Формирование иноязычных компетенций будущих специалистов индустрии туризма средствами мобильных технологий

Проблема и цель. Владение иностранным языком является неотъемлемой частью профессиональной компетенции работника туристической отрасли. Для повышения качества иноязычной подготовки будущего специалиста по туризму в высшей школе применяются различные инновационные средства и методы. Однако, использование их на практике требует учёта специфики туристической деятельности и направлений развития международного туризма. Цель исследования – изучить особенности формирования иноязычных компетенций будущих специалистов индустрии туризма на основе мобильных технологий.

Методы исследования. Применяется анализ потенциала мобильных технологий, проблем их внедрения в иноязычную подготовку специалистов по организации туристских услуг. При разработке системы заданий учитываются положения профессионального стандарта специалиста туристской отрасли, стратегии развития туризма в России. Мобильные приложения разрабатываются на платформе iBuildApp. Используются эмпирические методы (тестирование, анализ результатов работы с мобильными приложениями). В исследовании задействованы 60 студентов Вятского государственного университета (Российская Федерация). Профиль подготовки: Технология и организация туроператорских и турагентских услуг (уровень – бакалавриат). В эксперименте для обработки результатов применяется статистический критерий φ-Фишера.

Результаты. Обучающиеся экспериментальной группы вовлечены в деятельность по проектированию мультимедийных мобильных приложений в рамках систематической работы при изучении дисциплин «Современные информационные технологии», «Цифровые технологии в туризме», «Иностранный язык». Студенты планируют маршрут для тура, работают в группах над проектом, применяют мобильные решения на учебной, производственной, проектно-технологической практике. Выявлены статистически достоверные различия между экспериментальной и контрольной группами по уровню иноязычной компетентности (φкрит = 1,64 < φэмп = 2,912).

Заключение. Сформулированы выводы о положительных (возможности коллаборации и проектной деятельности, оптимизация затрат, инновационный опыт) и негативных (зависимость от зарубежных программных решений, высокая стоимость, технические сбои оборудования и Интернета в удалённых районах и т.п.) аспектах влияния m-learning на качество иноязычной подготовки специалистов по туризму.

Ключевые слова: мобильное обучение, профессиональная иноязычная коммуникация, цифровое общество, travel-приложение, туристическая деятельность, iBuildApp

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Formation of foreign language competences of future tourism industry specialists by means of mobile technologies

The problem and the aim of the study. Foreign language proficiency is an integral part of the professional competence of an employee of the tourism industry. Various innovative means are used to improve the quality of foreign language training of a future tourism specialist in higher education institutions. However, their use in practice requires taking into account the specifics of tourism activities and directions of development tourism in the world. The purpose of the study is to study the features of formation of foreign language competences of future specialists in the tourism industry based on mobile technologies.

Research methods. The analysis of the potential of mobile technologies, the problems of their implementation in the foreign language training of specialists who specialize in organization of tourist services is applied. When developing a system of tasks, the provisions of the professional standard of a specialist in the tourism industry, the strategy for the development of tourism in Russia are taken into account. Mobile applications are developed on the iBuildApp platform. Empirical methods (testing, analysis of the results of working with mobile applications) are used. The study involved 60 students of the Vyatka State University (Russian Federation). Training program specialization: Technology and organization of tour operator and travel agency services (level – bachelor's degree). Φ-Fisher’s criterion is used to process the results of the experiment.

Results. The students of the experimental group are involved in the design of multilingual mobile applications as part of the systematic work when studying the disciplines “Modern information technologies”, “Digital technologies in tourism”, “Foreign language”. Students plan a route for a tour, work in groups on a project, use mobile solutions in educational, industrial, design-technological practice. Statistically significant differences between the experimental and control groups in terms of the level of foreign language competence were revealed ($\phi_{crit}=1.64<\phi_{emp}=2.912$).

In conclusion findings about the positive (opportunities for collaboration and project activities, cost optimization, innovative experience) and negative (dependence on foreign software solutions, high cost, technical failures of equipment and the Internet in remote areas, etc.) aspects of the impact of m-learning on the quality of foreign language training of tourism specialists are described.

Keywords: mobile learning, professional foreign language communication, digital society, travel application, tourism activities, iBuildApp

For Reference:
Introduction

The relevance of the presented study is due to the following factors:

1. The UNESCO Recommendations – international rules in the field of education determine that mobile technologies can significantly expand and improve didactic opportunities for vocational training in a variety of conditions [1].

2. In the Russian education system the requirements for the level of formation of graduates' competences in the field of tourism, organization of excursion services are formulated in the provisions of the federal state educational standards of higher professional education [2]. The leading criterion for quality training is a set of formed competences of a specialist in the tourism industry: readiness for knowledge, social and communication skills, tolerance, mastery of foreign languages, which allowing to effectively use them in situations of professional activity.

These provisions largely coincide with the recommendations of UNESCO, and determine the priority areas that guide innovative teachers in the preparation of work programs and training modules for university students [3]. In particular, according to the requirements for the results of mastering the undergraduate program, the future specialist in the tourism industry must be able to apply technological innovations and modern software in the tourism sector.

