This article presents the practice of analyzing digital multicultural content and its application in the classes with students from the educational programs: “Digital Journalism” and “Media Technologies”. The choice of the topic is explained by the specifics of the cultural code of the modern student. The purpose of the paper is to study digital multicultural content as a mean of training future media workers using modern IT tools.

The article examines the multicultural content of three TV channels and online publications hosted on digital services. The design and structuring of web portals, interface and content are studied. Due to the specifics of the subject of multicultural content, its role in the general information space is determined, and its relevance and relevance among students is described. The author conducts quantitative and qualitative researches of media materials. Based on statistical data, a comparative analysis of the indicators of digital multicultural content for 2018-2021 was carried out and the dynamics was demonstrated, the reasons for the change in indicators were described in detail. A parallel is drawn between the amount of digital content published on television and on Internet resources. Considering the need to prepare students for professional realities and for the purpose of practical orientation of this research, a lexical and compositional analysis of digital multicultural content was carried out. In particular, the study examined genres and forms of materials, lexical features of texts. The means of social interaction of online media representations are defined, which include the constant presentation of traditional media content in a virtual environment and monitoring of activity in the classroom. The structural and typological features of this format of digital journalism are revealed. Based on a qualitative analysis of the content, several trends and conclusions are presented.

The information obtained during the study was organized into a database. The methods of working with students described and analyzed in this article are an important material for the development of educational goals of the educational programs “Digital Journalism” and “Media Technologies” in Kazakhstan and can become a methodological basis for the integration of IT technologies into media education.

**Keywords:** multicultural content, content analysis, journalistic education, format, media technologies, digital journalism, databases, training means.
жане сабақта белсенділікті бақылауды қамтитын онлайн медиа өкілдерінің әлеуметтік әрекеттесу құралдары анықталды. Цифрлық журналистиканың осы форматының құрылымдық және типологиялық ерекшеліктері ашылады. Мазмұнды сапалы талдау негізінде бірқатар үрдістер мен тұжырымдар ұсынылған.

Зерттеу барысында алынған акпарат дерекқорға ұйымдастырылды. Бұл материал студенттердің оқу жұмысының негізінде айналып, білім беру процессінің цифрық технологияларды енгізуін білдіреді. Осы мәдениет модельдерін қамтамасыз етпе отырып, білім беру процессінің із-шығаруы жұмыс жүргізілді. Студенттердің цифрық технологияларды пайдалануын құрылысқа әсер етеді.

Түйін сөздер: көпмәдениетті контент, контент-табызу, журналистік білім, формат, медиа технологиялар, цифрлық журналистика, базы данных, оқу-құралы.

Разработка базы данных казахстанского цифрового мультимедийного контента как средство подготовки будущих журналистов

В данной статье представлена практика анализа цифрового поликультурного контента и его применения на занятиях студентов образовательных программ «Цифровая журналистика» и «Медиатехнологии». Выбор темы объясняется спецификой культурного кода современного студента. Цель исследования — изучить цифровой поликультурный контент как средство обучения будущих работников медиаиндустрии через применение современных ИТ-инструментов.

В статье рассматривается мультимедийный контент трех телеканалов и онлайн-изданий, размещенных на цифровых сервисах. Изучаются дизайн и структурирование веб-порталов, интерфейс и контент. В связи со спецификой предмета поликультурного содержания определяется его роль в общем информационном пространстве, а также описывается актуальность и востребованность среди студентов. Автор проводит количественное и качественное исследование материалов СМИ. На основе статистических данных проведена качественная оценка контента за 2018-2020 годы и продемонстрирована динамика, подробно описаны причины изменения показателей. Проводится параллель между количеством цифрового контента, публикуемого на телевидении и в интернет-ресурсах. Принимая во внимание необходимость подготовки студентов к профессиональным реалиям, и с целью практической направленности данного исследования был проведен лексический и композиционный анализ цифрового поликультурного контента. В частности, в ходе исследования были изучены жанры и формы материалов, лексические особенности текстов. Определены основные средства социального взаимодействия, используемые в контенте, и мониторинг активности на занятии. Рассматриваются структурные и типологические особенности данного формата цифровой журналистики. На основе качественного анализа содержания представлен ряд тенденций и выводов.

