each author drew attention to the analysis of the philosophical problems that they needed. The modern civilization requires the revision of the historical development of humanity and criteria for the identification of the development of scientific knowledge in the Islamic religion. According to this demand, Thomas P.Flint, Michael K. Rhee, Ali Akbar Vilayati, Ardakani Riza Dovari, Berns, Birincjer Rida, Vundt V., Oldenberg G., Gold, Limen Oliver, A. Korben, Seyyid Hussein Nasr, M. Mutahkhari, AA Ruby, Chittie Williams, and others [4, p.65]. There are also centers for scientific activity in many areas. In particular, the Center for Islamic and Middle Eastern Studies was established in Birmingham, England, which specializes in the study of Islamic philosophical foundations. It is located in the Philosophical and Religious Studies Department of the University of Birmingham in Birmingham, which also features the East Manuscripts Department. Here is the holy book of Islam, the oldest manuscript of the Qur'an. To find out the age of the manuscripts, scientists at Oxford Laboratory discovered that the manuscript was written between 568 and 645. This indicates that one of the oldest copies of the Koran in the manuscript has been preserved well. This Center has opened a magistracy based on scientific research, and there are adequate opportunities for researchers who wish to pursue research in this area. In addition to studying and studying Islamic sciences, these curriculums focus on Islamic history and philosophical doctrines. The philosophical doctrines

of medieval East scholars have a positive effect on the development of Western science in this regard.

Also, the formation of Oriental philosophy in the X-XI centuries was directly influenced by the philosophy of ancient philosophy, first of all Aristotle and Plato's philosophy. That is why philosophical literature pays special attention to the term "Eastern peripatetism". Among the representatives of Eastern peripatetism are the philosophers such as Ibn Sina, Abu Nasr Farabi, Abu Rayhon Beruniy, Ibn Tufail and Ibn Rushd. It was through these great writers that Western philosophical thinking in the Middle Ages began to evolve. Based on these facts, one can not conclude that the roots of Eastern and Western philosophy are one. Because philosophical doctrines in the East and Europe have a significant difference in the philosophical thinking and the features of their understanding of the world of concepts, problems analysis, and ways to solve them. This made it possible for critics of Western philosophy to critically analyze Western philosophical views.

Based on the original sources of research in Uzbek scholars, philosophical views of Oriental philosophers such as Forobi, Ibn Rushd, Ibn Sina, Abu al-Ghazali have been studied much more. Uzbek philosophers and other researchers substantiated the great contribution of great thinkers to the history of the development of philosophical knowledge [5, p.34]. In our view, it is impossible to develop philosophical doctrine that is consistent with the transformations that take place in the life of the society, in the minds of the people, simply by repeating the past of the ancients. To do this, you need to be aware of world-renovated updates and pay particular attention to a particular approach and a specific approach.

A. L. Orientalists such as Kazibberdiev, S, Serebryakov, Azkul Karim, Alber Nasri have made a serious scientific work on translation of these philosophers' brochures, commenting on each concept, and the translation dictionary of their works. At the same time, the study of the scientific and philosophical heritage of the Oriental renaissance scholars from the point of view of new scientific evidence in terms of tolerance ideas, such as Z.Munavvarov, A.Hasanov, M.Imomnazarov, Z.Husnidinov, It is also desirable to point out the findings [6, p.9]. However, until now, Uzbekistan, Russia, Western scientists and philosophers have not analyzed their work on the study of the scientific and philosophical heritage of the scientists of the Eastern renaissance.

In addition, studies and studies have been undertaken in the Arab-Islamic countries to study and study Islamic philosophy. For example, the Egyptian University of Cairo's University of Islamic Philosophy annually holds international conferences on various issues of Islamic philosophy and publishes conference materials on a regular basis. One of the most important

research works in Islamic philosophy, M.Fahri's "History of Islamic Philosophy" was published in Persian in 1983 by Nasrullo Pervi Jawadi in Tehran. Scientific research on Islâm's philosophy has also been undertaken in the Republic of Turkey, including the monographs of Prof. M.Bayrakdar and I.Abdulhamid [7, p.4]

The analysis of these studies shows that philosophers of Islamic philosophy have tried to prove that not only their scientific views, but also their practical work, that philosophical training is not a field of knowledge that is difficult to understand. Therefore, our great fellow Abu Nasr al-Farabi described the philosophy of the twentieth century as follows: "When knowledge of the subject is acquired, it is educated in this respect, and if the meaning of what is created is understood, it is based on reliable evidence, If we have the confidence and the imagination, then we are talking philosophically about this information. "[8. Forobi, 1993, p. 183-184]. In the book Al-Huruf (Forbidden), Forobi says, "If the religion obeys the philosophy that is being perfected with all its common aspects, then it is true and right. However, if religion has been formed during the era of analytical philosophy, but not in the context of rhetoric, rhetoric (dialectics, dialectics), and sophistication (even with the help of any means, Obedient religion is also a lie and error. In many cases, it will be misleading from beginning to end. Philosophy also has a primary position in religion, because philosophy is a weapon, a religion, a pillar, and more precisely, a weapon of philosophy" [9].

According to Ibn Sino, all philosophical sciences are divided into two parts: theoretical and practical. The purpose of the theoretical part is to know the truth; The purpose of the practical part is to achieve happiness. Philosophical sciences, according to Ibn Sina, are divided into two types: the first one introduces us to our personal behavior and is called "practical knowledge". Because the benefits of this knowledge will be needed so that we can be sure of salvation in this world, and that our works are organized. The latter tells us the state of things in order to form us spiritually and to be happy in this world. This knowledge, which is explained on its own, is called theoretically [10, p.23].

Conclusion

In conclusion philosophical education is a unique form of general culture, self-identification, the logic of the world, the phenomenon that is manifested in a particular culture, and the way in which a person's place in society is evaluated. Philosophy focuses not only on studying the essence of the human being, but also on methodology for the development of other sciences, but also on the study of the internal capacities and perspectives of human thinking. Science is widely used in scientific and theoretical doctrines that have been in existence for thousands of

years to form the human mind. Studying the history of society and determining the future depends on the essence of philosophical outlook.

Secondly, philosophy is the manifestation of the human mind's thinking in the form of the most general concepts, knowledge, conclusions, and the general outlook. A person's self-awareness, psychological analysis of his essence, all his goals and their associated activities are linked to historical lessons, time requirements and abilities, prospects and new needs, scientific conclusions and values, to be fair with other people . Therefore, human self-awareness and the identification of others as well as the way in which it determines its existence are part of the philosophical problems and constitute the most complex of them.

Thirdly, there are some concepts that play a certain ideological-theoretical role that affects the way and philosophy of philosophy, which is embodied in the methodological principles. Indeed, philosophy summarizes, accelerates and unites the knowledge, experience gained from different countries around the world at different times. In this context, the approximation of science and the combination of problems create new opportunities for the expansion of scientific and practical activities of humanity.

Fourthly, the practical functioning of human beings, the development of science has never weakened the need for philosophical thinking, but on the contrary, it has intensified. Human beings will not only be able to derive the systematic knowledge of their essence, society, nature, and thinking through their minds, but also on the basis of which they seek to produce important conclusions that are important for the development of scientific thought and practice. As a result, new discoveries for science see the world. This is a unique achievement of science. It's no secret that today's view of philosophy is changing dramatically. Forming a younger generation, thinking, and upbringing their outlook is one of the topical issues of the day, as it improves their attitude towards themselves and the world. Because the younger generation is the continuation of tomorrow's day.

Fifth, the peculiarity of philosophical thinking is that such thinking is submissive to rationality, internal harmony, conflict, and proof of students. We can say from the beginning that these characteristics coincide with the emotional, irrational, and valued arguments of people. Any renewal in our society is directly or indirectly aimed at strengthening the national idea and ideological immunity. It plays an important role in intensively developing and changing social life.

For this reason, a thorough study of the philosophical heritage of the Oriental renaissance philosophers today is an important basis for the development of philosophical education in our country.

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QR – Issue   QR – Article

Sanobar Djuraeva
National University of Uzbekistan
Doctorate

SACRED PLACES IN SURKHAN OASIS AND POPULATION'S RELIGIOUS LIFE

Abstract: *The article deals with the sacred places of worship in Surkhandarya. However, the article analyzes recent field surveys and their results. Details of the history of sacred places had given. Conclusions on the significance of today's pilgrimage were summarized.*
Key words: *Surkhandarya Oasis, great scientists, Dalvarzintepa, Fayoztepa, Termez, Field research.*
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Classifiers: *Geography. History. Oceanology. Meteorology.*

Introduction

As a result of scientific researches it is possible to study the history of sacred places, to identify their specific features, to study the traditional religious views and beliefs of our ancestors in the material and cultural sphere. Surkhandarya, a southern part of Uzbekistan, has a special place in the development of world civilization. This country is famous all over the world with its great scholars, scientists and hardworking people. Our ancestors sought to uplift the names of those who deserved to be respected in their life experiences and to make their works a model for future generations. Studying the heritage and history of natural persons, ultimately promoting the burial places buried, promoting the life experience of religious people, their secular and religious activities serve to educate young people in the spirit of patriotism. The culture around the sacred objects, the phenomena in the history of society, the attitude towards them, the traditions, traditions and ceremonies associated with this environment, are interpreted by specific language and characters. It should be noted that the sacred places of worship will inspire the whole history of our people, love the Motherland, and preserve it as the apple of the eye.

Materials and Methods

The study of the sacred places at the Surkhan oasis and the scientific analysis of their origins and their socio-economic and cultural realities are of

particular importance. Because the geographical environment in the formation of sacred places is of particular importance, and our ancestors paid great attention to the climate of the region, the nature of the environment, the location of the earth, the connection of various trees and medicinal plants to the interpretation of the image of the great allies and saints. The burial places of the people buried at the sacred place were publicly recognized by the people, their efforts to preserve peace, protect the people from foreign invaders, and to prevent victimization, various illnesses and disasters, and were buried in the sacred, clean. The ancient and historical monuments of the Surkhan oasis have been thoroughly studied by ancient scholars and have achieved a number of results in the field of geography, architecture and architecture of sacred places. Al-Hakim at-Termizi, Varraq At-Termizi, Yusuf Hayot at-Termizi, Imam Abu Isa At-Termizi, Abu-Muzaffar at-Termizi, Sayyid Burhon ad-Din, who is well-known in Surkhandarya and respected in the Muslim world Husayn at-Termizi, and they worked as scholars of Islamic sciences.

For the sake of the great scholars, Awliyâ, Sahabah and Sufis, earth was brought from their tomb or from their graves into a holy place. During the scientific analysis of sacred places, we have seen that important work is under way to beautify them, to transform our people into spiritual, spiritual lands.

The Surkhan oasis, which was on the Great Silk Road in ancient times, was the basis for the formation and development of various religions such as Buddhism, Zoroastrianism, Christianity, Monavilism[1].

The findings of archeological researches show that the sacred religious monuments and pilgrimage sites in the areas of Sopollitepa, Jarqutan, Ayritom, Termez, Dalvarzintepa, Holzheon, Fayoztepa, Karatepa, such ancient sites of ancient archeological monuments[2].

Termez is one of the oldest cities on the territory of Uzbekistan, and architectural complexes are the main source of culture that combines the sacred places of worship with great scholars and saints. Geographers, tourists, and ambassadors have kept a lot of information about these steps[3].

Great people who have made a worthwhile contribution to the formation of sacred places in the cultivation, craftsmanship, medicine, self-esteem, imagination and consciousness of the indigenous people, the formation of teacher-student schools, the harmony of nature and society, creating a collaborative relationship between ruling classes and ordinary people integrated and historically formed. Each of the attractions in the valley has played an important role in the lives of the local people, and the person living there was distinguished by his consciousness, imagination, religious and secular knowledge, and his contribution to historical events and customs, taking into account his profession.

Most importantly, the occurrence of sacred places in rivers, arid, springs, mining, crafts, farming, livestock, trees, and various medicinal plants is mainly related to the geographical situation. The largest pilgrimage sites in Surkhandarya region are located in Termez city and Termez district, including al-Khakim At-Termizi, Zu-l-Kifl, Kirk Kiz, Sultan Saodat mausoleum, Kokildor ota, Murch boban sagani. These objects are influenced by various epoch events and are distinguished by their geographical and historical location.

Field research has revealed that 70% of Surkhandarya's pilgrimages are located in Termez, Sherabad, Muzrabad, Angor, Baysun, Oltinsay and Denau. Scientists, scholars, and religious figures living in these regions make a worthy contribution to the development of science and culture. These regions are connected to ancient cultural centers such as Zaroutsoy, Sopollitepa, Jarqutan, Termez, Zang, Karatepa, Fayoztepa, with the best geographical location.

In the mountainous and steppe regions of the region, changes in religious and cultural backgrounds are slow. As a result, in ancient districts, religious beliefs, cross-sections, and practice have long been preserved. It also became easier for pilgrims to be built in populated areas and piled by pilgrims.

There is an architectural monument of X-XIV centuries in Termez district of Termez district. This object is related to the name of Abu Abdullah Muhammad ibn Ali ibn Husayn al-Hakim at-Termizi, the founder of the Sufi method of ruling in the IX century and the author of a number of religious and philosophical works, a great scholar. It is a pilgrimage not only in the province but also in the name of the greatest scholar in the Islamic world[4-5].

Located in the XI-XII centuries in the southern part of the Prophet's Island near the city of Termez, Zul-Kifl is an example of the diversity of religious and spiritual life. This pioneer of the name of the Prophet Zul-Kifl, mentioned in the Qur'an, is visited along with many sacred places in the region[6].

There are a lot of stories about this person.

Next object - The Kyrghyz girls' complex is located at Namuna community farm in Termez district. This is a monument of the IX-XIV centuries, which is the mausoleum of Ruhayda bint al-Varraq, the daughter of Al Hakim at-Termizi, the queen of the legendary Qirq girl castle, Hurayda bint Muhammad Al Hakim, and the daughter of Varrak At-Termizi[7].

An anthropological phenomenon can be observed in the example of Surkhondarya sacred sites. On the other hand, it will be able to raise its status by linking sacred places with the name of the well-known people.

Located in the unique community among the locals, the complex is the Sultan Saodat complex, located in Namuna community farm of Termez district. During the XI-XIX centuries, the complex of mausoleums of Sultan Saodat was restored and rebuilt as a sacred place of worship. This complex includes about 20 mausoleums. It is made of ganch-carpets by renowned architects of its time. The complex is built on the tradition of Sayyid Hasan al-Amr, one of the Prophet's descendants. The mausoleum of Hussain is honored with the name of the upper part of the sayyids and local Muslim scholars, their dynasty, mausoleum[8].

The Alawite cult has a strong position in Surkhandarya region.

Some places of worship are considered to be mausoleums of famous historical figures in the region. For example, the Kokildor Parish (XII century) relates to al-Hakim at-Termizi. Kokildor is the son-in-law of al-Hakim al-Termizi, and his daughter is married to Hurayda bint Muhammad al-Hakim. His original name is Saman Ashur. He is known as a famous calligrapher scientist and author of many works. This scientist is known as the saint after burial in "Koski Kokildor"[9].

Among the strangers, there are also unknown names. The population accepts them as "saints." These include the Murch Bobo[10]. His tradition belongs to the late 19th and early 20th centuries. The exhibition is located at Termiz 16, Adib Sobir Termiziy street.

Most of the sacred places in the Angor district belong to the Archaeological Reign of the Kushan Empire (I-III AD)[11]. There are two mosques in the XI-XII centuries: Hoja Roshnoyi, Sa'd ibn Abi Waqqas, and Abdurrahman in the XX th century.

Hoja Roshoyi temple building is located in the XI-XII centuries, on the road of Termez-Angor highway, located in the Zang district. The original name of a person who sneezes in a tomb is unknown. But there are some narrations about it. According to them, it was famous for these saints.

The other two are related to the names of the first Islamic heroes. Abdurrahman Ata's place of worship is one of the companions of Prophet Mohammad (pbuh), one of the Companions of the Prophet (peace and blessings of Allaah be upon him), Abdurrahman b. This is located at the Tallimaron Community Farm. Over time, a large cemetery was formed around it[11].

Sa'd ibn Abi Waqqas' home is also related to the famous Companion Sa'd ibn Abi Waqqas (Wali 674), one of the Asharah al-Mubashshara. This hotel is located near the hill of Hayrabad[12].

Sacred places are often characterized by ancient castles. For example, in the Muzrabot district, there are Sopollitepa, Kampirtepa (III a.), Karamakmar cave complex and other ancient monuments of the epoch. In Muzrabot, in the village of Navbahor in the district, there is a sacred place Muzrabot father (Buzruk-ota) of the 15th century.

The vast majority of pilgrims are associated with the names of the famous people who work in this country. For example, one of the founders of the great hadith science in Sherabad district was a mosque of Abu Isa At-Termizi (X-XI aa.), A scholar, author of numerous works, a large cemetery in the territory of the collective farm "Ulash Turopov" is located next to the Here is Abu Musa ibn Isa At-Termizi, the author of one of the well-known hadith books, known as Sihohi Sitta (The Six Trusted Collection) in the Islamic world. This pilgrimage plays an important role in the spiritual development of our people, the study of secular and religious knowledge, propagation of morals and humanity.

There are also places like Atoulla Said Vakkos, Axtam Sahabah, Sulaiman Ata, Jamolmergan, Hojamuqan, Khojanga, Kayrioghoch, Sayyid, Bobotepa, Chopon Mom, Kirkchilton, Koshash Valiy, Chulpon Ata, Rabotak Cemetery. The people connect them with the names of the Sahabah and the first Arab military commanders. It should be noted that Akhtam Sahabah (Namangan, Tashkent region), Chopon-ota (Samarkand region), Kirkchild's father's cults are known in other regions of Uzbekistan.

Atoulla Said Vakkos (X-XI aa.) Is located in the center of Sherabad district on the river bank. This place is called Atoulla Eshon Mir-Khaybar. It has been reported that this person is the Companion Sa'd ibn Abi Waqqas, a famous commander during the Arabian wars[13].

The Ahtam sahabah (X-XI aa.) Is located in the Sherabad district of Chigatay. This mausoleum was built for the Prophet Muhammad's () cousin, the close relative of Hazrat Ali[14].

There is also Hojamuqan-Ata sanctuary in the village of Hojamuqan in the mountainous area of Sherabad. The village is named after this saint. A single sentence about the Awliyâ has been widespread.

There are Kirkchild-ota in the Taldykor district of Sherabad district, Koshash-Valiy in Dustlik mahalla, Chulpon-Ata sacred places in Navbogh village. As you know, the Kirkchild cultivation is common in Central Asia. There is also a Rabatak cemetery, which is visited by the population in the district. Usually, no cemetery may be a place of pilgrimage.

It is widely known in the community of Takiya ota (K. XII century) in the Qiziriq district. The word "takiya" and "rabotak" means the Sufi headquarters. The first pilgrimage is located in the Takiya-Ata neighborhood of Ahunboboev's collective farm, but there are no other sources mentioned in this tomb[15].

There are no written sources in the written sources about Hazrat Sultan Vali (XIV century) located in the village of Omonxona in Boysun District. According to legend, Sultan Vali was born in Balkh in the XIV century and sought his master, and the Siddiq came with the Companions to the present day. He had been here for forty days and had a nickname called "Balogardon". He was buried here after his death[16].

Located in the town of Padang in Boysun, the Choir is a sacred place for the local people. However, information about the buried person did not allow him to identify his or her history.

Khoja Samandar at-Termizi, located in the village of Koptogay in Kumkurgan district, is related to the name of Khoja Samandar Muhammad bin Baqo at-Termizi, who lived in the seventeenth and eighteenth centuries and was known for his centuries-old feverish, sharp language. He is known as a contemporary man, lawyer, justice, ambassador, warrior and historian scientist[17,18].

Nearby, the brothers Sayyid Kemal and Sayyid Jamal were buried, and this place became a place of worship.

Shakarli-ota, Bektepa, Ulughsay, Bandixon district are known only in the local area of Haydarkul Hoji-bobo in Ozod collective farm. Traditions of the Awliya are justified by general concepts for Central Asia. Therefore, detailed historical information is not available.

14 sacred sites were studied in Oltinsay district. At this point, he was buried by great saints, Sufism scholars, scholars, and donkeys. The most famous of them are Hidirshoo (XIV century), located in Hidirsho village. This place is considered one of the pagans of the Prophet[19].

Sufi Olloyor (XVII-XVIII century) is located in the village of Katy Vakhshivor, where the poet and thinker, Sufi Olloyor (1644-1721), founded the Uzbek classic literature, as a follower of the traditions of Sufism[19].

In the region, the influence of this scientist can be seen in the vast number of pilgrimages associated with his name. The mosque at the end of the village of Omakbulak in Pakhtakor collective farm is also the Sufi Olloyor (XVII-XVIII century). It is reported that Sufi Olloyor's Khaleefah left Samarqand and stopped at the present place of pilgrimage. The local population calculated this place as a pothole and built a small mosque near it. As a result this object became a pilgrimage. Since then, this place is called the Mosque of the Father[19, p.31].

The representative of the science of tasawwuf is Khoja Muhammad Mevlana Zohid (XVII century) in the small village of Vakhshivor. The grandson of Khoja Muhammad Balki, the master of the science, astronomy and mathematics, who taught at the Samarkand madrassa in the time of Mirzo Ulugbek. He was the founder of Sufism[17, p.35-36].

Another feature of the festival is that there is an ancient tree or a spring in its territory. For example, an ancient cedar mulberry tree (XVII century) is growing at the Kurban-Soat, which is located on the outskirts of the Khojasoat village in Altynsay district. This place was named as the Feast of the Sacrifice because of the burial of Saatli, the son of Kurban, the Islamic scholar of the 17th century[19, p.27].

Most of Surkhondarya's pilgrimages are located on high hills and deserts, which symbolically represent the people's name. Located on the large adjacent settlement of Mirshady in the white golden neighborhood, it is located in the same place as the Hojejor or the House of the Holy Virgin (XVIII-XIX centuries)[19,p.31-32].

It is also located in the village of Kiik ana (XVIII-XIX centuries) in this village, on the other side there is a valley, and in the middle a large herd flows. The citadel is on the same line. The wall, which is surrounded by ordinary collars, has faded over time. The tomb that was in the middle was lifted up with simple soil. The 200-250-year-old pilgrim was buried in this holy place of pilgrimage. According to the deceased testament, they buried him in front of a deer who saved him from death[19,p.29-30].

The culinary wildlife is manifested in these places and elsewhere.

The sanctuaries were of special significance for the celibacy. For example, the Bibi Zainab, the Sayyid tribe, was buried in the cemetery (XIX century) and later became a cemetery. The immediate descendants of Bibi Zainab and the local people are buried here[19,p.33].

Oltinsay district is one of the most sacred places of worship. One of the Companions of the VI-VII centuries has a temple (XIX-XX AD), known as the "Captain", built in honor of Khoja Hasan Ilqar, who was active in propagating Islam.

Located at the top of the village of Kultury in the village of Kultany, in the village of Korlyk near the village of Khorlyk, there is the Yakka-ata grandfather (XVIII-XIX century). It is located in Korlyk mahalla of the district, with a large domed cathedral of Eshon bobo (XIX-XX a.), Mostly buried with donkeys and their descendants. This person is considered to be one of the members of the White House of the Lord. Hodja Pok ota, the companion of Abdurrahman ibn 'Awf, is located at the foothills of the district[19, p.18-34].

Hijjah-Hour is 400-500 meters above the center of the mahalla, and on the right side of the road there is a well-known place of worship called Sa'd ibn Abi Waqqas (guard 674)[12, p.473]. The fact that the previous Islamic heroes participated in the first Arab marches to Central Asia in the emergence and development of the Companions of the Prophet played an important role.

Located in Ushr, on the hilltop Barku Mountain, Hojai Gissar is located. It appears from the word "housekeeper" that developed on the basis of an ancient castle[21].

There are six pilgrimages in Denau district of Surkhandarya Province. One of them was the mystic scholar of the Movement, the Caliph Bahauddin Naqshband's caliph and son-in-law, Alouddin Attar Wali (v. 1400)[22].

There is a pilgrimage on Mount Sangardak, which is called the Sangardak, because of the large circle there (in Persian, "girdle" - "roundabout, round stone"). Also known as Hijay Ilgori[23], a prominent leader in the mountains, is the ancient Sharra graveyard[24] at the 100-meter hill of the mountain where the white water flows, and the Hojeai Khuban (Good Hands) encampments[25]. The abundance of sacred sites associated with the beautiful natural sites indicates the peculiarity of the Surban-era pilgrimage sites. It is also located at the Hazrati Sultani Mausoleum in Khairabad, where the people are visited by the people, but the local population is not informed about this person. Another glamorous object - Kukpak-Ata is located in the neighborhood of Galaba neighborhood. It is well known that the dog image is a common practice in Sufi teachings.

We can meet the advent of the last generation of representatives. For example, in Sariyasia district there lived a fortune of 100-200 years (XVII-XIX centuries) in the village of Khufor, a great worshiper of the people - Karimkul hulla[17, p.43].

There are 17 sacred pillars in the Uzun district. It should be noted that there is little historical information about them. The comparative study of them has provided the basis for the following.

On the left bank of the Surkhan River, in the White Village of the village of Serharakat, in the village of White Ostona, there is the White Ostona bobo (X-XI century)[26], with the name of Abu

Hurayrah (602-679), one of the famous sahabi, roviy and faqih. The causes of the spread of Abu Hurayra are still not well-known. In any case, it is related to the development and success of the science of hadith in Central Asia in VIII-IX centuries.

Spring springs require special mention. They form the basis of life ecology. There are Chashmi divonaho (Devonalar) sacred sites on the banks of the river Khursand, in the village of Hijjai Piriah (Qari Muz)[27], in the Honjiza village of Hânziza, in the village of Chosh, in the hilly part of the village of Khursandtag. Here an ancient spring is boiling over a large stone. Because of the large number of cannabis trees on the right side of the entrance to the village, the "Blue Bulls"[28] is known for its Obi Surhon River near the Redsch of Desurh, and the Springs of the Sheikhs under the Mountain of Naiho[29].

