

*Экспертная стратегическая сессия «Современные тренды развития
исследовательского университета»*

РЕТРОСПЕКТИВНЫЙ АНАЛИЗ ОБРАЗОВАТЕЛЬНЫХ ПРОГРАММ: CASE-STUDY В ОБУЧЕНИИ МАГИСТРАНТОВ

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Цель: оценить эффективность применения длительных и сложных учебных кейсов как метода научного исследования образовательных программ и учебных планов по специальности.

- ❖ *Кейс:* «Ретроспективный анализ учебных планов бакалавриата по специальности «Биология» 1971 – 2023 гг.
- ❖ *Дисциплина* «Организация и планирование научных исследований»
- ❖ *Целевая группа:* магистранты 1 курса специальности «7М01504 Биология (педагогическая)», казахского, русского и английского языков обучения (27 чел)
- ❖ *Продолжительность:* 5 недель семинарских занятий, 15 академических часов, включая написание отчета и защиту постера
- ❖ *Исходный материал для анализа:* транскрипты и учебные планы по специальности «Биология (научная)» за 1971, 1998, 2015 и 2023 гг.

СТРУКТУРА КЕЙСА

определение цели, задач, составление поэтапного плана работ и установление сроков выполнения, распределение ролей и объема работ в группе

определение переменных для ретроспективного анализа, их группировка и формирование сводных таблиц

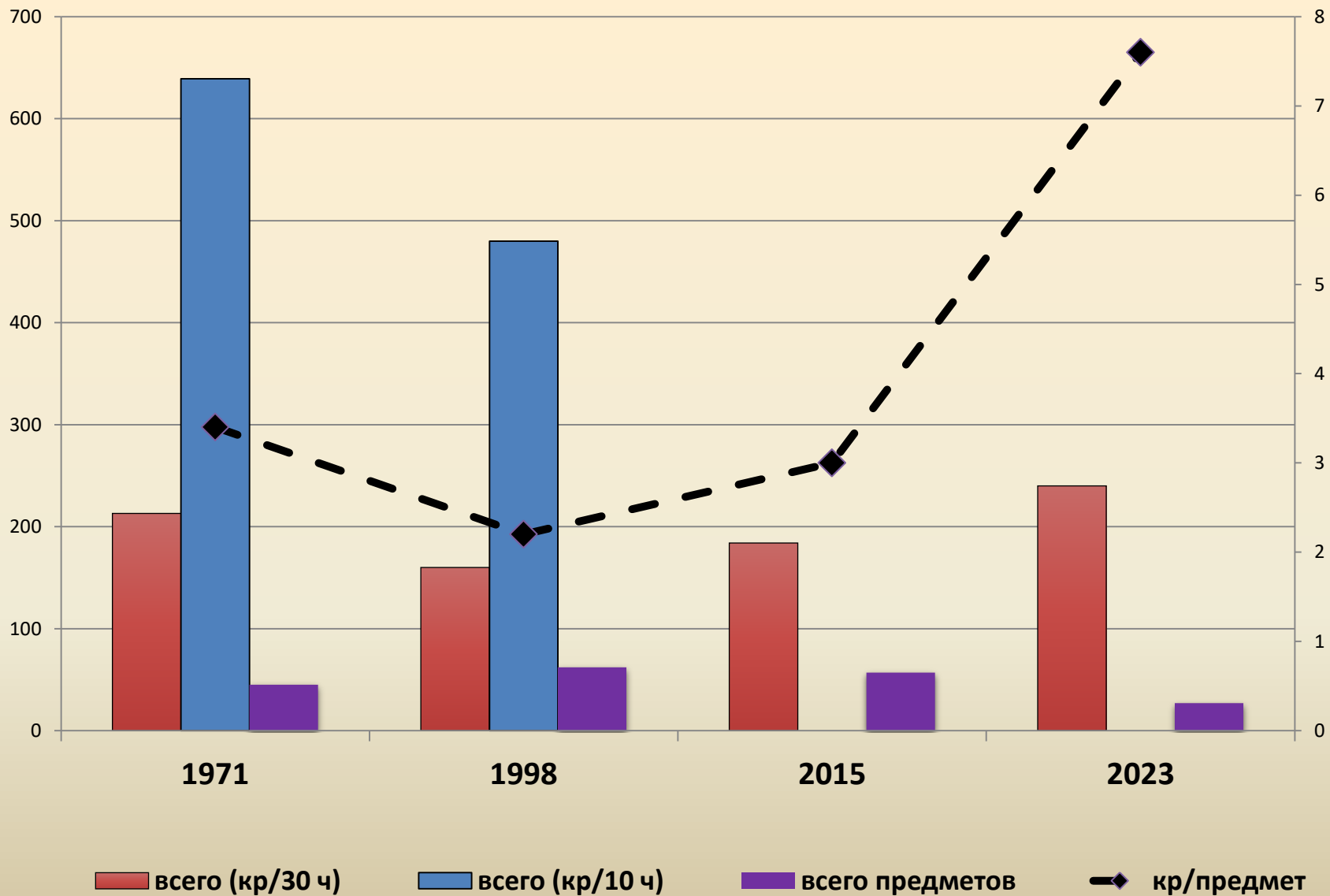
перевод первичных данных в цифровую форму, их репрезентация в табличной и/или графической форме