Информация, полученная в ходе анализа контента, была организована в базу данных. Данный материал стал основой учебной работы студентов, что продемонстрировало эффективность и практическую применимость контента в образовательном процессе. В данной статье методологические приемы работы со студентами являются важным материалом для развития образовательных целей образовательных программ «Цифровая журналистика» и «Медиатехнологии» в Казахстане и могут стать методологической основой для интеграции ИТ-технологий в медиаобразование.

Ключевые слова: поликультурный контент, контент-анализ, журналистское образование, формат, медиатехнологии, цифровая журналистика, базы данных.

Introduction

In the modern world of globalization, the problem of civic identity and unity is becoming more actual. Our country, the Assembly of the People of Kazakhstan is responsible for this function. It focuses on the stability that identifies the formation of the nation, its history, socio-political status, and cultural phenomenon. Thus, the national code, established in the cognition of people, has formed (Dulabekkyzy, 2019). Under these conditions, the role of the media in covering national issues, domestic politics, interethnic and interfaith harmony is significantly increasing. Since gaining independence, the Republic of Kazakhstan has shown the world an example of peaceful coexistence of representatives of more than
130 ethnic groups. A unique public institution, the Assembly of the People of Kazakhstan, is responsible for preserving the friendship and unity of the country’s residents. In 2022, the 27th anniversary of its establishment was celebrated. Today, many countries adopt the experience of Kazakhstan in the field of interethnic and interfaith harmony, study the activities of the Assembly of People of Kazakhstan. Therefore, competent media coverage of the above issues has a particularly active impact on the image and authority of the country in the international arena. In the context of the increasing pace of globalization, a high positive image of a country can play a huge informational and educational role for its citizens.

The relevance lies in the increasing role of issues of national identity and civic patriotism in the world, the expansion of the spheres of influence of the media on the consciousness of citizens. Therefore, the media faces an important task – to cover multicultural issues competently, which is what we study in the study.

The theoretical significance is due to the unexplored nature of this topic in journalistic education. The practical significance lies in the fact that the results of the research can be used in the development of training courses in journalism. The analyzed journalistic materials can become the basis for recommendations to journalists.

The purpose of the study is to study digital multicultural content as a means of training future media workers using modern IT tools. Research objectives: to analyze the digital multicultural content of traditional and online media of Kazakhstan, to consider the functional aspect of media coverage of issues of ethnopolitics, to analyze quantitative indicators of digital multicultural content, to study genres and forms of journalistic materials, to present the studied material in the form of a database and introduce it into the educational process, to analyze the effectiveness of the database implementation in the educational process.

The scientific novelty lies in the little-studied topic of digital multicultural content and its integration as an IT product into the educational process.

**Material and methods**

Works related to the theory and practice of media coverage of issues of ethnopolitics and the topic of the Assembly of People of Kazakhstan, the influence of the media themselves on public consciousness were used as theoretical sources. These are such works as U. Lippman “Public opinion”, L.A. Grivennaya “National identity: theory and practice: a collection of materials of scientific and methodological seminars”, etc.

In addition, for practical purposes, multicultural materials posted on the Internet on the websites of the TV channels “QYZYLJAR”, “MTRK”, “First Northern” and on social networks were considered.

During writing the article the following methods were used:

1) Method of structuring and presentation of the material.

   This method makes it possible to express your thoughts most clearly and consistently. It is used to create a database.

2) The method of analysis.

   This method allowed us to consider three-dimensional events, decomposing them into composite components. A qualitative and quantitative analysis of digital multicultural content was carried out.

3) Descriptive method.

   This method was applied because the practical part of the work was aimed at studying journalistic materials published in the mass media.

4) The method of generalization.

   Having studied the literature on this topic and conducted their own analysis, conclusions were drawn using the generalization method based on the general properties of the object of study.

