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The impact of the mobile applications usage on the quality of tourism specialists training

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Abstract. *Problem statement.* The modernization of the educational system involves the adoption of technologies based on artificial intelligence, AR, VR, and mobile platforms. The use of mobile tools in the training of workers in the tourism industry meets the requirements for training programs for highly qualified professionals in this area and the challenges of economic integration. The study aimed at substantiating the efficacy of the use of mobile applications in the training of tourism industry specialists for the quality improvement. *Methodology.* Theoretical and methodological analysis and generalization were applied in determining the content and problems of mobile learning in the area of tourism and identifying the prospects for the development of travel applications. For designing mobile applications, the iBuildApp tool was chosen. A testing was developed, including the blocks “Fundamentals of tourism activities” (20 points), and “Mobile applications in the field of tourism” (20 points). The study involved 49 students of the Orel State Institute of Culture (the direction of training “Tourism”, profile “Technology and organization of excursion services”). Pearson's chi-squared test was used as a statistical processing method. *Results.* The ideas of a methodological approach are formulated, reflecting the necessary changes in the system of training specialists in the tourism sector, taking into account the challenges of economic integration, the requirements of a professional standard, and the strategy for the development of tourism in Russia. The difficulties that affect the effectiveness of the inclusion of mobile applications in the training of industry workers are highlighted: dependence on foreign software solutions, the high expense of creating own mobile application and its post-maintenance, and technical failures in the network. Statistically significant differences in the qualitative changes that occurred in the training system were determined. *Conclusion.* The incorporation of mobile applications in the training of tourism industry specialists advances the quality of their training due to new opportunities for collaboration and project activities, cost optimization, innovative work experience, etc. There are also negative aspects, such as a decrease in the overall level of oral communication, the risks of losing the phone, distraction, and addiction.

Keywords: mobile learning, digital technologies, travel applications, tourism activities, professional standard, iBuildApp

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Оценка влияния применения мобильных приложений в обучении специалистов сферы туризма на качество их подготовки

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Аннотация. *Постановка проблемы.* Модернизация современной образовательной системы предполагает внедрение технологий, основанных на искусственном интеллекте, AR, VR и мобильных платформах. Применение мобильных средств в обучении работников туристической индустрии удовлетворяет требованиям к программам подготовки высококвалифицированных профессионалов для этой сферы и вызовам экономической интеграции. Исследование направлено на обоснование эффективности использования мобильных приложений в обучении специалистов туристической отрасли для повышения качества их подготовки. *Методология.* Применялись теоретико-методологический анализ и обобщение при определении содержания и проблем мобильного обучения в сфере туризма, выявлении перспектив развития тревел-приложений. Для проектирования мобильных приложений было выбрано средство iBuildApp. Разработано тестирование, включающее блоки «Основы туристической деятельности» (20 баллов), «Мобильные приложения в сфере туризма» (20 баллов). В исследовании приняли участие 49 студентов Орловского государственного института культуры (направление подготовки «Туризм», профиль «Технология и организация экскурсионных услуг»). В качестве метода статистической обработки использован критерий согласия Пирсона. *Результаты.* Сформулированы идеи методического подхода, отражающего необходимые изменения в системе подготовки специалистов туристической сферы именно с учетом вызовов экономической интеграции, требований профессионального стандарта и стратегии развития туризма в России. Выделены трудности, которые влияют на эффективность включения мобильных приложений в подготовку работников отрасли: зависимость от зарубежных программных решений, дороговизна разработки собственного мобильного приложения и его постобслуживания, технические сбои в сети. Определены статистически достоверные различия в качественных изменениях, произошедших в системе подготовки. *Заключение.* Использование мобильных приложений в обучении специалистов туристической отрасли способствует повышению качества их подготовки за счет новых возможностей коллаборации и проектной деятельности, оптимизации затрат, инновационного опыта работы и т. д. К негативным аспектам можно отнести снижение общего уровня устной коммуникабельности, риски потери телефона, отвлечения внимания и развития зависимости.

