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ATTACHING FUTURE PRIMARY EDUCATION TEACHERS TO NATIONAL VALUES THROUGH MOBILE CONTENT

Abstract

The article discusses the issue of instilling national values in future primary school teachers through mobile content. Foreign experience in using mobile content is analyzed. The meaning of the concept of mobile content is revealed, its definition is given, and its effectiveness and capabilities are revealed. The study covers native apps, hybrid apps, web apps, mobile images, mobile music, and mobile video. To determine the effectiveness of teaching future primary school teachers to national values through mobile content, an establishing, formative experiment was conducted. Questionnaires and open testing of students were organized. The results were checked using a ratio scale, the mathematical method of Pearson's t-test, and displayed using a histogram, polygon, diagram, and table. Based on the results of the survey and open testing, the educational level of future primary school teachers in national values was determined, and effective forms of instilling in them national values, as well as the content of mobile content "Ulttyq kazyna" were identified.

Keywords: mobile learning technology, mobile content, mobile space, national values, smartphone, educational program

Basic provisions. K.K. Tokayev, president of the Republic of Kazakhstan, points out the need for future teachers of education to absorb the advanced examples of National Art, Culture, and traditions, the enormous wealth of the language, thereby preparing them for the education of a generation "Who knows seven different teachings". The purpose of the study was to identify opportunities for introducing future primary education teachers to national values through mobile content in universities. The implementation of this idea was guided by the following basic provisions:

- identification of types of mobile content and development of mobile content aimed at introducing future teachers of primary education to national values;

- use of mobile content within the framework of the elective course "Methods of introducing students to national values through the creation of a mobile educational environment" and "Mobile technology in education";

- experimental verification of the effectiveness of mobile content "Ulttyq kazyna".

Introduction. In the ultramodern world, there is a process of adding the significance of access to information and communication. It is impossible to picture someone living without a tablet or smartphone. The capabilities and potential of mobile devices are rapidly expanding, the vacuity of mobile phones is spreading far and wide, and mobile operations are in demand all over the world. The ease and versatility of using these mobile technologies have made it possible to become a useful tool in the lives of both young people and seniors. The active use of smartphones and tablets in society has increased the applicability, and demand for the integration of mobile technologies into the educational process.

It would not be redundant to say that in the period of technological rapid-fire development, the part of mobile content in education changed traditional literacy paradigms and became a revolutionary force in the way of access and operation of knowledge. The experimenters noted that the lack of a developed methodological base, that is, meaningful content, inhibits the use of mobile devices in education (Baek et al., 2017). Thus, it is purported that it is important to prepare special content in the Kazakh language that glorifies public values in ultramodern universities.

The demand for mobile content will continue to grow as further mobile devices enter the

request. Devices like the iPhone, iPad, and Android have changed the way consumers consume content. The enhancement in device speed also contributed to the increase in demand for mobile content (Teichert, 2022; Sinfield, 2018).

First, this study focuses on the substance of the conception of mobile content (Mobile content is digital content intended for possessors of mobile devices, Khomenko, 2017). As a rule, the researchers discuss the variety of digital content, especially acclimated or indeed produced, taking into account the specialized capabilities of mobile devices and the wireless access channel. With the proliferation of smartphones, tablets, and other movable devices, scholars and preceptors have access to a huge force of digital coffers that transcend the limitations of time and space. Nevertheless, the applicability of mobile content in education cannot be overrated. Because it allows scholars to consume educational accoutrements at anytime and anywhere, creates a culture of lifelong literacy and invention.

Research on the advantages of mobile content, and its types, was carried out by scientists, and experts in the fields of media, communications, technology, and marketing. For example, Goggin (2021), describing the types of mobile content for mobile installations, delves into their importance for society. Research by Fortunati & Vincent (2014), Grinter (2015) & Ling (2016) note the impact of mobile technologies, among them mobile content, on everyday life, and their enormous influence on the formation of activities and behavior. Ito's (2020) research focuses on creating a learning environment for mobile devices, focused on mobile content that contributes to the education of young people. Sharples (2019) highlights ways to use mobile devices in teaching for educational purposes. The research is devoted to the problems of planning mobile learning, developing educational applications, and integrating mobile technologies into the content of formal and non-formal learning. Mobile content is used to meet the various needs of students, increasing their motivation to receive education (Gökçe & Dogerlioglu, 2019; Traxler, 2009).

Moldovan et al., (2014) grouped mobile educational content into slide shows, screencast, presentations, laboratory demonstrations, interviews, documentary film, and animation. This grouping was compiled in the course of the analysis of 1500 educational videos. On websites found on the internet, mobile content types are grouped into mobile applications (hybrid, native, web), images, music, video, streaming (TV, Radio, Live Broadcast, Text Format), Text format (PDF, ePub, audio-visual content). The researchers decided to describe the above-mentioned content below.

Mobile app development is the act or process of developing a mobile app for mobile devices, such as personal digital assistants, enterprise digital assistants, or mobile phones. These applications can be pre-installed on phones during production platforms, or delivered as web applications that use server-side or client-side processing to provide an "application-like" experience in a web browser. *Native applications* are designed for only one mobile operating system, so they are "native" for a specific platform or device. The application for systems such as IOS, Android, Windows phone, Symbian, and Blackberry cannot be used on a platform other than its own. In other words, you can't use the Android app on your iPhone. *Hybrid applications* are created using multi-platform web technologies (for example, HTML5, CSS, and JavaScript). Hybrid applications are mostly website applications hidden in local packaging. Hybrid multiplatform applications are becoming fast and relatively simple. *Web* applications use the browser to run and are usually written in HTML5, JavaScript, or CSS. These apps direct the user to a URL and offer an "Install" option by creating a bookmark for their page. Web applications usually require minimal device memory. Since all private databases are stored on the server, users can access from any device as long as they have an internet connection. Therefore, the use of poorly connected web applications leads to a deterioration in the user experience.

Mobile images are used as mobile phone wallpaper and are also available as a screensaver.

Mobile music is any audio file that is played on a mobile phone. Mobile music is usually formatted as an AAC (Advanced Audio Coding) file or MP3 and comes in several different formats. *Mobile videos* come in several forms, such as 3GPP, MPEG-4, RTSP, and Flash Lite.

In the article" Opportunities to introduce future primary education teachers to national values through the creation of a mobile educational environment", by Zhumabaeva et al., (2022), it was noted that "since we live in a period known as the" mobile age", mobile technologies have affected all areas. One of them is the field of education, that is, knowledge that is acquired independently through a smartphone, or the internet. This is the knowledge that has a wide range of possibilities and is interesting, but unsystematic, quickly acquired, and quickly forgotten. It allows us to consider national values as a new model of today when we focus on the content of education, plan educational goals and expected results within these values, focus on mobile learning technologies, and build on national value" (Zhumabaeva et al., 2022), and to introduce future primary education teachers to national value through mobile content.