5) Data mining protocol

   We adapted the methodology of Mammola et al. (Mammola, 2022) to receive news articles and television stories related to the subject of multicultural content. To ensure that different authors responsible for different media and languages followed an unambiguous data mining strategy, we started by preparing a model of analysis of digital multicultural content for development a database (Figure 1).
6) Empirical method

The development of a database of digital multicultural content made it possible to involve students in research and introduce the principle of research-oriented study. In order to study the effectiveness of this teaching techniques, a survey of students was conducted.

**Literature review**

In today’s hybrid media environment new content creators challenge the status of professionally produced journalism and blur the lines between professional and non-professional content (Wunderlich, 2022). An important skill of a future digital journalist is the ability to analyze content and structure data. Thus, the media culture of students is formed, students learn to visualize data, create new information based on existing information.

The high level of media culture allows the journalism teacher to navigate in the media environment as a specifically organized symbolic visual and emotional space; design their professional activities in the field of media education by creating new information and knowledge with the help of available tools and media formats; choose effective strategies for students self-learning in the media space (Bessarab, 2022).

The use of digital content in the educational process makes lessons creative, allows you to implement the principles of developmental learning. The learning process is activated, the pace of the lesson increases, the volume of independent and individual work of students increases. Teachers can select the necessary material in accordance with the lesson, present it vividly, clearly and accessible (Potashnik, 2011: 42).

The use of digital content in the classroom increases students’ motivation for the learning process, the teacher creates conditions for the effective manifestation of fundamental patterns of thinking, for students to acquire means of cognition and research, optimizes the cognitive process.

Within the framework of the disciplines “Information and Digital Literacy” and “Digital Journalism”, research was conducted on the analysis of the transition of television channels of Kazakhstan to the digital space and the study of their content, as well as a comparison of quantitative indicators of the popularity of traditional and digital media.

For example, the topic of multicultural diversity of Kazakhstan was chosen, since this topic is very relevant in the world due to the problems of national identity formation and widespread globalization faced by all states of the planet. This principle is crucial in understanding the nature and essence of interethnic relations. Based on this, we can define interethnic relations as the interaction of ethnic groups about their achievement of self-sufficiency. For example, globalization is a kind of attempt to
create a universal self-sufficient system of human existence (Lippman, 2004).

The mass media, accompanying a person throughout his life, including after graduation, significantly “influence his perception of political and social information. At the same time, under the guise of political education, people can also form pseudo-rational structures of consciousness that distort reality when it is perceived” (Resnyanskaya, 2007: 61).

The main newsmaker of this topic is the Assembly of the People of Kazakhstan. The Assembly is a constitutional body, is a socio–political institution for the harmonization of interethnic relations and social harmony, a key instrument for the implementation of state ethnopolitics (Grivennaya, 2018: 24). Today, all structural units of the APK face the task of filling their activities with new content, the main basis of which can be the introduction of information and communication technologies and modern solutions in their activities, the creation of multimedia digital content.

Results and discussion

The model of analyzing digital multicultural content and development a database was taken as the basis of this research. Following according to the model (Figure 1), the content was searched, structured by dates and topics, as well as content analysis. Web-sites content of three Kazakhstani TV channels located in the North Kazakhstan region was selected for study: the Republican TV and Radio Corporation “Kazakhstan” (www.petropavltv.kz), the Municipal TV and Radio Channel MTRK (www.mtrak.kz) and the commercial TV channel First North (www.1severniy.kz). The results of the analysis of the interface and content of the “MTRK” and “Qyzyljar” websites on the subject of multicultural topics are presented in the Figure 2. There are no such categories on the website of the TV channel First North.

The materials of the information and analytical report on the activities of the Assembly of People of Kazakhstan of the North Kazakhstan region were studied. It contains quantitative data on the digital multicultural content of television channels and Internet resources in the period from 2018 to 2021. The results of the analysis of these indicators are shown in Table 1.

Figure 2 – Arrangement of multicultural issues in the content structure of TV channels
Table 1 – Comparative table of indicators for the publication of multicultural content on television and Internet resources (2018-2021) according to the information and analytical report on the activities of the North Kazakhstan Regional Assembly of the People of Kazakhstan (Grivennaya, 2017: 52).