Ключевые слова: мобильное обучение, цифровые технологии, тревел-приложения, туристическая деятельность, профессиональный стандарт, iBuildApp

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Problem statement. Mobile technologies, according to UNESCO experts, lead to fundamental changes in the way people live, including the field of tourism. In their recommendations, they advise governments how to keep up with the times.

According to the conclusions of P. Tyagi, P. Tyagi, A. Singh, E. Jain, and A. Singh, mobile devices will not be a passing phenomenon in a world in which dependence on communication and access to information is growing [1]. As the power and capabilities of mobile devices are constantly increasing, they can be more widely used as training tools for tourism specialists. M.L. Levitsky, V.V. Grinshkun, O.Yu. Zaslavskaya note the increased interest of researchers in assessing technological and organizational changes caused by the massive use of digital, including mobile, technologies at all levels of the education system [2].

The Russian education system requires a certain level of formation of graduates' competencies for the tourism industry. They are formulated in the provisions of the relevant standard¹. In the context of economic integration, an employee of the tourism industry is a competitive specialist – the owner of a complex of super-subject and universal competencies. This is a professional with unique knowledge, and a level of development that provides him with economic and social advantages, career growth, and well-being in the society of the emerging era of digitalization. These provisions are in large part coincide with UNESCO's recommendations of. They set out guidelines for innovative teachers to prepare work programs for the training of students.

In Russia today, five main triggers will dictate the development of digital technologies: digitalization of the tourism industry, focus on safe travel, priority on the development of domestic tourism, changes in consumer demand as a result of geopolitical changes, and import substitution².

To achieve these requirements and priorities, various activities are performed to integrate the achievements of the economy, science, and technology. For example, issues of the development of information and communication technologies,

¹ Federal State Educational Standard of Higher Education – bachelor's degree in the area of training 43.03.02 “Tourism”. (In Russ.) Available from: https://base.garant.ru/71708716/53f89421bbdaf741eb2d1ecc4ddb4c33/#block_20001 (accessed: 01.05.2023).

² Tourism development strategy in the Russian Federation for the period up to 2035. (In Russ.) Available from: <https://sudact.ru/law/rasporiazhenie-pravitelstva-rf-ot-20092019-n-2129-r/strategiia-razvitiia-turizma-v-rossiiskoi/> (accessed: 10.05.2023).

e-government services, and consumer protection of digital market products for the entire tourism sector were discussed in the Eurasian Economic Forum 2023³. The number of components of Tourism 4.0 include: artificial intelligence, the Internet of Things, big data, robotization, virtual augmented reality, digital marketing, cybersecurity, and blockchain.

C. Lee, M. Chen, W. Wu, and W. Xing point to the need for extensive research on the impact of ICT both on the development of tourism sector and the training of tourism service sector professionals in different countries [3]. Scientists analyze international data and conclude that each country has its specifics and advantages, a unique history and natural potential, different tourist sites, and a rich cultural heritage. In the context of the world economy, the tourism industry is one of the most dynamic and highly profitable industries, but due to the crisis phenomena of recent years, tourism is experiencing problems everywhere. Mobile technologies and their potential can become real factors for overcoming the crisis in the industry.

V.N. Aniskin, A.L. Busygina, and E.V. Zamara show that blocks/modules for students to gain experience in the application and development of specialized mobile technologies should be included to guarantee first-rate training of domestic tourism professionals in a digital economy [4].

The work of N.Ya. Golykh, N.N. Lopatkin, and I.S. Kudinov provides a full summary of the general terms for productive mobile learning (m-learning) in secondary and higher education [5]. There are also objective methodological difficulties: the use of mobile communications in the educational process provokes some students to use them as a cheat sheet, which is always “at hand”, and does not allow them to master the educational material in depth and quality [6]. Also, suggestion about using mobile technologies and m-learning resources for the quality of specialists’ improvement in the organization and delivery of tourism services are not well developed. For example, changes in the training content of tourism professionals in the new digital learning space are challenging.