3. The strategy for the development of tourism in Russia for the period up to 2035 determines that the growth of competitiveness and the disclosure of the potential of the country’s tourism product will be facilitated by: increasing the level of service, developing the language training of workers in the field of tourism; achieving the level of world leaders in the development of digital infrastructure and services, the development of digital platforms for the promotion of tourism products and brands, digital navigation tools and the formation of a tourism product [4].

In order to achieve these requirements and priorities, various events are held aimed at integrating the achievements of science and technology, in particular, Intelligent Travel Marketing congresses, international forums "Tourism: Science and Education", all-Russian forums "Student tourism". C. Lee et al. note the need for a comprehensive study of the impact of ICT both on the development of tourism in different countries and on training of specialists in the tourism services industry [5].

According to V. S. Volodchenko, D. S. Lantsova, T. A. Mironova, a specialist in the field of tourism should be able to apply in practice the most modern methods and methods to familiarize a foreign visitor with their region, to provide versatile, objective and up-to-date information, including the means of new information technologies [6]. There are also objective methodological difficulties: what kind of software and mobile applications to use when teaching a foreign language to tourism industry specialists; what options of mobile technologies to offer students for independent work [9]. In addition, recommendations on how to use mobile technologies and m-learning resources in foreign language learning to improve the quality of the formation of a tourist product are not sufficiently elaborated.

Thus, there is a need for additional research into the peculiarities of organizing foreign language activities of students when working with mobile applications in the process of organizing and providing tourist services.
So, the purpose of the work is to study the features of the formation of foreign language competences of future specialists in the tourism industry by means of mobile technologies. The hypothesis of the study is that the inclusion of blocks/modules in the content of foreign language training of specialists for the tourism industry so that students can gain experience in the application and design of specialized mobile technologies will provide additional conditions for the development of in-demand professional foreign language competences and soft skills (foreign language communication, project activities, teamwork, skills management, foresight thinking, ability to solve problems, self-presentation and presentation of business projects, etc.).

Materials and methods

The following methods were used in the work: theoretical analysis and generalization of literature when identifying the problems and prospects of m-learning, when describing the potential of mobile technologies for higher education to support UNESCO initiatives, when clarifying the features of m-learning in foreign language training of tourism specialists.

The provisions of the professional standard for a specialist in the organization and provision of tourist services, the strategy for the development of tourism in Russia were taken into account when developing a system of training tasks based on m-learning.

Mobile applications that are used in higher education and foreign language training of specialists in the tourism industry were analyzed. The study used various mobile solutions for the travel industry: voice search, smart digital/voice control, face recognition, tablet monitoring, mobile concierge, video chat.

In addition, the functionality and potential opportunities for tourism development of the following m-learning support software were studied: Quizlet, Pinterest, Survio.com, Couchsurfing, Aviasales, Momondo, Trivago, Tripster, iizi.TRAVEL. iBuildApp, Apps Tech Global, Appery.io, MIT App Inventor were analyzed to design own mobile application.

The following criteria were used as criteria for analyzing the means for designing own mobile application with support for foreign language communication: possibility to work in several foreign languages, the type of resource (application/platform), financial basis (paid/free), functionality (taking into account the specifics of the work of a specialist in tourism), interface and design, existing experience of using a mobile application in practice. Based on analytical work, the iBuildApp tool was chosen as a simple and intuitive platform for creating mobile applications with a large collection of templates, including those for organizing and providing tourism services. For example, Apps Tech Global is a relatively inexpensive platform, but creating mobile applications can be difficult and take time to understand how it works, as well as to contact technical support.

The base of the experiment is Vyatka State University, Institute of Economics and Management, Faculty of Management and Service. The study involved 60 students, future specialists in the tourism industry; they studied the disciplines "Modern information technologies", "Digital technologies in tourism", "Foreign language". The students of the training program 43.03.02 Tourism, training program specialization: Technology and organization of tour operator and travel agency services (bachelor's degree level) were involved in the experiment. In addition, the students applied the acquired knowledge and skills on the use of mobile applications for the design and promotion of tourism services during the educational (introductory), industrial, design-technological practice.
To assess the input conditions the author's test was used: "Professional foreign language communication in the organization of tour operator services" (100 points). Its structure includes questions on vocabulary and grammar, foreign language communication in the network, solving the problems of professional communication in a foreign language. The test contains only closed type tasks: choose one answer option (multiple choices; radio-button); choose several answers – put a tick, one or several answers can be correct and others.

The average age of the respondents was 20 (50% female and 50% male).

As a result of the initial testing each student scored from 0 to 100 points. The control test was assessed "credit" or "no credit". The grade "credit" was given if the student scored more than 61 points. Otherwise, the student got the grade "no credit".

Statistical processing of the results of the study was performed using the Fisher criterion.

**Literature review**

The problem of training and professional development of future specialists in the tourism industry is reflected in numerous foreign and domestic studies.

Basing on the data S. Leite et al. prove that knowledge of a foreign language is a necessary requirement for a highly qualified specialist in the tourism industry [7]. According to their conclusions, the main goal of implementing practice-oriented foreign language training of future specialists in the tourism field is to achieve the level of readiness for professional foreign language communication necessary for the implementation of labor functions by forming components of students' foreign language competence.