анализ переменных и формирование предварительных выводов

формирование финального отчета согласно требованиям к оформлению научно-исследовательских работ

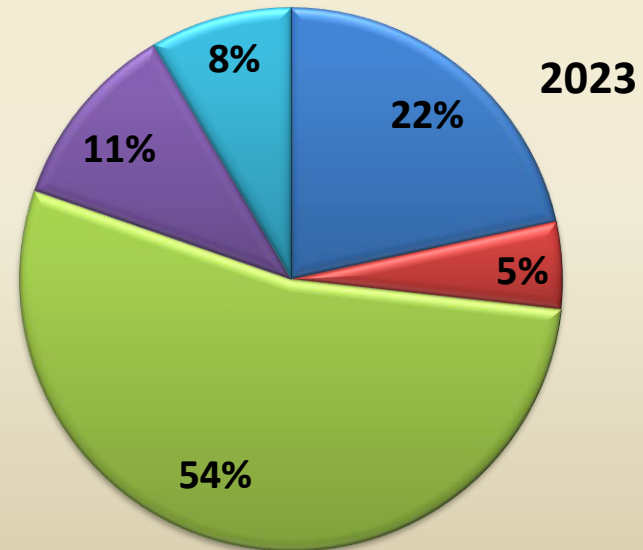
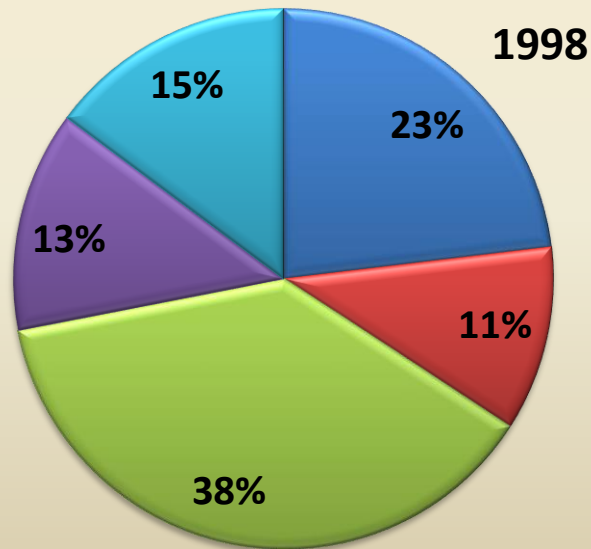
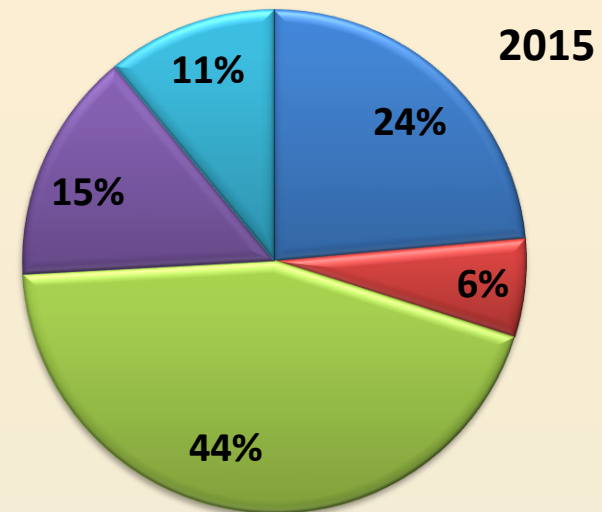
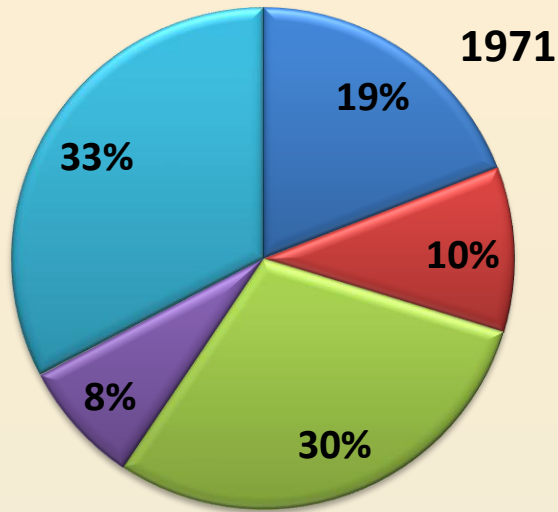
подготовка постера и публичная защита