The cult of the martyrs is widespread. For example, the Shahidon cemetery (Shahidlar cemetery)[30] is located on the Chios side of the Nile village near the Shakhidon Mountaineer. There are ten graves in the Pistea memorial on the piste. These graves are also the grave of martyrs. Nobody can eat fish in a sacred sanctuary in Nilu. The population is drinking water from this pool.

It is a place of pilgrimage on the shore of the village called Shurtul, which is a place where the people meet together with Mirzo Boborahim Mashrab and Sufi Olloyor. There are sacred springs in the Chashmai Bibihur - Bibinur cemetery at the top of the village, at the village of Quruloq, on the left, on the left without reaching the village Kengguzar at the top of Nilu. On the mountaintop of the village of Nilu there is a spring of healing water at the top of the mountain, which is called Chashmai Soro[31].

Trees should be carefully touched. On the left side of the Honjiza neighborhood, far from the village, the Mazar tower is located, with a hawk tree around it[32]. Hanjiza neighborhood is located at the top of Hodja Murid, on the top of the village of Debodom, on top of which is the Darvozaho Temple, where water is sprinkled from all three mountains[33]. The Hanjiza community farm is located at the foot of the village of Hojai Asmin, on the outskirts of Quyi Safet (White Mountain), where the Fortress Girl (Chil Plateau) is located. The mountain is white, so it's always snowy. There are forty forty mountains in the mountains. There is also a source of Shakar olma (sugar apple)[64]. The Hojar Asmin saint is located at the foot of the village on the outskirts of Mount Safet[43].

Conclusion

The researches have allowed to find out about 64 hotels in Surkhandarya region. Most of them are well-known at the regional and local levels.

A sacred place on Surkhandarya bay and pine trees are located in areas favorable for sun-lying sunlight, soil and climatic conditions, with a historic-geographical location as an educational site that has a positive impact on the spiritual outlook of the local population. Especially the fact that they are located on the high hills, the beautiful nature, the coolness and the cool atmosphere make the number of pilgrims increasing year to year. Here are all the conditions for their relaxation and recitation. These places serve as centers of spirituality, which contribute to the development of our society, to the development of national ideas and emotions on the basis of state control.

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QR – Issue   QR – Article

Davron Nurmukhammadov
International Islamic Academy of Uzbekistan
Basic doctoral researcher

MUHADDITH HAISAM IBN KULAYB SHASHI AND HIS CONTRIBUTION TO THE DEVELOPMENT OF HADITH SCIENCE

Abstract: *The article deals with the activities of the great Muhaddis Abu Said Haisam Ibn Kulayb Shashi (d. 947), who became famous as "Imam Shashi" and investigated his work "Musnad al-Kabir".*
Key words: *Golden Age, Imam Shashi, Muhaddith, Siko, Musnad.*
Language: *Russian*
Citation: Nurmukhammadov, D. (2019). Muhaddith Haisam Ibn Kulayb Shashi and his contribution to the development of hadith science. *ISJ Theoretical & Applied Science, 07 (75),* 131-133.
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Classifiers: *Literature. Folklore. Translation Studies.*

МУХАДДИС ХАЙСАМ ИБН КУЛАЙБ ШАШИ И ЕГО ВКЛАД В РАЗВИТИИ НАУКИ О ХАДИСАХ

Аннотация: *В статье речь идёт о деятельности великого мухаддиса Абу Саъид Хайсам Ибн Кулайб Шаши (ум. 947), прославившего как "Имам Шаши" и исследовано его произведение "Муснад ал-Кабир".*
Ключевые слова: *Золотой век, Имам Шаши, мухаддис, сико, Муснад.*

Введение

В третьем веке хиджры (IX веке) наука о хадисах в Мавераннахре и Хорасане достигло своего апогея. Этот век в источниках известен как золотой век науки о хадисах. Хайсам ибн Кулайб Шаши является одним из ученых мухаддисов, который осуществлял свою деятельность именно в этом веке.

Полное имя ученого – Хайсам ибн Кулайб ибн Сурайдж (в некоторых источниках указывается как Шурайх) ибн Маъкил Абу Саъид Шаши Бинкати Тюрки, в источниках не встречаются сведения о дате его рождения. Тем не менее, в них точно указано год смерти мухаддиса – 335 год хиджры (947 год по григорианскому календарю).

Некоторые улемы с особым почтением называют его Имамам Шаши, и отмечают его как великого ученого науки хадисоведения. Абу Саъд аль-Абдулкарим ибн Мухаммад Самъани в книге «Аль-Ансаб» ("Книга родства") пишет: «Город на берегу реки Сайхун, граничащий с турками, называется Шаш. Отсюда вышло много ученых» и приводит сведения об улемах из Шаша, в

частности, о Хайсаме ибн Кулайбе. «Абу Саъид Хайсам ибн Кулайб ибн Сурайдж ибн Маъкил Шаши Бинкати. Родом из Термеза. Он жил в Бинкате. Он является имамом, хафизом, заслуживающего доверия мухаддисом и автором книги «Муснад аль-Кабир» [9, с. 359].

Мухаддис Кулайб Шаши изучал науку о хадисах и передавал хадисы от Иса ибн Ахмада Аскалани (180-268/796-881), Исхака ибн Иброхима Тирмизи, Абу Иса Мухаммада ибн Иса Тирмизи (209-279/824-892), Абу Хатима Мухаммада ибн Идриса Рази (195-277/810-890), Абу Бакра Ахмада ибн Абу Хайсама Зухайра ибн Харба (160-234/777-848), Аббоса ибн Мухаммада Дури (умер в 271/884 г.) и других. Обучался также у улемов Ирака.

Абулкасым Али ибн Ахмад ибн Мухаммад Хузаъи Балхи (326-410/938-1020), Абулфазл Мансур ибн Наср ибн Абдурахим Кагози Самарканди (умер в 423/1032 г.) и другие передавали хадисы от Имама Шаши [1, с. 317-318].

Шамсуддин Захаби (1274-1348) в книге "Сияр аълом ан-нубало" ("Сиры благородных

мыслителей") приводит полное имя Имама Шаши следующим образом: "Абу Саъид Хайсам ибн Кулайб ибн Сурайдж ибн Маъкил Шаши Тюрки".

Имам Захаби написал в своей книге о том, что Хайсам ибн Кулайб был известным и достоверным мухаддисом, достоверным передатчиком хадисов Мавераннахра, с целью получения знаний посещал многие города, был хафизом и адибом (*люди, отвечавшие требованиям «адаба», т. е. требованиям, предъявлявшимся к всесторонне образованной и воспитанной личности. Предполагалось, что адиб знает философию, астрономию, математику, умеет вести интересную беседу, проявляя осведомленность в литературе, истории, географии – прим. Д.Н.*), автором книги "Муснад аль-кабир", в 334/995 году в Бухаре передавал хадисы.

Также, Иса ибн Ахмад Аскалани передавал хадисы от великого мухаддиса Абу Иса Мухаммада Тирмизи и Закария ибн Яхья ибн Асада Марвази, Ахмада ибн Мулаъиба Багдади (достоверный передатчик хадисов, 191-275/807-888), Али ибн Сахла Рамли (достоверный передатчик хадисов, умер в 261/874 г.), от Мухаммада ибн Убайдуллоха ибн Мунади Багдади (от него достоверно передавал Имам Бухари, 171-272/787-885), от Яхья ибн Джаъфара ибн Зибрикона (182-275/798-889), Хамдона ибн Али Варрака, Мухаммада ибн Иса Мадаъини, Абу Бухтари, ибн Шакира, Али ибн Сахла, Иброхима ибн Абдуллоха Кассора, Яхья Абу Талиба, Аббаса ибн Мухаммада Дури, Мухаммада ибн Исхака Сагани и других, а от него хафиз Абу Абдуллох ибн Манда Асбахани (310-395/922-1005) говорит, что передавал хадисы в Бухаре, еще в одном случае в Шаше.

Якут Хамави (1179-1229) в книге "Муъжам аль-булдон" ("Энциклопедия государств") представляя сведения о столице Шаша (или основного города) – Бинкате, следущими словами выделяет ученого этой страны Абу Саъида Хайсама ибн Кулайба ибн Шурайха ибн Маъкила Шаши Бинкати: «Хайсам ибн Кулайб Шаши имам, хафиз, путешествующий в поисках знаний, мухаддис и адиб. Науку адаб он изучал в Багдаде от Абу Мухаммада Абдуллоха ибн Муслима ибн Кутайбы. Передавал хадисы от ученых Хорасана и Ирака. У него есть книга "Муснад". О нем слышали в Мерве от Хафиза Али ибн Музаффара Абдурахима ибн Абу Саъда» [2, с. 500].

Абу Саъид Хайсам ибн Кулайб Шаши в целях изучения науки о хадисах был в городах Бухаре, Самарканде, Насафе и Термезе и обучался у известных мухаддисов. Кроме того, он посещал также такие города как Балх и Багдад.

Мухаммад ибн Тахир ибн Кайсарани в книге "Тазкират ал-хуффоз" ("Тазкира хафизов") сказал: «Хафиз, достоверный мухаддис – Абу Саъид

Хайсам ибн Кулайб ибн Шурайх ибн Маъкил Шаши был мухаддисом Мавераннахра, автором книги "Муснади кабир"» [3, с. 848].

Шамсуддин Захаби в книге "Табакот аль-мухаддисин" ("Уровень мухаддисов") пишет следующее: «Хайсам ибн Кулайб Шаши хафиз, автор книги "Муснад"».

Ибн Иъмод говорил: "Надежный мухаддис из Мавераннахра ".

"Абу Саъид Хайсам ибн Кулайб ибн Сариж ибн Маъкал Шаши автор книги "Муснад аль-Кабир". Мастерски владел арабским языком. Передавал книгу Имама Тирмизи "Аш-шамоилул Мухаммадия" ("Достоинства пророка Мухаммада"). Разные издательства используя именно его рукописи издавали книгу "Аш-шамоилул Мухаммадия" [10, с. 317].

Кази Ильяз в книге "Гуня" об экземпляре сборника хадисов «аль-Джами» Имам Тирмизи, переданного от Имама Шаши пишет следующее: "В экземпляре сборника хадисов «аль-Джами» Имам Тирмизи, переданного от Абу Саъида имеются хадисы, которые не встречаются в других экземплярах".

Известный улем Зияуддинхан ибн Эшон Бабахан (1908-1982) об ученом хадисоведе пишет следующее: "Хайсам ибн Кулайб один из крупных улемов Мавераннахра. Учитель Каффала Шаши. Известный мухаддис и крупный ученый своего времени" [8, б. 234-236].

Шейх Мухаммад Садык Мухаммад Юсуф (1952-2015) говорит о нем так: "Хайсам ибн Кулайб Шаши – известный ученый, мухаддис, один из близких учеников Имама Тирмизи" [7, с. 1].

Основная часть научной деятельности Имама Шаши проходил в городах Бухаре и Самарканде, поэтому многие его ученики проживали в этих городах. В частности, ученый Абу Бакр Мухаммад ибн Абдуллох ибн Басир, имам, хафиз, путешественник, мухаддис Абу Абдуллох ибн Манда Асбахани (умер в 395/1005 г.) (Ибн Манда в своей книге особо подчеркивает о том, что он в 334/945 году в Бухаре от Имама Шаши получал знания по хадисоведению), имам, хафиз Калабази (умер в 398/1008 г.), Абулфазл Мансур ибн Наср ибн Абдурахим Когази, Мансур ибн Наср ибн Абдурахим Самарканди изучали у Хайсама ибн Кулайба Шаши науку о хадисах и передавали от него хадисы.

Также, Субки давая сведения о Абу Бакр Мухаммаде ибн Абдуллохе Авдани Бухари (умер в 385/995 г.) отмечает, что Хайсам ибн Кулайб Шаши является одним из его шейхов.

Посвященная науке о хадисах книга Имама Шаши "Муснад" ("ал-Муснад ал-Кабир") во всех источниках, где упоминается его имя, получает высокую оценку. Единственный рукописный экземпляр книги сначала хранится под номером

277 в библиотеке "Мактабат аз-Зохирия" столицы Сирии Дамаске, позже переводится в библиотеку "Мактабат ал-Асад" Дамаска, где хранятся редкие рукописные издания [6, с. 48].

Данная рукопись, состоящая из 192 листов (19-30 строк), в 558/1163 году переписана в стиле насх со стороны каллиграфа Хафиза Зияуддина Макдиси. Данный экземпляр является одним из жузов автора муснада и начинается с муснада Талха ибн Убайдуллаха радыйаллаху анху (в действительности это считается седьмым джузом книги) и кончается с некоторыми муснадами Абулюсра радыйаллаху анху. (Это конец пятнадцатого джуза книги.)

Рукопись сначала в 1990 году была исследована в "Марказ ад-даъват ва ал-иршод" города Дубая индийским ученым хадисоведом, доктором Махфузуром Рахмоном Зайнуллохом и издана в трех томах в городе Мадине (в 1994 году книга была переиздана).

Данная книга в 2012 году с исследованием Хамида Абдуллоха Махаллави под названием "Муснад аш-Шаши" (состоит из 544 страниц) была издана также в издательстве Бейрута "Дар ал-кутуб ал-илмия". Данное издание хранится в библиотеках Мюнхена (Германия), Кембриджа (Великобритания), Торонто (Канада), Гарварда, Принстона и Элмера Холмса Бобста в Нью-Йорке (все США).

Марокканский ученый мухаддис Саййид Абдулмажид Гаври (1910-1993) в книге "Мавсуаъ улум ал-хадис ва фунуних" ("Энциклопедия науки о хадисах") в числе самых важных муснадов приводит "Муснад" Имама Шаши и пишет следующее: "Хайсам ибн Кулайб Абу Саъид Шаши достигший уровень хафиза имам из Мавераннахра. Его книга "Муснад" дошла до нас не польностью. В книге выбраны сподвижники и передатчики хадисов от них даны в алфавитном порядке" [5, с. 287-289].

Шамсуддин Захаби в книге "Сияр аълом ан-нубало" указывает о том, что Имам Шаши умер в 335/947 году в Самарканде. В действительности, как указано в ряде надежных источниках, последние годы своей жизни Имам Шаши проживал в Бухаре, потом вернулся в Шаш и в 335/947 году умер в Шаше [4, с. 17].

Как отмечает первый председатель Духовного управления мусульман Средней Азии и Казахстана (ныне Управление мусульман Узбекистана), покойный муфтий Зиявуддин ибн Эшон Бабахан хазрат, на территории Хастимама были гробницы Хайсама ибн Кулайба Шаши и отца Ходжи Ахрора Вали - Ходжи Махмуда Шаши, однако позже они не сохранились [8, с. 236].

В заключении можно отметить, что вклад Хайсама ибн Кулайба Абу Саъида Шаши в развитие науки о хадисах не только Мавераннахра, но и всего исламского мира огромен. Особенно, книга ученого "Муснад" является одним из самых древних книг, показывающий его вклад в развитие науки хадисоведения.

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QR – Issue   QR – Article

Saidakmal Xodjayev
Tashkent State economic university
senior official of Presidential Administration of the Republic of Uzbekistan,
competitor.

SEPARATE ASPECTS OF FORMATION THE ELECTRONIC GOVERNMENT AND INFORMATION SOCIETY
(in the Republic of Uzbekistan example)

Abstract: In article results of research, theoretical, methodological and practical recommendations about creation electronic government and to formation of an information society in Uzbekistan on the basis of the system analysis are presented.

Key words: an information society, information technology, electronic government, identification system, electronic services, a database.

Language: English

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Classifiers: Computer science, computer engineering and automation.

Introduction

The concept «an information society» has been used for the first time in conversations between Pussycat Kurokavo Tadao Umesao [1]. Further, the concept practically is simultaneously used in the USA and Japan in F. Mahlupa's works (1962 year) and T. Umesao (1963 year.) [2,3]. Theory bases of "an information society» have been developed in M. Porata's works, Masudy, T. Stounera, R. Katz and others [4,5,6,7]. From the separate researchers studying developments technological or технотронного (technetronic) of a society, actively using achievement of information technology in which the role of knowledge, ведены concepts "the knowledgeable society", "knowledge society" or "knowledge-value society" increases [8].

By the end of the XX-th century of concept «the information society» and "information" have strongly taken the place in political, social, economic, scientifically-educational and many other spheres of ability to live of a society. In most cases on the basis of perfection of information technology and institutes of a civil society transition to a new stage of development, occurrence in the XXI-st century as an information society arose. On March, 27th, 2006 the General assembly of the United Nations has accepted

the resolution on celebrating annually on May, 17th «the International day of an information society».

Materials and Methods

In the Republic of Uzbekistan researches of separate aspects of an information society also have begun. In particular, Aripov A. N., Gulamov S. S. gave the state regulation problems in sphere of information-communication technologies, influences modern ICT on various spheres of economy and innovation development [9].

Begalov B. A. together with Zhukovskya A. E. studied methodological aspects influence an information society on innovative development, Agzamov F. S. considered problems and efficiency of occurrence of the country in a network the Internet [10,11,12,13,14,15].

The author conducts the researches directed on development of theoretical, methodological and practical recommendations about creation electronic government and formation of an information society in Uzbekistan on the basis of the system analysis of influence of these processes on existing social and economic conditions [16-31]. In the present work the basic results of research are resulted.

Clarivate Analytics indexed

The functional architecture of system the electronic government, consisting of eight parts is offered:

1. Uniform system of identification - it is necessary to create possibility of identification of all users of system: as customers of services (the population and enterprise structures), and executors (civil servant). Accordingly, there should be a possibility of reception of the additional data at the customers who have been not forbidden by the legislation. In this subsystem expediently wide use of technologies of the electronic digital signature (EDS).

2. The uniform system of the account of references and demands for electronic services should unite in itself references and demands of citizens and the businessmen arriving both on a portal of the state services and on direct sites of official bodies. It will allow raising quality and efficiency of control and coordination of work with demands for interactive state services.

3. System of preparation of answers to electronic references and processing of inquiries about the state services. In other words, increase of level of automation of the basic function of the electronic government - the maximum satisfaction of needs of the population and businessmen with use of means of modern information technology. This system is defining in an estimation of quality and a system maturity the electronic government. Division of this system into reception and account subsystems, and also processing of inquiries will give notable economic, organizational effect. Besides it is essential to raise safety of system. Thus, we believe expedient to use the approach at which separately taken state structure will work over information of the specific problems, and the general and repeating problems will be solved in the centralized order.

4. System of the centralized databases. It is clear that, association of databases often repeating and repeatedly created by various state structures will bring real economic benefit. What particularly databases to be centralized it should be necessary to define authorized on creation of the electronic government to the state structure.

According to the standard international practice, such databases can be:

- A database of physical persons, i.e. a database uniting in itself the information, on citizens and visitors of the country, and also persons without citizenship;
- A database of legal bodies - the information on the enterprises of all kinds of the property, noncommercial, public organizations and representations of foreign subjects;
- A legislation database;
- A database of geographical objects and others.

5. The uniform system of qualifiers unlike the centralized databases is formed not by separate state structures in various spheres, and the authorized body in sphere of creation of the electronic government.

Should comprise uniform regulations and information interchange forms between components of the electronic government, the list of used qualifiers and qualifiers.

6. The system of maintenance of information security should protect the information and information resources of the electronic government from external and internal threats. Thus, conducting a uniform policy of information security will allow will gain essential effect in economic, organizational and other aspects.

7. The protected interdepartmental system of information interchange assumes the complete protected telecommunication infrastructure uniting information systems and objects of information within the limits of the electronic government, and also use of uniform standards of information interchange between departments.

8. System of information support of the supreme bodies of the government are intended for maintenance of the specified structures with the actual and timely information on a real situation in various spheres and economy branches, including digital. In other words it is necessary to use effectively possibility of preparation of the automated reports after introduction of information systems in the ministries and departments.

Thus, it is necessary to form and develop requirements to functional parts of system of the electronic government; their strict performance should be supervised at all stages of creation.

At the same time, within the limits of work the order of formation of the electronic government, consisting of the several interconnected stages is proved.

It is necessary to begin with full inventory of the services rendered by official bodies of all levels. Thus it is necessary to analyze the state services in following parameters: degree of a demand of service; possibility of a computerization or service automation; potential efficiency of a computerization (automation) of service; degree of repeatability of service in various establishments; degree of repeatability of the separate functional problems making service in various establishments and the establishment; terms of rendering of service; quantity of the involved divisions and employees and other essential indicators.

Further services are divided into three groups: the services repeated in many establishments and translated in an electronic kind in the centralized order; the services specific to each separately taken official body and translated in an electronic kind in a separate order; and at last, services which cannot be translated in an electronic kind. Thus it is necessary to aspire at the expense of the maximum expansion of the first group of services, to minimize the second and

third groups, the list is accordingly formed and the sequence of a computerization of the services translated in an electronic kind in the centralized order is developed. Here it is necessary will be defined with the list of the centralized databases.

On the basis of the analysis and leaning against the international experience it is necessary to develop and confirm when due hereunder obligatory for execution by divisions on a computerization of official bodies methodical, supervising and instructive documents. Public discussion of disciplinary and administrative measures for failure to meet requirements of the specified specifications also will bring essential effect in the conditions of a civil society.

In parallel with the analysis of services of official bodies it is necessary to develop and confirm detailed architecture of system at the greatest possible high level. As considerable changes of architecture of system further can lead to essential financial, economic and organizational losses.

After the statement of complete architecture of system the small cosmetic changes which are not leading to basic changes are supposed only.

By architecture working out considering the advanced foreign experience it is necessary to lean and as much as possible to use operating information-telecommunication systems already generated and checked up by time. That is, it is necessary to create possibility of use of operating information systems, resources, the infrastructures, the saved up wide experience and potential in telecommunication, bank, financial, tax and other spheres of ability to live of a society.

At an expert examination of engineering documentation of information systems projected within the limits of the electronic government, along with conformity to operating standard documents, it is necessary to pay steadfast attention to questions модульности created systems. Each functional problem which is a component of service translated in electronic kind should be realized in the form of the separate module.

Creation of the list of the computerized modules, their technical and technological decisions within the limits of all information systems to allow forming bank electronic functional official bodies. Data, program and technical workings out collected in this bank will carry out a role of ready decisions at creation of new information decisions. Orientation to the

modules collected in this bank at creation of information systems within the limits of the electronic government, will provide further economy and efficiency on the majority of indicators. Besides, at realization of systems it is necessary to try to use the local companies of manufacturers. It in turn will form a basis of growth of national intellectual and industrial potential and the further development of information technology in the country [16-30].

Conclusion

Considering defining role for reception of economic advantages of information resources, it is necessary to develop system of their financial and economic estimation. Thus it is necessary to consider all factors of influence: direct expenses on creation of an information resource, expenses on its restoration in case of failure or destruction, cumulative cost of the data collected within the limits of a resource, cost of "brand", etc.

The system Virtual and National receptions of the President of the Republic of Uzbekistan, allowing physical and to legal bodies directly to address to the head of the country has begun from the very first days the work has started to yield practical results as an innovative, modern and effective method of the organization of communicative processes between the state, the population and enterprise structures.

Processing of the data collecting in created and constantly developing system, with use of modern methods of the analysis will allow to define correlation dependences and other kinds of communication between existing problems, to develop complex programs of social and economic development both separate regions, and the countries as a whole, is direct взаимоувязанных with a real situation on places.

The great value at quality maintenance, perfection and vitality of developed specifications and spent works has cumulative opinion of experts of theorists and the experts working in information sphere. Therefore formation of their professional communities is very important. It is possible to carry to number of these communities:

IT managers club - a uniting top of IT Managers of official bodies which in the activity meet practically identical problems; E-Users club - community of active users of electronic state services and the professional journalists specializing on subjects of information technology.

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QR – Issue   QR – Article

Gozzal Alievna Alieva
Karakalpak State University
competitor, Republic of Uzbekistan

THEORETICAL ASPECTS OF MANAGEMENT OF A SOCIAL INFRASTRUCTURE IN REGION

Abstract: *In given article theoretical aspects of management are considered by a social infrastructure, the attention is paid to questions of efficiency of rendering of social services, formation, and realization of social requirements of the population. And also creation more than concessionary terms for objects of a social and market infrastructure at the expense of decrease in local taxes to improvement of quality rendered household and utilities at the expense of new innovative technologies.*

Key words: *a social infrastructure, social sector, innovative technologies, requirements of the population, a population standard of living, social services, a manpower, innovations.*

Language: *English*

Introduction

From the first days of independence of the Republic of Uzbekistan the special attention is given to social problems and infrastructures. It is connected by that average the age of the population makes 25-26 years and one of the young states in the CIS countries is. Therefore, nowadays the social problem remains to one of not completely solved questions.

We will try in this article will pay attention to social problems and infrastructures to characterize their advantages and a lack.

As a social infrastructure understand conditions of ability to live of people, system of realization of their basic needs. Still the social infrastructure represents set of branches and the enterprises functionally providing normal ability to live of the population.

Materials and Methods

Here concern: habitation, its building, objects of the welfare appointment, all sphere of housing and communal services, the enterprise and the organization of systems of public health services, formation, preschool education; the enterprises and the organizations connected with rest and leisure; retail trade, public catering, sphere of services, sports establishments; passenger transport and communication on population service; system of the establishments rendering services of legal and financially-credit character (legal consultations, notary's offices, savings banks, banks) [1].

System of social protection in the Republic of Uzbekistan is under construction proceeding from the decision of problems of maintenance of the valid social and economic efficiency, instead of narrow reasons of efficiency of market system. Thus social protection every time appears is objectively determined, on the one hand, by that system of economic relations in which it functions, and with another - requirements of a current state of world economy, human community as a whole.

In modern economy which should be "economy for the person", the effective system of social protection - such which allows using labor potential of each person irrespective of its social and economic status, from is necessary to what social and economic group it belongs. So it is possible to reach an effective utilization of human potential and that is called "as confidence of tomorrow". If such protection is not provided, becomes impossible or at least use of the qualified labor which should possess ability to

conversion training, development new, to creativity essentially is at a loss [2,3,4].

Presence of effective system of social protection is the integral line of the modern economy which is based on work of the qualified employee. The system of the economic relations is meant effective social security, providing to each member of a society of a guarantee of the certain standard of living is minimum necessary for development and use of its abilities (labor, enterprise, personal), and providing it at loss (absence) of those or other abilities (old men, the invalids sick, children etc.).