D. K. Maduku analyzes various factors that affect effectiveness of a mobile application in the field of tourism: support from municipal and state authorities, marketing campaign, financial resources, environmental and epidemiological situation, etc. [8]. One of the most effective marketing ideas is the possibility to connect booking to the hotel's official website or mobile application. The output is a mobile guest identification technology using push notifications from the operator. This mobile solution allows to automatically enter passport data into the management system. The porter only compares data and checks in the guest. Scientists have calculated that for checking in one guest there is a time saving of about 30 seconds.

S. Ammirato et al. prove that digitalization has had a huge impact on the cultural tourism sector on the example of experimental data (both demand and supply) [9]. The authors point out that, on the one hand, advances in digital technologies have provided tourists with new mobile services that enhance intercultural communication, but, on the other hand, they have become catalysts for the development of new business models for the economy. The scientists describe the key characteristics of mobile technologies for cultural tourism and analyze the range of service offerings based on mobile applications in this sector.

For example, they describe schemes in various mobile applications that allow to book a room (Airbnb, Booking.Com, and Priceline). They also presented the experience of using smart numbers with voice control, smart security systems and face recognition. In these cases using cloud storage, hoteliers collect information about the client and “set up” the rooms for every client in advance.

S. H. Cassel, M. Thulemark, T. Duncan analyze the factors influencing the professional development and career in the field of tourism on the example of Sweden [10]. Scientists...
analyze international data and come to the conclusion that asymmetric and non-linear relationships are possible between many variables (the level of socio-economic development, geographical location, ecology, scientific and technological progress, etc.). However, as the authors note, for a successful career it is necessary to be aware of the features of the communication process, to master the techniques of verbal and non-verbal communication, communication strategies and communication competence, including the ability to use a foreign language to achieve professionally significant goals.

S. H. Cassel, M. Thulemark, T. Duncan conclude that in today's global society a highly qualified specialist in any sector of the domestic economy must be able to work with Internet information resources, and this, in turn, implies the obligatory knowledge of a foreign language, especially English [10].

Y. Tongpaeng et al. explore the features of the development of the tourism sector in Thailand [11]. The authors point out that Thailand has a whole range of conditions (climatic, cultural, historical, labor) that contribute to the effective development of tourism in the country. But at the same time IT-technologies are underdeveloped. According to the scientists, this factor negatively affects the tourist attractiveness of the region. Improving the training of specialists for the tourism industry should include a significant practical component, which justifies the need for using forms and methods of active and interactive learning, as well as increasing the share of students' practical work. The authors emphasize the importance of using smart technologies when training specialists in tourism.

Smart Education is a concept that involves a comprehensive modernization of all educational processes, as well as methods and technologies used in these processes, which allows a new way to build the process of content development, delivery and updating [12].

According to the conclusions of M. Mazurek, smart technologies provide online learning in informal setting, distance interaction, and mobile education. In general, smart education is an educational paradigm that involves the adaptive implementation of the educational process, which is possible through the use of information smart technologies [13].

A. Basir et al. note that in relation to tourism smart technologies allow cultural objects and events to make their offers more convenient/accessible and, thus, increase attractiveness for users. This definition of Smart tourism emphasizes the acquisition of additional value of tourist services for the consumer through the use of smart technologies. An obligatory element is the use of advanced information tools and applications. In their study the authors describe the possibilities of augmented reality and related software solutions for the development of the tourism sector as part of a single state concept [14].

V. N. Aniskin, A. L. Busygina, E. V. Zamara indicate that in order to ensure the quality training of domestic tourism specialists in the digital economy it is necessary to include blocks/modules for students to learn how to use specialized mobile technologies [15]. The scientists come to reasonable conclusions that effectiveness of professional activities of managers of tourist services depends on the intensity of the use of computer ICT and automated accounting systems. In addition, the authors conclude that a highly qualified specialist in the tourism industry should actively use mobile applications, both individually and in conjunction with other information and communication technologies, to organize and provide tourism services regardless of place and time.

The general conditions for effective mobile learning (m-learning) in secondary and higher education are presented in the work of N. Ya. Golykh, N. N. Lopatkin, I. S. Kudinov [16]. For example, the following issues of changing the content of training tourism specialists in the new digital learning space are problematic:
what new information technologies (AR/VR, artificial intelligence, m-learning) should be used to solve theoretical and practical problems in accordance with the professional standard;
how to take into account the systemic, interdisciplinary and meta-subject nature of organization activities and provision of tourist services;
how to optimize the process of mastering new, in particular, mobile technology when teaching a foreign language.

D. Bukin offers his own version of the effective use of mobile educational resources when teaching foreign languages. He points out that in order to get the most out of m-learning educators need to know how and when to best include appropriate tools and applications in the curriculum. The main thing is not to consider mobile devices as a replacement for educational materials, but rather as an additional tool that complements traditional educational materials [17].

For example, E. V. Soboleva et al. showed that games and game-like elements are powerful tools that can be used to focus on learning [18]. The creation of mobile applications for language learning has led to the gamification of this sector: prizes, flash cards and other game features make learning a language informal.