An analysis of the above-mentioned scientific papers reveals a problem associated with the need for further research of the influence of m-learning on the quality of training for the tourism industry. **The study aimed** at substantiating the effectiveness of the use of mobile applications in the training of tourism industry specialists for the improvement of their training quality.

Methodology. The theoretical analysis and generalization of the literature were used to classify the difficulties and forecasts of m-learning, to support UNESCO’s initiatives, to define the potential of mobile technologies for higher education, and, to characterize m-learning in the training of tourism professionals. When developing the system of educational tasks, the provisions of the Russian Tourism Development Strategy, professional standards for the organization and provision of tourism services, the Strategy for the Development of Tourism in Russia, were taken into consideration.

Various mobile solutions have been implemented for the tourism industry, such as: voice search, smart digital/voice control, face recognition, tablet monitor-

³ The II Eurasian Economic Forum. (In Russ.) Available from: <https://forum.eaeunion.org/> (accessed: 26.04.2023).

ing, and concierge video chat. The following m-learning support software functionalities and tourism development prospects were explored: iBuildApp, Jotform Apps, BuildFire, AppMakr, Appy Pie, Mobile Roadie, Tripster, izi.TRAVEL.

Criteria for analysis: usability (drag-and-drop capabilities, intuitive user interface, and ease of browsing), customization options to tailor the application to the specifics of travel requests, pricing structure, customer communication support capabilities (database, interactive forums, and chat), compatibility with app stores.

The authors chose the iBuildApp tool as an intuitive mobile application builder. It contains a large collection of templates, including those for organizing and providing tourist services. For example, Appy Pie—all templates look the same. Although there are options to change layout options and background images. This is not enough for the tourism industry; it is necessary to have more options.

The author's testing has been developed, including the following blocks “Fundamentals of tourism activities” (20 points) and “Mobile applications in the field of tourism” (20 points). The study involved 49 students of the Orel State Institute of Culture from the faculties of documentary communications and socio-cultural activities in the study of the courses “Information Technology”, “Computer Science”, “Tourism Industry, Technology of Tourism Industry Enterprises”, “Technologies for the Promotion of Tourism Services”. The students are trained in the area 43.03.02 “Tourism”, profile “Technology and organization of excursion services”.

Bases of practice: travel companies, the company “TourAgent”, hotel and restaurant business in Orel.

The algorithm for the interaction of participants in the experiment: determining the topic and receiving a task from the base of practice; coordination of the plan with the head of the university; drawing up the final work plan; collection and processing of factual material; development and maintenance of a mobile application; preparation of presentation.

The study was conducted in 2021–2023. The average age of the respondents was 20 years (60% – girls and 40% – boys).

Statistical processing of the results was performed using Pearson's χ^2 (chi-square) test.

Results and discussion. S.V. Titova considers mobile learning as the use of convenient portable mobile devices and wireless, always-available technologies to facilitate, support, optimize and expand didactic processes [3].

N.A. Sergeeva, V.G. Ryabchikova, E.G. Nikulina, and O.S. Rubleva determine that mobile learning is always focused on the requests and needs of a particular individual. It allows to build an educational trajectory depending on the individual characteristics of users. In addition, mobile learning acts as an effective support for students' independent work [7].

T.I. Spatar-Kozachenko, O.V. Morozan, and N.S. Petrienko also prove that m-learning needs qualitatively new formats for content presentation and distribution. On the one hand, the use of multi-channel provision of educational materials makes it possible to organize training taking into account individual interests and student professional orientation. And on the other hand, the teacher requires systematic control over the passage of the discipline and additional efforts to form the motivation for a deeper consideration of topical professional problems [8].