оценка обратной связи, выявление ошибок и критических точек кейса



Результаты ретроспективного анализа УП по специальности Биология

Результаты ретроспективного анализа УП по специальности «Биология»



■ гуманитарные ■ естеств-научные ■ обязат. спец ■ элективы спец ■ практики



**Результаты опроса магистрантов по оценке выполнения кейса, % ответивших
положительно/улучшили навыки**

Показана эффективность применения длительных и сложных учебных кейсов как метода научного исследования образовательных программ и учебных планов по специальности.

Ретроспективный анализ УП по специальности «Биология (научная)» выявил:

- значительное снижение аудиторной нагрузки в связи с ориентированием ОП на самостоятельное обучение;
- снижение количества дисциплин (к 2023 г. в два раза, при пропорциональном увеличении часового веса отдельных дисциплин);
- сокращение нагрузки и числа естественно-научных дисциплин – в 2023 г. из УП исчезла необходимая физика, а высшая математика, аналитическая, неорганическая и органическая химия заменены одним 6-ти кредитным модулем «Химия и математика»;
- значительное сокращение вклада практик за счет снижения объема учебно-полевой практики и потери к 2023 г. ОП по специальности «6В05102 - Биология» педагогической направленности («ушли» педагогические предметы и педагогическая практика в школе);
- многие необходимые общебиологические предметы исчезли из УП или были переведены в дисциплины по выбору;
- анализ компонентов по выбору УП 2023 выявил сокращение числа доступных траекторий;

Comparative analysis of the curriculum of KazNU University Bachelor's degree based on the database

Aims: Analysis the undergraduate curriculum of KazNU University and compare the training plan from 1998 to 2023, and compare with another foreign university

- Tasks:**
1. How the total time changed over 25 years, determine which terms came and went
 2. Compare the number of loans from 1998 to 2023
 3. To consider the curriculum system from Kazan University with KazNU

Results

The number of credits for general education classes in 1998 was 18.4, which is 3 times more than in 2009 and 2016, and 17 times more than in 2023. That is, by 2023, the number of general education classes has decreased. The number of credits for general education classes in 1998 was 83.6 which is 4 times more than in 2010 and 2 times more than in 2023.