S. V. Titova notes that the use of mobile technologies in education is associated with the possibility of simple and universal access to smartphones, tablets and laptops [19]. The author points out that the use of mobile technologies and m-learning can increase the didactic potential of teaching aids for various academic disciplines, including a foreign language.

I. G. Pavelyev et al. define that mobile technologies are a way of interaction between students and teachers, with the help of which they can get quick access to materials for study, projects, research [20].

T. I. Spatar-Kozachenko, O. V. Morozan, N. S. Petrienko also substantiate that m-learning involves a qualitatively new format for presenting, transmitting content with the possibility to view it offline [21].

V. S. Volodchenko, D. S. Lantsova, T. A. Mironova indicate that a mobile application in the field of tourism implies such content and functionality that is used to be in touch with customers, coordinate any situations remotely, as quickly as possible respond to problematic questions and comments, offer last-minute trips and tours [6]. A mobile application for organizing and providing tourist services is also a specific software product, the functionality and design of which is "sharpened" for the possibility of application in a particular region. They analyze mobile applications for digitizing exhibits and using social networks, in aggregator platforms, for collaboration with media personalities, and for creating a community based on museums. The authors describe the experience of the tourist IT platform "My Sevastopol" as an example of digitalization of the tourism industry. Also, the scientists have identified the potential of online platforms for the implementation of tourism services in relevant areas in conditions of closed borders.

However, as it is shown by T. I. Spatar-Kozachenko, O. V. Morozan, N. S. Petrienko, there are practical difficulties when implementing the identified potential possibilities and functions of mobile learning in practice of preparing future tourism specialists [21]. They include the insufficient level of formation of foreign language competence. There is an objective need for a higher school teacher to change the entire methodological system of teaching a foreign language [22].
Indeed, thinking over a system of tasks based on mobile applications in the foreign language training of tourism specialists should include:

1) the stage of understanding and choosing digital resources that best meets the goals of learning a foreign language in higher education;

2) labor functions included in their professional standard, and directions of the tourism development strategy in Russia [23]. For example, when working with customer orders for forming excursion (tourist) groups, there are special conditions for admission to work – knowledge of a foreign language, confident foreign language communication to determine and analyze the needs of the customer, etc.

Thus, it is required to perform a set of works on organizing the interface of the mobile application, orienting its content both to the goals of foreign language education and to the specific features of the future professional activity [24].

A foreign-language educational environment based on mobile devices should not only help achieve the priorities of the tourism development strategy in Russia, but be personal-oriented and take into account the needs of both tourism managers, tour operators, travel agents, guides, hotel administrators, and consumers of their services.

Research program

The main goal of the experiment was to test the effectiveness of using mobile technologies when training specialists in the tourism industry for development of in-demand professional foreign language competences and soft skills (intercultural communication, project activities, teamwork, management skills, foresight thinking, problem solving, self-presentation and business presentation, etc.). At the preparatory stage of the experiment the teacher analyzed the modern achievements of science and technology regarding the potential of mobile devices, applications for foreign language teaching at the university. It was also revealed that mobile applications have didactic potential for training tourism industry employees and forming foreign language competences.

It was determined that the specific labor functions of the specialist in organization and provision of tourist services, implementation of which is possible with the support of mobile applications, include: assistance to clients in choosing and designing tours, provision of tourist services (excursions, ordering a car, booking, obtaining a visa, insurance and etc.), information support, quick response in emergency situations.

In order to implement the findings when training specialists in tourism it was decided to study in detail the tools of Quizlet, Pinterest, Survio.com, Couchsurfing, Aviasales, Momondo, Trivago, Tripster, iZi.TRAVEL, iBuildApp, Apps Tech Global, Appery.io, MIT App Inventor. These applications can be used at lectures, seminars, workshops, consultations when teaching "Modern Information Technologies", "Digital Technologies in Tourism", "Foreign Language".

To assess the input conditions the authors' test was used: "Professional foreign language communication in the organization of tour operator services" (100 points). Examples of assignments on the basics of tourism activities:

1. From the proposed factors for the development of tourism choose those that influence the formation of domestic demand. The factors are written in a foreign language.

2. Fill in the blanks: "There are only ___ museums dedicated to Tsiolkovsky in Russia. Here you can meet with the explorers of space and the creators of spaceships, call into orbit and
get first-hand answers about space. Now the ___ in Russia the space center is being built in our city. On the ___ floor there will be ___ amazing halls: "Young Cosmonauts Club" – a training complex for 23 ___. The children in these classes, sitting at their desks, will be able to _____ spaceflight. There will also be a space power apparatus, ______ in Russia.”

Examples of tasks on the use of digital technologies in foreign language communication and tourism activities.

1. Select which of the following is NOT related to the benefits of e-sales in tourism for consumers: quick access to a variety of information; possibility to compare prices and conditions of various international companies; promotion of goods and orientation to the consumer; receiving additional discounts, bonuses for online booking.

2. The term online booking applies to: hotel bookings; to air, railway and bus tickets; to booking seats in restaurants, theaters.