At such approach to definition of its social protection composed there are following guarantees:
- Works for able-bodied (protection against unemployment);
- Maintenance with grants already and still invalid, invalids and other socially vulnerable groups of the population;
- A normal standard of living on the basis of the income of labor activity or the grant (including consumption of the basic material benefits, first of all foodstuff);
- The minimum equally accessible maintenance with habitation, public health services and culture services;
- Receptions of the formation necessary for formation of modern qualified labor.

Accordingly the state and its structures guarantee the decision of following problems [5.6,7,8,9,10,11].

First, the society guarantees the right to work, including guarantees of reception of a workplace or necessary resources and payment on work. The state guarantees socially admissible working conditions, the minimum repayment terms of work, and also creates guarantees of equality of subjects on a labor market (in that measure in what it exists in mixed economy), guarantees of a free choice of a trade, an occupation, a place of work, sphere and a place of the appendix of work. Such system assumes not only activity of state structures, but also the developed system of the organization and self-organizing of workers in the name of trade unions, associations of labor collectives and other bodies representing interests of hired workers or workers, the enterprises being owners.

Secondly, the society through system of state structures and other public structures guarantees legislative and other social protection of a mode of the working day, working week, the working year, favorable conditions for preservation of long work capacity at high efficiency of work.

Thirdly, the society guarantees development of welfare sphere with the priority account of requirements of social security of the population. In particular, this problem is realized on the basis of favorable conditions of daily, weekly and annual rest by development of necessary system of establishments, a rest infrastructure.

Following direction is health protection, development of education, formation and the high level of culture assuming general availability of values of domestic and world culture, being in public property.

As of 1of January of 2018 of year in the country 670866 persons with physical inability, 101249 (15.1 %) from which children till 18 years are registered.

In distribution of persons from physical inability on the diseases which have caused physical inability, the most frequent reason invalidization are «Mental frustration and behavior frustration» - 19.3 %, «Illnesses of nervous system» - 14.0 % and «Illnesses of system of blood circulation» - 11.2 %. The least (less than 1 %) are: «Diseases of a skin» and «professional illnesses and poisonings» on 0.3 %, «Infectious and parasitic illnesses» which make 0.4 %, a HIV-0.8 of %. Among women the similar picture is observed. Distribution of number of invalids for the reasons caused physical inability, on classes of diseases in 2017.

Strategy of development of the Republic of Uzbekistan for 2017-2021years includes priority directions of development of social sector, creation of concessionary terms for objects of a social and market infrastructure the Republic of Uzbekistan at the expense of decrease in local taxes and introduction of new innovative technologies. In particular in separate by point it is specified that: «youth Social protection, creation for young families of worthy housing and social conditions».

We today in our republic live more than 60% of the population below 30 years.

This population part is to social protection. Therefore at present from outside the state is given special attention.

Our way to opinion, prompt development of all spheres of economy is conditionally subdivided in following subgroups:

First, has demanded sharp improvement of quality of labor at the expense of development of intelligence, strengthening of health, change of labor motivations that stimulated development of various spheres of a social infrastructure;

Secondly, material base qualitatively new in the technic-technological plan in branches and spheres of a social infrastructure that provided high efficiency of its functioning has been created;

Thirdly, expansion of scientific and technical revolution in branches of production of goods was accompanied by considerable reduction of number occupied that has created possibility of essential redistribution of labor in sphere of services, in the branch of a social infrastructure.

Development and effective functioning of the objects entering into a social infrastructure, their availability to the population - an important condition of increase of level and quality of life of a great bulk of the population of the country.

In economic system there are links which as a whole it is possible to name an economic infrastructure.

This infrastructure acts as a binding element in mutual relations between the basic subjects of economic relations - manufacturers of economic resources, the final goods and their direct consumers.

The structure of an infrastructure of economy of region - size changeable also is in the big dependence on specialization of region, spatial level and other factors. More often others to an infrastructure of real sector of economy carry water - gas - and an electrical supply, treatment facilities, vehicles and systems of roads, financial institutions and banks, trading networks, consulting services of management and advertising, specialized legal services etc.

State social policy is realized through the mechanism of government programs of social security and system of social services.

The system of social services includes public health services, formation, culture and other services. The state participates in financing, manufacture and distribution of social services, increasing that their availability to the population.

Thus the purpose of rendering of social services is as creation and maintenance of a manpower for economy (industrial aspect of social system), and formation, and realization of social requirements of the population.

From going from above specified sources we will try to analyze one of a component of a social infrastructure public health services and its component about a condition of medical workers (the table 1).

Table 1. Security of the population medical workers (1991-2017 years)

Years	Total number of doctors (thousand)	Number of doctors on 10000 population	Total number of the average medical personnel (thousand)	Number of average medical workers on 10000 population
1991	75,0	35,5	242,2	114,7
1995	76,2	33,2	249,6	108,9
2000	81,5	32,8	259,7	104,7
2005	76,5	29,1	271,0	103,0
2010	79,9	27,4	310,2	106,5
2017	85,4	26,1	348,2	106,6

Having analyzed above the specified tables it is possible to tell that if in 1991 in sphere of health services of the population worked 75 thousand doctors for January, 1st, 2018 their number has made 85.4 thousand persons (has increased for 14%).

Poll about satisfaction level is spent by medical services which in typical files makes 58.5 %, and in traditional villages about 80.7 %. Such disproportion in many respects speaks objective absence in rural files, the basic centers of health services.

According to respondents, dissatisfaction principal causes were: remoteness from the place of residence, insufficient qualification of doctors, and absence of the modern equipment. It is necessary to note that the majority of inhabitants of rural files till now are fixed for medical the centers in a place of the old place of residence. In some areas the question decision is carried out by means of the organizations regular exit (weekly) population medical inspections in rural files.

Poll has shown also rather low level of satisfaction services of drugstores, however its level in rural files considerably above (71 %) than in traditional villages of 51.3 %.

And the number of the average medical personnel has increased by 44% in comparison with 1991 year (with 242.2 to 348.2 thousand persons).

According to table 1 counting on 10 thousand population the number of doctors has decreased with 35.5 (1991year) to 26.1 (2017 year), and number of the average medical personnel with 114.7 to 106.6 accordingly.

We consider that the social system as an economic category is set of relations between subjects concerning manufacture, distribution and consumption; the social blessings directed not development of the human capital of an individual and a society as a whole.

In the report the president of the Republic of Uzbekistan has stated the following: «Economic development and social protection - concepts inseparable. Without another it is impossible to present one». Therefore, the system of social services is also a part of economic system, providing employment of the population and formation of a regional product. The system of social services in territory is presented by a network of municipal and private establishments, the organizations and the enterprises rendering social services. Traditionally

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data set of establishments is called as a social infrastructure of region.

On literatures a lot of definition about development of a social infrastructure is told to concerning economic and social sphere.

But our way the opinion most precisely is reflected the statement of prof. A. Vakhabov (In particular, he tells the following: «Development of a social infrastructure pursues following aims):

- Formation and development of manpower of territory;

- Formation of the human capital of territory, thereby providing social appeal of territory;

- Maintenance of employment of the population and formation of a regional product.

In connection with the aforesaid the author considers that the social infrastructure of region is a part of the social and economic system participating in economic activities and providing social appeal of region, and also directed on formation and development of manpower and the human capital of region.

In modern conditions the social infrastructure makes economic base of municipal unions, providing preservation and development of small settlements, and also a diversification of structure of economy.

Thus, the social infrastructure plays now a backbone role both in social, and in economic development of region and has market character.

It seems to us that the market infrastructure can be correctly understood and classified only on the basis of the macroeconomic approach. According to it the infrastructure in market economic system does not serve, and provides normal functioning of all economy.

Characterizing a market infrastructure, it is necessary to recognize that on economy development influence not only objective, but also subjective factors, thus a role of the last in modern conditions increases.

Any difficult system (both natural and social) is definitely structured and includes a number of subsystems. As system as a whole so, and its separate subsystems carry out a certain set subordinated functions.

Conclusion

We consider that the social infrastructure carries out industrial, public and economic function which is realized in the market of social services.

In a basis of such interaction requirements of the population and a society as a whole in formations of a consumption level of the social blessings lay down. The given requirements have specific character and in many respects depend on regional factors of demand.

With a view of satisfaction of requirement of the population in a social infrastructure it is necessary:

- Creation more than concessionary terms for objects of a social and market infrastructure at the expense of decrease in local taxes that stimulation of its further development will allow;

- To the further improvement of quality rendered household and utilities at the expense of new innovative technologies, the device of local systems of municipal supply.

Development of branches of a social infrastructure considers the primary goals of the social policy directed on improvement of quality of life of the population, increase of level of its well-being and longevity, formation and reproduction of healthy, creatively active generation.

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Azizbek Turdiev
Academy of Sciences of the Republic of Uzbekistan
Researcher of the Institute of Uzbek language, literature and folklore.

FOLKLORISMS IN POETRY AND THEIR FEATURES
(In the example of the poetry of Tura Sulaymon)

Abstract: The article considers issues, such as the interpretation of folklorism as a result of an indirect connection of folklore and written literature, the influence of oral folk arts to the poems of Tura Sulaymon, expression of dream motiff and water deification in modern literature, use of folklore symbols by individual artist, as well as the artistic abilities of the poet to use folk heritage: its traditionality and uniqueness.

Key words: folklore, folklorism, proverb, motif, dream, myth, ritual folklore, pastiche, rhythm, character sketch, symbol, deification, epic cliché, plot.

Language: English

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Classifiers: Literature. Folklore. Translation Studies.

Introduction

To use folklore in the best works of the last century has become traditional in the world. Commenting on the idea of one of the great Latin American writers Jorge Luis Borges, "Literature begins with myth and ends with it", folklore scientist Jabbor Eshankulov states that any art, including rhetoric, begins with folklore and develops with folklore. [2].

The use of folk samples in the written literature is studied as a phenomenon of folklorism. The term "folklorism" was first mentioned in the nineteenth century by the French folklorist Sébillot, as "to engage with folklore". In the 60s of the last century, the use of the term "folklorism" became an international phenomenon and became widespread [17, p.469]. Well-known scientist B. Sarimsakov argued that "all folklore materials included in a work of a writer for any purpose should be called folklorism, not folklore, because they are a revised work of that writer" [19, p.39]. L. Sharipova, a researcher who specially studied the phenomenon of folklorism, says: "Folklorism is a genre, plot, image, motif or rhythm of speech craft that has been mastered or reworked by an individual creative person" [22, p.24].

Thus, the study of contemporary literary models in folklorism can provide a deeper understanding of the mentality of people, the image of modern man, his thoughts, aspirations, worldview, aesthetic ideals and his attitude to changes in new eras.

Materials and Methods

In this regard, studying the phenomenon of folklorism in the works of the national poet of Uzbekistan Tura Sulaymon, first of all, you can study the influence of verbal creativity on the formation of individual poetry, as well as explore the characteristics of the spirituality of our people. As a greater result of the influence of folklorism to the poet more than others, he wrote lyro-epic poems, such as "Korasoch", "Tulganoy", "Intizor", "Guljahon", "Yov kochdi", "Mangulik", and the poetic tale "Kharsang" under the influence of folk poems.

Folklore in the works of Tura Sulaimon served to create artistic value, create its rhythm, strengthen its ideology, increase its publicity and sensitivity. The poet effectively used simple folklorism by using folk proverb in his following rhythmes:*"Daryo suvin bahor toshirar, sozim, Inson qadrin mehnat oshirar, sozim" ("Spring enriches the water of the river, oh my lira, Labor increases human value, oh my lira"),"Jon kuydirmay jononaga yetmoqlik yo'q, deganday, Etik yechmay toshqin soydan o'tmoqlik yo'q, deganday" ("As they said: no goodness, if you do not work hard,*

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As they said: you can not pass the river without taking off your shoes") and he effectively used analytical folklorism in public praise in his rhythmes: *"Kushoyish har kuniga, xotirjamlik tuniga. Biriga o'n, o'niga yuzin bersin, ilohim."* (*"God bless our every day, give us rest every night. God, praise ten times more for one good deed, bless a hundred times more for ten good deeds.").* The poet makes good use of stylized folklorism in his works. In particular, the dream motif has a special place in his dozens of poems and works.

It is well known that the dream motif has long been inherent in all the epic, lyrical and dramatic genres of oral and written literature. Dream is a traditional motif used by many nations folklore of the world, including Uzbek folklore.

In the East, the views of Ibn Khaldoun, Imam Ghazali and Jaloliddin Rumi about dream are considered the first scientific interpretations [8-10], in the West, the works of Sigmund Freud, Carl Gustav Jung, Erich Fromm, in Latin America, the works of Jorge Borges, Julio Cortosara [3-7] studied dream as expressions of the spirit. In particular, Sigmund Freud stresses that the dream is the liberation of the spirit from the oppression of the external nature, the liberation of the soul from the shackles of the sensual world; in a dream subconscious awakenings of the person are shown and he is more inclined to reason during wakefulness. "In other words, in a waking person there is more insincerity. During sleep, a person approaches real perception. Sleep is the greatest honesty in the human world. " [1, p.35].

In the study of folklore in Uzbekistan, researchers such as V. Jirmunsky, H. Zaripov, T. Mirzaev, T. Haydarov, A. Mussakulov, J. Eshankulov, Sh. Turdimov [11-16], wrote different views on the dream motif in their works.

It should be noted the doctoral thesis on the theme "Dreams in and their artistic interpretation in Uzbek folklore" by Jabbar Eshonkul, a researcher in the field of folklore. According to the researcher, sleep is a phenomenal physiological and psychological reality, a common and very individually unique phenomenon for all periods of human history. In a dream, a person can see, listen, feel the smell and pain, laugh, cry, be inspired, anxious and experience other emotional experiences as in real life. In this sense, sleep can be viewed not only as a physiological, but also unrecognizable, specific aesthetic phenomenon. For this reason, in the history of all art and in our days, as myths, the motif of sleep, its figurative expressions, are repeatedly encountered [1, p.61]. The dissertation analyzes C. Jung's research and makes the following conclusion: "Dreams are the myth of modern man" [1, p.67].

The great English poet William Shakespeare connects the beginning of humanity and the existence of being with sleep and wrote following in his play

The Tempest: "We are such stuff, as dreams are made on; and our little life is rounded with a sleep." [23].

Proverbs such as are widespread among people: "Tushingni suvga ayt" ("Tell your dreams to the flowing water"), "Yaxshi tushga ham, yomon tushga ham sadaqa berish kerak" ("You must give Sadaqah (voluntary charity) for good or bad dreams"), "A dream is as it was interpreted" . Also, there are wide use of dream motif in folklore songs and poems such as "Alpomish", "Gurugli", "Rustamkhon". These all means that, there are ancient deep roots of this motif in folklore. In particular, the book "Oq olma, qizil olma" ("White Apple, Red Apple"), which was prepared for publication by folklorist Muzayana Alavi and contained samples of folklore, contains this "Yor-yor" (Wedding song):

Singlim sahar-saharda
Tush ko'ribdi, yor-yor.
Tushida bir qarchig'ay,
Xush ko'ribdi, yor-yor.

(My sister had a dream in early morning and she dreamed a bird goshawk and that bird liked her very much.)

Tushidagi qarchig'ay,
Birov bo'lgay, yor-yor.
Birov-birov, demanglar,
Kuyov bo'lgay, yor-yor.

(That goshawk in her dream would be some strange man. And do not say, he is a strange man, he can be a groom for her.)

Usually, in Uzbek interpretations of dreams, if an unmarried girl dreams about a bird, it is interpreted so that she will soon get married. Tura Sulaymon effectively used this motif in his poem "Suluv" ("Beatiful") [20, p.39] and created complex folklore phenomenon. In particular, in the poem, which begins with thiese words:

Soy bo'yida bir suluv,
Ko'pdan saqlab sir suluv,
Suvdan so'rab turganday,
Tushiga ta'bir suluv...
(A beautiful girl is sitting next to the river and it seems that, she is keeping some secret. She looks like, as if she is asking an interpretation of her dreams from the flowing water.)

and you can see the rhythm stylization, which is more characteristic to folk songs.

The lyric heroes of the work are the horse shepherd and water girl (whose profession was to irrigate plants and flowers). Here is a summary of the poem: The horse shepherd, who was pasturing horses and foals on the bank of the Syr Darya and was

watching Milky Way, Venus on the sky and who is learning the secrets of loving, being beloved and who is eager of finding his love early morning accidentally witnessed the secrets of a beautiful, slender girl, who was telling about her dream to the water of Syr Darya river. The girl dreamed that she was on a high mountain peak, and when she wanted to climb another peak, a deep ravine appeared there and then a mountain hawk appeared in the sky and saved her from falling on this ravine. The girl said the water, she wanted so much that this hawk turned into a secretly beloved man – a horse shepherd.:

Qays boʻlsa Laylosiman, soz boʻlsa, sadosiman.
Otayotgan tong haqqi, yoʻlida adosiman.
Muborak Sir toʻgʻ yoʻy sahar koʻrgan tushimni,
Yorga yetkaz, koʻyida oʻrtanib yonishimni...

(If he is a Qays, I am her Laylo, if he is a musical instrument, I am her lovely music. And I am ready to be his beloved, for sake of this sunrise. Oh, Holy Secret, understand my early morning dream and please, say my willings and sufferings to my beloved shepherd.)

Usually in the East, a person who wants his/her dreams to become reality, he/she should say about his dream on flowing water or a person with a good heart. After all, water was an eternity of existence, purity and clarity. That watergirl, by saying "Oh, Holy Secret, understand my early morning dream", reflects ancient beliefs of people. In this poem, the poet successfully used the rituals and attributes of folk ritual. Also, in aforementioned part of the poem, there was a stylization of the image by reminding Qays and Laylo – characters of many fairy tales and folklore.

At the end of the poem, a horse shepherd, who got intoxicated without wine, watches his beloved from afar. He was immensely happy when he learned that the girl he secretly loved for many months was also attracted to him either.

At first glance it seems that the work is not finished. But it is not difficult to understand that this secret meeting is waiting for a happy ending, if we analyze it on the basis of folklore symbols.

Folklore researcher Sh. Turdimov says that birds such as crow, goose, duck, crane and swallow in folk songs are symbols of the messenger and the researcher bases it with analyzes [24]. From this point of view, the fact that a girl dreamed of a mountain hawk is a good sign, and the fact that the bird helped her to pass the deep ravine means that she would like to see happiness, it is a hint that in the future she will be happy with her beloved man. In folklore interpretations to rise to the top in a dream was considered good. After all, the ancient folk legends describe the sacred deities living in the high mountains, and the ancient people fully believed in it. And the aspirations of the lyrical hero – the water girl

to climb to the top of the cliff means the purity of her soul and the desire for perfection. For in Islamic doctrines, dreaming is not just an accident, but a manifestation of the human spirit, faith and morality. "Tell me about your dream, and I will tell you who you are," say psychologists. In these two words, the truth about the spiritual world of man is hidden [1, p.34]. The lyrical expression of this approach is reflected in the following lines of the shepherd's confession: "Men hamon xilvatdaman, lek koʻzlarim suvchida – Sharmi-hayosi bilan jonimni olgʻuvchida" *("I'm still hiding, but my eyes are in a water girl who, with her embarrassment, charmed me completely").*

In addition, it would be advisable to pay special attention to another phenomenon of folklorism in this poem. Here we are talking about the poet's expression of the folk traditions associated with the deification of water in a unique way.

Folklore researcher A. Musakulov noted that, "From the history, water deification and people's beliefs and superstitions regarding the objects of such a deification are estimated highly and that's why, in people's lyrics, water and its analogues: dew, drops, springs, wells, aryk, pond, mountain river, lakes, rivers, snow, rain; its identifiers such as: banks and vicinities of the river, aryk, river reservoirs, reeds, trees, plants growing on the banks of reservoirs; animals living in the water: fish, snakes, otters; water tanks such as: jug, bowls, cup, buckets, teapots, tea and poetic images of all the listed objects are of course associated with the ideas of love, family, close feelings, children and well-being [18, p.199].

Tura Sulaymon, deeply understanding the customs and traditions of the people, the essence of folklore symbols, in his poem "Suluv" ("Beautiful") describes the future life of a lyrical hero filled with love, family, children, well-being through the symbols of the mountain hawk, peaks, rocks, cliffs, riverside and water. From the verse it is clear that the Syr Darya, hiding in itself the secret of millions of people, has already interpreted the dream of the water girl in a good way: the shepherd secretly saw with his own eyes and heard with his ears the recognition of his beloved's heart, who was sitting at the riverbank. The poet effectively used epic clichés in his following poem:

– Gul shodasi, shodasi,
Bulbul gulning adosi.
Boshga tushdi bu oqshom
Muhabbat ibtidosi.
(Ah, a bouquet of flowers, a bouquet of flowers – the nightingale is fascinated by you. This evening he suddenly fell in love for the first time).

This situation has further increased the popularity of this verse.

Naturally will be arisen a question: has the folklorism eclipsed of the poet's individual creative potential here? The poem "Suluv" ("Beautiful")

consists of five pages, and if the reader carefully does not pay attention, it is difficult to single out which line's written by Tura Sulaymon and which of them is a reproduction of an artistic example of popular sayings.

We want to say that the poems created by the poet harmoniously sound with those lines from the folklore. In other words, the artist used folklorism as a means of art. He expressed a concept that he himself tried to convey easily based on concepts formed in people's minds through folklore. There is an indirect connection between written literary and folklore. This feature belongs to many poems and lines of the poet. That is why the literary critic K.Yuldashev, who deeply studied the poet's works, asserts in the preface of Tura Sulaymon's book "Sensiz Yolg'iz g'arib bo'ldim ..." *("I feel lonely without you...),* the main characteristic of the poet's creativity is that he is completely under the influence of examples of folk art. His thoughts, feelings, astonishment and emotions, even their expressions are folksy… In our literature there is no other writer or poet other than Tura Sulaymon, in whose works the influence of oral folklore prevails [21, p.5].

Conclusion

In conclusion, we can say that Tura Sulaymon using analytical and stylistic folklore in his work, he was able to express the national mentality of lyrical heroes, their spiritual world and their inner voice in folksy tones. The fact that folklorism has been absorbed to the ideological and artistic spirit of the author's lines shows that his individual skills are very high.

The effective use of folklore samples made it possible to increase the simplicity and impressiveness of their works. Based on his artistic experience, he creatively mastered folklore materials, educating his aesthetic ideals, and he was able to write artistically perfect works. Synthesis of features of artistic forms of folklore and written literature allowed creating unique models of new intermediate forms.

Folklorisms helped to describe the problems associated with the fate of the people of their time, their real life, their way of life, their mood and desire for a dream. As a result, deep thoughts are presented in a simplified and folksy form. Folklorism has always played an important role in the creation of characters, the personalization of their languages, the disclosure of national color, the description of nature and the enhancement of simple understanding of works by people.

The introduction of plots characteristic of folklore into the plot created by the creator increased the value of artistic works and contributed to the improvement of the plots.

It is noteworthy that these conclusions can be attributed to the work of most poets who effectively used folklorism.

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Dinara Rimovna Khairova
Tashkent Institute of Architecture and Construction
Candidate of Economic Sciences, Docent

Ravshan Baxodirovich Masharifov
Tashkent Institute of Architecture and Construction
3d course student

ASSESSMENT OF THE CONDITION OF MANAGERIAL INNOVATIONS AND MANUFACTURING AND ECONOMIC ACTIVITY OF FIRMS

Abstract: The article is devoted to the purposes and tasks of assessing the state of managerial innovations and operating activities of construction firms. The results of the analysis of the state of managerial innovations at the firms of the construction industry on the basis of the conducted research are presented.
Key words: management innovations, innovative business, matrix of possible strategies, construction firm.
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Classifiers: Economic research, finance, innovation, risk management.

Introduction

An important condition for the dynamic development of the Republic of Uzbekistan is the accelerated introduction of modern innovative technologies in the economic, social and other spheres with the wide use of science and technology[1].

Structural and technological changes necessary to increase the growth rate of the industry's economy up to 2020 require a partnership of business and government in the field of science, technology and innovation on the basis of widespread attraction of extra-budgetary resources. The problem of building innovative business is also the difficulty of selecting promising projects, i.e. lack of a universal methodology for evaluating effectiveness. Based on the selected key factors, a matrix is proposed for selecting possible strategies (Table 1). We note a very important characteristic feature of strategic matrices.

Contrary to their name (strategic), they all rely on the current state of both the external and internal environment. Thus, the nature of these matrices is actually situational. At the same time, on their basis decisions are made that have a strategic focus. There is a certain contradiction in this. Of course, when developing a strategy, it is necessary to rely on the current situation, however, the innovative orientation of construction firms can be determined not only and not so much by existing opportunities, as by the target orientation, the desire of enterprises to change the situation, "adjust" it to fit the goals.

The main task of ensuring the innovative nature of the development of a construction firm is the formation of a management strategy that is innovative. The structure of the base model, its five main components and the underlying relationships between them are presented in fig. 1.