- References:**
1. Kazan University website
 2. Kazan University website
 3. Kazan University website
 4. The 2010 curriculum
 5. The 2016 curriculum
 6. The 2023 curriculum

In conclusion, we compared the curriculum of the specialty 'Biological Sciences' of the Kazan National University for the period from 1998 to 2023 in this program that compared the number of credits and loans from the distribution of general education and special education courses from 1998 to 2023. As a result, we found that the number of general education classes has decreased over the years and the number of special education classes has increased. The number of general education classes has decreased by 200% from 1998 to 2023, and the number of special education classes has increased by 200%.

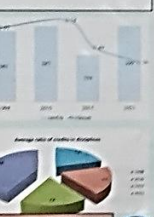
Discussion

Discussion of the analysis of the curriculum of the Kazan University from 1998 to 2023 provides an opportunity to consider significant transformations in the higher education system. The period 1998-2023 reflects changes in educational opportunities, including the revision of programs, the introduction of new disciplines and changes to existing ones. It is important to identify areas where changes have become more emphasized, such as the introduction of new disciplines and the reduction of others. Analyzing the period of 1998-2023 allows us to trace the evolution of the specialty of the educational program and highlight key areas such as the introduction of new disciplines, updating courses, and focus on interdisciplinary approaches. In comparison with the curriculum of Kazan University, it is clear that there are differences in opportunities for higher education in various cultural contexts. Each country contributes to understanding the dynamics of educational systems, a multidisciplinary approach to the study of knowledge and methods from different scientific disciplines for a more complete understanding of the phenomenon under study.

Quantitative analysis: This method involves the use of statistical techniques to process numerical data.

Methodology

The information was taken from the Kazan University website, a comparative analysis of the results, statistics, diagrams, tables.



Comparative analysis of disciplines in the specialty "Biology"

Abstract: The discipline method of administration management a complex educational environment to which each discipline plays an important role. They are interconnected and provide a complete and logical education for students studying in biology. This study revealed various aspects of the curriculum and was divided by the disciplines studied in foreign university education.

Introduction: The introduction of the foreign education system, oriented not so much towards the needs of the European educational system, as towards the needs of a single European educational space through the comparison of national educational systems. This is undoubtedly an important condition for the further progressive development of higher education.

Keywords: Higher education, reference and request level for the study of general education, social and pedagogical conditions for the implementation of educational programs, interdisciplinary approaches, administrative and pedagogical.

Propose of the study: Analysis of the disciplines studied in the undergraduate course in the specialty "Biology".

Tasks:

1. Conduct a comparative study on the "Biology" specialty in Kazan National University in 1991, 1998, 2010, 2023, namely: teaching load, list of disciplines, percentage of basic, humanities, special, interdisciplinary and optional disciplines and practices.
2. Conduct a comparative analysis of the 2023 "Biology" class with other universities of the 2023 specialty "Biology" with the same curriculum as Kazan National University (Kazan, Russia).

Methodology

1. A comparative study is conducted on the "Biology" training program, implemented at Kazan National University in 1991, 1998, 2010, 2023, namely: teaching load, list of disciplines, percentage of basic, humanities, special, interdisciplinary and optional disciplines and practices.
2. A comparative analysis of the 2023 specialty "Biology" with the same curriculum as Kazan National University (Kazan, Russia).

Results and discussion

According to the results, it has been found that the number of disciplines in the specialty "Biology" has increased over the years. In 1991, there were 10 disciplines, in 1998 - 12, in 2010 - 15, and in 2023 - 18. This indicates a steady increase in the number of disciplines over time. The increase in the number of disciplines is accompanied by a change in the structure of the curriculum, with a greater emphasis on interdisciplinary and optional disciplines.