3. A company-tour operator needs a bus for excursions. It is planned to organize excursions every seven tour days. The planned mileage for the year is 10,000 km. The travel company may use third-party transport. At the same time, the cost of one kilometer run is $ 23. If you purchase a bus for ownership, then the overhead (fixed) costs will be $ 5,000. The main variable costs will be $12 per kilometer. It is required to choose the most effective option from the proposed ones.

An example of a task on the use of mobile applications in the field of tourism: compare values, i.e. for each option from the first column (mobile applications with the possibility of foreign language communication), you must specify the corresponding option from the second (support for the implementation of specific work functions).

The study involved 60 students, they studied the courses "Modern information technologies", "Digital technologies in tourism", "Foreign language". The training program is 43.03.02 Tourism, the training program specialization is Technology and organization of tour operator and travel agency services (level - bachelor's degree).

The bases of practice are: travel companies, the company "TourAgent", hotel and restaurant businesses in Kirov. The study was conducted in 2020-2021. The average age of the respondents was 20 (50% female and 50% male).

As a result of the initial testing each student scored from 0 to 100 points. The performance of the control test was assessed by the grade "credit" or "no credit". The grade "credit" was given if the student scored more than 61 points. Otherwise, the work was assessed as "no credit".

The control (30 students) and experimental (30 students) groups were formed based on the materials of the conducted testing.

The second stage of the study was devoted to determining the options for using mobile tools, applications for foreign language professionally oriented communication in the tourism industry: foreign language speech skills, meeting the needs of tourists in sociocultural and tourist services, operational knowledge (standards and procedures, protocols and etiquette in organizing activities), as well as the cultural aspect. At this stage the mobile application was chosen, the resources of which can be used in the process of teaching intercultural professional communication of future tourism industry specialists based on the competence-based approach.

The third stage of the study covers experiment teaching and using mobile applications when training to form the professional foreign language competence of students.
Research results

Let us clarify the basic concepts. Summarizing the above definitions, we can conclude that mobile learning (m-learning) involves the transfer of data to a mobile device using WAP or GPRS technologies, Wi-Fi and 3G. Any device capable of receiving, storing and transmitting information can be used as a carrier. The main difference between mobile learning and electronic learning is that communications and information exchange take place in a wireless network.

Mobile learning in the context of training tourism specialists is considered [25]:
- as a means to achieve the goals of the current federal state educational standards of higher education, bachelor degree training program specialization "Technology and organization of tour operator and travel agency services";
- as an important condition for preparing a student for life and professional activity in the digital society.

Mobile technologies in the field of tourism are a set of methods and tools that allow users/travelers to plan and implement active independent tours, enter from several devices, compare prices, implement mobile search, form a route, search for information, etc.

A multilingual mobile application is a program that works in several languages [26]. A multilingual mobile application for a specialist in the organization and provision of tourist services is a guide, catalog, brochure, electronic guide, audio guide, online booking service, automatic payment systems, tools for "sanitag" (sanitization confirmation) for luggage, self-service kiosks touchscreen registration.

As part the discipline "Modern Information Technologies" – the first-year students studied m-learning support software tools related to training of tourism industry specialists: Quizlet, Pinterest, Survio.com, Couchsurfing, Aviasales, Momondo, Trivago, Tripster, izi.TRAVEL, iBuildApp, Apps Tech Global, Appery.io, MIT App Inventor. Functionality, advantages and disadvantages were considered in detail in the context of the labor functions of specialists in the organization and provision of tourist services.

Further, based on the objective analysis according to the criteria formulated earlier, it was decided to use the iBuildApp platform to design and develop own mobile application. Platform advantages:
1. Blocks for editing are intuitive for everyone, no programming knowledge is required during operation.
2. All information for creating the application is presented in both English and Russian.
3. New content can be added even after the app has been published, without updating it.
4. There is no built-in advertising. The free trial period is 15 days.
5. The key advantages include the fact that in ready-made mobile solutions you can change the structure and design, use own images.

In the second year for design and development of multilingual mobile applications when studying the discipline "Digital Technologies in Tourism", taking into account the specifics of tourism activities, the following system of classes was implemented:

Lesson 1. Analysis of mobile applications (Russian and international companies) focused on provision of international travel services. The goal is to identify the main trends in travel technologies of the post-coronavirus era.
In particular, it was revealed that among mobile applications in the field of tourism, the most popular services are the purchase of air and railway tickets, cartographic applications with support for offline maps, guides and directories containing information on various objects (museums, theaters, restaurants, etc.).

When choosing an application, tourists are often guided by the following criteria: paid / free; the possibility to add a review (recommendation, photos, assessment of local cuisine, impressions about the destination for other travelers about these objects); support for multiple languages.

It is necessary to explain the last criterion giving a specific example. In 2019 a British travel blogger came to the Kirov region and filmed a video blog. Traveling through Murygino, Vyatka villages, he noted that his tourist services in Russia are working intermittently. The blogger with the help of voluntary guides (local residents) installed Maps me, Trivago, Public Transport Monitoring, 2GIS, Edadil, and others. However, some of them had only the Russian-language interface.

In particular, in Vyatka, a travel blogger used the Legends of Old Vyatka app. This is an electronic guide to the cultural sights of the city of Kirov and the Kirov region. The application allows to walk along the routes compiled by professional guides. Each route describes a separate topic, for example, you can visit the Orthodox churches of the city or plunge into the world of pre-revolutionary merchants.