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[1] UzA – *On approval of the strategy of innovative development of the Republic of Uzbekistan for 2019–2021*
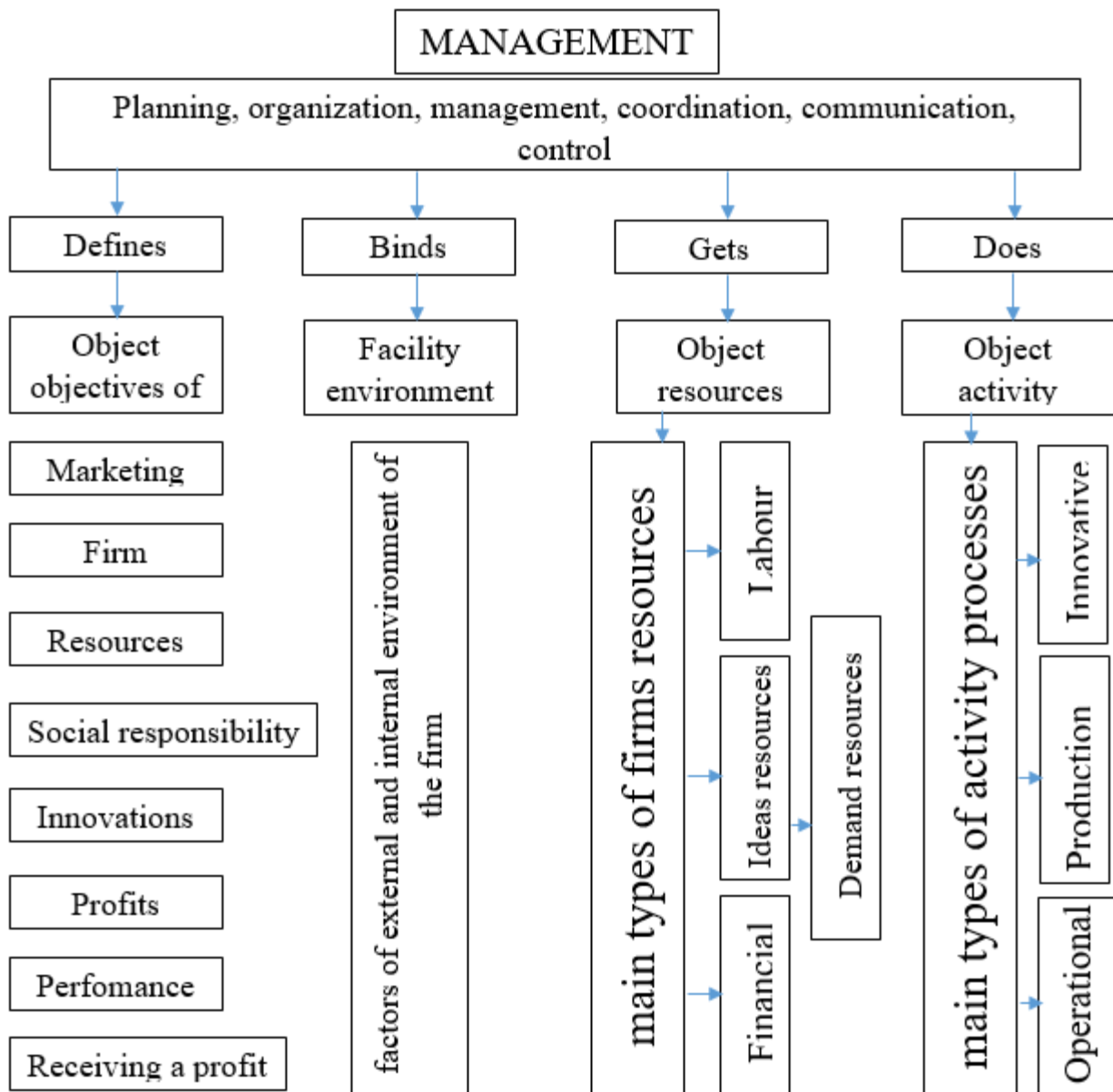
Figure 1. The structure of the basic model of the construction firm

Analysis of the state of managerial innovation in the construction industry firms for the purpose of the study selected and interviewed experts who meet the above requirements from specialists working in construction firms. The following persons were involved as experts: the head of the company, the deputy head of production, the deputy for marketing, a qualified construction specialist, the chief economist, a specialist in the production and technical department, and an expert in innovative development of OJSC «93-махсус трест», Construction management of the construction association of the Presidential Administration, JV LLC Construction company «GABUS», OJSC «Trust 12».

The analysis of survey data showed that significant differences in the distribution of answers to questions related to managerial innovations were identified only depending on the level of profitability of firms, the dynamics of their investments, stated goals of activity, and on some issues - from the main activity.

Table 1. Distribution of management activities depending on the assessment of the need to use new working methods (in% of all answers).

	Management activities	Distributions of answers
1	Product Management	37
2	Finacial Management	31
3	Market behavior Management	30
4	Building an effective management system	24
5	Process control	22
6	Innovation Management	15
7	HR Management	13
8	Management of the material and technical base of the firm	11

As a base for calculations, both the total number of respondents (50) and the number of respondents to a particular question were used. The given percentages have indications of which particular base is used for calculations. The need for management innovations is most noticeable, in the opinion of the responding managers, in the areas of firm management activities (Table 1):

- product sales management (37%);
- financial management (31%);

- management of market behavior (30%) in respect of which the most important are the need for new methods for senior managers of development-oriented enterprises (44%).

When managing the sale of products, first of all, managers feel the need for methods of analyzing the external environment and methods of strategic planning (40% of managers who need to change the management of this field), as well as methods for analyzing and identifying hidden problems (38%).
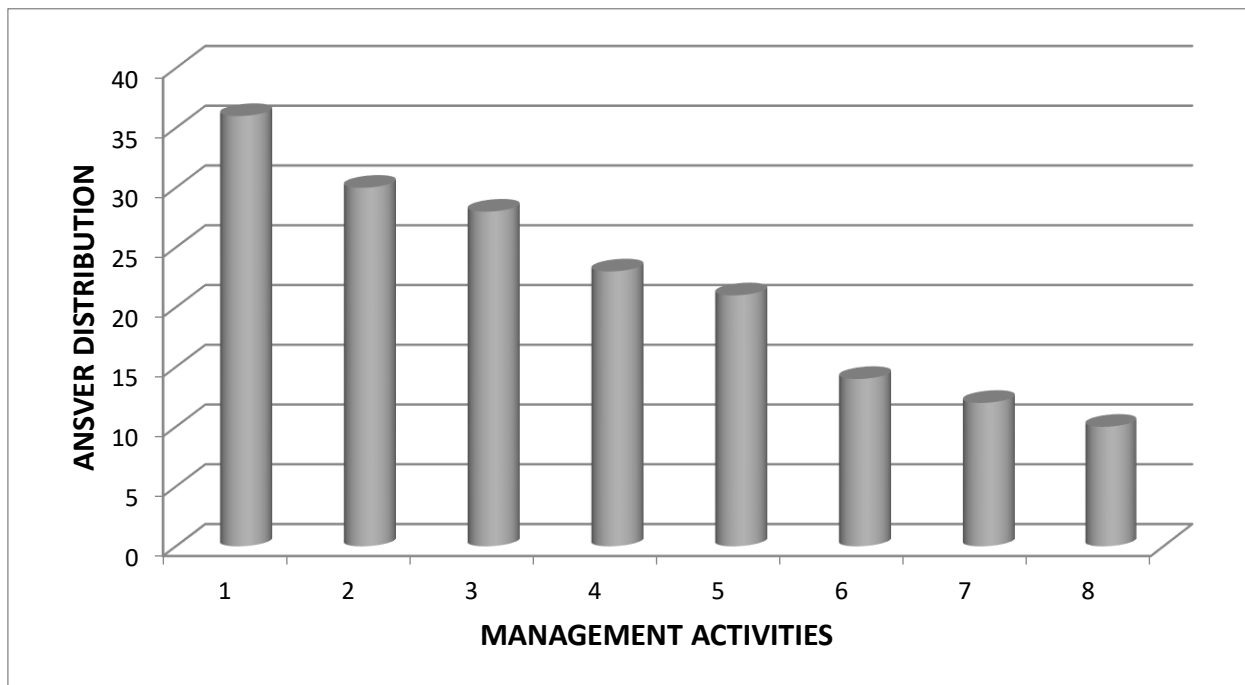

Figure 2. The distribution of management activities, depending on the assessment of the need to use new working methods (in% of the total number of responses).

The second place in terms of the need for new management methods took two areas of activity:
- building an effective management system (24%);
- process control (22%).
On the third place:
- innovation management (15%);
- personnel management (13%);

- management of the material and technical base of the firm (11%).

These data confirm the previously recorded relationship between the financial efficiency of construction companies and their activity in relation to management innovations. More effective firms are experiencing, according to the recognition of their managers, more difficulties in managing various areas

of activity, as well as more recognizing the need for new methods of managing various areas of activity.

Conclusion

Thus, the results of the study show that for the overwhelming majority of the interviewed managers, it is their own ideas that can give a push to innovations in the field of management at their firm (this source was indicated in 76% of cases).

The real innovation process in firm has a very complex structure. Most often it consists of several (by the number of innovations) relatively independent innovation cycles. Each of these cycles goes through a certain stage at a given time, providing advancement from the concept of a new activity, through problem analysis, development of an innovation strategy, the emergence of innovative ideas (or ideas) to concrete plans for the implementation of innovations.

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QR – Issue   QR – Article

Angelica Vyacheslavovna Kurochkina
Kuban state University of physical culture, sport and tourism
student of the faculty of Sports, candidate master of sports, profile "jumping on the trampoline", Krasnodar, Russia
21041999mafia-lika@mail.ru

Yuri Dmitrievich Ovchinnikov
Kuban state University of physical culture, sport and tourism
candidate of technical Sciences, associate Professor, associate Professor of " Biochemistry, biomechanics and natural Sciences» GBOWO ", Krasnodar, Russia
yurij.ovchinnikov@inbox.ru

THE STUDY OF THE FACTORS OF BALANCE, STABILITY, REPULSION IN THE BIOMECHANICS OF THE ATHLETE'S MOVEMENTS

Abstract: *In the article the authors consider the study of the factors of balance, stability, repulsion in the biomechanics of movements of the athlete in the profile subject "Biomechanics of motor activity" in the logical-competence approach from the point of view of the scientific perception of the teacher and student in the theoretical and practical relationship of the educational process in the University sports profile.*

Key words: *biomechanics of motor activity, logical-competence approach, educational process, biomechanical characteristics, methodical level.*

Language: *Russian*

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Classifiers: *biomechanics.*

ИЗУЧЕНИЕ ФАКТОРОВ РАВНОВЕСИЯ, УСТОЙЧИВОСТИ, ОТТАЛКИВАНИЯ В БИОМЕХАНИКЕ ДВИЖЕНИЙ СПОРТСМЕНА.

Аннотация: *В статье авторы рассматривают изучение факторов равновесия, устойчивости, отталкивания в биомеханике движений спортсмена в профильном предмете «Биомеханика двигательной деятельности» в логико-компетентностном подходе с точки зрения научного восприятия преподавателя и студента в теоретической и практической взаимосвязи учебного процесса в Вузе спортивного профиля.*

Ключевые слова: *биомеханика двигательной деятельности, логико-компетентностный подход, учебный процесс, биомеханические характеристики, методический уровень.*

Введение

Проблема научного понимания и логического восприятия биомеханической системы человека является не только актуальной научной проблемой, но и важнейшей педагогической задачей современного образовательного процесса. Логико-компетентной подход в изучаемом предмете требует восприятие студентом научной терминологии и методов исследований. Как показали проведенные педагогические исследования, студент второго курса воспринимает изучаемый предмет на понятийном уровне[7]. Научное понятие формирует методический процесс изучаемого предмета, его технологичность[6].

Clarivate Analytics indexed

Материалы и методология исследований.

Студенты Кубанского государственного университета, факультета, спорта и туризма изучая, профильный предмет «Биомеханика двигательной деятельности» проводят прикладные исследования по изучению принципов и законов науки биомеханики, а также актуальных научных проблем с целью не только более полного логико-компетентносного восприятия предмета, взаимосвязи структурных элементов, теоретических и практических аспектов для своей спортивной и педагогической деятельности. Определение главных базовых понятий научной проблемы. Логико-компетентностный подход в проблеме является важной методической статью профильного предмета «Биомеханика двигательной деятельности»[4,5].При проведении прикладных исследований используются метод: стабилометрии, биомеханического моделирования, расчетный метод. Понятие равновесия является универсальным фактором(Майорова Е.А.)[3].

Равновесие, устойчивость емкие научные понятия важные для социально-экономической деятельности человека. Человек как сложная биологическая система и без понимания сути равновесия не может быть представления о более сложных физиологических процессов.

Равновесие тела, сохраняется без дополнительных воздействий извне. Существует несколько видов равновесий, которые определяются по действию силы тяжести, приводящей к возможно малому отклонению в определенном положении тела (Лалаева Е.Ю., Вишнякова С.В.)[2].

В биомеханической системе равновесия подразделяются на: устойчивое, при котором тело возвращается в прежнее положение при любом отклонении (например, вис на перекладине, кольцах); неустойчивое, при котором тело обязательно опрокидывается при малейшем отклонении (например, стойка на руках на перекладине, как ситуация остановки при выполнении большого оборота); безразличное равновесие характеризуется средними представлениями об устойчивом и неустойчивом видах (кувырки вперед, назад, в сторону, потерять равновесие в которых практически невозможно); ограниченно-устойчивое равновесие характеризуется удержанием проекции центра тяжести в пределах, предварительно заданной и по замыслу эффективной для устойчивости опоры (например, различные равновесия в вольных упражнениях). Для большинства упражнений в спорте характерно ограниченно - устойчивое равновесие, которое в свою очередь содержит в себе все признаки других, приведенных выше,

видов равновесий(Коновалова Л.А., Карпеева Д.А)[1].

Решение двигательных задач, сопряженных с проявлением ограниченно устойчивого равновесия, зависит (по Л. Элиоту и У. Уилкоксу) от ряда механических причин. Особенности свойств и условий, в которых находятся тела (условно конусы), позволяют говорить, что:

• - устойчивость тела тем больше при равновесиях, чем больше его масса (А, Б), ниже расположен ОЦМ (Б, В), больше площадь опоры (В, Г);

• - чем ближе проекция центра тяжести тела расположена к границе опоры, тем больше вероятность потери равновесия в случае смещения ОЦМ в сторону вероятной потери равновесия;

• - в случае выхода проекции ОЦМ за пределы эффективной площади опоры равновесие нарушается и падение тела неизбежно.

При анализе двигательных действий, сопряженных с выполнением телесно двигательных упражнений, не следует отождествлять вид равновесия со степенью устойчивости. Вид равновесия характеризует основу сохранения положения тела, а показатели устойчивости определяют меру возможного сохранения определенного положения тела(Коновалова Л.А., Карпеева Д.А)[1].

Устойчивость тела спортсмена определяется величиной площади опоры, высотой расположения ОЦТ тела и местом прохождения вертикали, опущенной из ОЦТ на опору. Чем больше площадь опоры, тем больше устойчивость тела. Высота положения ОЦТ различна у спортсменов разного возраста, конституции и пола. У спортсменок-гимнасток ОЦТ расположен несколько ниже, чем у мужчин, разумеется, при относительно близкой по значениям антропометрии(фото 1,2). У детей раннего возраста ОЦТ расположен выше, чем у взрослых, что, наряду с еще недостаточной физической подготовленностью, затрудняет сохранение телом необходимой устойчивости.

Степень устойчивости тела спортсмена во многих случаях выражается в количественном аспекте - углом устойчивости, который образуется вертикалью, опущенной из ОЦТ тела, и прямой, проведенной из ОЦТ к краю площади опоры, в сторону которой возможна потеря равновесия тела .

Два таких угла, но образованные прямыми, проведенными из ОЦТ к противоположным краям опоры и находящиеся водной плоскости, образуют угол равновесия. При этом, чем больше угол устойчивости, тем более устойчиво тело в конкретном положении относительно опоры.

Кейс-метод: понятия «устойчивости» с пояснением различных видов движений.

Устойчивость спортсмена при выполнении определенного упражнения тем выше, чем ниже находится его ОЦТ и чем больше расстояние между краями опоры. К примеру, в положении стойки ноги врозь, устойчивость выше, чем в основной стойке, и ниже, чем в широкой стойке ноги врозь. Но все это относится к устойчивости во фронтальной плоскости. А устойчивость тела определяется и величинами углов устойчивости, и равновесия во взаимно перпендикулярных плоскостях. Ясно, что в приведенных примерах устойчивость в сагиттальной плоскости тела будет очень низкой, так как угол устойчивости здесь образован вертикалью из ОЦТ и линией, проведенной от центра тяжести тела к границе опоры. Следует различать понятия поверхности опоры и эффективной опоры. Так, в стойке на руках поверхность опоры обозначена кривой, охватывающей общие границы опоры на две кисти. Эффективная опора - это суммарная площадь опоры каждой кисти. Следовательно, устойчивость тела зависит от расстояния между краями эффективной опоры и, конечно, от характера опоры, на одну или две точки (руки, ноги). Устойчивость в стойке ноги врозь или в стойке на голове и руках всегда выше, чем в любом боковом равновесии.

Трудность сохранения равновесия во многих упражнениях, в частности гимнастических, заключается в том, что человек - сложнейшая биологическая, биокинематическая многозвенная система с огромным количеством суставных сочленений и связей. В отличие от твердого физического тела на спортсмена в упражнениях, связанных с равновесием, действует множество внешних и внутренних возмущающих воздействий. Это и характер опоры, и различная переменчивая тонизация мышц, суставных сочленений, и физические особенности работы жизнеобеспечивающих систем организма. В целом устойчивость тела спортсмена характеризуется равновесием колебательного типа. А управление сохранением равновесного состояния тела достигается управлением уравновешивающими и восстанавливающими движениями посредством компенсаторных, амортизирующих и восстанавливающих движений частями и звеньями тела спортсмена.

Компенсаторные движения, как правило, предупреждают выход центра массы тела за пределы общей поверхности опоры. Они часто применяются спортсменами в процессе приземлений посредством различного рода наклонов тела в сторону возмущающих воздействий, однократного или многократного вращения руками, как вторичной коррекции, что сопряжено уже с явлениями балансирования и рядом затухающих или активизирующихся колебаний в биокинематической цепи тела спортсмена.

Под балансированием понимается устранение вредного влияния динамических нагрузок с целью уравновешивания тела, сохранения равновесия. Сохранение заданного положения тела во многих упражнениях связано с постоянным в той или иной степени активным балансированием, с непрерывными управляющими движениями в биокинематической цепи тела спортсмена. Причем, чем меньше диапазон движений, сопровождающих балансирование, чем меньше они заметны, тем выше мастерство исполнения упражнения. Общепринятые в спорте статические упражнения, по сути, называются так условно, поскольку их исполнитель постоянно в разной степени активности осуществляет восстанавливающие балансирующие движения, рефлекторно или целенаправленно управляемые.

Амортизирующие движения направлены на уменьшение воздействия возмущающих сил. Это практически всегда встречается в приземлениях в фазе амортизации или, к примеру, как незначительные сгибания рук в стойке на руках с последующим их выпрямлением.

Восстанавливающие движения спортсмена направлены на возвращение центра масс его тела в зону (площадь) сохранения равновесного положения путем перемещения точки опоры. Они часто встречаются и применяются гимнастами в ходе приземления выполнением стопорящего шага в направлении возмущающих воздействий, и таким образом нейтрализующих эти силы. Каждому гимнасту, выполняющему стойку на руках в вольных упражнениях или на брусьях, известно чувство восстанавливающих движений при нежелательном наклоне тела вперед. Для предотвращения потери равновесия спортсмен активно напрягает сгибатели кисти, пальцев и таким образом создает восстанавливающий момент силы, способствующий возвращению центра масс тела в зону сохранения устойчивого положения тела.

Наиболее простыми и распространенными моделями индивидуального и комплексного проявления равновесия, устойчивости и балансирования являются различные виды стоек и осанок. В теории и практике телесно-двигательных упражнений различают симметричные и асимметричные виды стоек. Признаком симметричной стойки является равномерное распределение давления на обе нижние конечности. Асимметричная стойка отличается преимущественным распределением тяжести на одну из ног. И в том, и в другом случае удержание тела в состоянии равновесия возможно, если вертикаль, опущенная из центра

тяжести тела, будет находиться в пределах площади опоры.

В группе симметричных стоек различают нормальную, основную и свободную. Для основной стойки (схожей с военной) характерно расположение вертикали, проходящей через ОЦТ тела, спереди от поперечных осей, проходящих через центры тазобедренных, коленных и голеностопных суставов. При этом туловище выпрямлено, голова в естественном относительно туловища положении, живот подтянут, грудная клетка слегка расширена. Поясничный лордоз и наклон таза при этом увеличены до 80-90° при норме 50-65°.

Нормальная стойка в определенной степени схожа с типичной осанкой и принимается, как правило, при антропометрических измерениях, включая биомеханические исследования. При такой стойке ОЦТ тела и поперечная ось тазобедренных суставов находятся в одной фронтальной плоскости, туловище и голова выпрямлены при наклоне таза 50-65°. Равновесное положение тела при нормальной стойке обеспечивается незначительным балансирующим напряжением мышц, окружающих тазобедренные, коленные и голеностопные суставы. В случае необходимости увеличение устойчивости равновесного положения в нормальной стойке может быть обеспечено незначительным разведением ног в стороны.

Стойка в положении «вольно» практически схожа по характеристикам с нормальной стойкой и является переходной для начала передвижения, к примеру, при выполнении общеразвивающих упражнений в процессе групповой формы занятий.

Для спортивных видов гимнастики характерны две специфичные разновидности стоек, демонстрируемых в условиях соревнований. Стойка готовности выполнять упражнение - это та же нормальная стойка с одной рукой, поднятой вверх и несколько в сторону-вперед выпрямленной ладонью. Таким способом спортсмен сигнализирует судьям о своей готовности выполнять упражнение. Стойка завершения упражнения характерна тремя, переходящими одна в другую позами. Первая принимается сразу после приземления и представляет собой незначительный полуприсед, со скругленным туловищем с полунаклоном вперед и естественным относительно туловища положением головы, с руками, выведенными вперед-вверх и в стороны. Такая поза

обеспечивает спортсмену при прочих условиях устойчивое равновесное положение тела при приземлении. После удержания этой позы не более 2 с, гимнаст переходит во вторую - выпрямляется в стойку, схожую с основной, с выведением рук вверх - в стороны, с акцентированным выпрямлением головы и удержанием такого положения тела в течение одной секунды с последующим поворотом в сторону судейской бригады, сохраняя прежнюю позу и опуская руки вниз, слегка назад и в стороны. Часто спортсмены индивидуально стилизуют все три отмеченные позы приземления и завершения упражнения, что отражает индивидуальность гимнаста и, как правило, не считается ошибкой.

С позиций биомеханики и основной гимнастики следует отличать рассмотренные стойки от осанки. Осанка - это привычная поза тела, не вынужденное ее удержание, обусловленная индивидуальными особенностями человека; подразделяется на статическую и динамическую.

Статическая осанка характерна удержанием определенной позы тела в различных положениях (стоя, сидя, лежа и др.). Динамическая осанка сохраняется в переменных условиях, в движении, в процессе выполнения упражнения. Часто динамическая осанка, характерная для конкретного упражнения, определяет его форму и название. Так, в сальто назад в группировке динамической осанкой является положение группировки.

В упражнениях различных спортивных видов гимнастики, в комбинациях элементов могут проявляться несколько разновидностей осанок. Соскоки со снарядов, опорные прыжки, как правило, называют по более характерной и более длительно удерживаемой осанке, и таким образом определяемой форме элемента. Например, характерной динамической осанкой для упражнений на коне является слегка скругленное в верхнем грудном отделе положение тела с максимально поднятым относительно опоры (ручки, тело снаряда) плечевым поясом и подконтрольной умеренной тонизацией мышц задней поверхности туловища.

Отмеченное во многом обеспечивает оптимально высокое положение О ЦТ тела спортсмена над опорой и выполнение упражнений без ее касания ногами и тазом.

Фото 1. Фаза отталкивания и фаза приземления

Главная научная проблема биомеханики не только спорта высших достижений, ориентация, тела в пространстве. Студентка факультета Спорта Анжелика Курочкина, кандидат в мастера спорта,(избранный вид спорта «Прыжки на батуте») участвует проведении прикладных исследований по изучению фазы отталкивания и фаза приземления при выполнении лабораторного практикума по учебному предмету «Биомеханика двигательной деятельности». Данные исследования показывают механизм реализации универсальных компетенций в образовательном процессе Вуза спортивного профиля.

Кадр 1. Фаза отталкивания:

При отталкивании нижние конечности согнуты в тазобедренных, коленных и голеностопных суставах, верхние конечности разогнуты в плечевых суставах, но согнуты в локтевых.

Кадр 2. Фаза полёта (крайняя точка):

Тело разогнуто в тазобедренных, коленных, голеностопных суставах, но согнуто в плечевых суставах (руки прижаты к туловищу).

Кадр 3. Фаза приземления и амортизации:

Тело немного наклонено вперёд для большей устойчивости. Руки выпрямлены и прижаты к туловищу. Нижние конечности согнуты в тазобедренных, коленных и голеностопных суставах

Фото 2. Видеоряд. Сальто назад в группировке с целью изучения ориентация тела в пространстве.

Рекомендации:

При отталкивании отклонить тело назад, создать вращение назад, согнув руки, выполнить группировку с последующей быстрой разгруппировкой на восходящей части прыжка (крайней точки полёта). Обратить внимание на плотную и быструю группировку. Для закрепления результата упражнение следует повторить 4-5 раз в нескольких подходах.

Заключение.

Студенты Кубанского государственного университета, физической культуры, спорта изучая предмет «Биомеханика двигательной деятельности» выстраивают образовательно-экспериментальную модель реализации универсальных компетенций в соответствии с новыми образовательными стандартами. Данная методическая задача имеет различные вариации внедрения и имеет необходимость в дальнейшем развитии и обмена опытом в педагогическом сообществе.

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QR – Issue   QR – Article

D.R. Normurodov
Academy of Sciences of Uzbekistan
Junior Researcher,
Institute of History, Tashkent, Uzbekistan
d.r.normurodov@mail.ru

THE PHYSICAL AND GEOGRAPHICAL SITUATION DURING THE EPOCH OF DEVELOPMENT OF ANCIENT TASHKENT OASIS

Abstract: *The Tashkent valley is located in a favourable geographic area. It is on the middle stream of the Syr-Darya in the area of the western Tyanshan mountains. The structure of its natural landscape is complicated: there are mountains on its north-east and plain lands on its south-west.*

The article provides detailed information about the area's weather, water resources, flora and fauna, as well as its mineral resources. The author also thoroughly analyses nearly 240 archeological artefacts found along the Ohangaron river. The attention has been paid to numismatic and etymological researches.

The Tashkent valley was a strategic centre not only of the Kang state but also of the entire territory.