For this reason, to introduce future teachers of primary education to the national value through the creation of a mobile educational environment, a methodological complex, and mobile content on cycles of disciplines (scientific and natural science, pedagogical-psychological, aesthetic, etc.) have been prepared. Based on mobile content, a mobile application "Ulttyq kazyna" has been developed, which carries out the promotion of national values.

The purpose of the mobile application "Ulttyq Kazyna" is to introduce students to national values through mobile technology. The mobile application was developed for future teachers of primary education, primary school teachers, and primary school students.

The content of the mobile application "Ulttyq kazyna" consists of cells "world of fairy tales", "Misleading, mysterious, proverbs", "Traditions and customs", "From the pages of history", "Let's respect the language", "Patriotic songs", "Cycle of psychological and pedagogical disciplines", "Cycle of aesthetic disciplines", "Natural Science cycle", "Cycle of humanitarian disciplines".

In the mobile application, information text was given to the issues addressed in each cell. Within the framework of the same text, videos and presentations were presented to complement the student's knowledge. In the end, it was supplemented with tasks developed in various formats (quiz games, Question-Answer, tests, etc.) for consolidating knowledge, and testing. They are Google Forms, padlet.com, learningapps.org, educaplay.com, wordwall.net, and joyteka.com developed on platforms. The design of the mobile application "Ulttyq Kazyna" is decorated with national ornaments. The content of the mobile application will be replenished every day (Zhumabaeva et al., 2023).

In the II half of the 2023-2024 academic year, an elective course "Methods of introducing students to national values through the creation of a mobile educational environment" was introduced on the educational program 6B01303 – primary education with information and communication technologies (in the Kazakh and Russian departments) in the direction of training teachers (teachers) who do not have subject specialization. The discipline is taught in 6 semesters, 3 courses. Number of credits. The program (syllabus) and educational and methodological complex of the discipline (Mobildi bilim beru ortasyn quru arqyly bilim alushylardy ulttyq qundylyqqa baulu adistemesi, 2023) have been prepared.

The content of the syllabus consists of 3 main sections: values at the crossroads of generations; spiritual ideals of Kazakh society; and spiritual and ideological foundations of Kazakh culture in the new era.

The section "Values at the crossroads of generations" contains a system of family values, in particular, the honour of parents, national values in raising female children, raising the future of the nation, nobility, etc.

The section "Spiritual ideals of the Kazakh society" contains philosophical statements about Kazakh spirituality, the idea of Alash and the revival of national consciousness, the pedagogical heritage of the Alash intelligentsia, etc.

In the section" Spiritual and Ideological Foundations of Kazakh Culture in the New Era", cultural innovation trends in the space of modern national civilization are considered.

In the first half of 2023-2024, the elective course "Mobile technology in education" was included in the educational program 7M01301 – Pedagogy and methods of primary education of the direction of training of non – non-specialized teachers of the subject 7M013-5 ECTS for the 1st semester. The program (syllabus) and the educational and methodological complex of the elective course "Mobile Technology in Education" have been prepared (Bilim berudegi mobildi tehnologiya, 2023).

The syllabus includes the regulatory framework of digital education of the Republic of Kazakhstan; the concept of development of the information and Communication Technology Industry of the Republic of Kazakhstan and the digital sphere; mobile educational environment: modern approaches; modeling of the mobile educational environment of universities; mobile technology as a new element of the learning system; features of the use of mobile technologies in the educational process; pedagogical features of the use of mobile technologies in the educational process of universities; psychological features of the use of mobile technologies in the educational process; the principles and stages of working with mobile technologies; the classification of mobile technologies used in the educational process of the University; the use of mobile technologies in the lessons of the cycle of natural science disciplines; the use of the capabilities of mobile technologies in the teaching of the cycle of aesthetic disciplines, among others.

Materials and Methods. *Participants.* 32 students in the 3rd year of the educational program 6B01303 Primary education with information and communication technologies of the Department of Primary Education of the Abai Kazakh National Pedagogical University and 60 undergraduates in the 1st year of the educational program 7M01301 Pedagogy and methods of primary education took part in the experiment.

Data Collection tool. The experiment consisted of two stages, determinative and formative. In the course of the revealing experiment, the knowledge of future teachers of primary education about national values was revealed and the content of the mobile content "Ulttyq kazyna" was clarified. To determine the knowledge of future teachers of primary education about national values and clarify the content of the mobile content "Ulttyq kazyna", a questionnaire was given to students of the 3rd year bachelor's and 1st year master's degrees.

1. What is National value?
2. Describe the types of national values.
3. Answer the questions below:

a) The main idea of the fairy tale "Tolybai Critic"

b) In yesterday's times

c) the Religion of Muslims

d) Karakipchak

e) his grandfather Toktarbai

f) He was richer than all the nations." from what heroic epic it's taken?

g) If your sickle is sharp ... continue the proverb

h) What is the meaning of the Kazakh tradition "Heat collection"?

i) Who tore up the hard life and feat of Abylai in his youth?

j) What patriotic songs of Kazakhstan do you know?

k) Abai's educational thought in 19 words of edification?

l) Record the achievements of wrestler Sholak

m) Write down the rivers of the Zhetysu land

n) Give an example of eloquence

4. Establish for you the most effective event aimed at instilling national value.
5. What sections do you want mobile content to consist of, designed to bring you national value?

In the formative experiment, the mobile content "Ulttyq kazyna" was used, compiled by the project members to introduce students to the national value in the course of the elective courses" methods of introducing students to the national value through the creation of a mobile educational environment", "mobile technology in education".

After the formative experiment, students were given open test tasks to determine how the knowledge of future primary education teachers about national values has changed, and to check the effectiveness of the mobile content "Ulttyq kazyna".

The content of the open test tasks was aimed at identifying students ' knowledge of fairy tales, songs of heroes, misleading, mysterious, Proverbs, traditions, customs, history of the country, language, patriotic songs, scientists, and their works who contributed to the development of domestic psychology, pedagogy, methods of primary education.

Open test questions are as follows:

1. How do you understand National value?
2. Write the content of one of the fairy tales "The Zhaiyk and Edil", "The Purchase of Oil by Kozhanasyr", and "The Tale of Khan and the Ants".
3. Write the main idea of the Hero song "Er Targyn".
4. Sights with the age of the country, continue the proverb. Give an example of 3 sayings for Homeland, country, language.
5. What is the meaning of the Kazakh tradition "Baigazy"?
6. Give an example of the wisdom and fair decisions of the famous Kazakh Tole bi in the management of the country.
7. Give examples of patriotic songs of Kazakhstan.
8. Describe the psychological heritage of Zh. Aimautov wrote M. Zhumabayev's book "Pedagogy" about the education of the nation.
9. Write the structure of the dombra.
10. Write down the works of scientists and their contributions to the field of Primary Education.
11. Give an example of eloquence.