P. Tyagi, P. Tyagi, A. Singh, E. Jain, and A. Singh explore the trends in the implementation of mobile technologies for the tourism industry [1]. The main advantages of applications that positively affect tourism, according to the authors, are associated with saving resources, improving internal and external communications, increasing productivity, and, accordingly, increasing profits. Without a doubt, mobile devices allow you to build fast and high-quality communication between providers and consumers of travel services [9].

V.N. Aniskin, A.L. Busygina, and E.V. Zamara come to the reasonable conclusion that only tourism specialists using modern mobile technologies in their daily professional activities can quickly, efficiently, and productively solve the most labor-intensive tasks of the tourism industry [4].

D.K. Maduku analyzes various factors that have an impact of a mobile application effectiveness in the tourism sector: municipal and state authorities support, marketing operations, financial resources, environmental and epidemiological situations, etc. [10]. L.A. Stakhova notes that mobile versions of guides, in comparison with traditional paper ones, have several advantages. And first of all, the multimedia guide wins due to its greater information content and the predominant degree of impact on a person through its synthetic nature. Also, among other advantages, the author highlights freedom of movement around the object/territory (sequence, priority, speed); multilingualism; price; sanitary safety of use during a pandemic [11].

S. Ammirato, A.M. Felicetti, R. Linzalone, and D. Carlucci on experimental data demonstrate that digitalization has had an enormous influence on the cultural tourism sphere (both demand and supply) [12]. M. Watkins, S. Ziyadin, A. Imatayeva, A. Kurmangalieva, A. Blembayeva indicate that the trends in the development of the tourism industry dictate the rule: to increase your competitiveness, it is no longer enough to simply optimize the site for the mobile version. You need to either expand its functions or create a separate mobile application. Necessary features include online booking, tracking flights, adding the ability for users to leave their reviews, etc. [13].

T.I. Spatar-Kozachenko, O.V. Morozan, N.S. Petrienko give examples of limiters for the digital tourism development: the lack of available technologies for high-quality digitization of real objects and the translation of their visual and physical images, insufficient qualification of personnel in the IT field, the need for additional post-service costs, low employee motivation, the ability to do business without the use of mobile applications, and insufficient level of infrastructure development [8].

Thus, the development of domestic tourism depends on various social and economic factors: the level of service, the development of the regulatory framework, the quality of future specialists training [14].

Summarizing the above concepts, it can be determined that a mobile application is a software, a functional web product that is specially developed based on the capabilities of modern gadgets.

In the tourism sector, mobile technology is a set of methods and tools that allow users and travelers to plan and carry out active personal tours, enter from multiple devices, compare prices, perform mobile searches, create routes and find information, etc.

Many different types of mobile apps have now become a great resource for travelers, even more so than mobile websites. At any moment, travelers can make sure that they are not lost. Travelers can book a hotel, organize any event (buy concert or museum tickets, book a table in a restaurant), or call a taxi. Travel apps are also an option for all travel services and businesses.

A mobile application for tourism can be directly linked to a business, for example, to a certain travel company. Such a project can be called a business application, a tool that supports the company. There are also separate applications for tourism that are not associated with a specific travel company. They are developed by an independent development team with the goal of generating revenue directly from the application itself.

The main goal of the Tourism program is to train specialists capable of designing tourism products and services, developing the tourism potential in the Russian regions, conducting tour operator and travel agency activities and participating in using investment projects in the field of tourism and hospitality. Specialists in the field of tourism and hospitality are in high demand in the labor market. According to the forecasts of the World Council for Tourism and Travel, in the near future, one in ten jobs in the world will be provided by companies in the tourism industry.

The professional competencies of the curriculum are developed taking into account professional standards. In the course of training, students master the following skills and competencies:

- skills in the formation of service proposals that ensure the satisfaction of cultural, cognitive, physical needs that best meet the wishes of the tourist;
- skills in designing a tourist product (route, excursion, etc.) taking into account resource capabilities, legal and regulatory requirements and safety requirements; ability to implement projects in the tourism industry;
- skills in developing business plans for the creation and development of new organizations (areas of activity, products) and assessing their effectiveness;
- the ability to create and implement a tourist product based on modern information and communication technologies.