Key words: *Tashkent valley, Tyanshan mountains, flora and fauna, mineral resources, numismatic and etymological researches, divided territories, artefacts, ancient cities, researches.*

Language: *Russian*

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Classifiers: *Geology. Anthropology. Archaeology.*

ФИЗИКО-ГЕОГРАФИЧЕСКАЯ СИТУАЦИЯ ЭПОХИ ОСВОЕНИЯ ТАШКЕНТСКОГО ОАЗИСА В ДРЕВНОСТИ

Аннотация: *Ташкентский оазис расположен в благоприятном географическом районе. Он находится в среднем течении Сыр-Дарьи в районе гор западного Тянь-Шаня. Структура природного ландшафта сложен: горы на северо-востоке и степные земли на юго-западе.*

В статье приводится подробная информация о погоде, водных ресурсах, флоры и фауны района, а также его минеральных ресурсах. Автор также тщательно анализирует почти 240 археологических артефакта обнаруженных вдоль реки Охангаран. Внимание уделено нумизматическим и этимологическим исследованиям.

Ташкентский оазис был стратегическим центром не только государства Кангюй, но также всего региона.

Ключевые слова: *Ташкентский оазис, горя Тянь-Шаня, флора и фауна, минеральные ресурсы, нумизматические и этимологические исследования, разделенные территории, артефакты, древние города, исследования.*

Вступление

Ташкентский оазис расположен в среднем течении реки Сырдарьи, на её правобережье. Русло реки ограничевает оазис с запада и юго-запада. В восточном направлении оазис протянулся по Чирчикской и Ахангаранской долинам и уходит дальше в межгорье хребтов Каржантау, Угам, Пскем, Чаткал, являющихся отрогами горной системы Западного Тянь-Шаня (Рис. 1).

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Общая площадь оазиса составляет около 15,6 тысяч км² и по своему географическому расположению имеет сложное строение. Его ландшафт на северо-востоке – горы, на юго-западе – низменности и равнины, которые снижаются в сторону Сырдарьи. Расположенные в восточной части оазиса отроги Западного Тянь-Шаня состоят из горных пород, относящихся к палеозойской, мезозойской и кайнозойской эрам.

В западной части оазис поднимается на 250 м. над уровнем моря, а в восточной части его высшей точкой является гора Аделунг (4301 м.). Ташкентский оазис питают также две раздельно текущие реки - Чирчик и Ахангаран, впадающие в Сырдарью [37; 38]. Чирчикский бассейн на востоке окружён горными цепями Угам, Пскем и Чаткал. Эти хребты разделены одноимёнными горными реками. Бассейн реки Чирчик понижается с востока на запад, проходит через Чарвакское водохранилище и в нижней части река течёт по равнине, ширина которой не менее 20 км. Общая площадь бассейна составляет 14240 км².

На юге оазиса расположен бассейн реки Ахангаран, где находится долина, окружённая с востока Чаткальским, с юго-востока Кураминским горными хребтами. Эти две горные гряды смыкаются на перевале Камчик.

Чирчик и Ахангаран питают реки и ручьи стекающие с горных склонов. Река Ахангаран берет своё начало с таких горных саев, как Акташсай, Чайлисай, Арашансай, Ташсай, вытекающих с гор Чаткала и Курама. Расстояние от Акташсая до Сырдарьи составляет 236 км. (Рис.-2). Общая площадь речного бассейна составляет 7710 км². Река Ахангаран течёт по узкому ущелью по Ахангаранскому плато от притока Чавлисая до кишлака Турк [32; 20, с. 25].
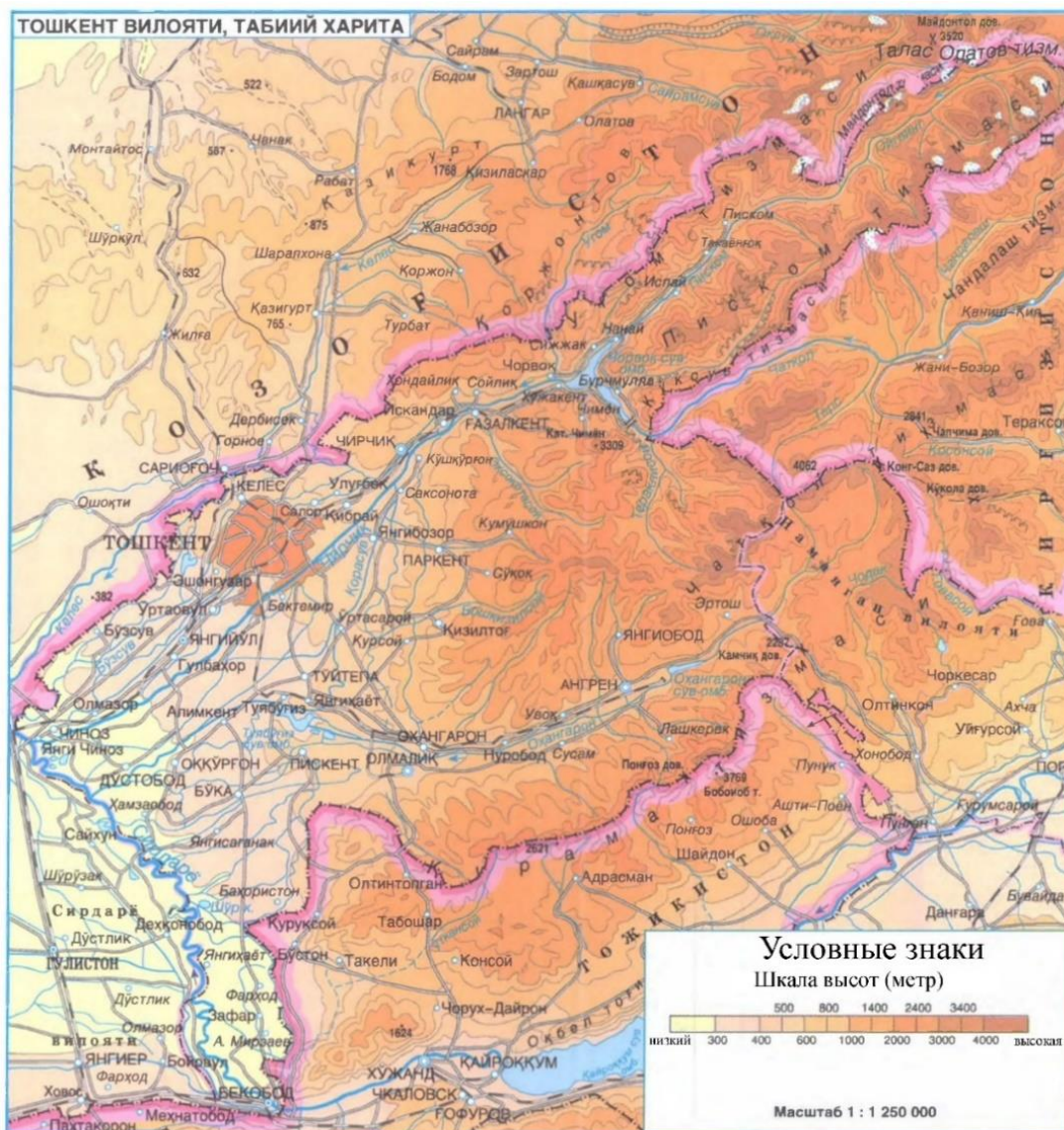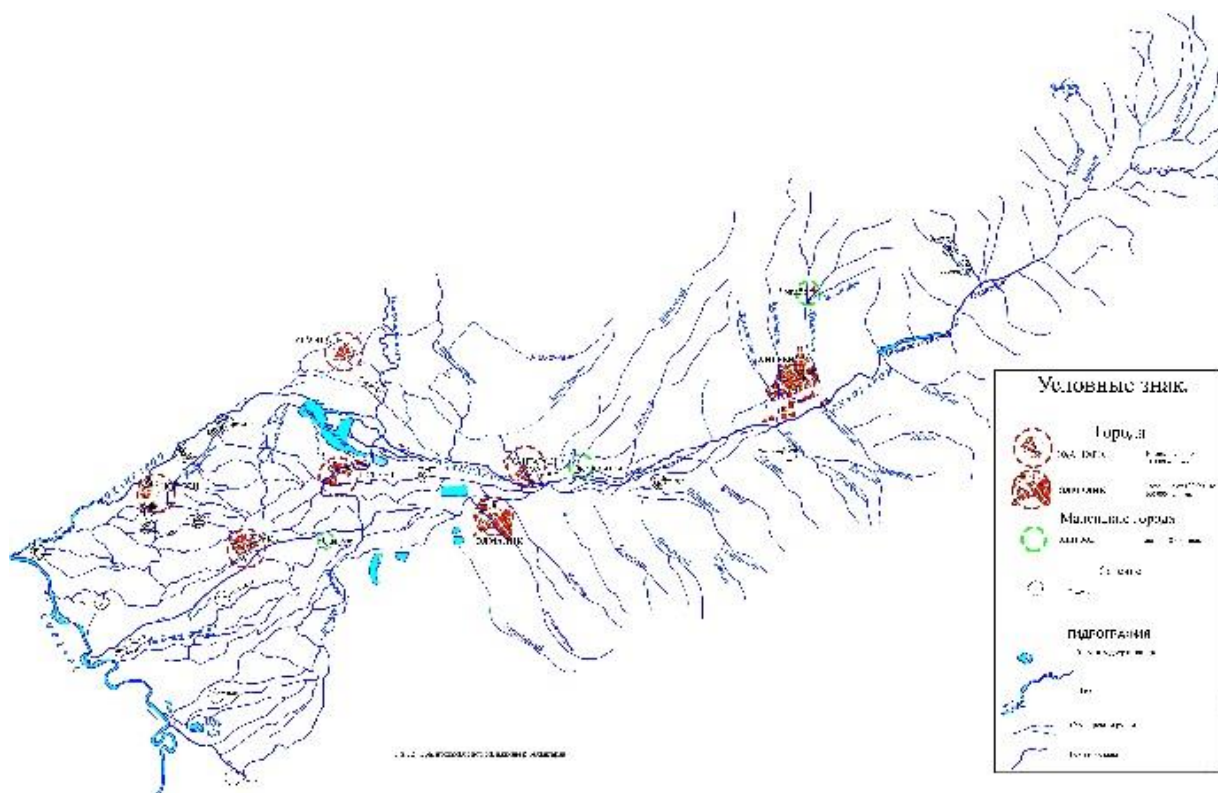

Рис. 1. Карта Ташкентского оазиса.

В нижнем течении русла обеих рек, расширяясь, примыкают друг к другу. Они, направляясь в сторону Сырдарьи, создают широкую предгорную равнину, сформировавшуюся из наносов этих рек.

Территория Ташкентского оазиса отличается своеобразием климата, обилием водных источников, плодородной почвой, полезными ископаемыми, богатым растительным и животным миром.

Климат. Климат оазиса умеренный, относительная влажность воздуха составляет 50-60 % от среднегодового показателя. В то же время в горной и предгорной части оазиса воздух преимущественно холодный и влажный. Лето жаркое и сухое, на равнине средняя температура в июле месяце составляет $+27^0$ - $+28^0$, в горной части $+20^0$ - $+26^0$. Летом температура на равнине поднимается до $+43^0$ - $+47^0$, в горах – до $+30^0$ - $+40^0$.

В оазисе в среднем за год выпадает 245-300 мм. осадков. Основная часть осадков приходится на весну (40%) и зиму (30-35%), зима – снежная, а весна здесь бывает дождливая.

Вегетационные период в равнинной части составляет 210 дней.

Почва. Состав почвы оазиса разнообразен и изменяется с гор в сторону равнины. Целинная земля окультурена для занятия земледелием. Площадь оазиса до 300-1200 м. состоит из целинных земель, на высоте 1200-2500 м. – почва бурая и коричневая, а ещё выше широко распространена тёмно-бурая почва. Выше 2500 м. горно-луговая, каменистая земля и каменистая почва на горных склонах непригодны для земледелия. На нижней части речной террасы, на тех местах, где подземные воды близко приступают к поверхности, земля болотистая, долины рек состоят из аллювиальных земель.

Полезные ископаемые. Горная часть оазиса, в особенности Кураминские горы, богата различными полезными ископаемыми [14, с. 43-44, 54, 56, 87, 112; 15, с. 10-11]. В горах имеются драгоценные цветные металлы (золото, серебро, медь, вольфрам, свинец, алюминий), каолиновое сырьё. Кроме этого, имеются залежи олова, угля, флюорита, топаза, бирюзы, мрамора, извести, цемента и других ископаемых руд.

В своих исследованиях Ю.Ф. Буряков отмечает [16, с. 11], что на территории горных хребтов Чаткал, Курама, Карамазар, наряду с различными горнорудными разработками издревле были известны рудники по добыче бирюзы [10, с.159; 27, с. 75-82; 28, с. 226; 14, с. 43-44, 54, 56, 87, 112; 15, с. 10-11; 17, с. 8, 9; 18, с. 48-55; 29, с. 118-126].

Растительность. На высоте 300-500 м в основном произрастают маки, пырей, рожь, белая кузиния мелкоплодная. На высоте 500-1200 м. встречаются такие растения, как кунгирбаш,

горчак, василёк, шалфей, сарикчай; боярышник, алыча (род местной мелкой сливы жёлтого цвета), горький миндаль. На высоте 1200-2500 м. растут такие деревья и кустарники, как миндаль, боярышник, барбарис, арча (можжевельник), орех, клён, берёза, ива, тополь, яблоня, алыча.

Животный мир. В прибрежных речных зарослях обитают такие млекопитающие, как шакалы, зайцы; пернатые - утки, гуси и фазаны. На равнинах и в горах встречаются ящерицы и змеи, грызуны (суслики, черепахи), насекомые, дикие животные, как лисы, волки, барсуки, а также птицы – перепёлки, дикие утки, кеклики (каменные куропатки), дрофы, чирки, соколы, ястребы, коршуны, сычи. В горах обитают медведи, кабаны, олени.

Основная часть

В реках водятся сомы, щуки, маринка, в водохранилищах – сазаны, окуни, белый амур, змееголовы.

В бассейне реки Ахангаран обнаружено около 240 археологических памятников [19, с. 81-115]. Проводимые в последние годы исследования позволили территориально разделить зоны концентрации памятников с учётом природно-географических особенностей Чирчик-Ахангаранского ареала следующим образом: I. Бассейн реки Чирчик; II. Бассейн реки Ахангаран; III. Правобережье среднего течения Сырдарьи (Рис. 3, 4). Земли бассейна Ахангарана так же делим на 3 части: 1). Верхнее течение: до Ахангаранского водохранилища река течёт по узкому ущелью, расположенному на Ахангаранском плато и в неё вливаются саи (речки) Эрташсай, Яккаарчасай, Тишсай, Камчик.

Протекающая между высокими горами эта часть бассейна реки входит в её верхнюю часть;

2) Среднее течение: часть реки от Ахангаранского водохранилища до линии меридиана, который проходит по кишлаку Керовчи между городами Ахангаран и Пскент считается её средним течением. В этой части в реку по правому берегу с Чаткальского хребта вливаются Дукентсай, Карабаусай, Акчасай, Шовазсай, а с левого побережья с Кураминского хребта – Нишбашсай, Гушсай, Овжазсай, Совукбулаксай, Алмалыксай, Каракия сай. На этой части имеются территории, удобные для занятия, в основном, животноводством, а также частично богарным, а на близких к воде землях и поливным земледелием. Здесь издавна проживали люди и они создавали сезонные или постоянные поселения. Вниз от кишлака Турк начинается широкая часть долины, которая от предгорья выходит к равнине, расположенной чуть ниже города Ахангаран. Ширина бассейна в районе рудника Ангрен составляет 2 км., а ближе к городу Ахангаран – 11 км. На равнинной части меридиана, где расположен город Пскент, она расширяется до 35 – 40 км. В этой части много целинных земель, пригодных для земледелия. По этой причине основная часть археологических памятников расположена на этой террасе.

3) Нижнее течение: к этой части относится нижняя часть бассейна от меридиана, проходящем по кишлаку Керовчи до русла Сырдарьи. Здесь расположена широкая равнина, удобная для земледелия. Её ширина составляет от 30-300 м. до 3000-3500 метров, где в результате разливов возникали заболоченности с растительностью.

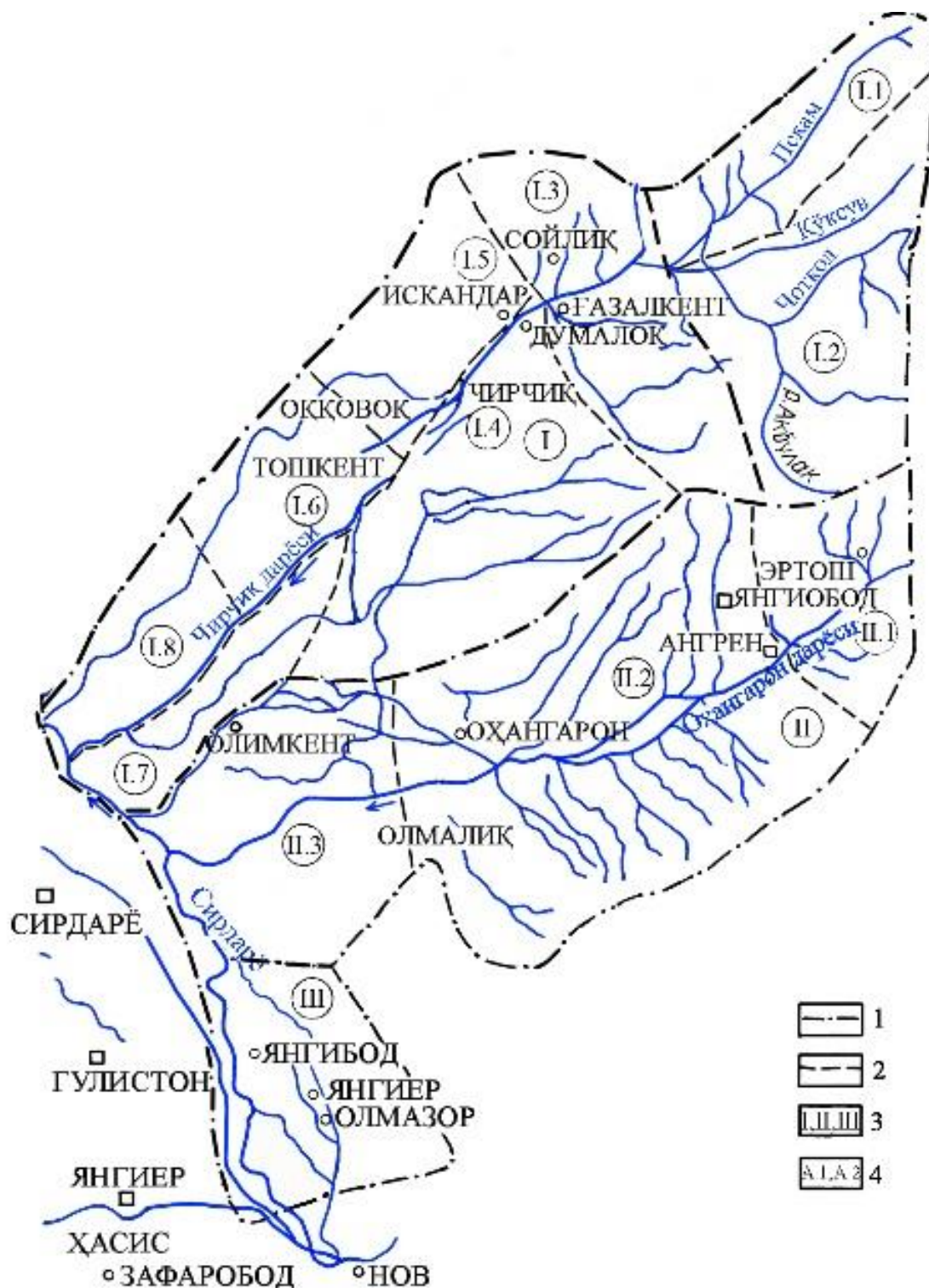Рис. 3. I.1-I.8. - Долина р. Чирчик;   II.1-II.3 -Долина р. Ахангаран;
III - Правобережы средней Сирдария.

1- граница районов; 2- граница участков; 3-названия районов; 4-названия участков.
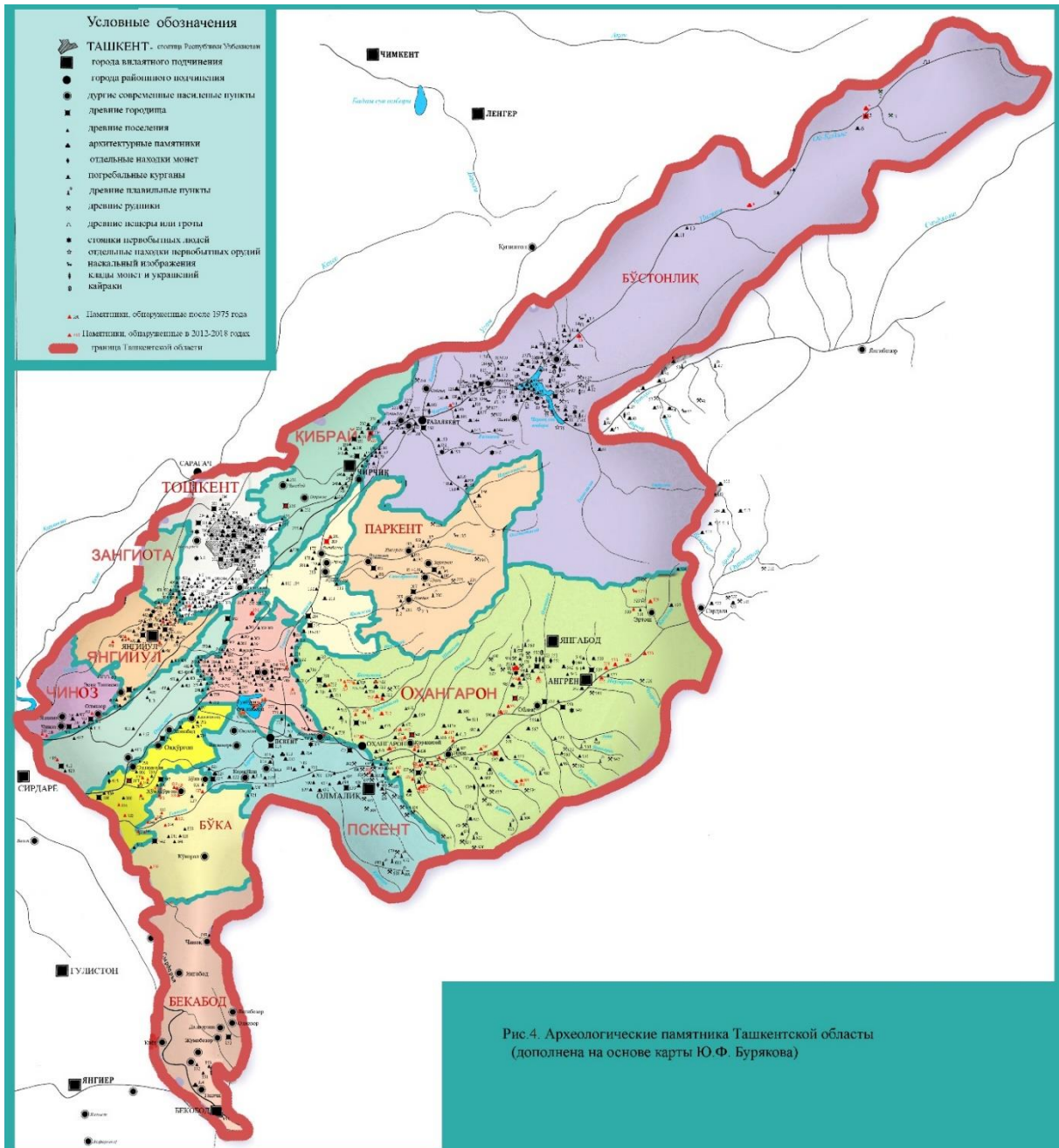
Рис.4. Археологические памятника Ташкентской области
(дополнена на основе карты Ю.Ф. Бурякова)

Мы предлагаем изучать в качестве отдельного ареала памятники, расположенные на правом берегу Сырдарьи в южной части оазиса, от города Бекабада до кишлака Чанок.

Таким образом, исторически Ахангаранская долина была историко-географической и культурной территорией, где располагались кочевое и оседлое население и получили широкое распространение антропогенные и урбанистические процессы. Этот край, в древности находившийся в составе государства Чач, а в раннем средневековье известный как полунезависимое владение Илак, играл важную роль не только в Ташкентском оазисе, но и в истории Средней Азии. Благоприятные географические условия, полезные ископаемые, развитие производства создали условия для формирования традиций государственности.

Начиная со II века до н.э. в древних китайских источниках Ташкентский оазис упоминается в составе государства Кангджюй (Кангюй). Термин Кангджюй (Кангкия, Канкия, Кангха) впервые встречается в произведении китайского путешественника Сима Цзяня (160/161-42/43 гг. до н.э.) "Исторические записки" [11, с. 150; 34, с. 52-66; 36, с. 20-69]. В произведении приводятся краткие сведения о месторасположении кангюйцев, об их традициях, военной мощи и живущих по соседству народах. Древний китайский историк Бан Гу в своём

произведении "История первой династии Хан" обращает внимание на расположение и военные силы кангюйцев. Кроме этого он приводит сведения о количестве семей этой народности, главном городе и названия зависимых от них 5 областей (Сусе, Фуму, Юни, Ги, Юэган). Имеются сведения о взаимоотношениях с соседними народами и государствами [11, с. 184-188].

Позже сведения об областях, входивших в состав Кангюя, можно почерпнуть из произведения "Бейши" китайского историка VII века Ли Ян Шоу, где описываются события, происходившие в Китае в 386-581 годы. В этой истории подчинённые Кангюю области Ташкентского оазиса упоминаются как Чжеши или Ши, самаркандского Согда – Кан, бухарского Согда – Ань, кашкадарьинского Согда - Шы, земли Кушании – Хэ. Приводятся сведения о хозяйственной и культурной жизни населения, проживавшего на этой территории [11, с. 264, 271-275]. О Кангюе также встречаются сведения в изложении истории династии Суй (581-618) – Суйшу, династии Тан (618-907) – Тан (Тханьшу) [11, с. 280-287, 310, 316]. Хотя сведения об истории двух последующих династий были взяты из "Бейши", в них также приводятся названия о зависимых от Кангюя областях и их центрах в последующие периоды. Эти сведения вносят ясность в местоположение областей, относящихся к Кангюю. Например, Ши (Ташкентский оазис) упоминается в качестве Чжеши [1, с. 28-30; 5, 13-32]. Богатые бирюзой горы Чача в китайских источниках упоминаются начиная со II века до н.э. [4, с. 140]. С бирюзой связано название Чача и его главного города в источниках. В китайских источниках Чач упоминается как государство Юни – Чжеши, с V века – Ши, Ши-го, то есть, Таш, страна Таш [12, с. 14; 34, с. 52-66; 35, с. 38-50].