For each attraction mentioned in the guide the traveler will receive an interesting historical background, you can see current and archival images, as well as listen to thematic audio.

The application allows to locally save your favorite routes at any time. An internet connection is not required during the walk. You just need to download the desired tour in advance. In the description of some temples you can listen to the sound of their bells.

The main inconvenience is that when you switch to the map, the names of excursion objects are not displayed. A return to the previous page of the tour can only be done through the main page of the guide. The application is only available for Android operating systems.

Thus, the performed analysis allowed the students of the experimental group to understand the objective need to develop their own multilingual mobile application.

**Lesson 2.** The analysis of requests and possibilities of the tourism industry in the city of Kirov and the Kirov region. The goal is to identify the main competitive advantages of the Kirov region (Vyatka, Vyatka land) over other regions of Russia.

Based on the results of this lesson, a route was drawn up for the projected multilingual mobile application: the Dymkovo Toy Museum, the park named after Kirov, Hilton Hotel (travel information agency), Ice Cream Museum, Chocolate Museum, Spasskaya Street, Vyatka River Embankment, monument to Alexander Grin, Alexander Park, monument to Saints Peter and Fevronia of Murom, Uspensky Trifonov Monastery, St. Seraphim Cathedral, Toy Factory in Kirov, Museum of Railway Transport, Children's Technopark "Quantorium", Theater Square, Drama Theater named after S.M. Kirov.

**Lesson 3.** Comparison of the results of the analytical activities of the two previous stages. Division into teams to create a "prototype" of a multilingual mobile application.

**Lesson 4.** Work in the software environment to create a multilingual mobile application. The interaction of specialists who organize and provide tourist services using mobile devices is considered as the intellectually directed and cognitive activity, taking into account the specific features of future work and the direction of the tourism development strategy in Russia.
Next, it is necessary to describe the implementation of mobile training for specialists in the organization and provision of tourist services.

Acquaintance with the iBuildApp platform in the lessons in the experimental group began with the choice of a ready-made template. To do this in the "Product" group the "Templates" button was used, the category was selected in the corresponding side of the page. Ready-made iBuildApp templates most often contained a minimum number of buttons.

In order to create own template the user needs to move the mouse cursor to the upper right corner of the screen and then to the small pop-up menu arrow, which is located under the account name.

Further the user edited the name of the application, its structure and design in iBuildApp. At this stage the elements of the main screen, menu and bottom panel (widgets) were changed. The possibility of the iBuildApp platform is that it is possible to add non-standard "widgets" for the selected template. When changing the design, it was possible to create own logo, background image.

For example, if the user of iBuildApp clicked on the image of the module, then it was immediately prompted to download the image. All data that can be changed is on the right side. The user has the possibility to change the width and height of the image, its location on the screen.

It is necessary to click on the "Apply" button after editing one or another component of the iBuildApp template is finished.

The user can configure additional options for this button: change the name displayed on the main screen; button color, button title location. Various fonts and colors are available. This allows the user to create exactly the button that the iBuildApp application format requires.

Testing and correcting the performance of the iBuildApp mobile application on the phone is obligatory.

Lesson 5. Defending the project and presenting a new travel application.

The selection and filling of the content of the multilingual mobile application was implemented by the students of the experimental group when studying the discipline "Foreign Language".

As part of the discipline "Tourism industry, technology of activities of tourism industry enterprises" students studied the theoretical foundations for creating a competitive innovative tourism product, organizing work at tourism industry enterprises.

The logic of work is the following.

1. During the lecture and independent work students must draw up documents containing information in Russian and English: the name of the city, main streets, squares, parks; main attractions; important institutions and enterprises.

2. Using the prepared material in the foreign language, the students of the experimental group made up an excursion route and briefly talked about it.

Route plan: Introduction, Development of the city center, Social development of the city, Architectural appearance of Kirov, Religious architecture, Guests of the city - famous people of Russia, Famous countrymen, Conclusion.

An example of one of the presentations:

"Vyatka is the land which is harsh and kind!
The land where the soul loughs and cries!
The land where there are no seas and mountains!
But, my God, how marvelous she is!"
Description of the story: On September 1, 2014, a two-storied museum of the history of chocolate was opened in Kirov. The idea of its creation came to Ksenia Larina, daughter of Valery Krepoostnov, Kirov deputy of the Legislative Assembly. The museum is located in the historical part of the city, next to the Theater on Spasskaya street.

The Criollo chocolate factory offers exquisite handmade sweets, unusual patterned chocolate, exclusive chocolate, original gifts and souvenirs.

The factory continues the traditions of the famous Vyatka chocolatier S.O. Yakubovsky. It embodies in its products his best recipes and delights of chocolate art, using only high-quality Belgian raw materials.

The factory organizes: excursions for adults, children and group excursions with professional guides; fun chocolate games and lots of master classes.

Control questions: How did the museum get its name?
Answer: The Museum of the History of Chocolate "Criollo" got its name thanks to the variety of cocoa beans of the same name. By the way, criollo is the same variety of cocoa beans that was used by the Indians of pre-Columbian America, and all other varieties were bred later on its basis.