Data analysis: The results of the experiment were tested using the mathematical method of the ratio scale, Pearson's t-criterion, and depicted using histograms, polygons, diagrams, and tables.

Results. The experimental group was attended by 32 students in the 3rd year of the educational program 6B01303 Primary education with information and communication technologies and 60 undergraduates in the 1st year of the educational program 7M01301Pedagogy and methods of primary education. To determine their knowledge of national value, the question "What is National value?" the question was asked. As a result, 42 out of 92 students in the experimental group answered the question completely correctly, 46%, and 50 out of 54% wrote only a partial answer. The result of the question is shown in Figure 1.

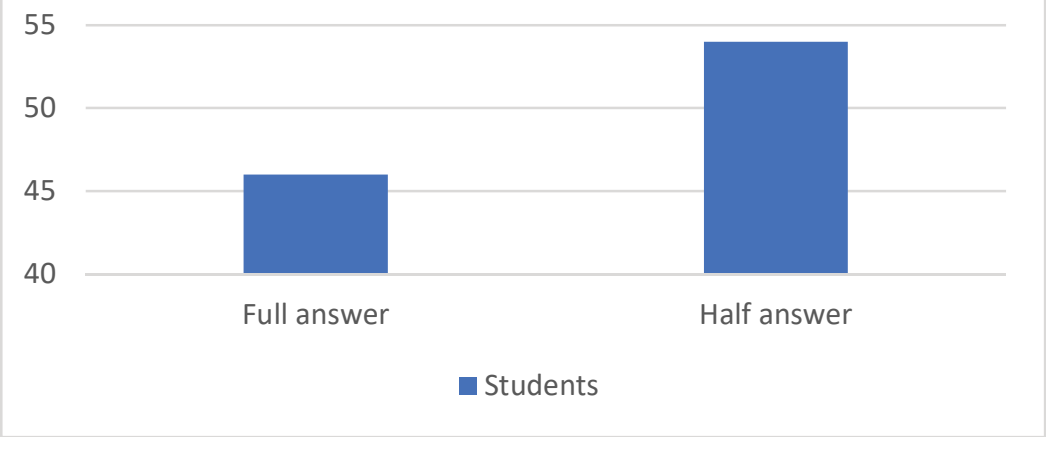

Figure 1: Result of question 1 of the survey

To determine the knowledge of students about the types of national value, the question "Describe the types of national value" was asked. 32 of the respondents correctly indicated 35% of the type 6, 26% of the type 28% of the type 5, 18% of the type 19% of type 4, and the rest of the type 3. The result of the question is shown in Figure 2.

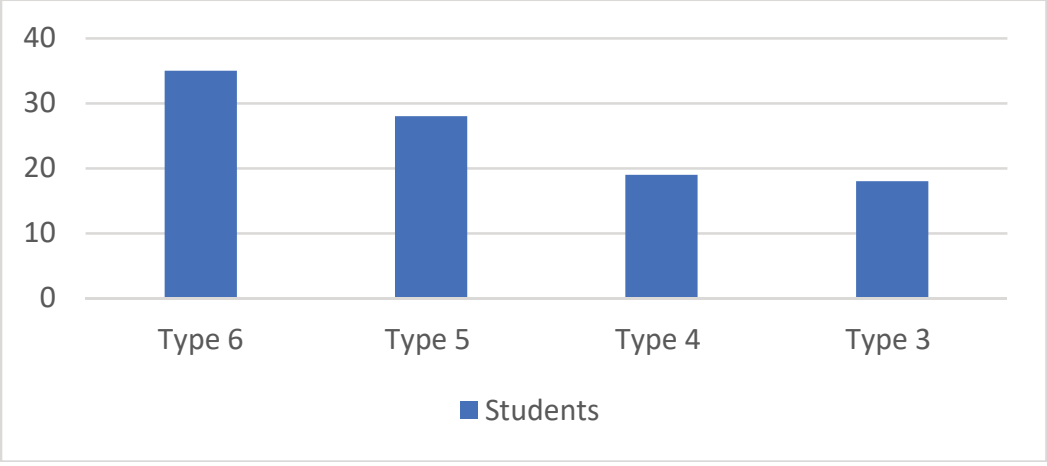

Figure 2: Result of question 2 of the survey

To determine the respondents knowledge of fairy tales, songs of heroes, misleading, mysterious, Proverbs, traditions, customs, history of the country, language, patriotic songs, etc., 10 questions were asked. Its result can be seen in the following *Table 1.*

Table 1. Result of question 2 of the survey

№	Task	Number of people who completed the task correctly	%
1	The main idea of the fairy tale «Tolybai Critic».	26	28
2	«In yesterday's times, the Religion of Muslims, Karakipchak..., his grandfather Toktarbai He was richer than all the nations.» from what heroic epic it's taken?	31	34
3	If your sickle is sharp ... continue the proverb.	41	45
4	What is the meaning of the Kazakh tradition of «Heat collection»?	11	12
5	Zhyrau, who tore up the hard life and feat of Abylai in his youth?	49	53
6	What patriotic songs of Kazakhstan do you know?	53	58
7	Abai's educational thought in 19 words of edification?	23	25
8	Record the achievements of Baluan Sholak.	47	51
9	Write down the rivers of the Zhetysu land.	38	41
10	Give an example of eloquence.	39	42
Average:		38	40,8

As a result, out of 92 students, 10 tasks were completed correctly, 38 respondents 40.8%.

The study graphically represents the sample obtained as a result of a given survey, the frequency Polygon, and the frequency histogram. To do this, using the ratio scale, the levels and interval indicators should be determined.

Where k is the number of grouping intervals, it is determined using the formula $k = \sqrt{n}$.

n=10, $\sqrt{10} \approx 3$, 10-4=6, let's find the width of the interval h=6:3=2. Now, determining the border of the interval $a_1=x_{min}$-0.5h=4-0.5*2=3, the minimum first interval limit is 3. $a_2=a_1+h=3+2=5$, $a_3=a_2+ h=5+2=7$, $a_4=a_3+ h=7+2=9$, $a_5=a_4+ h=9+2=11$. The maximum interval limit is 11. The results obtained are summarized in Table 2,3.

Table 2. Level division table

Level	Number of correctly completed tasks	Frequency (number of students)
Low	3-5	31 (33,7%)
Middle	5-7	23 (25%)
High	9-11	38 (41,3%)

Table 3. Interval indicators

Interval number, i	Interval boundary	Interval environment	Interval frequency, n_i
1	3-5	4	31
2	5-7	6	23
3	9-11	10	38

The frequency Polygon and frequency histogram of the result can be seen in Figure 3.4.