Следует отметить, в письменных источниках раннего средневековья сведения об Илаке встречаются реже, чем о Чаче. В китайских источниках этого периода, в таких летописях, как Суйшу, Вэйшу, Таншу Чач и Илак приводятся в качестве единого историко-культурного края. Согласно этим источникам, в V веке во владении Ши-Чжеши под этим же названием существовала столица, и это владение установила активные отношения с Китаем [11, с. 278, 281].

Кроме этого, сведения о владении Чач приводятся записках китайского путешественника и монаха Сюань Цзяня, посетившего Среднюю Азию в 30-х годах VI века [34, с. 52-66]. В китайских, согдийских, арабских и персоязычных источниках история Чачского владения до арабского нашествия освещается сравнительно шире [30, с. 78-79]. В средние века Кангюй китайских источников упоминается в форме Канг.

В произведении Абулкасыма Фирдавси (примерно 935-1020 годы) "Шах-намэ" (XI век)

Канка (Канга) упоминается в качестве центрального города Турана [33, с. 153-179, 200-203]. В среднеазиатских источниках этнос канг произносится как кенгерес [26, с. 41], кангар [9, с. 17], хангакиши [8, с. 222], кангли [31, с. 79], кангалу [39, с. 53-95]. В источниках V-VI веков на Южном Кавказе встречаются этнонимы "кангарах", "кангар", топоним "Земля Кангар", имеющие отношение к народности кангар [23, с. 175-176]. Это связано с тем, что часть кангар были вынуждены под давлением хуннов в III-IV веках переселиться на Южный Кавказ и расположиться на севере от озера Севан, поэтому в этих местах появился топоним "Земля Кангар" [23, с. 175]. Даже в произведении арабского географа ибн Хурдодбеха (820-913 годы) "Китоб ал-масолик ва-л-мамолик" ("Книга о путях и странах") Сырдарья упоминается как Кангдарья. Значит, этноним дал своё название реке, которая протекала по этим местам. Даже в произведении аль-Идриси (XII век) "Нузхат ал-муштак фихтирак ал-афак" ("Развлечение истомленного в странствии по областям") одно из племён, проживавшее недалеко от Аральского моря, упоминается как "хангакиши", то есть – "Люди из Канга". Значит, этот истинное значение этого термина – "люди из Канга", означает "народ, проживавший на побережье реки Канг" [21, с. 127; 24, с. 35]. По мнению большинства исследователей основу термина "канг" составляет слово "камень" [2, с. 604-605; 4, с. 140-141; 7, с. 193-198; 12, с. 14].

По поводу происхождения названия Ташкентского оазиса – "Чача", основы государства Канг, существуют различные мнения. В исторических произведения советского периода корни термина "чач" искали в древнеиранских языках. Последние исследования показали, что термины "чач" и "канг" связаны с древнетюркским словом "камень" [12, с. 6]. По мнению китаеведа А. Ходжаева в основе прочтения термина "юни" лежит термин "канг" [34, с. 63-65].

Границы государства Кангюй, центром которого был Чачский оазис, на северо-востоке соседствовали с Семиречьем, на западе – с Хорезмом, на юге – с Зарафшанской долиной. Это государство имело различного рода отношения с государствами Селевкидов и Греко-Бактрией, возникших после походов Александра Македонского. С III века до н.э. до III века н.э. государство Кангюй имело существенное влияние на жизнь региона и активно участвовало в интеграционных процессах оседлого народа с кочевниками. Видимо этом смысле Ташкентский оазис – Чач выполнял важную стратегическую задачу в качестве территории, где происходил синтез двух культур.

Нет сомнения в том, что для исполнения административного управления в

государственности Кангюй существовали учреждения, выполнявшие задачи административной власти. Позже государственное делопроизводство велось на согдийском языке, достигшим в тот период статуса языка международного общения. В частности, на кирпичной кладке портала городских ворот III-IV веков памятника Култоба, обнаруженного недалеко от реки Арысь в Южном Казахстане, найдены надписи согдийской письменности. В ней сообщается о создании военного горнизона под началом чачцев. На этом памятнике встречаются такие понятия, как "народ Чача" (Чачан наф), "чачское общество" [6, с. 95-111]. На медных монетах, отчеканенных именно в этот период также встречается словосочетание "чачан наф" [22, с. 7-8]. Это показывает, что жители Чача занимали высокое положение в пределах государства Канг и формируется традиция, по которому всё население государства начинают называть чачцами.

Об высоком статусе тюркского языка в государстве в период Тюркского каганата свидетельствует надпись Чач (čač), исполненный тюркским-руническим письмом на керамическом сосуде, который был найден при раскопках развалин столицы – города Канка [16, с. 11; 25, с. 199-205].

Важную роль в изучении истории Чачского оазиса нумизматические материалы. Обнаруженные здесь монеты раннего средневековья показали, что они чеканились в городах самого оазиса. До настоящего времени обнаружены около 50 типов монет. Они относятся к периоду Тюркского каганата, на которых на согдийском языке отмечаются такие титулы, как "Правитель Чача тегин (принц)", "Правитель Чача тудун (заместитель)", "джабгу", "джабгу-хакан" и "хакан". На некоторых монетах хакан и хатун, то есть правитель и царица изображены вместе [12, с. 7-8]. Наибольши количество их найдено на городище Канка.

Богатые различными рудами горные местности Ахангаранской долины привлекали внимание и представителей кочевнической культуры, которые были заинтересованы в их добыче, вследствие чего происходит процесс перехода кочевников к оседлому образу жизни.

Заключение

В целом, письменные источники и археологескте памятники свидетельствуют, что Ташкентский оазис являлся стратегически важной территорией не только государства Канг, но всего региона. И благодаря богатым рудным и минеральным месторождениям, важное место в оазисе занимали горные регионы бассейна реки Ахангаран, где со II вв. до н.э. складывается оседло-земледельческая, урбанизированная культура, где важную роль играла добыча и использование горно-рудного сырья. В то время как территории бассейна Чирчика и средней Сырдарьи в хозяйственно-культурном плане ориентировались преимущественно на сельско-хозяйственное и ремесленное производство, а также на торговлю.

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Guli Ibragimovna Toirova
Bukhara State University
senior lecturer of Uzbek Philology Department, PhD.
tugulijon@mail.ru

ACTUAL PROBLEMS OF UZBEK LINGUISTIC RESEARCH

Abstract: The article deals with the ontological multifunctional (multidimensional) language and is closely related to its phatic function. It is shown that after the 60s of the twentieth century the phatic function of language, phatic itself, essence and purpose of phatic communication, phatic speech genres have been comprehensively studied in the west (especially in Russian) philologies, however, these questions in the Uzbek science are waiting to be explored.

Key words: language functions, multidimensional object of study, multifunctionality, the phatic function of language, communication adjusting function types of phatic communication, phatic speech genres.

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Introduction

One of the absolutely categorical (flat) demands of the dialectical method of research is the approach to the subject as a multifaceted, complex, multi-functional (multifunctional) and objective investigation. What is this approach? The essence (main point) of this approach is that during the examination of the subject from different angles reveals some even contradictory nature of the source of the survey. Duty of the investigator is that he or she should not miss the properties of the object of study, place, time and circumstances of the fact that the dynamic changes in the source of the study. Separation of property changes from a general change of the object and the equation of property with the object itself leads to a process of absolute (fetishism) in science and degradation through a crisis phenomenon in science. Like everything else in nature (the objective world) language of mankind is versatile and multifunctional.

Materials and Methods

Unfortunately, in Soviet times, linguistics is traced back absolutization of approval of V.I. Lenin that "the language is the main means of communication and assimilation into society." Other features and functions of the language have been unjustly forgotten. But in addition to the socio - communicative function the language has several dozen functional problems in society. The work of the President of the Republic of Uzbekistan I.A Karimov: "High spirituality is an invincible force" puts forward a theory of language: "It is known that the process of national self-consciousness, self-determination, the bright minds of the people, and spiritual and moral bonds between the generations that can be traced through the language of the people. All the good traits in the human heart for the first time go through lullabies of mother invigorating charm of the native language. Native language is the spirit of the nation. "Having said that, the President cites the word of thinker Abdula Avloniy: "Life existence mirror of every nation in the world is the language and literature. The loss of the national language is the loss of the national spirit." This idea shows that:

a) the language is the means (tool) of understanding themselves;

b) the language is the mirror of national consciousness and ideas of the people;

c) the language is the means of spiritual and moral ties between the generations;

d) the language is the spirit of the nation;

e) the language is the means of education of the younger generation;

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f) the language is visiting card of every nation;

g) native language is the chief controller of spirituality in every nation, etc.

One thing is clear, it is not all the traits of our language. There are dozens of functional areas of the native language.

In modern linguistics, the language is characterized as a multi-faceted, multi-functional, social - spiritual - ethnic development. On the basis of linguistics in Europe there is a different interpretation of language. In the book "Essays on general linguistics", Vladimir Zvyagintsev cites three explanations of Wilhelm von Humboldt. Along with this there is the thoughts of Friedrich Hegel, August Schleicher, Hayman Steinthal, Alexander Potebnya, Philip Fortunatova, Ivan Baudouin de Kurt, Hugo Shewhart, Otto Jespersen, Benedetto Croce, Edward Sapir, Anton Marty, Ferdinand de Saussure (two explanations of the language), Hendry Zbbinghauza, Friedrich Kaynsa, Karl Vossler, Antoine Maine, Joseph Manriesa, Vittorio Pisani, Louis Hjelmslev, Vladimir Lenin, Karl Marx and 21 more major experts and thinkers. Twenty five interpretations of the language are not all. From ideas mentioned upwards, we can highlight the following conclusions.

Firstly:

a) on his list, the author cites European thinkers of XX - XXI centuries, beginning with the famous German researcher and founder of linguistics Humboldt Wilhelm (1767 - 1835). In Europe, starting with Aristotle to Humboldt there were dozens of theories and ideas (Franz Bopp, Jakob Grimm, Rasmus Rask, etc.), but they are not quoted;

b) in the list there is no thought of the Eastern sages, encyclopedists, and the writers, because of this the list is not fully interpreted;

It should be noted that Zvyagintsev could not pretend to full systematization of theories about language. By focusing on the diversity of language, he has just given 25 interpretations on this issue.

Secondly:

All the 25 interpretations is the result of abstract and impractical approach to the potential of language. The 60`s years of the last century began to dominate empirical linguistics - a pragmatic approach (sociolinguistics, pragmalinguistics, speech linguistics, text linguistics, grammar text and cultural studies) to language learning. The attention of specialists was not directed to an abstract object of study, but in particular to the subject of language and its effective application in the life of society. On the basis of pragmatic approaches there have been given a new explanation to the phenomenon of language in society. That was not all. Recent changes in society, the development of a new era and a new information system in the world is making chances to support the development of new theories of linguistics.

From the many theories of the language system any of them is not absolutely right or wrong. Each of them has its own rationale and the right in certain circumstances of life. The dialectic methodology versatility of the subject of research and conclusions emanating from it, determines the correct direction of development of linguistics.

In contradiction to the multidimensional language of the Soviet era, the function of communication and language assimilation was absolutized in the form of socio - communicative tool of society. The very function of the transmission and receipt of thought has several distinctive areas, and one of them is phatic communication. Phatic part of communication (Phatics) is one of the few areas that are poorly investigated in the Uzbek linguistics.

The term of Phatic or phatic communication (phatic communion.2) in linguistics was first introduced by the English scientist of Polish origin, the founder of functional anthropology Bronislaw Malinowski (1884 – 1942years) in 1928 (15). Phatic comes from the Latin "fatuus" – "tasteless, meaningless" (7). The term of phatic function of language is associated with the linguapoetic works of Roman Jakobson. The importance of contacts, in other words, communicants conversations, sending or receiving information and further support or prevent your partner's actions, their influence to each other, all is primary for exact practical justification Phatic. On the part of Bronislaw Malinowski, Phatick is interpreted as usual form. Such conversations are necessary for the preservation of contact or dialogue for the sake of communication. It is interpreted like a smail talk by Bronislaw Malinowski (1). According to its ethnic option it is suited to the Uzbek word "Gurung" (guff or chattering), "hangoma" (the hubbub or murmur of two or three interlocutors).

Roman Jakobson has its own interpretation for the new term that was applied in linguistics by Bronislaw Malinowski. According to Jacobson, Phatic is aimless and is not related to the activities and conditions of the conversation of the interlocutors, irresponsible, is served for the sake of verbal communication of different people. Expanding the scale of his system, he adds, "function setting of contact" for phatic words and on that basis alone distinguishes "phatic function" of language in society. According to Roman Jakobson, justification of phatic language features based on the following bases:

- first, in contrast to the traditional functions of language (transmission and reception of information, mutual interlocutors) phatic words are used aimlessly or even in the opposite direction (11);

- second, because of the growing interest in pragmalinguistics genres and vocabulary;

- third, the prevalence of mechanical information on the specific decisive words during vocabulary or conversation.

As a result of the above mentioned reasons, in 60 years of the twentieth century, there is given rise to sharply increasing interest in phatic and research on it.

Clarivate
Analytics *indexed*

The linguistics and literary studies of the West have been published not hundreds, but thousands of works in areas related to Phatic (lexicology, linguistics of vocabulary, pragmalinguistics, culturology, etc.). If the justification of Phatic by Roman Jakobson in the middle of the twentieth century was like a twist to the traditional world of linguistics, it was a new barrier (margin) in language studies. And it is not that simple. It was leaked out that phatic plays no less role in the contacts between people than any other language features. The significance of phatic is clearly traced the example of Albert Einstein. In place of the two volume edition, he proves his point just in two lists. In terms of information transfer, two options equalize presentation by concise exposition of his theory. Unlike traditional research papers, required system (introduction, main part, conclusion, appendices and references) simplifies some sort of final conclusions of the author. Bypassing multistage requirements and data transmission to the addresser as a laconic forms (theses, conclusions, summary) is not a violation of traditional norms of language contact. Here, the meaning of the transmitted information is primary. If this information reflects the views of the author, it is a vivid example of action Phatic. It is a form of modern approach to Phatic.

The phenomenon phatic is not separately investigated in the Uzbek linguistics. Because of these questions of historiography of phatic, phatic communication, types and genres of Phatic on the basis of Western interpretations, are given to the Uzbek linguists and literary critics.

In the history of the study of Phatic, general work can be called a work of V.V. Dementieva and E. Klyuyev (5,6,9,10). The history of Phatic were analyzed, organized, and determined according to the development of Bronislaw Malinowski in subsequent years in these works. Based on these data, we can distinguish three periods of Phatic problems study:

The first period. Definition of "smail talk" by Bronislaw Malinowski and Phatic justification as "Communication for communion" in 1928 and in the six functions of language selection feature separate Phatic (for installing and maintaining the contact) Roman Jakobson in 1970. This is a period of weak attention to the problems of Phatic.

The second period. From the study as a separate function which establishes contact of phatic by Roman Jakobson (1970), to the unification of the two interpretations of the writings of the Tatyana Vinokur (1924 - 1992 years) in 1990 (2.3).

The third period. The period after the Tatyana Winokur (from 1990 to the present day). It is

dedicated to more than a thousand works on Phatic. At this time, there were two directions in research Phatic. Mostly in Russian linguistics two areas of Phatic are highlighted:

a) the nature and value of Phatic in the lexicon;
b) lexical genres of Phatic and their application.

In addition to the first direction T. Vinokur, it can be noted works of N. Arutunova, E.V.Duskaeva, V.G. Gaka, V.I. Karasika, E.K. Kdyueva, K.F. Sedova, T.V. Smelyova and others. Works on this direction are not numerous. In these works, the Phatic is justified as mechanical, informative and complementary part of the conversation, or simply hanging out empty means of different people.

The second direction of studying of the Phatic problem was developed in the writings of V.V. Demeteva, M.E. Fedosyuk, V.V. Goldin, A. Karabikovoy, N.A. Kornilova, T.N. Kozlovsky, T.V.Matveeva, N.G. Nesterova, Fedotov, V.K Prokhorov, A.D. Stepanova and other linguists, scholars. In the thesis of V. Fodotov lexical genres of phatic were divided into two groups (and dissonant unison), and in these groups are allocated into 17 sub-groups operating in various forms in Phatic of French and Russian languages.

Conclusion

The roots of interest Phatic in Russian language goes to X century AD, when the nobility began to form. In the X - XIX century, they were the "Flowers of society". Usually in parties, while resting and visiting there were "small flowerish talk." These talks without demanding anything were to define and develop the lexical level of each speaker. Whiling away the time, people have learned a lot from his friends. This has led to a proliferation of phatic in the works of Russian classics. Therefore, in the Russian language, the level of interest to Phatic is very high.

In the Uzbek language, communicative dialogue has also elements of Phatic. Usually during the greeting, a simple exchange of information and farewell often traced application of Phatic words. In addition to communicating Phatic lexical factor, operates extra-linguistic and cultural factors of language. With the help of them, the language takes on a new challenge, a kind of cultural preservation standards in communication between people. Units of Phatic communication, the need for transmission is not informative and concise, transmission of the necessary information, in general, "the mechanisms of Phatic action" in Uzbek language is "uncharted outside linguistics" in our era of informative-communicative technologies.

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Arthur Alexandrovich Blagorodov
Institute of Entrepreneurship andSevice sector (branch) DSTU
bachelor, g. Shakhty

Dmitry Olegovich Bordukh
Institute of Entrepreneurship andSevice sector (branch) DSTU
bachelor, g. Shakhty

Angelina Vladimirovna Kopylova
Institute of Entrepreneurship andSevice sector (branch) DSTU
bachelor, g. Shakhty

Vladimir Timofeevich Prokhorov
Institute of Entrepreneurship andSevice sector (branch) DSTU
Doctor of technical sciences, professor, g. Shakhty

Igor Mikhailovich Maltsev
Institute of Entrepreneurship andSevice sector (branch) DSTU
associate Professor, Ph. D.-m н., g. Shakhty

Tatyana Pavlovna Lopatchenko
Don State Technical University
associate Professor, candidate of technical Sciences, Rostov - on - Don, Russia

ABOUT THE POSSIBILITIES OF EDUCATIONAL TECHNOLOGIES FOR TRAINING HIGHLY QUALIFIED SPECIALISTS FOR PRACTICAL ACTIVITIES

Abstract: In the article, the authors investigated the problems that prevent today to implement the training of highly qualified and sought-after specialists for their practical activities. We consider that this task can be realized only at good level of the organization and control of educational process with use of entrance testing with an assessment of level of knowledge at certified, it is necessary to develop system of the normative documents defining the principles of construction of educational process with use of credits regulating methods of certification of students with use of point-rating systems, the implementation of such procedures and the achievement of the goal the University guarantees a high level of quality of training of specialists for enterprises in accordance with the requirements of the GEF in the framework of the QMS, ie to return the level of professional training

Key words: highly qualified, demanded, training, specialists, testing, level of knowledge, quality of preparation, QMS, standard, education, process, identification, description definition, SOCA, PDCA, cycle, orientation, team, qualification characteristic employment.

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Introduction

Today, high school is not experiencing the best years of its development, and the issue is not only in poor funding, and the indifference of the state to its final product - a specialist.

In high school, exposed to market forces, under-go kids, accustomed to the fact that they will always take care of teachers and parents take for them most of the decisions, as it was in high school, so the problem for them begin with a psychological unwillingness to study in high school. The most topical of them in the near future are:

• approval of understanding standard in Russia and Europe;

• the development of national and European qualification criteria based on the competent approach;[1]

• The development of guidelines and assessment procedures and quality assurance;

• definition of rights and responsibilities between universities, the academic community associations, citizens receive education, business and the state in the development of standards and quality control of education;[2]

• The development of a uniform comparison of the degrees of the content in a multi-level system of education;

• matching system transfer credits (EST8 system);

• inclusion in the process of mutual recognition of qualifications after passing the accreditation of higher education institutions in any of the EU recognized independent social and professional agencies (organizations);

• creating conditions to ensure competitiveness of Russian education in the European and world educational space [1, p. eight].

Formulated challenges may be considered, depending on the readiness of each university to the perception of the principles of the Bologna Declaration. One thing is certain: Each institution must establish a system of education quality assurance, to provide graduates with the opportunity to meet the requirements of the ever-changing conditions on the labor market.

Main part

The ideology of satisfying consumers of products and services of high school every year will be all the more energetic break in the life of universities. Quality is becoming a universal criterion in setting the competition. Quality is the basic measuring device, with which comparisons will be carried out. The first steps have already been made in Russia, formed an independent system of certification and control of the quality of education based on the concept of multidimensional quality management of educational institutions, contests on the issue of

"Management of the quality of education" projects. We believe that higher education institutions have declared as their main purpose will be to live and fight for prosperity, and those that refused to pro-gram quality, waiting for an uncertain future.

Formation of the European area of education demands from the Russian universities considerable effort to bring the educational process in accordance with the higher education criteria to facilitate the recognition of independence of powers and the development of student mobility. To this end, universities recommended to undergo international certification. One of the most important ways to improve the educational process taking into account the common European principles is to introduce and improve the quality assurance system. The main conditions for the introduction and effective quality management system in high school activities is compliance with the standards ISO 9001: 2015 "Quality Management Systems. Requirements. " This standard specifies requirements for a quality management system and is aimed at customer satisfaction.

In accordance with the standards of ISO quality is defined as a set of characteristics of the object relating to its ability to meet established and prospective customers needs. The object can be an activity or process, product or result of the service provision, organization or system [2, p. 232-233]. In this context, we can say:

◻ the quality of the performance of educational processes;

◻ the quality of the processes themselves;

◻ the quality of the system or the organization of activity and their relationship.

The quality of educational services presupposes their ability to meet the needs and expectations of a specific consumer. Naturally, the high quality of educational performance, which is determined by the level of knowledge and skills of high school graduates can only be achieved with a good level of organization and control of the educational process. This quality, in turn, is determined by, on the one hand, the content of education, and on the other - resourced: logistical, educational, informational, personnel. The major component can be considered as the content side of education.

ISO standards are based on the ten principles of quality management, one of which is the process approach. The introduction of the process approach allows to better manage activities and related resources in order to achieve the desired result. In accordance with this principle, the ISO standards require that were determined are identified and the processes described in the university. At the heart of all these schemes is well-known idea of quality control by quality management processes. Strictly

quality control is reduced to the use of standard SDCA and PDCA cycles.

Unconditional jump to the PDCA cycle is the need for continuous improvement of the quality of resources and processes. It is important to note that the improvement results can occur only after a certain time lag (for educational process - through one semester or one year). In case of problems outside the competence of a team provided by the delegation of the problem unit the higher level, for example, from the pulpit to the faculty. Corrective exercises can be conducted in the form of mandatory training in the training schedule, in the form of additional voluntary fee-based services, or in the form of independent work of students with intellectual computer simulators. As a rule, the task of ensuring the functioning of this circuit will be at the teacher, who should be familiar with the established indicators of the quality of teaching process. Note that requirements for quality parameters "input" and "output" should be stable, i.e. agreed between customers and suppliers [3].

The use of standard cycles SDCA PDCA and eventually determines the effectiveness of a new university management model. Their realization is possible if to comply with some conditions for their use.

Today it is necessary to limit the autonomy of the departments and employees, as if it may sound paradoxical. Time passed geniuses. An era of brilliant organizations, teams collaborate. A clear orientation to work in teams, which is an integral part of the strategic quality management philosophy, allows people to work together on common rather than on independent goals.

Process approach involves designing the quality management system as a set of interrelated processes wherein each process must be provided with main characteristics: the inputs, outputs, consumers each of the processes must be identified and their demand during operation system should be studied their satisfaction with the results of the process.

In this case, the learning process can be described as a system of getting the students knowledge on GEF Disciplines included in the curriculum of the specialty (sub - set of interrelated actions on teaching students specific subjects of the curriculum). Then, for the organization of interaction is necessary to define sub-inputs of each of them, as the needs of the knowledge and skills necessary to teach to digest the volume of the discipline. At the output will also be some learning outcomes, ie consumer satisfaction. For consumers can be attributed, as the students and teachers of this and subsequent disciplines, since it is the teacher, using the basic level of training students, determines the specific subjects and volumes of sections of their discipline (including GEF VO requirements).

To ensure the quality of the educational process and its compliance with the requirements of the GEF IN and interested parties, should:

 identify the information that is needed for the system implementation of the main stages of the learning process for each of the disciplines;

 identify the information flows that are the inputs and outputs for all processes. It is important that the yields have to work on the preparation of an appropriate specialist requirements of the market, and therefore the information content of the disciplines should take into account not only the requirements of the GEF IN, but also employers;

 it is necessary to conduct ongoing monitoring of compliance with the outputs of each of the processes that are currently performed in the process of approval of the work programs of disciplines of scientific and methodical council specialty insufficient systematic, formal [4].

The learning process should be divided into related threads, which must be within the framework of implementation of the QMS to identify and agree. The task of such coordination is facing the direction of the NMS at the design stage educational complex directions, as well as subsequent adjustments, if inconsistencies are identified. Based on the principles of quality management system, these problems must be addressed by the process owner. In this case, it is - SSN (Department of profiling), which provided the appropriate authority for the organization and provision of educational process and who is responsible for the efficiency, effectiveness and compliance with the requirements of the process.

Basic requirements include:

1) efficiency - i.e. controlled process supports the strategy and is aimed at the realization of certain objectives of the school and faculty;

2) the effectiveness - learning process to be debugged, the problem areas are identified and constantly monitored, also requires the use of measures to improve the process;

3) compliance - learning process must take place in compliance with regulatory and educational document and in the borders of certain process description;

4) the ability - the process must be able to perform the required functions and produce the output products or services with fixed or expected properties [5, p. 389].