What other buildings are located in Spasskaya street? (The Theater of the Young Spectators or "Theater in Spasskaya", the building of the Vyatka male gymnasium, the building of the Leninsky district court and others).

What other names of the city of Kirov exist? (Khlynov, Vyatka).
In addition to the tour 4 tastings are provided. First, three classic types of chocolate are tasted, after which they offer to evaluate how spicy the foamy drink of the Indians "chocoatl" was – Montezuma's favorite drink.

Questions on vocabulary that can be asked during classes:
Make up a list of phrasal verbs connected with nouns “museum”. What adjectives can go with “museum”? What collocations can be used with “museum”?

Questions on grammar: How is the Passive Voice formed? When is it used? Make up sentences about Kirov Museum to illustrate your answers.

Control questions: list 10 famous Indian tribes (Sioux, Maya, etc.).
Which of the artistic authors dedicated their works to Montezuma? (Henry Rider Haggard).
Guests of the city: Alexander Herzen, Joseph Stalin, Mikhail Saltykov-Shchedrin, Alexander Vitberg and others.

Task: make up a table indicating a famous person, his/her photograph and an interesting fact.

Questions on vocabulary: Make up a list of phrasal verbs connected with nouns “writer” and “politician”. What collocations can be used with the verb “contribute”? What adjectives can go with nouns “writer” and “politician”

Questions on grammar: What grammar tense is used to talk about lives of people who died? Make up sentences about Alexander Herzen, Joseph Stalin, Mikhail Saltykov-Shchedrin, Alexander Vitberg.

Famous countrymen: Arseny Pavlovich Churilin, Konstantin Bushuev, Maxim Ivanovich Goretsky, Leonid Andreevich Petukhov and others.

Questions on vocabulary: Make up a list of phrasal verbs connected with nouns “countryman”. What collocations can be used with the noun “countryman”? What adjectives can go with noun “countryman”?

Questions on grammar: What are the degrees of comparison? When are they used? Give examples. Make up sentences and compare what famous countrymen did to illustrate your answers.
An example of one of the conclusions:

“We walked through the streets and squares,
Visited parks and gardens,
Love for the native land has no half measures,
Here the Vyatka waters can cure from sadness.”

Task: Describe the weather during the trip.
For example, we were lucky (unlucky) to have _____the weather.
Clue words: cloudy, sunny, cold, warm, windy, rainy, hot.
Or another task: "express your attitude to the trip: I liked my trip because ".

After that the participants of the experimental group in the course of various types of practices (educational (introductory), design and technological) carried out the design and development of their own mobile travel application.

For example, with the support of the tourist information center, the application "A long walk around the Kirov region" was developed.

The project is aimed at children aged 5-6 to get acquainted with the region, with its sights, history, nature, and, of course, countrymen.

At the heart of the application there is a bright colorful field-map, on which points are marked: all Vyatka cities and regional centers; roads and rivers; attractions, unusual natural places, monuments, nationalities, heroes, events.

All these are summarized in a special guide book.

For the travel agency "Vyatka-Tour" mobile applications "Calendar of events of the Kirov region", "Heritage of Khlynov" (a guide to folk art crafts in Russia and Vyatka), a resource for the hotel complex "Vyatka" were created. Also the students presented digital sightseeing tours of the city of Kirov, audio guides along the routes "Vyatka merchant", "Weekend tour", "Orthodox holy places", "Streets of Kirov", etc. Information brochures were also developed for special children/family excursions and quests – “Following the footsteps of Herzen”, “At the beginning of Vyatka”, “Mysteries of Lenina street”.

Based on the results of using the designed multilingual mobile applications in real tourism activities, the participants in the experiment determined the typology of travelers:

Type 1 of tourists – "functionalist". This type includes travelers who seek to fill the phone with a large number of mobile applications. They highly appreciate such characteristics of the phone as the presence of a camera, an MP3 player, and pay attention to the multilingual nature of software solutions.

Type 2 of tourists – "practical". Travelers belonging to this group assign high priority to the quality of tourist services in a foreign language, the level of foreign language proficiency, and the attractiveness of the operator's special offers for international tourists.

Type 3 of tourists – "esthete". They give great importance to the appearance of a multilingual mobile application for tourism. Travelers of this type evaluate the structure and design, the correspondence between the content and the real route.

Type 4 of tourists – "unpretentious". Representatives of this type are distinguished by lower importance scores for all parameters. They install the application just to make a trip (buy a ticket, book a hotel, find attractions). Other functions for them are not important.

Students in the control group studied the following topics:

1. City. Description of interesting places, sights, direction of movement, use of Simple and Continuous tenses. Articles (4 hours).
2. Travel, transport. Second conditional (4 hours).
4. History of the country and city. Significant dates. Perfect and Perdeect Continuous
tenses (6 hours).

connection (6 hours).

Thus, the teacher conducted a series of lectures and seminars with the support of
multimedia presentations and Internet information resources.

However, the study and subsequent application of multilingual mobile technologies for
tourism activities in the control group was not conducted.