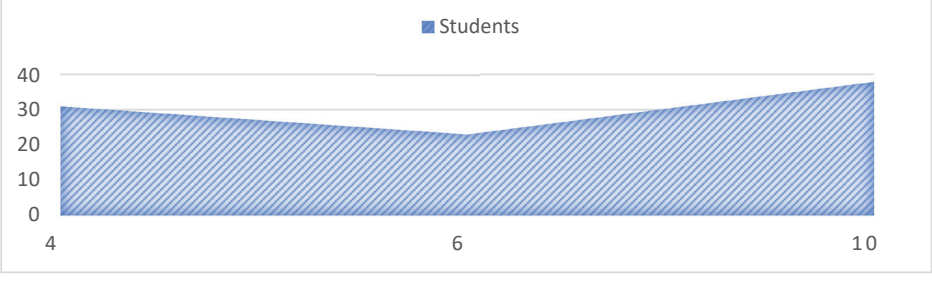

Figure 3: Frequency polygon of the result on question 3 of the survey

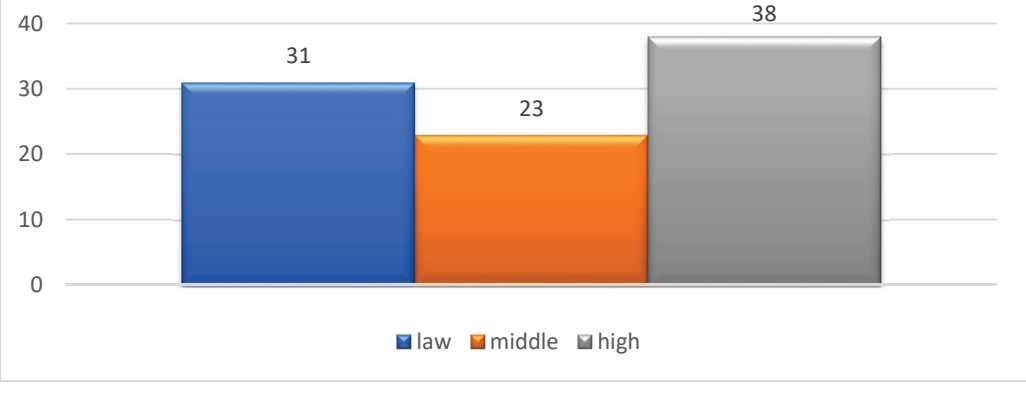

Figure 4: Frequency histogram of the result on question 3 of the questionnaire

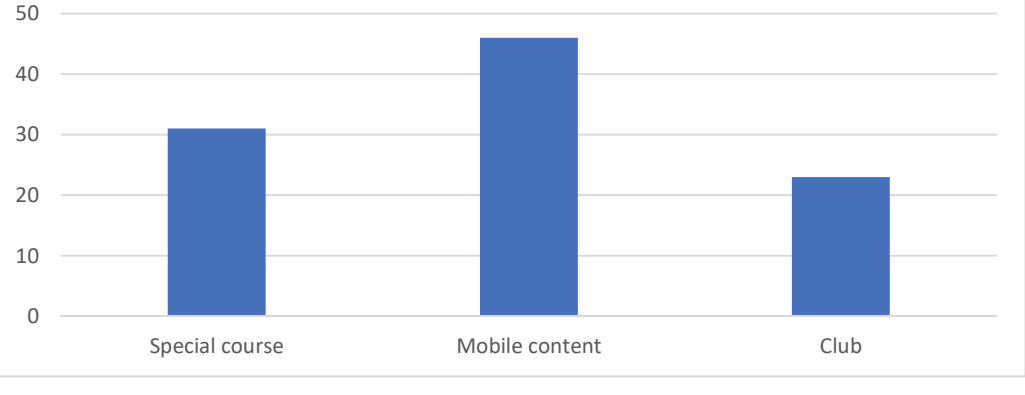

Figure 5: The result of question 4 of the survey

To determine the most effective form of attracting future primary education teachers to the national value, it is necessary to ask the question: "Establish for you the most effective event aimed at attracting national value? special course, mobile content, club, competition". As a result, 31% of students identified "special courses", 46% - as "mobile content", and 23% - as "club". The result of the question is shown in Figure 5.

To create the content of mobile content for the national value of future primary education teachers, students are asked: "What sections do you want the content of mobile content for the national value of you to consist of?" the question was asked. The result can be seen in *Table 4.*

Table 4. The result of question 5 of the survey

Answers	Number	%
Fairy tale	65	70,6
Song of heroes	75	81,5
Misleading	42	45,6
Mystery	36	39,1
Proverbs and sayings	82	89,1
Traditions and Customs	92	100
Custom	92	100
History of the country	92	100
Language	92	100
Religion	15	16,3
Patriotic songs	57	61,9

To check the change in the level of knowledge of future primary education teachers about national values after the formative experiment, and the effectiveness of the mobile content "Ulttyq kazyna", the respondents were given open test tasks. Its result can be seen in the following *Table 5.*

Table 5. The result of open test questions

№	Content of open test questions:	Number of people who completed the task correctly	%
1	Write the content of one of the fairy tales "The Zhaiyk and Edil", "The Purchase of Oil by Kozhanasyr», and "The Tale of Khan and the Ants".	90	97,8
2	Write down the main idea of the Hero song «Er Targyn».	92	100
3	The country is beautiful with age ... continue the proverb. Give an example of 3 sayings for Homeland, country, language	89	96,7
4	What is the meaning of the Kazakh tradition «Baigazy»?	89	96,7
5	Give an example of the wisdom and fair decisions of the famous Kazakh Tole bi in the management of the country.	92	100
6	Give an example of the patriotic songs of Kazakhstan.	92	100
7	Describe the psychological legacy of Zh. Aimautov wrote M. Zhumabayev's book «Pedagogy» about the education of the nation.	88	95,6
8	Write down the structure of the dombra.	86	93,4
9	Write down the works of scientists and those who have contributed to the field of primary education.	80	86,9
10	Give an example of eloquence.	91	98,9
Average:		89	96,6

We determine the level of knowledge of national values and interval indicators of post-experimental students using the ratio scale shown in the determining experiment. The result is 6 tables.

Table 6. Interval indicators

Interval number, i	Interval boundary	Interval environment	Interval frequency, n_i
1 (low)	3-5	4	-
2 (middle)	5-7	6	6 (6,5)
3 (high)	9-11	10	86(93,5)

The frequency Polygon and frequency histogram of the result can be seen in Figure 6,7.