COMPARATIVE ANALYSIS OF EDUCATIONAL PROGRAMS

Author: Beknazar A.N., Kuan A.A., Kozhahmet A.T., Madusova A.M.

1. COMPARATIVE ANALYSIS OF TOTAL STUDENT LOAD BY NUMBER OF CREDITS AND COURSES FROM 1998 TO 2023

2. COMPONENTS OF THE EDUCATIONAL PROGRAM BY DIRECTIONS IN 1998

3. COMPONENTS OF THE EDUCATIONAL PROGRAM BY DIRECTIONS IN 2010

4. COMPONENTS OF THE EDUCATIONAL PROGRAM BY DIRECTIONS IN 2016

5. COMPONENTS OF THE EDUCATIONAL PROGRAM BY DIRECTIONS IN 2023

6. COMPARATIVE ANALYSIS OF THE NUMBER OF HOURS OF PRACTICES PERIOD

7. COMPARATIVE ANALYSIS OF THE NUMBER OF HOURS OF PRACTICES PERIOD

Methods

Collecting materials: This stage of research involves actively collecting all relevant data, facts, and information related to the research subject. Analyzing collected materials: Data collection is followed by an analyzing phase in which all collected materials are systematically examined. A multidisciplinary approach: This method involves the integration of knowledge and methods from different scientific disciplines for a more complete understanding of the phenomenon under study.

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1991



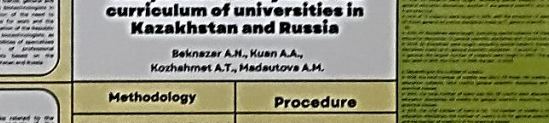
1998



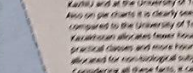
2010



2023



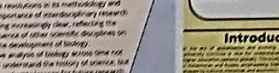
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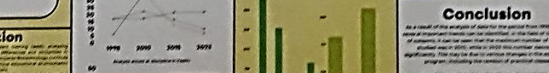
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TURKEY



TURKEY



Conclusion

In these charts, we used the percentage of all disciplines in different years at KazNU and at the University of Turkey. Also on the charts it is clearly seen that, compared to the University of Turkey, Kazan has allocated fewer hours for practical classes and more hours are allocated for theoretical subjects. Considering all these facts, it can be understood that the University of Turkey places great emphasis on the study of basic subjects and allocates fewer hours to other areas.

Conclusion

The historical analysis shows how today the discipline evolves in its methodology and hours. The importance of interdisciplinary research is becoming increasingly clear, reflecting the growing influence of other scientific disciplines on the development of biology. Comparative analysis of history across time not only helps us understand the history of science, but also provides valuable lessons for future research.

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Results

The results of the comparative analysis of the curriculum of universities in Kazakhstan and Russia show a clear trend of increasing specialization and interdisciplinary research. The number of disciplines has increased significantly over the years, and the focus has shifted from traditional subjects to more applied and interdisciplinary fields. This reflects the changing needs of the labor market and the advancement of scientific knowledge.

Methodology

The methodology used in this study involves a comparative analysis of the curriculum of universities in Kazakhstan and Russia. This includes a detailed examination of the number of disciplines, the distribution of disciplines, and the number of hours allocated to each discipline. The data is presented in a clear and concise manner, using pie charts and line graphs to illustrate the trends and patterns.

Procedure

The procedure for this study involves several steps. First, the curriculum of the universities in Kazakhstan and Russia is identified and analyzed. The number of disciplines and the distribution of disciplines are recorded. Then, the data is presented in a clear and concise manner, using pie charts and line graphs to illustrate the trends and patterns. Finally, the results are discussed and conclusions are drawn.

Charts



Graphs



Conclusion

The results of the comparative analysis of the curriculum of universities in Kazakhstan and Russia show a clear trend of increasing specialization and interdisciplinary research. The number of disciplines has increased significantly over the years, and the focus has shifted from traditional subjects to more applied and interdisciplinary fields. This reflects the changing needs of the labor market and the advancement of scientific knowledge.