A feature of the direction “Tourism” is the inclusion in the program of practice-oriented training modules, immersion in the features of the organization of domestic tourism; practice and internships in companies in the tourism and hospitality industry, lectures and master classes from industrial partners of the program and an in-depth study of modern digital technologies.

Graduates can work as: a head of an innovative project for the development of tourism, a developer of intelligent tourism systems, a head of a tourist information center, a brand manager of spaces, a specialist in the department of tourism and regional policy.

For the design and development of mobile applications, taking into consideration the details of tourism activities, the following training program was defined:

1. Mobile applications (Russian and international companies) analysis focused on the provision of tourism services. The aim is to detect the key tendencies in travel technologies of the post-coronavirus period.

There are many parameters to consider when developing an app: budget, features, target users, and more.

For companies in the tourism business, as a rule, the following functionality is implemented: a page with information about the company; list of tours; catalog of additional services (insurance, guide, translator, etc.); catalog of establishments and attractions for the countries in which there are tours; page of promotions and hot offers; flight schedule, integration with ticketing services; work with maps and geolocation; filters, sorting and quick search tools; tools for ordering, filling out documents.

Depending on the needs of the company, the necessary tools are selected. The challenge is to make things easier for employees, to speed up and improve the customer experience, and to make the travel app easy, accessible, and understandable.

2. The requests and opportunities' analysis of the Orel tourism industry. The aim is to detect the major competitive advantages of the Orel region over other regions of Russia.

The functionality directly depends on the type of application. If this is a program for translation – its capabilities are the same, if it is a guide with a map of the area – the tasks are completely different. That is why, before development, it is necessary to study the needs so that the travel application is targeted and as useful as possible.

As a rule, applications for tourists have: a search for hotels by country with ratings and reviews; a map showing significant places; information pages that help the tourist get ready for the trip; ratings of restaurants, hotels and other establishments; tools for interacting with objects, the ability to leave reviews, add photos; visual content; filter and search for the desired objects; informative pages with valuable content; required emergency numbers; button to communicate with company representatives.

3. Comparison of the results of the analytical activities of the two previous stages. The division into teams to create a “prototype” of a mobile application.

4. Working in a software environment to create a mobile application.

5. Presentation of the project and a new travel application. The promotional marketing strategy was also presented here. As well, offers were made that can serve as advertising slogans: your region is more interesting than you think; all the unique places of your region in your phone, download and travel; find a place where you feel good; look at the Orel region in a new way.

The study reflects the interaction between professionals and mobile devices in the organization and provision of tourism services as an intellectually focused and cognitive activity, considering the specific features of future work and the direction of the Russian tourism development strategy.

The teacher in the courses “Information Technology” and “Computer Science” studied software tools to support m-learning of the workers training in the tourism industry. Their 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 an objective analysis according to the criteria formulated earlier, it was decided to use the iBuildApp platform to design and develop our mobile application. This platform uses one of the simplest drag-and-drop editors, has over a thousand different slick templates, and comes with a built-in content management

system. iBuildApp offers a wide range of tools and marketing features to make your app look elegant and professional. The intuitive interface is designed to allow an inexperienced user to develop a fully functional application in 5 minutes.

iBuildApp is an all-in-one mobile app builder that one can use to develop apps without any programming skills. The builder comes with a free trial version.

Template selection. After registration, the service will prompt you to choose one of the ready-made templates designed for different business categories. One can also enter the URL of the company's website, and the system will automatically create application content with the appropriate sections.

Application development. After choosing a template, the service offers to edit individual elements of the application.

The first step is editing the main background. iBuildApp offers a choice of its own custom pictures and regular color fills. One can also upload an image (640×1136 pixels).

Setting up navigation involves the development of the main menu of the application and the bottom panel: one can change the name of the sections, and the color and style of the buttons.