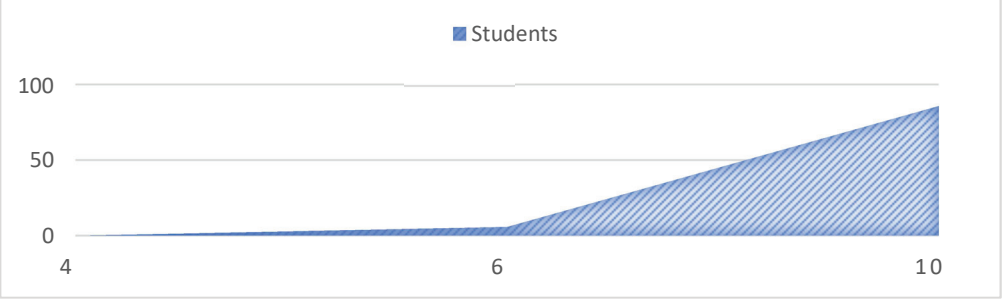

Figure 6: Frequency polygon of the open test result after the experiment

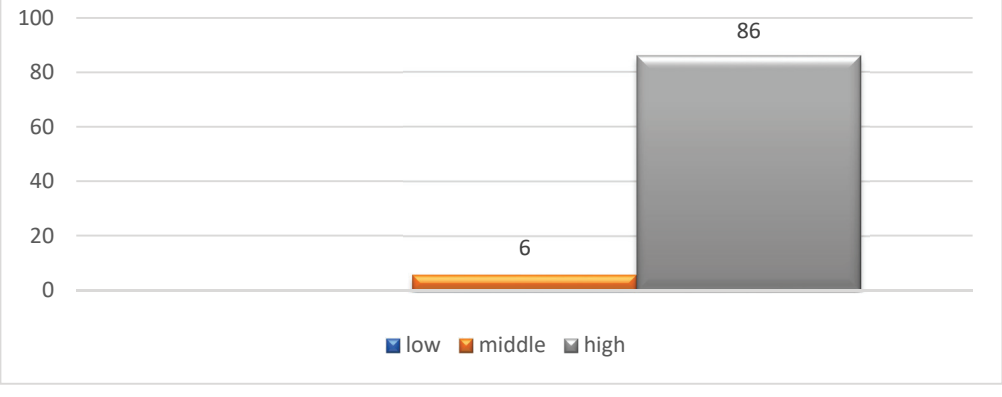

Figure 7: Frequency histogram of the open test result after the experiment

Let's check the effectiveness of the mobile content "Ulttyq Kazyna" in the elective courses "Methods of attracting students to national value through the creation of a mobile educational environment", "Mobile technology in Education" and in the youth club "Ulttyq Kazyna" using Pearson's t-criterion.

To do this, we prove the assumptions that the national values of future primary education teachers will not increase through mobile content "H_0 - "Ulttyq kazyna" and "H_1 - "Ulttyq kazyna" will increase the national values of future primary education teachers through mobile content".

χ^2 - with criteria $\chi^2 = \sum_{i=1}^{k} \frac{\left(f_i^1 - f_i^{II}\right)^2}{\left(f_i^1 + f_i^{II}\right)}$ we calculate by the formula. The result is presented in Table 7.

Table 7. *The level of knowledge and final indicators of the initial national values of the experimental group*

Level	Beginning %	At the end %	$\left(f_i^1 - f_i^{II}\right)^2$	$\left(f_i^1 + f_i^{II}\right)^2$	$\frac{\left(f_i^1 - f_i^{II}\right)^2}{\left(f_i^1 + f_i^{II}\right)}$	χ^2
Low	33,7	-	1135,69	33,7	33,7	64,7
Middle	25	6,5	342,25	31,5	10,8	
High	41,3	93,5	2724,84	134,8	20,2	

χ^2 =64,7 equal. Given q = 0,05 degree of significance and number of degrees of freedom v=k-1=3-1=2 through a special table $\chi^2_{0.05}(2) = 5{,}99$ we determine the critical value.

$\chi^2 \rangle \chi^2_{0.05}$ because (64,7>5,99) H_0 the forecast is not accepted. That is, through the mobile content "Ulttyq kazyna", the national values of future primary education teachers will increase.

Discussion. According to the results of the survey, 92 students who participated in the determining experiment answered the first question with 42 correct answers, 46% completely correct, 50-54% only partially, and had difficulties with a clear answer, although they had a general idea of national value. In the second question, 32 of them correctly indicated 35% 6 types, 26 of them 28% 5 types, 18 of them 19% 4 types, and the rest 3 types, noting that they are confused in naming types of national values. On the third question, the respondents showed that on average 38 respondents answered 40.8% correctly for all 10 questions: fairy tales, songs of heroes, misleading, mysterious, Proverbs, traditions, customs, history of the country, language, patriotic songs, etc.

Using the ratio scale, we determined the level of students' knowledge about national values. The lower level was 31 students who correctly completed 3-5 tasks, which was 33.7%. The average level of 5-7 students who correctly completed 23 tasks was 25%. The highest level of 38 students who correctly completed 9-10 tasks, was 41.3%. From this we can conclude that the students who participated in the experiment were interested in national values, types of national values, fairy tales, songs of heroes, misleading, mysterious, Proverbs, traditions, customs, history of the country, language, patriotism songs, etc. we found that, although he knew, he was at an insufficient level. We are convinced of the need to conduct special work with them.

In the Fourth survey "Mark the necessary event for you, aimed at instilling national value?" students identified special courses, mobile content, and clubs as effective forms of attraction to national values. Fifth "What sections do you want mobile content to consist of, designed to bring you to national value?" the respondents wanted the content of mobile content to consist of fairy tales, songs of heroes, misleading, mysterious, Proverbs, traditions, customs, history, patriotic songs, language materials. As a result, the following content of the mobile content "Ulttyq kazyna" was determined: "The world of fairy tales", "Misleading, mysterious, Proverbs", "Traditions and customs", "From the pages of history", "Patriotic songs", "Cycle of psychological and pedagogical disciplines", "Cycle of aesthetic disciplines", "Natural Science cycle", "Cycle of humanitarian disciplines".

During the formative experiment, taking into account the results of the survey, members of the project "AP14872058 Attracting Future Primary School Teachers to National Values through the Creation of a Mobile Educational Environment" Zhumabayeva et al., (2023) developed mobile content "Ulttyq kazyna". Mobile content "Ulttyq kazyna" was used in the elective courses "Methods of attracting students to national value through the creation

of a mobile educational environment", "Mobile technology in Education" and in the youth club "Ulttyq kazyna".