<table>
<thead>
<tr>
<th>Quarter/Year</th>
<th>1 quarter</th>
<th>2 quarter</th>
<th>3 quarter</th>
<th>4 quarter</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018 Television</td>
<td>113</td>
<td>52</td>
<td>46</td>
<td>54</td>
<td>165</td>
</tr>
<tr>
<td>Internet resources</td>
<td>37</td>
<td>184</td>
<td>155</td>
<td>168</td>
<td>544</td>
</tr>
<tr>
<td>2019 Television</td>
<td>49</td>
<td>52</td>
<td>46</td>
<td>102</td>
<td>249</td>
</tr>
<tr>
<td>Internet resources</td>
<td>192</td>
<td>184</td>
<td>155</td>
<td>193</td>
<td>724</td>
</tr>
<tr>
<td>2020 Television</td>
<td>52</td>
<td>48</td>
<td>20</td>
<td>20</td>
<td>140</td>
</tr>
<tr>
<td>Internet resources</td>
<td>195</td>
<td>212</td>
<td>707</td>
<td>720</td>
<td>1834</td>
</tr>
<tr>
<td>2021 Television</td>
<td>32</td>
<td>38</td>
<td>33</td>
<td>29</td>
<td>132</td>
</tr>
<tr>
<td>Internet resources</td>
<td>216</td>
<td>332</td>
<td>380</td>
<td>479</td>
<td>1217</td>
</tr>
</tbody>
</table>

In total, over the period from 2018 to 2021, according to the Assembly of People of Kazakhstan of the North Kazakhstan region, 5005 materials of digital multicultural content were published. Of these, there are 686 materials on television, 4319 materials on Internet resources. Thus, most of the materials or 86.2% of the total amount of digital multicultural content is published in Internet media. A detailed analysis of television indicators demonstrates a decrease in the amount of published content. At the same time, the share of publications in Internet resources is increasing. For example, in 2019, 724 materials were published, and in 2020 – 1834. The number of materials has increased 2.5 times. A possible reason for this could be the COVID-19 pandemic and the ban on offline events. Thus, the amount of content in the Internet space has grown. In 2021, with the lifting of quarantine restrictions and the restoration of offline operation, the dynamics of Internet content returns to normal and amounts to 1,217 materials. However, this is almost 10 times more than the indicators of television content. This dynamics of multicultural television content in the context from 2018 to 2021 is presented in the form of Figure 3.

![Figure 3](image-url) – Comparative analysis of indicators of digital multicultural content produced by TV channels (2018-2021).
Development of database of Kazakhstani digital multicultural content as a mean of training future journalists

For the purpose of in-depth study of digital multicultural content, students in journalism lessons were given the task to analyze the materials of journalists. The criteria according to the database development model and its application in the educational process are taken as a basis. The materials were examined for the presence of lexical, grammatical and compositional errors.

For the analysis, television stories were taken about the events highlighted in the information and analytical report on the activities of the North Kazakhstan Regional Assembly of the People of Kazakhstan: sessions of the Assembly of People of Kazakhstan, charity ball, 22nd of March -Nauryz, 1st of May - the Day of Unity of the People of Kazakhstan. These events are traditional and materials about them were published annually from 2018 to 2021 on the TV channels Qyzyljar MTRK, First Northern.

First, the students studied the texts of the materials, identified the detected errors, then analyzed the video tracks of television stories.

The results of the analysis conducted by the students confirmed the trends we published in early materials on the topic of digital multicultural content. The studied materials contained trends and problems inherent in the Kazakhstani media:

1. Eventfulness of video materials. The media publishes content only about events held by the Assembly of the People of Kazakhstan and ethnocultural associations, which superficially and dryly describes the course of the event.

2. Lack of scientific approach and analysis. Journalists do not study the background and facts. The texts are replete with general phrases and an enumeration of what happened. In fact, the plot performs only an informative function.

3. Templating. Many materials are similar in structure. Journalists use a similar sequence of facts. The same interviewees are present in the video.