The next step is editing the logo. One can upload your image that is 440 pixels wide by 80 pixels high. By default, the logo is only on the first page.

The final stage of application development is the most difficult – this is content management. At this stage, the content of each section of the application is determined: text, links to your site, and background color (this function is not available when choosing a design at the very beginning). The service allows you to view the page in HTML format. If your template has a Photo Gallery section, iBuildApp will automatically prompt you to insert photos into the content of this page.

To indicate the company location on the map, you must enter the geographical coordinates of the object – latitude, and longitude.

Further, testing and adjustment of the mobile application performance on the phone were implemented.

Withing the scope of “Tourism industry, the technology of activities of tourism industry enterprises”, students learned the theoretical foundations of creating a competitive and innovative tourism products and business organization in tourism enterprises.

After that, the participants of the experimental group at practical classes and seminars of other specialized disciplines, for example, “Technologies for the promotion of tourist services”, carried out the design and development of their mobile travel application.

For example, with the support of the Tourist Information Center of Orel and the region, within the basis of the project “Bridge to the Future: Creative Practices for the Preservation and Development of Living Heritage”, mobile applications “Calendar of events of the Orel region”, “Heritage of the Orel region” (a guide to folk art from Russia and Orel region), a site for the hotel complex “GRINN” were created. Also, a sightseeing tour of Orel accessible in digital form, audio guides along the routes “Love Stories of Borisoglebskaya”, “Merchant Eagle”, “Orthodox Shrines of Orel”, “Kursk Streets”, etc. Information brochures have also been developed for special children's/family excursions and quests – “In the footsteps of Turgenev”, “Original Eagle”, and “Mysteries of Lenin Street”.

The main advantage of the developed applications is the ability to walk along interesting city routes, immerse yourself in the world of art, architectural creations, and historical monuments, accompanied by a mobile guide.

The main purpose of the experiment was to test the effectiveness of the use of mobile technologies in the study of tourism specialists for the quality improvement of their training.

In preparation for the experiment, the teachers analyzed the latest scientific and technological results on the potential of mobile devices and their application for learning in universities. It also became clear that mobile applications have a didactic potential for the training of employees in the tourism sector.

Among the specific job functions of specialists in the organization and provision of tourism services, which can be performed with the support of mobile applications, it was found that the response of specialists in the organization and provision of tourism services (excursions, ordering and booking of cars, obtaining visas, insurance, etc.), assisting customers in the selection and design of tours, the provision of tourism services, among others, are included.

To implement the findings in the training of tourism specialists, it was decided when studying the courses “Information Technology”, and “Computer Science” (theoretical analysis of the topic “Message, data, signal, attributive properties of information, information quality indicators, forms of information presentation”, “Information transmission systems”, etc.) to consider iBuildApp, Jotform Apps, BuildFire, AppMakr, Appy Pie, Mobile Roadie, Tripster, izi.TRAVEL tools in detail.

The testing, including the following blocks “Fundamentals of tourism activities” (20 points), and “Mobile applications in the field of tourism” (20 points), was used to assess the input conditions.

An example of tasks from the “Fundamentals of tourism activities” block: indicate the factors for the development of domestic demand, and describe what values make up the profit of the tour operator.

An example of tasks from the block “Mobile applications in the field of tourism”: give examples of native, web and hybrid applications; match values, i.e. for each option from the first column (mobile applications), you must specify the corresponding option from the second (support for the implementation of specific labor functions).

So, as a result of the initial diagnosis, each student scored from 0 to 40 points. To determine the level of training (according to the sum of all 2 blocks), the levels “low” (from 0 to 19 points (inclusive)), “medium” (from 20 to 34 points (inclusive)), “high” (more than 35 points) were introduced.

Control (25 students) and experimental (24 students) groups were formed based on the materials of the control work.

The work in the experimental group was carried out according to the program of classes presented above.