Methods of attracting students to national value through the creation of a mobile educational environment", "Mobile technology in education" elective courses, and the youth club "Ulttyq kazyna" tested the effectiveness of the mobile content "Ulttyq kazyna" using Pearson's t-criterion and proved the assumption that "The national values of future primary education teachers will increase through mobile content "H_1 - " Ulttyq kazyna".

Comparing the results obtained during the study with other studies. Research in a similar direction to our study was carried out in Peru, Turkey, USA, and Belgium. In particular, research by Kearney Burden and Rai examined how teachers use the pedagogical features of mobile learning: collaboration, personalization, and realism. They developed a survey tool based on these three structures and tested it. It was used to explore current mobile learning practices in schools and higher education (Kearney et al., 2015).

The Bano study analyzed high-quality empirical data on mobile learning in high school science and mathematics education. He used the systematic literature review (SLR) using Generally Accepted and reliable guidelines. As a result, the SLR analyzed 49 studies (60 articles) published between 2003 and 2016 and classified the applications and technologies used in these studies according to the type and context of use (Bano et al., 2018).

McConatha, Praul, and Lynch viewed mobile learning using smartphones and small devices as learning using small mobile computing devices (Mcconatha et al., 2008). The Ardies De Maeyer, Gijbels, and Van Keulen research examined six aspects of a relationship, namely interest, career aspirations, boredom, consequences, difficulties, and gender issues (Mirski et al., 2004). Diluting these aspects, he developed a multidimensional model and tested it. As a result of data analysis through a multidimensional multilevel approach, the predictive strength of students ' characteristics about aspects of their approach to mobile technology was determined.

Erkollar and Oberer (2013) discussed the integration of mobile learning with the geographic information system module at the Turkish University, where they were provided with tablet devices with the introduction of Google and Hangout programs to facilitate communication between each student. Glackin et al., (2014) addressed the integration of mobile devices and e-books to increase students ' familiarity with the digital library.

De Pablos et al., (2015) conducted two studies at the American University of Sharjah to test the effects of iPad use on students for a semester in a mathematics course. Campos Jorge and Barreto (2021) have studied the various challenges that arise in the use of technology and mobile applications for educational purposes for students over the past decade. They surveyed students and teachers from five Cajamarca universities in Peru to determine their attitudes toward the use of mobile technologies in higher education and evaluated the results with the help of confidence Alpha Kronbach. As a result, they found that there are statistically significant differences between the attitude of the participants in the experiment to the type of mobile device, and noticed that their mobile technologies have a positive effect on the education system.

Thus, the main goal of these studies was to determine the impact of mobile technology and tools on the educational process and the attitude of students toward them. The issue of organizing the introduction of future primary education teachers to national values through mobile content is not specifically considered. In Kazakhstan, the issue of introducing future primary education teachers to national values through mobile content is being studied for the first time.

The main difference between the results obtained as a result of our study from other studies lies in the determination of the effectiveness of mobile content for future teachers of primary education, the creation and testing of the educational and methodological complex of the elective course "Methods of attracting students to national value through the creation of a mobile educational environment", "Mobile technology

in education", the creation of the youth club "National Qazyna", that is, the creation of a mobile environment, the development of mobile content "Ulttyq Qazyna".

All these results are scientifically valuable and can be used in the process of introducing future teachers of primary education to national values in higher education institutions.

Conclusion. The active use of smartphones and tablets in society revealed the relevance of integrating mobile technologies into the educational process and analyzed foreign experiences in using mobile content. The essence of the concept of mobile content was revealed, the definition was given, and its capabilities and capabilities were revealed.

To determine the effectiveness of introducing future primary education teachers to national values through mobile content, a determinative, formative experiment was conducted, and a questionnaire and an open test were obtained from students. The results were tested using the mathematical method of the ratio scale, Pearson's T-criterion, and displayed using histograms, polygons, diagrams, and tables. According to the results of the survey, a special course, mobile content, and a club were identified as effective forms of attracting future primary education teachers to national values.

In the direction of training teachers (teachers) who do not have a subject specialization, an elective course has been introduced on the educational program 6B01303 Primary education with information and communication technologies (in the Kazakh and Russian departments) "Methods of introducing students to national values through the creation of a mobile educational environment". The subject was taught in the 3rd year. Number of credits – 6. In addition, the elective course "Mobile Technology in Education" was included in the educational program 7M01301 Pedagogy and Methods of Primary Education of the direction of training of non – -non-specialized teachers of the subject 7M013-5 ECTS for the 1st semester. The program (syllabus) and educational and methodological complex of these elective courses were prepared and tested.

To introduce future teachers of primary education to national values, a youth club "National Kazyna", that is, a mobile environment, was created among students of the 1-4 courses of the Department of Primary Education. The club worked in 6 directions: "Cultural heritage", "National language", "Family and dynasty", "Personality", "Traditions and customs", and "Traditional art".

The project members, remembering the results of the survey, developed mobile content "Ulttyq kazyna" in the content "The world of fairy tales", "Misleading, mysterious, Proverbs", "Traditions and customs", "From the pages of history", "Patriotic songs", "Cycle of psychological and pedagogical disciplines", "Cycle of aesthetic disciplines", "Natural Science cycle", "Cycle of humanitarian disciplines".

During the educational experiment, the mobile content "Ulttyq kazyna" was tested in the elective courses "Methods of introducing students to national values through the Creation of a mobile educational environment", "mobile technology in Education", and the Youth Club "National Kazyna".

The effectiveness of the mobile content "Ulttyq kazyna" in introducing future primary teachers to the national value in the elective courses" methods of introducing students to national value through the creation of a mobile educational environment", "mobile technology in education"and the youth club "National Kazyna" was tested using Pearson's t-criterion.

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References

Baek, Y., Zhang, H., & Yun, S. (2017). Teachers' attitudes toward mobile learning in Korea. *TOJET: The Turkish Online Journal of Educational Technology*. https://scholarworks.boisestate.edu/edtech_facpubs/155/

Bano, M., Zowghi, D., Kearney, M., Schuck, S., Aubuson, P. (2018). Mobile learning for science and mathematics school education: A systematic review of empirical evidence. *Computers & Education*. 30-58. https://doi.org/10.1007/s10798-014-9268-x

Campos Jorge & Barreto. (2021). Israel Tecnología móvil en el aprendizaje universitario. *Sophia. 17*(1) 1016.

De Pablos, P., Tennyson, R., Lytras, M. (2015). Assessing the role of Mobile technologies and distance learning in higher education. *Reino Unido: Editorial IGI Global*.