4. Insufficient linguistic literacy of journalists. There are grammatical, lexical and speech errors in the content. Journalists used words that did not correspond to the meaning (“diversity of nations”, “apogee of the event”). There are cases of incorrect transcription of words of the Kazakh language (“Mangelik el” – “Mangilik El”, “baursaki” – “bauyrsak”). Correspondents do not know the terminology related to the activities of the Assembly of People of Kazakhstan, as a result of which they make lexical mistakes. Such a mistake can lead to incitement of interethnic, interracial or interreligious discord, the appearance of hate speech and incorrect perception of information (Lee Ann Peck, 2019: 81).

5. The use of ethnonyms. Words that have a national identity have their own name in the language of the people from where this word comes from. It is this word that corresponds to the meaning in the plot for a more accurate description of it. In the texts, borrowed words from the Kazakh language are used in an informative meaning and in the function of expressing ethno-cultural realities (Shuvalova, 2018: 68).

6. A large number of means of artistic expression. Epithets, metaphors and hyperbole are most often found in texts. It is important to note that all of them have a stable national flavor. For example, the expression “under a single shanyrak” is often found in the texts of plots, performing two functions at once - metaphor and ethonym. The expression “rich dastarkhan” is widely spread. Here the word “dastarkhan”, meaning a tablecloth used during a meal, or a set table, is used as a synonym for the phrase “set table”.

7. Tautologies. In one sentence or paragraph, the same-root words “ethnos” and “ethnocultural”, “North Kazakhstan region” and “North Kazakhstan Regional Assembly of the People of Kazakhstan”, “nationality” and “national”, etc. are most often used.

8. Professional mistakes. The same facts are repeated in the texts of different journalists and the synchrons of the interviewees. There are cases when the logic of frame construction is violated (video and text are not related in meaning).

9. The use of cultural values. Journalists often talk about rituals, traditions of ethnic groups, historical facts. Due to this, when watching these videos, the viewer has an atmosphere of “presence”.

10. Legal illiteracy of journalists. In the materials of journalists, the spelling of the word “Assembly” is sometimes with a capital, then with a small letter. In addition, there are two spelling variants of the name of the regional structure of the APK: “North Kazakhstan Regional Assembly of the People of Kazakhstan” or “Assembly of the People of Kazakhstan of the North Kazakhstan region”. However, according to Article 8 of the Law of the Republic of Kazakhstan “On the Assembly of the People of Kazakhstan” dated October 20, 2008 N 70-IV, “The structure of the Assembly consists of a Session of the Assembly, the Assembly Council, the Apparatus (Secretariat) of the Assembly, assemblies of regions (cities of republican significance, capital)”, i.e. the correct spelling is “Assembly of the People Kazakhstan North Kazakhstan region”, where the word “assembly” is written with a small letter (Petrov, 2022).
These trends and identified errors helped to sort the analyzed digital multicultural content according to certain criteria. According to the model (Figure 1), based on this, a database of digital multicultural content was written in the PostgreSQL programming language.

Current information technologies generate large amounts of data for management or further analysis, storing it in NoSQL databases which provide horizontal scaling and high performance, supporting many read/write operations per second. NoSQL column-oriented databases, such as Cassandra and HBase, are usually modelled following a query-driven approach, resulting in denormalized databases where the same data can be repeated in several tables. In this regard, the PostgreSQL object-relational database management system programming language was chosen. The fundamental characteristic of an object-relational database is the support of user objects and their behavior, including data types, functions, operations, domains and indexes (Suarez-Cabal, 2022).

An example of development such databases of thematic content can be a Global database of online newspaper articles about spiders and spider bites. In total, it contains 5,348 unique news articles from 81 countries in 40 languages (Mammola, 2022).

In this database, functions have been created that allow sorting all materials of multicultural content by year, site, author’s name, title, publication date. The procedure sorts the records into three (new, recent and old).

One of the most salient points to consider when evaluating the importance of the creation and use of databases in the classroom is their ability to be revisited throughout the year.

Development a database of any kind requires students to critically think from the very beginning. Maintaining that same database requires students to revisit those initial levels of thought and move to a higher plane of thought. It enables students to reach higher levels of thinking as students:

1) identify unique characteristics of the data;
2) find qualities of the data to compare;
3) take that same data and rank the importance of that data for themselves.