Based on the requirements of the process of training, SSN (profiling chair) shall:

o to coordinate, monitor and improve the educational process;

o define the boundaries and contents of the process together with other owners of interacting processes, ie review and approve the agreed work program and other guidance documents in various

disciplines, while ensuring the continuity and the relationship of the learning process;

o to take responsibility for the effectiveness, efficiency, relevance and the ability of the process to provide output relevant training requirements STATE IN and other consumers;

o constantly to determine whether the process objectives are achieved;

o apply appropriate measurement and evaluation means for determining the current process parameters (performance, quality, number KR, KP, protected in time, the number of the debtor and causes);

o initiate and coordinate measures to improve the educational process.

As a result, there are three problems to be solved:

1) establish the relationship of core courses in a particular specialty, which according to the current guests are required to know the student during the development of the majority of subjects of the curriculum;

2) Development of the input test for evaluating residual (required) knowledge;

3) the development of the output of tests confirming the output level of knowledge after studying the next course.

Introducing the entrance test, we pursue the goal:

 an objective and independent verification of the quality of students' knowledge before the start of the current study specific subjects on the most important for this discipline sections studied earlier training courses;

 the expansion of methods and tools for measuring the quality of teaching and the teaching results;

 diagnosing learning defects and timely correction of the knowledge and skills of students in certain sections of the previously studied disciplines;

 adaptation of the process of teaching and discipline of the current program for the timely improvement of the quality of education, taking into account the real quality of "input data";

 the creation of predictive models for further improvement of the learning process, aimed at improving the quality of students' knowledge.

Testing is carried out by an independent group of educational management staff without the involvement of teachers in coordination with the Center of Education Quality Management. Disciplines involved in the process of testing, divided into two groups: 1) "discipline suppliers", 2) "discipline-consumer". For each "vendor-discipline" makes test unit. Tests are prepared in the previous semester, the joint team of teachers' discipline-provider "and" discipline-consumer "according to the agreed rules and sections. The number of such units is determined by the number of "supplying disciplines" [7. 131]. The number of test questions in each block must be greater

than the number of questions asked (10) is not less than 5 times. Costs associated with the development of tests and testing shall be paid in the prescribed manner by the Academic Council of the university.

Testing is conducted in the first week term in accordance with the learning schedule at all "disciplines supplying" for 2 hours, usually on a computer. Testing is performed using a single computer program for quality management center established procedures. The test results are transmitted over a computer network in the quality management of the University Center of Education and after the automated processing of the next day returned to the relevant department.[5]

The degree of student performance test is measured using the formula $Ki = Si / S$, where Si - total points scored student; S - the total number of test points. When the degree of importance of the test student $Ki \geq 0,55$ test is passed. There are procedures for re-testing and training to eliminate the detected defects in knowledge. The test results are recorded as the first stage of monitoring of "discipline-consumer." knowledge level may be high ($Ki > 0,9$); good ($0,7 < Ki < 0,9$); satisfactory ($0,55 < Ki < 0,7$); low ($Ki < 0,55$). Correcting the knowledge and skills of students provides a course of additional training.

Recheck the quality of knowledge and skills of students who have shown poor results in the initial test, and have undergone additional remedial classes, held immediately after the end of the occupation of the previously discussed form. The implementation of this procedure and the achievement of this goal will ensure the elimination of the identified deficiencies in the knowledge of the students in these disciplines and the university will ensure a high level of quality of training for enterprises in accordance with the requirements of the GEF IN under the QMS.

What is happening now in high school, colleges, high schools and secondary schools, namely that of a stir there are currently in high school? Particularly disappointing poverty, poor logistics training process engineering disciplines. Changeling bachelor led to the desire of high school as the class of employees to eliminate the preparation of the engineering staff, because Magistrates completely different purpose and objectives, which are mostly common with the Graduate School [1, p. 6-7].

It is sad that the voices of prominent Russian scientists in support of engineering education were not heeded, and the lack of funding for their training has led to the fact that today Russian industry is like a tree without leaves, causing surprise that more vividly. Attempts to offer a solution to these problems due to the invitation of the best foreign graduates of engineering schools are absurd in fact, because they have to present a healthy desire to compete and objective assessment of their skills compared with

their homegrown. Non-clear on what basis the higher school management decided that it has the right to determine the levels of engineering education in our country. We believe that it will be difficult to solve the problem, if we can revive, regain honored, recognized by the international community priorities, which are so obviously we had in comparison with foreign higher education in the old days.[6]

Residual principle of financing higher education has provoked an outflow of her outstanding scientists, talented practitioners, significantly depleting the level and quality of the educational process. AN Kosygin, probably the only Russian prime ministers, it is understood and death stood guard preserve the best of its traditions, which were so abundant in our high school. He liked to repeat the same phrase: it is better to cook mediocre engineers than bandit, repeat offenders, drug addicts, alcoholics, people on treatment and correction of which society will have to spend considerably more money than those that would be required to maintain the higher school at the proper level . And it industry and the best Research Institute had engaged in the development and production of scientific stands, instruments, testing machines, the level of which is very quickly approaching such a recognized foreign authority as Zwick, Instron and others that you are a called in the hearts of high school workers hope filling the teaching laboratories of higher schools priority equipment, instruments and stands. This would significantly improve the quality of higher education, and the level of engineering education. And as these truths are clear and understandable to all, but especially to those who make the decisions, but unfortunately, we are once again trying to fulfill someone's selfish ends, which are harmful to the cause, provoking a significant deterioration of the situation in higher education for the preparation of highly skilled engineering staff [2, p. 136-137].

Leapfrog with the curriculum, GOSami, their lowest level in no way confirmed by and unjustified, provoked the university authorities to adapt to all these absurdities that come from the higher school management, their dashing and unwillingness to fight for the preservation of all the good that has been accumulated by the higher school, the collapse of the secondary vocational and basic vocational education (SPO and NGOs), which have always been fed for higher education in the formation of a high quality set due to talented graduates of these training s institutions, contributed to the formation of middle managers and workers of higher qualification. A vacuum is created to provide businesses a talented leader, who will be able to eliminate congestion and provide a dramatic leap forward to achieve new heights, and not give rise to the disaster and not

willing to explain their origin lack a strong scientific base to prevent such facts, such troubles (catastrophe).

Completely inexplicable fact indifference to high school. The Company does not deserve any respect, if not able to provide a decent life for their children, pay as much attention to their development and formation, as they are able to perceive, and to divide children on peripheral and elite, to worthy of our attention on those who are deprived of elementary attention to their needs, problems. The media are the facts of embezzlement of public money in such volumes, funds which would be enough to solve all the social problems that children really had a happy childhood and the ability to get a decent education and training. Such an attitude to their future provoked the lack of influx of talented young people in higher education [3, p. 6-7].

It looks strange in this regard the decision of the higher school leadership to conduct ratings. They have forgotten that the public universities of different needs: those whose names have always been at the hearing (Fiztekh, Moscow University, "Baumanka" Technology and many, many of the best universities of the country), and those located in Tambov, Lipetsk, Stavropol, Kemerovo and other cities. Their role was assessed much wider. Today, teachers of higher educational institutions, colleges, high schools and middle schools recklessly give their knowledge and love of the children, to give them the amount of knowledge, which will enable young people to be in demand by society, not thrown into the street. But in Kaluga I lived and worked great Tsiolkovsky, Kazan - Mendeleev; then we did not divide the city on unnecessary and priority. Can one sick child to be worn around the world in the desire to help him; and that's fine, if a number were not others who are not "lucky", and they were in the wrong place at the wrong time. Every life is the way society, the indifference - a terrible evil. Indifference is more dangerous than cancer, as a manifestation of human callousness, indifference and a betrayal.

Let us return to the higher school problems. Today, in the learning process a lot that does not guarantee the creation of conditions for the training of highly qualified specialists. We call and describe the problem. First of all, it should be noted that negated the role of the teacher as the main factor shaping the level of training of highly qualified specialists. Assessment of the level of quality of the educational process is reduced to the formal criteria, we refer to them competencies that will not help to create a high level of training. Formally, the Ministry of Education issued an order obliging universities to open branches special graduate departments in enterprises and major research institutes, but it is advertised in the absence of any coordination with the Union of Employers within the Chamber of Commerce of the form and

nature of the interaction between universities and businesses. Its content does not contain any legal or institutional, or other forms of legal co-operation, that is started up at random, which means that you need, in principle, the decision on strengthening the links between universities and enterprises can not be realized.

Not marked with any terms or forms of addressing the logistics of universities, which negates publicized restructuring of high school on the basis of the introduction from 01.09.2014, the new GEF IN, proposed in the framework of its implementation to prepare a bachelor. This dashing once again confirms the lack of a strategy for the withdrawal of the higher school of the deep crisis in which it was the fault of non-deliberate, compromising policy of the Russian Federation Ministry of Education leadership, which publicly condemned the most part presiding Lei leading universities and, of course, the teaching corps Russia . Actually they lost their role and importance for the higher school rectors of the Russian Union of high school, UMO universities of Russia. Universities lack of coordination and exchange of experience of the best universities of the Russian Federation and can not adopt the best achievements at home, in high schools, located in the so-called peripheral regions [5, p. 26]. Ministry eliminated existing forms of training of teachers on the basis of the leading universities in the direction of training, which is completely unjustified and led to a significant reduction in the level of pedagogical skills of teachers of high schools, and, consequently, to a decrease in the level of training.[7]

Advertising aimed at persuading in obligation to achieve improvement of quality of preparation of specialists at the expense of the invitation of leading scientists from foreign universities will provoke a result similar to the situation in the Russian national team, when such leading players invited for a fortune in the club teams, had raise the skills of domestic football, but all ended in failure, and this was expected. The path must be different: it is necessary to revive the training school of the Olympic reserve school club and pay great attention to logistics of these schools, creating the opportunity for growth of children and young people skills. All this - truths. The same state of affairs and the preparation of specialists on demand for domestic enterprises. It is necessary to return to the traditional scheme: improvement of the situation in secondary schools, lyceums and colleges will return the authority of higher education and promotes a dramatic improvement in training highly qualified specialists.

Hostages of this situation remains the youth, our future. Blindness, lack of understanding of the situation it is actually pain-she harmful to higher education, threaten the future of the Russian scientific community, to remedy the situation will take decades. It is good that today survive enterprises of light industry to provide the population with marketable products. So there is hope that will be a need for engineering staff, without whom restore light industry at least to the level of 1986 is not possible.[8]

The concept of employment of young experts is far ambiguous. Under it is possible to understand and employment of the graduates of the specialty acquired in college, and just getting a job after graduation, regardless of whether it meets the qualification and employment for the prestigious best work, without taking into account of the profile of educational attainment. Each of these representations shows the variety of problems, but you can not find effective ways to solve the problem of employment of college graduates.

Interdepartmental program of adaptation to the graduates the market says about the effective employment as employment in the specialty, which should seek any higher education institution. graduate employment problem is nowadays one of the most pressing. Especially acute it becomes for people graduating from higher education institutions. In a planned economy, the graduates enjoyed the special care of the state, had benefits as an intern. Mandatory distribution-division graduates guaranteed them employment and gave the opportunity to acquire practical experience in the specialty at the enterprises within three years [9].

Labor market realities in Russia at the moment is such that many students who have completed higher education, are faced with employment problems. The tasks of the higher education institution, in addition to the direct instruction of students, should include monitoring of their employment, and also you-effect level of knowledge obtained graduates for future professional activities.

Conclusion

In conditions of market relations the effectiveness of the educational institutions in the vocational education system is determined not only by the degree of demand for graduates of different skill levels in the labor market, but also the knowledge of the real situation of young people in the labor market, the ability to look for a job and successfully present yourself to the employer. Graduates, young professionals, are one of the most poorly protected socially populations. In order to prepare graduates for independent search of work and a successful adaptation of the regional labor market, it is necessary that the graduate had an idea about the upcoming employment, professional career, as the knowledge he had received, abilities and skills, as well as employers' requirements to be met by the graduates of the university [7. 111].

The general approach is based on the principles of total quality management (Total Quality management TQM) and a quality management system requirements of the International Organization for Standardization (ISO). In this context, taking into account the requirements of ISO 9001-2015 Quality Management System foundation of the university should be:

• customer focus;
• Leadership in setting goals and achieving them;
• involvement of all participants in the educational process in the solution of problems of the university;
• process approach to the organization of all kinds of high school activities;
• a systematic approach to its management;
• continuous improvement of the quality of education.

The problem of quality of vocational training must be addressed at all stages, including:

• intelligent analysis of labor market;
• conceptual work planning;
• conceptual planning training;
• Development of working curricula;
• methodical, informational and technical support of the educational process;
• Admission to the university organization;
• organization of the educational process;
• control of knowledge and qualification tests;

• employment of graduates and their adaptation to the enterprises;
• the organization and the quality of postgraduate education and training.[10]

It should be noted that there is a tendency to reduce the number of graduates employed on contracts with enterprises. Decrease in the number of signed contracts say the reluctance of enterprises in an unstable economy, the possible reduction of production to go on long-term relationship, to enter into commitments on employment. Companies are not willing to spend the funds for targeted training specialist, even on an individual plan of study, as well aware that graduates come to them with a request to do its job, having the knowledge and competencies needed to practice. More willing to conclude agreements on strategic partnership, which determine a wider range of cooperation between the parties in various areas of activity than a hundred pro-employment of graduates of higher education.[11]

It's sad, but students can acquire practical skills and know the features of modern technology. Students are not allowed to practice on those same companies where like so need experts. Therefore, it is necessary to sit at the "round table", to engage in dialogue with employers on how to jointly build a learning process, so that enterprise came precisely those specialists and in such an amount that would be needed not only for today, but the main thing - tomorrow .

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M. Usmonova
Namangan State University
Teacher of the Pedagogy and Psychology Department, Uzbekistan

WAYS OF IMPROVING THE QUALITIES OF NATIONAL CHARACTER ON ADOLESCENTS IN LITERATURE LESSONS

Abstract: This article outlines ideas for the formation of national character, the value of literary works. The role of national moral values in social science is unmatched in its broader study and its inclusion in life.
Key words: national character, prose, psychology, artistic work, teenager, need, education.
Language: English
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Classifiers: psychology.

Introduction

During the years of independence, the issue of restoring the national history and values has risen to the level of public policy. Indeed, the national history and values allow the nation to realize who they are, as well as to find their own place in the world civilization and society. At the same time, national history and values are important factors in upbringing the younger generation in the spirit of national identity, the development of national character. In the last 20 years, effective work has been done to study the national culture and restore national values. In particular, the issue of educating young people, in the national spirit, the formation and development of national character traits has been widely studied in the areas of philosophy, pedagogy, psychology and sociology. The following is an example of this.

The first President of the Republic of Uzbekistan, I.A.Karimov, emphasized the need for a mature personality when it comes to the spiritual image of young people. In particular, modern youths know their rights, struggle for it, rely on their strengths and capabilities, use their opportunities and their effectiveness, communicate independently of events happening around them, and observe personal interests in the interests of the country and people [10, 233].

Materials and Methods

According to V. Kuchkarov, the formation and development of national character in adolescents draws attention to the urgent need and socio-pedagogical needs of the day. The author stresses the need for the formation and development of national qualities in the young people "... because of the need to fight against the opposite imagination, historical and cultural traditions of our nation, our people's moral values, pornographic works. There is no national identity, national-historical foundation in "Popular culture". It does not know what a national culture, national character, national interest are. It unwaveringly rejects the values of the nation, the centuries it has created, and makes them unimaginable, promoting non-national and non-humanitarian views. It sets the ultimate goal of influencing audience feelings; it is important what he propagates, but also to hold the spectator under pressure and to consider what he has created, without hesitation, as a ready-made thing "[116, 26].

As it is understood from the above-mentioned ideas, it is of particular importance to promote a purely national culture that reflects the ethnic identity of adolescents, apart from the "mass culture" defects in the formation and development of national character. It is understood that the denial of national values, which for centuries has been valued by the nation, not only ensures the formation of negative attitudes and attitudes of nationality, but also creates a national crisis, as well as a misunderstanding of its

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value as a nation, which is the basis for the nation's dependence on other nations. M. Bekmurodov is convinced in his works that an essential factor in the nation's deprivation of dependence is an eccentric tendency. The writer acknowledged that "the notion of eccentric character in the nation character, that is, not just the imagination of the real world, but the understanding of the events, but to avoid the realization of the essence of the events, to intensify the lean imagination" [32, 4] and the repression of the totalitarian system.

It is well known from historical experience that the interconnected culture of the peoples of the world serves to the establishment of unity, peace and harmony among them. But the rapprochement of different national cultures is the rejection of a national minority with a relatively small number of people, one nation by culture and does not mean that it is accepted as an ancient one. Moreover, in the present context, the mutual understanding of cultures of diverse cultures is aimed not only to bring harmony but also to standardize national mentalities. "Although the standardization of mentality of the peoples of the world expresses certain positive aspects, it also leads to a number of negative consequences. Particularly, it destroys the national identity of the people, the cultural heritage traditions and the national character. "[31, 4].

From psychological point of view young people should take into account their active vital activity in shaping their national character, and their current behavior should be consistent with the national mentality. Indeed, "... the development of the character depends on the behavior of the individual in his active activity. The role of an active activity in characterizing the character is that individual behavior in the same active activity is composed of individual methods of action "[117, 177].

The resources created during the years of independence are focused on the adaptation of society members to market-based relations, ensuring the survival of individuals in the context of social and economic competition. Indeed, a socio-economic competition based system requires the need to act in accordance with the specific market economy law. In this regard, it is a positive fact that in the process of independence, in the context of social, pedagogical, psychological and economic problems, special attention is paid to the study of the issues that arise in these areas of market relations.

In the process of solving the problem of research, attention was paid to the coverage of such phenomena in artistic works and the study of the impact of their development on the characteristics of national characters in adolescents.

During the first stage of experimental studies, during the substantial experiment, adolescents and pupils learned how much attention is being paid to the development of national character in adolescents. The study was conducted in the following areas:

1) a program on adult education for adolescents and pupils, analysis of the content of textbooks and manuals on this subject;

2) Evaluating the possession of national characteristics by adult literacy artists through meetings, conversations and roundtables;

As a result of the study of the Literary Textbook for Girls [89], prepared in 2004, it was identified that:

1) contains 62 topics in the textbook, as well as chapters such as "Conclusions" and "Contents";

2) the subjects proposed to be studied are determined on the basis of literary monuments created from the ancient times up to the XV century;

3) the social and educational possibilities of the literature, the ancient sources ("Avesto", Mahmud Koshgari's "Devon-u lug'atit-turk"), folklore samples (Tumaris and Shiroq legends, narratives, , Yusuf has Hajib, Ahmed Yugnaki, Ahmad Yassaviy, Nosiruddin Rugbuzu, Pahlavon Mahmud, Sayfi Saroyi, Khorezmiy, Heydar Khorezmiy, Sakkoki, Atai, Gadoi, Lutfi, Durbek), and the World Literature book "Shakhname" by Firdavs and poem "Rustam and Suhrob" included in the aforementioned work);

4) The content of the textbook content is directly and indirectly contributing to the development of national characteristics, especially among adolescents.

In order to assess the current situation, during the substantive experiment, there were also interviews and roundtables with the participation of adult literacy teachers of adolescents and teenagers, selected as experimental areas. In the interviews and roundtables, literary critics were asked the following questions:

1. How do you personally assess the fact that today's youth have the national character in the example of teenagers in vocational education institutions?

2. In your opinion, what exactly are the characteristics of young adults?

3. What do you think is the main reason why many youths are experiencing unusual national characteristics in their personality, morals, their behaviors, and their actions?

4. What is the role of "Literature" in the development of national characters in young people?

5. In your opinion, what kind of artistic works that are being studied in vocational education institutions are effective in the development of national qualities?

6. Do you pay special attention to the development of the national character in the adolescents and the use of educational effects of literary works in this process?

During the experimental phase, meetings were also held with the participation of teachers in the field of vocational and higher education. During the meetings, the focus was also on the issues of

determining literary education in the development of national character, identifying art works that are effective in the process and their educational effectiveness.

Based on the results of meetings, interviews and roundtables organized with the participation of teachers of literature, the following were identified:

Theoretical analysis has also been revealed as a result of the observation of students' academic lyceums and professional colleges, as well as the characteristics of these young people, typical of the Uzbek nation, in line with modern developmental requirements. They are: 1. Tolerance, kindness. 2. Respect for national values and traditions. 3. To put the community and society ahead of themselves. 4. Courage, bravery. 5. Oratory, pride. 6. Shyness and inhibition 7. Respect for adults. 8. Integrity, honesty. 9. Honesty, fairness. 10. Diligence, responsibility.

At the main stage of the experimental study, the emphasis was placed on the development of the characteristics, which are not adequately manifested in the personality of the students.

Conclusion

From the above it can be concluded that literary education and literary literature play a special role in the formation of personality, moral and ethical qualities. Pedagogical experience has confirmed that adolescents and teenagers have the power of influencing the images of fiction writers and characters exposed in the formation of their national character.

2. Studying samples of classical and contemporary Uzbek literature, studying the extent of their national lifestyle and national character, and their effective use in the process of adult education contribute to the emotional and spiritual-moral qualities of the students of secondary specialized vocational institutions.

3. Adolescents and teenagers' acquaintance with younger generation with national characteristics of the Uzbek people creates skills of assimilating the characters, their moral and spiritual-moral qualities, and their personal attitude toward them.

4. The study of activities of secondary specialized educational institutions, the organization of literary education, and the supervision of students' activities have shown that the issue of forming the national character has been neglected, objective and subjective reasons for literacy.

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Elbek Ismoilov
Samarkand State University
Assistant to department of theoretical
and applied mechanics, Uzbekistan

Firuza Kasimova
Samarkand State University
Senior Lecturer to department of theoretical
and applied mechanics, Uzbekistan

Bekzod Ortikov
Samarkand State University
Student of Mechanical and
Mathematical Faculty, Uzbekistan

Ablakul Abdirashidov
Samarkand State University
Corresponding member of International
Academy, Doctor of Physical and Mathematical
Sciences, Docent to department of
theoretical and applied mechanics, Uzbekistan,
abdira@mail.ru

PARTICULAR SOLUTION OF BOUNDARY PROBLEMS FOR THE WAVE EQUATIONS USING THE APPROXIMATION METHODS

Abstract: In this paper, variational iteration method and Adomian decomposition method has been applied to obtain particular solution of boundary problems for the wave equations. It is shown that these methods are effective and more powerful mathematical tools for the solution of the partial differential equations.

Key words: particular solution, boundary problem, wave equation, variational iteration method, Adomian decomposition method.

Language: Russian

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Classifiers: Theoretical research in mathematics.

ЧАСТНЫЕ РЕШЕНИЯ КРАЕВЫХ ЗАДАЧ ДЛЯ ВОЛНОВОГО УРАВНЕНИЯ ПРИБЛИЖЕННЫМИ МЕТОДАМИ

Аннотация: В данной работе метод вариационных итераций и метод разложения Адомиана применены для нахождения частных решений краевых задач для волнового уравнения. Показано, что эти методы являются эффективными и более мощными математическими инструментами для решения дифференциальных уравнений в частных производных.

Ключевые слова: частное решение, краевая задача, волновое уравнение, метод вариационных итераций, метод разложения Адомиана.

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Введение.

В последние годы большое внимание уделяется исследованию линейных и нелинейных эволюционных уравнений математической физики, в том числе механики, биологии, химии и т.д. Так как многие физико-математические модели описываются с такими уравнениями, а решение краевых задач с такими дифференциальными уравнениями в частных производных являются одной их основных проблем инженерных наук. За прошлые несколько десятилетий математики, механики и физики сделали значительные успехи в этом направлении [8, 10, 12, 13]. Многие из этих уравнений не имеют точных аналитических решений. С другой стороны, решение этих нелинейных уравнений аналитически могут вести некоторые авторы, которые глубоко знают описание некоторых физических процессов и иногда принуждает их знать некоторые факты, которые просто не понятны посредством общих наблюдений. В результате эти уравнения должны быть решены, используя другие методы. Последние годы были разработаны различные методики решения таких уравнений, например, метод гомотопического анализа [1, 7], метод вариационных итераций (МВИ) [6, 7, 8], метод разложения Адомиана (МРА) [3, 8], метод гомотопического возмущения [5, 8], упрощенный метод укороченных разложений [2, 9, 10] и др., а также их различные модифицированные варианты [8, 10]. В данной работе метод вариационных итераций и метод разложения Адомиана применены для нахождения частных решений некоторых краевых задач для волнового уравнения.

Постановка задачи.

Рассмотрим линейное дифференциальное уравнение в частных производных, то есть волновое уравнение:

$$u_{tt}(x,t) = a^2 u_{xx}(x,t) + f(x,t),$$
$$0 < x < l, t > 0$$

и граничные условия (задача Дирихле):

$$u(0,t) = \varphi(t), \ u(l,t) = \psi(t),$$

где $u(x,t)$ – искомая функция; $f(x,t), \varphi(t), \psi(t)$ – известные функции.

Алгоритм метода вариационных итераций.

По идее вариационно-итерационного метода [8] итерационное решение этого уравнения можно записать так:

$$u_{n+1}(x,t) = u_n(x,t) +$$
$$\int_0^t \lambda(t,s)\left[Lu_n(x,s) + N\tilde{u}_n(x,s) - q(x,s)\right]ds, \quad n \geq 0,$$

где λ – множитель Лагранжа; $\tilde{u}_n$ – вариационный член, т.е. $\delta\tilde{u}_n = 0$.

Начальное приближение имеет вид

$$u_0(x,t) = u(x,0) + u_t(x,0)t + \dots.$$

Окончательно имеем:

$$u(x,t) = \lim_{n \to \infty} u_n(x,t).$$

Алгоритм метода разложения Адомиана.

Нелинейное дифференциальное уравнение в частных производных перепишем в виде

$$Lu(x,t) = q(x,t) - Nu(x,t),$$

где L – дифференциальный оператор; L^{-1} – интегральный оператор.

Применение обратного оператора к заданному уравнению дает соотношение вида:

$$u(x,t) = f(x,t) - L^{-1}\left[Nu(x,t)\right].$$

Основная идея МРА это составление функционального уравнения вида

$$u(x,t) = \sum_{n=0}^{\infty} u_n(x,t).$$

Отсюда имеем рекуррентное соотношение вида [8]:

$$u_0(x,t) = f(x,t); \quad u_{n+1} = -L^{-1}\left[Nu_n(x,t)\right],$$
$$n \geq 0.$$

Пример 1.