Fortunati, L., & Vincent, J. (2014). Sociological insights on the comparison of writing/reading on paper with writing/reading digitally. *Telematics and Informatics*, *31*(1), 39-51. https://www.sciencedirect.com/science/article/pii/S0736585313000087

Glackin, B. C., Rodenhiser, R. W., & Herzog, B. (2014). A library and the disciplines: A collaborative project assessing the impact of ebooks and mobile devices on student learning. *The Journal of Academic Librarianship*, *40*(3-4), 299-306. https://www.sciencedirect.com/science/article/pii/S0099133314000615

Goggin, G. (2021). *Apps: From mobile phones to digital lives*. John Wiley & Sons.

Gökçe, K. G., & Dogerlioglu, O. (2019). " Bring Your Own Device" Policies: Perspectives of Both Employees and Organizations. *Knowledge Management & E-Learning*, *11*(2), 233-246. https://eric.ed.gov/?id=EJ1245743

Grinter, R. (2015). Collaborative learning in online and offline maker spaces. *11th International Conference on Computer Supported.* https://nyuscholars.nyu.edu/en/publications/collaborative-learning-in-online-and-offline-makerspaces

Ito, M. (2020). Principios, aplicaciones y retos del aprendizaje conectado. Contextos Educativos. Revista De Educación. (26), 157–176. URL: https://doi.org/10.18172/con.3966 (data obrasheniya: 20.01.2024) Principios, aplicaciones y retos del aprendizaje conectado. *Contextos Educativos. Revista De Educación.* (26), 157–176.

Kearney, M., Burden, K., & Rai, T. (2015). Investigating teachers' adoption of signature mobile pedagogies. *Computers & Education*, *80*, 48-57. https://www.sciencedirect.com/science/article/pii/S0360131514001821

Ling, R. (2016). Mobile technologies: life after mobiles: concepts, methods, and debates. *New York, NY: Routledge*.

Mcconatha, D., Praul, M., & Lynch, M. J. (2008). Mobile learning in higher education: An empirical assessment of a new educational tool. *Turkish Online Journal of Educational Technology-TOJET*, *7*(3), 15-21. https://eric.ed.gov/?id=EJ1102943

Mirski, P. J., & Abfalter, D. (2004). Knowledge enhancement on site–guests' attitudes towards m-learning. In *ENTER,* 592-600.

Moldovan, A. N., Ghergulescu, I., & Muntean, C. (2014). Learning assessment for different categories of educational multimedia clips in a mobile learning environment. In *Society for information technology & teacher education international conference* Association for the Advancement of Computing in Education (AACE). 1687-1692. https://www.learntechlib.org/p/131015/

Oberer, B., & Erkollar, A. (2013). Mobile learning in higher education: A marketing course design project in Austria. *Procedia-Social and Behavioral Sciences*, *93*, 2125-2129. https://www.sciencedirect.com/science/article/pii/S1877042813036227

Sharples, M. (2019). Distance Learners' Use of Handheld Technologies: Mobile Learning Activity, Changing Study Habits, and the 'Place' of Anywhere Learning. *The International Review of Research in Open and Distributed Learning.* 20(2). https://doi.org/10.19173/irrodl.v20i2.4040

Sinfield, D. (2018). The Boundaries of Education: Using mobile devices for connecting people to places. https://doi.org/10.25304/rlt.v26.2121

Teichert, L. (2022). A Secret "I still have it on the iPad": Unsanctioned Digital Literacies in the Home. *Nordic Journal of Digital Literacy*, (3), 190-201. https://doi.org/10.18261/njdl.17.3.5

Traxler, J. (2009). Mobile Learning Transforming the Delivery of Education and Training. *Issues in Distance Education. AU Press.* 320.

Zhumabaeva, A. E., Stambekova, A. S., Bazarbekova, R. Zh., Nurzhanova, S. A., Zhumabayeva, Zh. A., Ospankulov, E.E. (2023). Ұлттық Қазына. Мобильное приложение. URL: https://apps.apple.com/app/ulttyq-qazyna/id6470817265 (дата обращения: 14.02.2024) Ulttyq Qazyna. Mobile app. https://apps.apple.com/app/ulttyq-qazyna/id6470817265

Zhumabaeva, A. E., Bazarbekova, R. Zh., Nurzhanova, S. A., Zhumabaeva, Zha.A. (2022). Opportunities to indoctrinate future elementary education teachers into national values by creating a mobile educational environment. Bulletin Series of Pedagogical Sciences. 1, 76.

Аверьянова, С. (2017). Мобильные технологии в системе высшего образования. Наука ЮУрГУ: материалы 69-й научной конференции. Секции экономики, управления и права. URL:https://www.researchgate.net/publication/328661871_mobilnye_tehnologii_v_sisteme_vyssego_obrazovania/citation/download

Білім берудегі мобильді технология. (2023). 7М013 Пәндік мамандандырылмаған педагогтерді даярлау бағытының 7М01301 Бастауышта оқыту педагогикасы мен әдістемесі білім беру бағдарламасы бойынша білім алушыларға арналған элективті курс. Алматы

Мобильді білім беру ортасын құру арқылы білім алушыларды ұлттық құндылыққа баулу әдістемесі. (2023). Пәндік мамандандырылмаған мұғалімдерді (педагогтерді) даярлау бағытында 6В01303 Бастауыш білім ақпараттық-коммуникациялық технологиялармен білім беру бағдарламасы (қазақ және орыс бөлімінде) бойынша білім алушыларға арналған элективті курс. Алматы (2023)

Хоменко, О. В. (2017). Реализация мобильного обучения на примере Портала мобильного контента ОмГТУ. Implementation of mobile learning using the example of the Mobile Content Portal of Omsk State Technical University

References

Baek, Y., Zhang, H., & Yun, S. (2017). Teachers' attitudes toward mobile learning in Korea. *TOJET: The Turkish Online Journal of Educational Technology*. https://scholarworks.boisestate.edu/edtech_facpubs/155/

Bano, M., Zowghi, D., Kearney, M., Schuck, S., Aubuson, P. (2018). Mobile learning for science and mathematics school education: A systematic review of empirical evidence. *Computers & Education*. 30-58. https://doi.org/10.1007/s10798-014-9268-x

Campos Jorge & Barreto. (2021). Israel Tecnología móvil en el aprendizaje universitario. *Sophia. 17*(1) 1016.

De Pablos, P., Tennyson, R., Lytras, M. (2015). Assessing the role of Mobile technologies and distance learning in higher education. *Reino Unido: Editorial IGI Global*.

Fortunati, L., & Vincent, J. (2014). Sociological insights on the comparison of writing/reading on paper with writing/reading digitally. *Telematics and Informatics*, *31*(1), 39-51. https://www.sciencedirect.com/science/article/pii/S0736585313000087

Glackin, B. C., Rodenhiser, R. W., & Herzog, B. (2014). A library and the disciplines: A collaborative project assessing the impact of ebooks and mobile devices on student learning. *The Journal of Academic Librarianship*, *40*(3-4), 299-306. https://www.sciencedirect.com/science/article/pii/S0099133314000615

Goggin, G. (2021). *Apps: From mobile phones to digital lives*. John Wiley & Sons.