It is safe to say that this type of learning event connects nicely with Bloom’s Taxonomy (TeAchnology, 2022).

The database of digital multicultural content was introduced into the educational process of students of the educational program “Media Technologies” in the 3rd trimester of the 2021-2022 academic year. The main goal is the application of knowledge previously acquired in the framework of training (the discipline “Database Management System”) and digitalization of the educational process in the discipline “Digital Journalism”, increasing the interest and motivation of students to study.

After using the database of digital multicultural content, a survey of students was conducted in the classroom. 36 students of the 2nd year of the educational program “Media Technologies” took part in the survey via Google Forms (Petrov, 2022).

![Figure 4](image.png)

**Figure 4** – Results of survey (1st question – “How did the introduction of a database of digital multicultural content affect the journalism lesson?”)
14 respondents noted that the database has simplified the search for educational materials. 6 students answered that the database allowed conducting mini studies of digital multicultural content during classes. 11 respondents believe that using the database in journalism lessons was able to consolidate the competencies acquired in the discipline “Database Management System”.

3 respondents chose “Other”, where they expressed the opinion that the introduction of the database improved their information structuring skills, allowed them to restore programming languages in memory and not store big data, have access to them anywhere and at any time.

A additional questions of students’ data was also conducted to obtain detailed results regarding the evaluation of the effectiveness of this method in the educational process. This question of the survey gave participants the opportunity to answer, “Has the analysis of digital multicultural content influenced the development of your research skills?”. 34 respondents answered positively, which means the success of implementing the principles of research-oriented study in the educational process of students.

The final question in the survey was “Evaluate on a 5-point scale how the analysis of digital multicultural content affected the development of your research skills”. The average score of all respondents was 4.05. Most often, students rated “4”. So, the introduction of the analysis method into the educational process was evaluated by 15 students or 41.6% of all questionnaire participants. The highest rating of “5” was given by 13 students (36.1%). There were only 2 unsatisfactory ratings, which is 5.5% as a percentage of the total number of respondents. 1 student rated this method by 1 point, another 1 student rated this method by 2 points. On “3” or satisfactorily rated the use of analysis by 6 students.

In the open question “How do you continue to apply content analysis skills in your learning activities?” the respondents left the following feedback: “I learned content analysis and now use it to write a scientific article”, “Content analysis allowed me to learn a lot and analyze other types of journalistic creativity”, “I made my own content analysis of gender inequality in popular Kazakh media”. Also received 3 identical comments “It will be useful when writing a diploma paper”.

In general, according to the results of the survey, it became known that the use of a database of digital multicultural content in the classroom proved to be effective. The study of the content itself made it possible to improve the research skills of students, integrate IT technologies into the educational process of the discipline “Digital Journalism”.

![Figure 5 – Results of survey (2nd question – “Evaluate on a 5-point scale how the analysis of digital multicultural content affected the development of your research skills”)](image-url)
Conclusion

The proposed model for the development of databases of digital multicultural content and application in journalism training has demonstrated its effectiveness. Content analysis and database development made it possible to apply the principles of the research-oriented study. To conduct this study, the works on similar topics in the areas of ethnopolitics, journalism, public relationships and the use of databases were studied.

In order to correctly classify the content and sort it inside the database, the data of the information and analytical report on the activities of the Assembly of People of Kazakhstan of the North Kazakhstan Region and the materials of journalists using qualitative and quantitative research methods were analyzed.

In particular, the study of indicators of digital multicultural content allowed us to consider the dynamics of television publications in comparison with Internet media. Digital multicultural content and its changes in the period from 2018 to 2021 are considered. Thus, an increase in the interactivity of materials, the predominance of video content, changes in the forms and content of texts were noted. Lexical and compositional analysis of digital multicultural content showed the main problems and tendentiousness of the studied journalistic materials in the form of templates, violations of the norms of literary language and low legal literacy of journalists.

The use of content in the educational process in the form of a database has become a successful practice of integrating IT technologies and journalistic education. According to the results of the experiment, an improvement in the motivation of students to study was revealed. Students learned to apply the skills of data analysis and sorting, writing mini-studies, and improved their professional and digital literacy.

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