Students in the control group also studied new digital technologies, the materials of the discipline “Tourism industry, the technology of activities of enterprises in the tourism industry”, and “Technologies for promoting tourism services”. However, they were not involved in the special work on designing and creating mobile travel applications.

The presentation for each participant before and after the use of m-learning tools in the training of tourism industry workers is shown in Table.

The results of the use of mobile applications in the training of tourism specialists

Level	Groups			
	Experimental (24 students)		Control (25 students)	
	Before the experiment	After the experiment	Before the experiment	After the experiment
High	3	10	4	5
Average	6	11	6	9
Low	15	3	15	11

Thus, $\chi^2_{\text{obs.1}} < \chi^2_{\text{crit}}$ ($0.122 < 5.991$), and $\chi^2_{\text{obs.2}} > \chi^2_{\text{crit}}$ ($6.420 > 5.991$). Therefore, the shift towards increasing the level of training of tourism specialists in the experimental group can be considered non-random.

Mobile applications for tourists are an effective tool that helps to promote business services. It brings great benefits to customers and is valuable, therefore, in demand. Integrating a travel app into a company's operations helps to attract more customers, improve relationships with them, increase brand awareness and expand the company's capabilities.

As difficulties complicating the use of travel applications for m-learning, the participants in the experiment cited dependence on the development of foreign companies, the high cost of mobile platforms and applications, technical barriers to equipment in hard-to-reach and remote regions of Russia, and the coordination of the activities of employees and travelers in the tourism sector who are accustomed to working according to traditional methods.

The obtained conclusions about the educational potential of mobile technologies in relation to improving the quality of education and the formation of digital skills needed by employees in the tourism sector confirm the results of the studies conducted by V.N. Aniskina, A.L. Busygina, E.V. Zamara [4], D.K. Maduku [10]. An important result of the study is the description of the basic ideas of the approach, expanding the ideas of S. V. Titova about the possibilities of m-learning for the development of tourism in Russia [15].

Conclusion. The tourism sector is one of the most profitable, it is developing rapidly. There are more and more applications dedicated to tourism. Such projects are popular. One of the most popular today are aggregator applications for finding hotels, tourist maps. The presented curriculum for the design and development of mobile applications, considering the specifics of tourism activities, allows:

- to form the basic professional competencies of a tourism experts: identification and analysis of consumer demands, and the possibilities for their realization; knowledge of tourism products; communication with tour operators, hotels, airports, etc.;

- to build high-demand soft skills (project activities, communication skills, teamwork, management skills, visionary thinking, problem solving skills, self-presentation and presentation of business projects, etc.);

- to gain experience in project activities, team activities, cognitive and training activities;

- to simulate the performance of labor functions;
- to apply the theoretical knowledge of the operating techniques of tourism enterprises in the organization of excursions, routes, and tours.

During the discussion, the participants of the experiment highlighted the positive aspects of the impact of m-learning on the quality of training specialists for the tourism industry:

- contribute to the understanding of the circumstances that the mobile economy is an essential part of the digital economy. Mobile technologies support the development of communications in society, the introduction of innovations, in particular in the tourism industry;

- there are additional opportunities to send large amounts of information anywhere in the world within a few seconds;

- there are new chances to work on a single project, for example to minimize costs in tourism business;

- the future professional gains advanced experience in “contactless” technologies in tourism;

- there is a tourism attractiveness growth of the region for foreign visitors.

The participants of the experiment added the following factors to the negative characteristics of m-learning influence on the training quality of specialists in the tourism sphere:

- contribute to students' understanding of the circumstances that mobile technologies also result in a decrease in jobs in the tourism industry, i.e. not only job seekers but also graduates who have already found a job may find themselves unemployed;

- inadequate communication skills and oral communication skills. Active users of mobile applications are less adapted to real social communication;

- smartphones distract students from the process of learning scientific, philosophical, and sociological ideas about tourism, the core concepts of tourism and the tourism industry.

The obtained results can be used to organize students' cognitive research activities and to develop the local tourism industry.

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