After studying the platform for developing mobile applications, designing and filling a
multilingual resource, another test was carried out. The questions for the test were designed
in accordance with the principles described earlier. Information about the test results before
and after the experiment is presented in table 1.

The reliability of the obtained results was verified using the Fisher angular transformation
(Fisher criterion) using the online calculator (https://www.psychol-ok.ru/statistics/fisher/).

| Table 1 |
| Measurement results at the beginning and end of the experiment |
| Before the experiment | After the experiment |
| Control group | Experimental group | Control group | Experimental group |
| Percentage of students who failed the test | 80% (24) | 83,3% (25) | 66,7% (20) | 30% (9) |
| Percentage of students who passed the test | 20% (6) | 16,7% (5) | 33,3% (10) | 70% (21) |

The critical value of the Fisher criterion for a significance level of 0.05 (φ_{crit}) is 1.64. The
hypotheses were accepted: H0 – the level of formation of foreign language competence in
the experimental group is statistically equal to the level of the control group; H1 – the level
of formation of professional foreign language competence of students in the experimental
group is higher than the level of the control group. The empirical value of the Fisher criterion
before the start of the experiment is 0.329 (φ_{emp}=0.329<φ_{crit}=1.64). Therefore, before the
start of the experiment, the hypothesis H0 is accepted. The value of the Fisher criterion
after the experiment is 2.912 (φ_{crit}=1.64<φ_{emp}=2.912), so the hypothesis H0 is rejected and
H1 is accepted.

Discussion

During the discussion the participants of the experiment highlighted the positive aspects
of the impact of m-learning on the quality of foreign language training of specialists in the
field of tourism:

• contribution to students' understanding of the circumstances that the mobile
economy is the most important part of the digitalization of society. The introduction
of innovations, in particular in the tourism industry, is an integral element of
successful professional activity in the context of the Strategy for the development of
tourism in Russia;

• mobile technologies support the development of intercultural communication and
polycentrism in society;

• there are additional possibilities to send large amounts of information to anywhere
in the world within a few seconds, which is especially important for solving the problems of organizing and providing tourist services;
- there are new opportunities to work on one project, i.e. minimization of costs when running a tourism business;
- the future specialist gains practical experience when working with “touchless” technologies in tourism;
- there is an increase in the tourist attractiveness of the region for foreign travelers.

The participants of the experiment related the following factors to the negative aspects of the influence of m-learning on the quality of foreign language training of specialists in the field of tourism:
- mobile technologies lead to a reduction in jobs in the tourism industry, because not only job seekers, but also graduates who have already managed to find work may find themselves without work;
- communication skills are insufficiently developed. The active user of mobile applications becomes less adapted to real interpersonal communication;
- smartphones distract students from the process of studying strict scientific, philosophical and sociological ideas about tourism, the basic concepts of the tourism industry.

As a result of including the designed multilingual mobile applications in real tourism activities, the participants of the experiment presented their own typology of travelers (described in the results of the study). Thus, the students moved from practical work with mobile technologies to research activities and such mental operations as analysis, comparison, and classification.

The obtained conclusions about the didactic potential of mobile technologies in relation to improving the quality of foreign language learning, formation of demanded digital skills of workers in the international tourism industry confirm the results of the work of S. Leite et al. [5]. A significant result of the study is that the described approach can be considered as a solution to the problem identified by V. N. Aniskin, A. L. Busygina, E. V. Zamara, about the necessary improvement in the quality of professional foreign language training of future specialists in the field of tourism in Russia in accordance with future labor functions [15].

**Conclusion**

So, the proposed system of classes for designing and developing multilingual mobile applications, taking into account the specifics of tourism activities, allows:
- to form the main professional competences of a tourism specialist: identification and analysis of consumer requests, possibilities of their implementation; informing about tourism products; interaction with tour operators, hotels, airports, etc.;
- to form in-demand soft skills (project activities, ability to communicate, work in a team, management skills, foresight thinking, the ability to solve problems, self-presentation and presentation of business projects, etc.);
- gain experience in project, team and educational and cognitive activities;
- simulate the performance of labor functions;
- to apply theoretical information on technologies of activities of enterprises of the tourism industry in the organization of routes, tours.

As a result, all the work on designing own multilingual application was formulated as a sequence of steps:
Step 1: Content selection. Dividing the code into logical blocks (explicitly showing their role and content in the application structure).

Step 2: Login to iBuildApp account. Selecting the "Create Application" button, which is located on the main page of the site.

Step 3: Create Own Template and Work with the Drag-and-Drop Builder

Step 4: Editing the data.

Step 5: Publishing a multilingual mobile application.

Step 6. Accompanying tourism activities with the resources of the application and the necessary modification of the content/structure.

As difficulties that complicate the use of travel applications for m-learning the participants of the experiment indicated: dependence on developments of foreign companies, high cost of mobile platforms and applications, technical failures of equipment in hard-to-reach regions of Russia, remote places; coordination of activities of employees of the tourism industry who accustomed to working according to traditional methods, and the travelers themselves.

Taking into account the extraordinary progress in the field of mobile communication, general growth of the mobile commerce market, inclusion of practical activities when using and designing specialized mobile technologies in the content of foreign language training for specialists from the tourism industry becomes strategically necessary.

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