Gökçe, K. G., & Dogerlioglu, O. (2019). " Bring Your Own Device" Policies: Perspectives of Both Employees and Organizations. *Knowledge Management & E-Learning*, *11*(2), 233-246. https://eric.ed.gov/?id=EJ1245743

Grinter, R. (2015). Collaborative learning in online and offline maker spaces. *11th International Conference on Computer Supported.* https://nyuscholars.nyu.edu/en/publications/collaborative-learning-in-online-and-offline-makerspaces

Ito, M. (2020). Principios, aplicaciones y retos del aprendizaje conectado. Contextos Educativos. Revista De Educación. (26), 157–176. URL: https://doi.org/10.18172/con.3966 (data obrasheniya: 20.01.2024) Principios, aplicaciones y retos del aprendizaje conectado. *Contextos Educativos. Revista De Educación.* (26), 157–176.

Kearney, M., Burden, K., & Rai, T. (2015). Investigating teachers' adoption of signature mobile pedagogies. *Computers & Education*, *80*, 48-57. https://www.sciencedirect.com/science/article/pii/S0360131514001821

Ling, R. (2016). Mobile technologies: life after mobiles: concepts, methods, and debates. *New York, NY: Routledge*.

Mcconatha, D., Praul, M., & Lynch, M. J. (2008). Mobile learning in higher education: An empirical assessment of a new educational tool. *Turkish Online Journal of Educational Technology-TOJET*, *7*(3), 15-21. https://eric.ed.gov/?id=EJ1102943

Mirski, P. J., & Abfalter, D. (2004). Knowledge enhancement on site–guests' attitudes towards m-learning. In *ENTER,* 592-600.

Moldovan, A. N., Ghergulescu, I., & Muntean, C. (2014). Learning assessment for different categories of educational multimedia clips in a mobile learning environment. In *Society for information technology & teacher education international conference* Association for the Advancement of Computing in Education (AACE). 1687-1692. https://www.learntechlib.org/p/131015/

Oberer, B., & Erkollar, A. (2013). Mobile learning in higher education: A marketing course design project in Austria. *Procedia-Social and Behavioral Sciences*, *93*, 2125-2129. https://www.sciencedirect.com/science/article/pii/S1877042813036227

Sharples, M. (2019). Distance Learners' Use of Handheld Technologies: Mobile Learning Activity, Changing Study Habits, and the 'Place' of Anywhere Learning. *The International Review of Research in Open and Distributed Learning.* 20(2). https://doi.org/10.19173/irrodl.v20i2.4040

Sinfield, D. (2018). The Boundaries of Education: Using mobile devices for connecting people to places. https://doi.org/10.25304/rlt.v26.2121

Teichert, L. (2022). A Secret "I still have it on the iPad": Unsanctioned Digital Literacies in the Home. *Nordic Journal of Digital Literacy*, (3), 190-201. https://doi.org/10.18261/njdl.17.3.5

Traxler, J. (2009). Mobile Learning Transforming the Delivery of Education and Training. *Issues in Distance Education. AU Press.* 320.

Zhumabaeva, A. E., Stambekova, A. S., Bazarbekova, R. Zh., Nurzhanova, S. A., Zhumabayeva, Zh. A., Ospankulov, E.E. (2023). Ulttyq Qazyna. Mobil'noye prilozheniye [National Treasure. Mobile application]. URL: https://apps.apple.com/app/ulttyq-qazyna/id6470817265 (data obrashcheniya: 14.02.2024) [in Kazakh].

Zhumabaeva, A. E., Bazarbekova, R. Zh., Nurzhanova, S. A., Zhumabaeva, Zha.A. (2022). Opportunities to indoctrinate future elementary education teachers into national values by creating a mobile educational environment. Bulletin Series of Pedagogical Sciences, 1, 76.

Averyanova, S. (2017). Mobil'nyye tekhnologii v sisteme vysshego obrazovaniya [Mobile technologies in the higher education system]. Nauka YuUrGU: materialy 69-y nauchnoy konferentsii. Sektsii ekonomiki, upravleniya i prava - Science of SUSU: materials of the 69th scientific conference. Sections of Economics, Management, and Law. URL: https://www.researchgate.net/publication/328661871_mobilnye_tehnologii_v_sisteme_vyssego_obrazovania/citation/download [in Russian].

Bilim berudegi mobil'di tekhnologiya [Mobile technology in education]. (2023). 7M013 Pändik mamandandyrylmağan pedagogterdi dayarlau bağytynyñ 7M01301 Bastauyshta oqytu pedagogikasy men ädistemesi bilim beru bağdarlamasy boyynsha bilim alushylarğa arnalğan elektivti kurs [Elective course for students of the educational program 7M01301 Pedagogy and methodology of primary education in the direction of training 7M013 Training of subject non-specialized teachers]. Almaty [in Kazakh].

Mobil'di bilim beru ortasyn quru arqyly bilim alushylardy ulttyq qundylyqqa baulu adistemesi [Methodology for introducing students to national values through the creation of a mobile educational environment]. (2023). Pändik mamandandyrylmağan muğalimderdi (pedagogterdi) dayarlau bağytynda 6B01303 Bastauysh bilim aqparattyq-kommunikatsiyalyq tekhnologiyalarmen bilim beru bağdarlamasy (qazaq zhäne orys böliminde) boyynsha bilim alushylarğa arnalğan elektivti kurs [Elective course for students in the direction of training subject non-specialized teachers (teachers) in the educational program 6B01303 Primary education with information and communication technologies (in Kazakh and Russian departments)]. Almaty [in Kazakh].

Khomenko, O. V. (2017). Realizatsiya mobil'nogo obucheniya na primere Portala mobil'nogo kontenta OmGTU [Implementation of mobile learning using the example of the Mobile Content Portal of Omsk State Technical University] [in Russian].

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ASSESSMENT OF COLLEGE TEACHERS' PROFESSIONAL COMPETENCIES IN ACCORDANCE WITH PROFESSIONAL STANDARDS: A CASE STUDY FROM KAZAKHSTAN

Abstract

The article presents the results of a study aimed at evaluating the alignment of college teachers' professional competencies with the Teacher Professional Standard requirements. The research objective was to analyze the current competency levels among college teachers and develop recommendations for their further professional development. This study involved teachers from pedagogical colleges in Kazakhstan and focused on a comparative analysis of data based on indicators such as education levels, urban/rural location, and language of instruction. A quantitative research method was employed for the assessment of teachers. A closed-ended questionnaire, developed based on the competency framework of the Professional Teacher Standard, utilized responses on a