Найти решение следующей краевой задачи с волновым уравнением в виде

$$u_{tt} = 4u_{xx}, \quad 0 < x < 2, t > 0, \quad (1)$$
$$u(0,t) = \sin 2t,$$
$$u(2,t) = 2\sin(1+t)\cos(1+t). \quad (2)$$

Сначала введем следующие обозначения:

$$u_x(0,t) = \varphi(t), \quad \Delta_t = \frac{\partial^2}{\partial t^2},$$

где $\varphi(t)$ - пока неизвестная функция.

1) *Метод разложения Адомиана.*

$$\int_0^x d\eta \int_0^\eta u_{\xi\xi}(\xi,t)d\xi = \frac{1}{4}\int_0^x d\eta \int_0^\eta u_{tt}(\xi,t)d\xi,$$

отсюда имеем

$$u(x,t) = \sin 2t + x\varphi(t) +$$
$$+ \frac{1}{4}\int_0^x d\eta \int_0^\eta u_{tt}(\xi,t)d\xi.$$

По идее МРА:

$$u(x,t) = \sum_{n=0}^{\infty} u_n(x,t).$$

Исходя из этого имеем

Impact Factor:

ISRA (India)	= **3.117**	**SIS** (USA)	= **0.912**	**ICV** (Poland)	= **6.630**
ISI (Dubai, UAE) = **0.829**		**РИНЦ** (Russia) = **0.156**		**PIF** (India)	= **1.940**
GIF (Australia)	= **0.564**	**ESJI** (KZ)	= **8.716**	**IBI** (India)	= **4.260**
JIF	= **1.500**	**SJIF** (Morocco) = **5.667**		**OAJI** (USA)	= **0.350**

$$u_0 + u_1 + u_2 + ... = \sin 2t + x\varphi(t) +$$

$$+ \frac{1}{4}\int_0^x d\eta \int_0^\eta (u_0 + u_1 + u_2 + ...)_{tt} d\xi$$

и

$$u_0 = \sin 2t + x\varphi(t) \ ;$$

$$u_1 = \frac{1}{4}\int_0^x d\eta \int_0^\eta [u_0(\xi,t)]_{tt} d\xi =$$

$$= -\frac{x^2}{2!}\sin 2t + \frac{x^3}{4\cdot 3!}\Delta_t \varphi(t);$$

$$u_2 = \frac{1}{4}\int_0^x d\eta \int_0^\eta [u_1(\xi,t)]_{tt} d\xi =$$

$$= \frac{x^4}{4!}\sin 2t + \frac{x^5}{4^2\cdot 5!}\Delta_t^2 \varphi(t);$$

$$...;$$

$$u_n = \frac{1}{4}\int_0^x d\eta \int_0^\eta [u_{n-1}(\xi,t)]_{tt} d\xi =$$

$$= (-1)^n \frac{x^{2n}}{(2n)!}\sin 2t + \frac{x^{2n+1}}{4^n(2n+1)!}\Delta_t^n \varphi(t)$$

и т.д. Отсюда имеем

$$u(x,t) = u_0 + u_1 + ... = \left[1 - \frac{x^2}{2!} + \frac{x^4}{4!} + ...\right]\sin 2t +$$

$$+ x\varphi(t) + \frac{x^3}{4\cdot 3!}\Delta_t^2 \varphi(t) + ... + \frac{x^{2n+1}}{4^n(2n+1)!}\Delta_t^n \varphi(t) +$$

$$+ ... = \cos x \sin 2t + x\varphi(t) + \frac{x^3}{4\cdot 3!}\Delta_t^2 \varphi(t) + ... +$$

$$+ \frac{x^{2n+1}}{4^n(2n+1)!}\Delta_t^n \varphi(t) + ... \qquad (3)$$

2) *Метод вариационных итераций.*
Для решения задачи МВИ примем обозначение

$$u(x,t) = \int_0^x v(\xi,t)d\xi + \sin 2t \ . \qquad (4)$$

Из уравнения (1) получим следующую интегро-дифференциальное уравнение:

$$v_x(x,t) = \frac{1}{4}\int_0^x v_{tt}(\xi,t)d\xi - \sin 2t, \qquad (5)$$

$$v(0,t) = \varphi(t).$$

По идее МВИ имеем формулу приближенного решения задачи (5):

$$v_{n+1}(x,t) = v_n(x,t) +$$

$$+ \int_0^x \lambda(\xi)\left[\frac{\partial v_n(\xi,t)}{\partial \xi} - \frac{1}{4}\int_0^\xi \Delta_t \tilde{v}_n(\eta,t)d\eta + \sin 2t\right]d\xi.$$

Здесь $\lambda(\xi)$ - множитель Лагранжа, а для стационарного случая $\lambda'(\xi)\big|_{\xi=t} = 0$, $1 + \lambda(\xi)\big|_{\xi=t} = 0$ и отсюда имеем $\lambda(\xi) = -1$.

Применяя МВИ, получим следующие результаты:

$$v_0(x,t) = \varphi(t);$$

$$v_1(x,t) = \varphi(t) + \frac{x^2}{4\cdot 2!}\Delta_t \varphi(t) - x\sin 2t \ ;$$

$$v_2(x,t) = \varphi(t) + \frac{x^2}{4\cdot 2!}\Delta_t \varphi(t) - x\sin 2t +$$

$$+ \frac{x^4}{4^2\cdot 4!}\Delta_t^2 \varphi(t) + \frac{x^3}{3!}\sin 2t;$$

$$...;$$

$$v_n(x,t) = \left[-x + \frac{x^3}{3!} + ... + \frac{(-1)^n x^{2n-1}}{(2n-1)!}\right]\sin 2t +$$

$$+ \varphi(t) + \frac{x^2}{4\cdot 2!}\Delta_t \varphi(t) + \frac{x^4}{4^2\cdot 4!}\Delta_t^2 \varphi(t) + ... +$$

$$+ \frac{x^{2n}}{4^n(2n)!}\Delta_t^n \varphi(t);$$

$$v(x,t) = \lim_{n\to\infty} v_n(x,t) =$$

$$\left[-x + \frac{x^3}{3!} + ... + \frac{(-1)^n x^{2n-1}}{(2n-1)!} + ...\right]\sin 2t + \varphi(t) +$$

$$+ \frac{x^2}{4\cdot 2!}\Delta_t \varphi(t) + \frac{x^4}{4^2\cdot 4!}\Delta_t^2 \varphi(t) +$$

$$+ ... + \frac{x^{2n}}{4^n(2n)!}\Delta_t^n \varphi(t) + ... = -\sin x \sin 2t +$$

$$+ \varphi(t) + \frac{x^2}{4\cdot 2!}\Delta_t \varphi(t) + \frac{x^4}{4^2\cdot 4!}\Delta_t^2 \varphi(t) + ... +$$

$$+ \frac{x^{2n}}{4^n(2n)!}\Delta_t^n \varphi(t) + ...$$

Применяя замену (4), имеем

$$u(x,t) = \int_0^x v(\xi,t)d\xi + \sin 2t =$$

$$= \cos x \sin 2t + x\varphi(t) + \frac{x^3}{4\cdot 3!}\Delta_t \varphi(t) + \qquad (6)$$

$$+ ... + \frac{x^{2n+1}}{4^n(2n+1)!}\Delta_t^n \varphi(t) + ... \ .$$

Теперь неизвестную функцию $\varphi(t)$ найдем из второго равенства (2) и (6). В результате имеем

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	РИНЦ (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

$$u(2,t) = 2\sin(1+t)\cos(1+t) =$$
$$= \cos 2 \sin 2t + 2\varphi(t) + \frac{2^3}{4 \cdot 3!}\Delta_t\varphi(t) +$$
$$+ ... + \frac{2^{2n+1}}{4^n(2n+1)!}\Delta_t^n\varphi(t) + ... \;;$$
$$2\sin(1+t)\cos(1+t) = \sin(2+2t) =$$
$$= \cos 2 \sin 2t + \sin 2 \cos 2t.$$

Исходя из этого имеем

$$\sin 2 \cos 2t = \left[2 - \frac{2^3}{3!} + ... + \frac{(-1)^n 2^{2n+1}}{(2n+1)!} + ... \right] \times$$
$$\times \cos 2t = 2\varphi(t) + \frac{2^3}{4 \cdot 3!}\Delta_t\varphi(t) + ... + \qquad (7)$$
$$+ \frac{2^{2n+1}}{4^n(2n+1)!}\Delta_t^n\varphi(t) + ...$$

Тогда имеем

$$\varphi(t) = \cos 2t \;;\quad \frac{\Delta_t\varphi(t)}{4} = -\cos 2t \;; ...;$$
$$\frac{\Delta_t^n\varphi(t)}{4^n} = (-1)^n\cos 2t \quad \text{и т.д.} \qquad (8).$$

В общем случае, функцию $\varphi(t)$, удовлетворяющую линейному дифференциальному уравнению (7) иногда найти невозможно. Потому, что (7) является линейным дифференциальным уравнением бесконечного порядка. Если в (7) ограничимся порядком $m=2n$, тогда для ее можно найти функцию $\varphi(t)$. Но эта функция дает приближенное решение $u(x,t)$. Поэтому, в данном случае частное решение (7) нашли через уравнение (8), которое равно $\varphi(t) = \cos 2t$. Исходя из этого, решение задачи (1)-(2) имеет вид:

$$u(x,t) = \cos x \sin 2t +$$
$$+ \left[x - \frac{x^3}{3!} + ... + \frac{(-1)^n x^{2n+1}}{(2n+1)!} + ... \right]\cos 2t =$$
$$= \sin(x+2t).$$

Пример 2.
Найти решение следующей краевой задачи с волновым уравнением в виде

$$u_{tt} = u_{xx}, \quad 0 < x < \pi, \, t > 0, \qquad (9)$$
$$u(0,t) = 0, \quad u(\pi,t) = 0. \qquad (10)$$

Сначала введем следующие обозначения:

$$u_x(0,t) = \psi(t), \quad \Delta_t = \frac{\partial^2}{\partial t^2},$$

где $\psi(t)$ - пока неизвестная функция.

Метод разложения Адомиана.

$$\int_0^x d\eta \int_0^\eta u_{\xi\xi}(\xi,t)d\xi = \int_0^x d\eta \int_0^\eta u_{tt}(\xi,t)d\xi,$$

отсюда имеем

$$u(x,t) = x\psi(t) + \int_0^x d\eta \int_0^\eta u_{tt}(\xi,t)d\xi.$$

По идее МРА:

$$u(x,t) = \sum_{n=0}^\infty u_n(x,t).$$

Исходя из этого имеем

$$u_0 + u_1 + u_2 + ... = x\psi(t) +$$
$$+ \int_0^x d\eta \int_0^\eta (u_0 + u_1 + u_2 + ...)_{tt}d\xi$$

и

$$u_0 = x\psi(t);$$
$$u_1 = \int_0^x d\eta \int_0^\eta [u_0(\xi,t)]_{tt}d\xi = \frac{x^3}{3!}\Delta_t\psi(t);$$
$$u_2 = \int_0^x d\eta \int_0^\eta [u_1(\xi,t)]_{tt}d\xi = \frac{x^5}{5!}\Delta_t^2\psi(t); ...;$$
$$u_n = \int_0^x d\eta \int_0^\eta [u_{n-1}(\xi,t)]_{tt}d\xi = \frac{x^{2n+1}}{(2n+1)!}\Delta_t^n\psi(t)$$

и т.д. Отсюда имеем

$$u(x,t) = u_0 + u_1 + u_2 + ... = x\psi(t) +$$
$$+ \frac{x^3}{3!}\Delta_t^2\psi(t) + ... + \frac{x^{2n+1}}{(2n+1)!}\Delta_t^n\psi(t) + ... \qquad (11)$$

Теперь найдем неизвестную функцию $\psi(t)$:

$$u(\pi,t) = \pi\psi(t) + \frac{\pi^3}{3!}\Delta_t^2\psi(t) + ... +$$
$$+ \frac{\pi^{2n+1}}{(2n+1)!}\Delta_t^n\psi(t) + ... = 0. \qquad (12)$$

Отсюда известно тривиальное решение линейного дифференциального уравнения (12) $\psi(t) = 0$. В общем случае, трудно найти общее решение (12), но в следующих условиях можно найти частное решение (12):

$$\pi\psi(t) + \frac{\pi^3}{3!}\Delta_t^2\psi(t) + ... + \frac{\pi^{2n+1}}{(2n+1)!}\Delta_t^n\psi(t) +$$
$$+ ... = 0 = \sin\pi\sin t =$$
$$= \left[\pi - \frac{\pi^3}{3!} + ... + \frac{(-1)^n\pi^{2n+1}}{(2n+1)!} + ... \right]\sin t.$$

Отсюда имеем $\psi(t) = \sin t$;

$$\Delta_t^2\psi(t) = -\sin t; ...; \Delta_t^n\psi(t) = (-1)^n\sin t \quad \text{и т.д.}$$

Тогда функция $\psi(t) = \sin t$ является решением дифференциального уравнения (12).

Отсюда решение задачи (9)-(10) имеет вид:

$$u(x,t) = \left[x - \frac{x^3}{3!} + ... + \frac{(-1)^n x^{2n+1}}{(2n+1)!} + ... \right] \sin t =$$

$$= \sin x \sin t.$$

Выводы.

Таким образом, изучены применения метода вариационных итераций и метода разложения Адомиана к приближенному решению краевых задач. Результаты сравнены с точным решением краевой задачи и результатом, полученным с помощью математического пакета Maple 17. Из сравнений ясно, что эти методы достаточно точны. Поэтому, они являются мощными математическими инструментами и с их помощью может быть решен большой класс нелинейных краевых задач, используемых в инженерных науках.

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Elbek Ismoilov
Samarkand State University
Assistant to department of theoretical
and applied mechanics, Uzbekistan

Firuza Kasimova
Samarkand State University
Senior Lecturer to department of theoretical
and applied mechanics, Uzbekistan

Bekzod Ortikov
Samarkand State University
Student of Mechanical and
Mathematical Faculty, Uzbekistan

Ablakul Abdirashidov
Samarkand State University
Corresponding member of International
Academy, Doctor of Physical and Mathematical
Sciences, Docent to department of
theoretical and applied mechanics, Uzbekistan,
abdira@mail.ru

PARTICULAR SOLUTION OF BOUNDARY PROBLEMS FOR THE HEAT DISSIPATION EQUATION USING THE APPROXIMATION METHODS

Abstract: *In this paper, variational iteration method and Adomian decomposition method has been applied to obtain particular solution of boundary problems for the heat dissipation equation. It is shown that these methods are effective and more powerful mathematical tools for the solution of the partial differential equations.*

Key words: *particular solution, boundary problem, heat dissipation equation, variational iteration method, Adomian decomposition method.*

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Classifiers: *Theoretical research in mathematics.*

ЧАСТНЫЕ РЕШЕНИЯ КРАЕВЫХ ЗАДАЧ ДЛЯ УРАВНЕНИЯ ТЕПЛОПРОВОДНОСТИ ПРИБЛИЖЕННЫМИ МЕТОДАМИ

Аннотация: *В данной работе метод вариационных итераций и метод разложения Адомиана применены для нахождения частных решений краевых задач для уравнения теплопроводности. Показано, что эти методы являются эффективными и более мощными математическими инструментами для решения дифференциальных уравнений в частных производных.*

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Ключевые слова: *частное решение, краевая задача, уравнение теплопроводности, метод вариационных итераций, метод разложения Адомиана.*

Введение.

Линейные и нелинейные дифференциальные уравнения в частных производных широко используются для описания сложных явлений в различных областях науки, особенно в физике, механике, биологии, химии и т.д. Решение краевых задач с такими уравнениями являются одной их основных проблем математической физики и инженерных наук. За прошлые несколько десятилетий математики и физики сделали значительные успехи в этом направлении [8, 10, 12, 13]. Многие из этих уравнений не имеют точных аналитических решений. С другой стороны, решение этих нелинейных уравнений аналитически могут вести некоторые авторы, которые глубоко знают описание некоторых физических процессов и иногда принуждает их знать некоторые факты, которые просто не понятны посредством общих наблюдений. В результате эти уравнения должны быть решены, используя другие методы. В литературе существует много методов для решения эволюционных уравнений. Последние годы были разработаны различные методики решения таких уравнений, например, метод гомотопического анализа [1, 7], метод вариационных итераций (МВИ) [6, 7, 8], метод разложения Адомиана (МРА) [3, 8], метод гомотопического возмущения [5, 8], упрощенный метод укороченных разложений [2, 9, 10] и др., а также их различные модифицированные варианты [8, 10]. В данной работе метод вариационных итераций и метод разложения Адомиана применены для нахождения частных решений некоторых краевых задач для уравнения теплопроводности.

Постановка задачи.

Рассмотрим линейное дифференциальное уравнение в частных производных, то есть уравнения теплопроводности:

$$u_t(x,t) = a^2 u_{xx}(x,t) + f(x,t),$$
$$0 < x < l, \, t > 0$$

и граничные условия (задача Дирихле):

$$u(0,t) = \varphi(t), \; u(l,t) = \psi(t)$$

или (задача Неймана):

$$u_x(0,t) = \mu(t), \; u_x(l,t) = \nu(t).$$

где $f(x,t), \varphi(t), \psi(t), \mu(t), \nu(t)$ – известные функции; $u(x,t)$ – искомая функция.

Алгоритм метода вариационных итераций.

По идее вариационно-итерационного метода [8] итерационное решение этого уравнения можно записать так:

$$u_{n+1}(x,t) = u_n(x,t) +$$
$$+ \int_0^t \lambda(t,s)[Lu_n(x,s) + N\tilde{u}_n(x,s) - q(x,s)]ds, \; n \geq 0,$$

где λ – множитель Лагранжа; $\tilde{u}_n$ – вариационный член, т.е. $\delta \tilde{u}_n = 0$;

Начальное приближение имеет вид

$$u_0(x,t) = u(x,0) + u_t(x,0)t + \dots.$$

Окончательно имеем:

$$u(x,t) = \lim_{n \to \infty} u_n(x,t).$$

Алгоритм метода разложения Адомиана.

Нелинейное дифференциальное уравнение в частных производных перепишем в виде

$$Lu(x,t) = q(x,t) - Nu(x,t),$$

где L – дифференциальный оператор; L^{-1} – интегральный оператор.

Применение обратного оператора к заданному уравнению дает соотношение вида:

$$u(x,t) = f(x,t) - L^{-1}[Nu(x,t)].$$

Основная идея МРА это составление функционального уравнения вида

$$u(x,t) = \sum_{n=0}^{\infty} u_n(x,t).$$

Отсюда имеем рекуррентное соотношение вида [8]:

$$u_0(x,t) = f(x,t); \;\; u_{n+1} = -L^{-1}[Nu_n(x,t)],$$
$$n \geq 0.$$

Пример.

Найти решение следующей краевой задачи с уравнением теплопроводности в виде:

$$u_t = 2u_{xx}, \; 0 < x < \pi, \, t > 0, \qquad (1)$$
$$u(0,t) = 0, \;\; u(\pi,t) = e^{-0,5t}. \qquad (2)$$

Сначала введем следующие обозначения:

$$u(x,0) = f(x), \;\; \Delta_x = \frac{\partial^2}{\partial x^2},$$

где $f(x)$ - пока неизвестная функция.

Метод разложения Адомиана.

$$\int_0^t u_\xi(x,\xi)d\xi = 2\int_0^t \Delta_x u(x,\xi)d\xi,$$

отсюда имеем

$$u(x,t) = f(x) + 2\int_0^t \Delta_x u(x,\xi)d\xi.$$

По идее МРА:

$$u(x,t) = \sum_{n=0}^{\infty} u_n(x,t).$$

Исходя из этого имеем

$$u_0 + u_1 + u_2 + ... = f(x) +$$

$$+ 2\int_0^t \Delta_x [u_0 + u_1 + u_2 + ...]d\xi$$

и

$$u_0 = f(x);$$

$$u_1 = 2\int_0^t \Delta_x u_0 d\xi = 2tf''(x);$$

$$u_2 = 2\int_0^t \Delta_x u_1 d\xi = \frac{(2t)^2}{2!} f^{IV}(x);...;$$

$$u_n = 2\int_0^t \Delta_x u_{n-1} d\xi = \frac{(2t)^n}{n!} f^{(2n)}(x)$$

и т.д.

Окончательно получим решение задачи вида

$$u(x,t) = u_0 + u_1 + ... = f(x) + 2tf''(x) +$$

$$+ \frac{(2t)^2}{2!} f^{IV}(x) + ... + \frac{(2t)^n}{n!} f^{(2n)}(x) + ... = \qquad (3)$$

$$= \sum_{k=0}^{\infty} \frac{(2t)^k}{k!} f^{(2k)}(x).$$

Метод вариационных итераций.
По идее МВИ имеем формулу приближенного решения задачи:

$$u_{n+1}(x,t) = u_n(x,t) +$$

$$+ \int_0^t \lambda(\xi) \left[\frac{\partial u_n(x,\xi)}{\partial \xi} - 2\Delta_x \tilde{u}_n(x,\xi) \right] d\xi.$$

Здесь $\lambda(\xi)$ - множитель Лагранжа, а для стационарного случая $\lambda'(\xi)|_{\xi=t} = 0$, $1 + \lambda(\xi)|_{\xi=t} = 0$ и отсюда имеем $\lambda(\xi) = -1$.

Применяя МВИ, получим следующие результаты:

$$u_0(x,t) = f(x);$$

$$u_1(x,t) = f(x) + 2tf''(x);$$

$$u_2(x,t) = f(x) + 2tf''(x) + \frac{(2t)^2}{2!} f^{IV}(x);...;$$

$$u_n(x,t) = f(x) + 2tf''(x) + \frac{(2t)^2}{2!} f^{IV}(x) +$$

$$+ ... + \frac{(2t)^n}{n!} f^{(2n)}(x)$$

и т.д.

$$u(x,t) = \lim_{n\to\infty} u_n(x,t) = f(x) + 2tf''(x) +$$

$$+ \frac{(2t)^2}{2!} f^{IV}(x) + + ... + \frac{(2t)^n}{n!} f^{(2n)}(x) + ... = \cdot \quad (3^*)$$

$$= \sum_{k=0}^{\infty} \frac{(2t)^k}{k!} f^{(2k)}(x).$$

Теперь неизвестную функцию $f(x)$ найдем из условие (2). В результате имеем

$$u(0,t) = 0 = \sum_{k=0}^{\infty} \frac{(2t)^k}{k!} f^{(2k)}(x)\bigg|_{x=0}$$

и

$$u(\pi,t) = e^{-0.5t} = \sum_{k=0}^{\infty} \frac{(2t)^k}{k!} f^{(2k)}(x)\bigg|_{x=\pi}. \quad (4)$$

Из первого равенства (4) имеем

$$f(0) = 0; \quad f''(x)|_{x=0} = 0; \quad f^{IV}(x)|_{x=0} = 0;...;$$

$$f^{(2n)}(x)|_{x=0} = 0 \quad \text{и т.д.} \qquad (5)$$

Из второго равенства (4) имеем

$$e^{-0.5t} = \sum_{m=0}^{\infty} \frac{(2t)^m}{m!} \frac{1}{(-4)^m} = \sum_{k=0}^{\infty} \frac{(2t)^k}{k!} f^{(2k)}(x)\bigg|_{x=\pi}$$

Теперь имеем

$$f(\pi) = 1; f''(x)|_{x=\pi} = \frac{-1}{4}; \quad f^{IV}(x)|_{x=\pi} = \frac{1}{4^2};...;$$

$$f^{(2n)}(x)|_{x=\pi} = \frac{1}{(-4)^n} \quad \text{и т.д.} \qquad (6)$$

В общем случае, найти функцию $f(x)$, удовлетворяющий условий (5) и (6), иногда невозможно. В частном случае, функцию $f(x)$ ищем в виде

$$f(x) = \sum_{k=0}^{\infty} a_k x^k.$$

Коэффициентов этого ряда a_k находим из условий (5) и (6), а из условие (5) имеем

$$a_0 = 0; \quad a_2 = 0;...; \quad a_{2n} = 0; \quad \text{и т.д.}$$

Отсюда

$$f(x) = \sum_{k=0}^{\infty} a_{2k+1} x^{2k+1},$$

а из условия (6) имеем

$$f(\pi) = \sum_{k=0}^{\infty} a_{2k+1} \pi^{2k+1} = 1 = \sin\frac{\pi}{2} =$$

$$= \sum_{m=0}^{\infty} \frac{(-1)^m}{(2m+1)!} \left(\frac{\pi}{2}\right)^{2m+1}.$$

Отсюда верно, что

$$a_{2k+1} = \frac{(-1)^k}{2^{2k+1}(2k+1)!}, \quad k = 0,1,...$$

$$f(x) = \sum_{k=0}^{\infty} \frac{(-1)^k}{2^{2k+1}(2k+1)!} x^{2k+1} =$$

$$= \sum_{k=0}^{\infty} \frac{(-1)^k}{(2k+1)!} \left(\frac{x}{2}\right)^{2k+1} = \sin \frac{x}{2}.$$

Соответственно к этому имеем решение $u(x,t)$ в виде:

$$u(x,t) = \sum_{k=0}^{\infty} \frac{(2t)^k}{k!} f^{(2k)}(x) =$$

$$= \sum_{k=0}^{\infty} \frac{(-0,5t)^k}{k!} \sin \frac{x}{2} = e^{-0,5t} \sin \frac{x}{2}.$$

Выводы.

Таким образом, изучены применения метода вариационных итераций и метода разложения Адомиана к приближенному решению краевых задач. Результаты сравнены с точным решением краевой задачи и результатом, полученным с помощью математического пакета Maple 17. Из сравнений ясно, что эти методы достаточно точны. Поэтому, эти методы являются мощными математическими инструментами и с их помощью может быть решен большой класс нелинейных краевых задач, используемые в инженерных науках.

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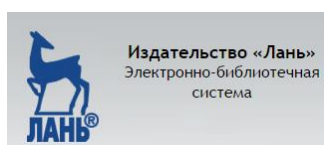http://esjindex.org/search.php?id=1

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