

## Open Education Model in Tourism\*

Marina A. Ryndach <sup>1</sup>[0000-0001-7491-7792], Marina Yu. Sheresheva <sup>2</sup>[0000-0002-8153-7111]

<sup>1</sup> V.I. Vernadsky Crimean Federal University, Simferopol, Russia

<sup>2</sup> Lomonosov Moscow State University, Moscow, Russia

rindach@mail.ru

**Abstract.** The article discusses the problems of open education based on the training of highly qualified specialists. Tourism industry development attracted to the industry many specialists with higher non-core education who were forced to obtain professional knowledge and skills in the process of their work. The proposed open education model is provided for tourism organizations. The model includes distance education technologies and differentiated full-time educational programs. The creation of courses for distance learning systems is carried out by the standards of the Sharable Content Object Reference Model (SCORM). In the training of specialists in the design of tourist areas, many specific requirements are related to the usage of interactive content, which can be created with SCORM compatible software. These specific requirements must be taken into account when training specialists for the design of the tourist and recreational environment.

**Keywords:** open education in tourism, the model of education, information educational technologies, tourism design, specialist training.

### 1 Introduction

Certain trends in European tourism have been identified, suggesting that tourist arrivals will double in the next 25 years and that this doubling will take place in Europe. This will mean that by the year 2020 more than 720 million cross-border tourists per year will arrive in Europe (3). At the same time, there will be a large increase in elderly tourists, the cultural and natural heritage tourism will be the fastest-growing segment and some of the driving forces of the EU such as liberalization, the internal market, and the euro will only gain more importance for the further evolution of tourism. [8]

Using open education technologies in the tourism sphere is one of the ways to increase the competitiveness of the country [21]. These technologies are aimed at improving staff skills and improving the quality of service.

In today's turbulent market environment, rapid response to the conditions dictated by the environment is becoming increasingly important. The pace of development of

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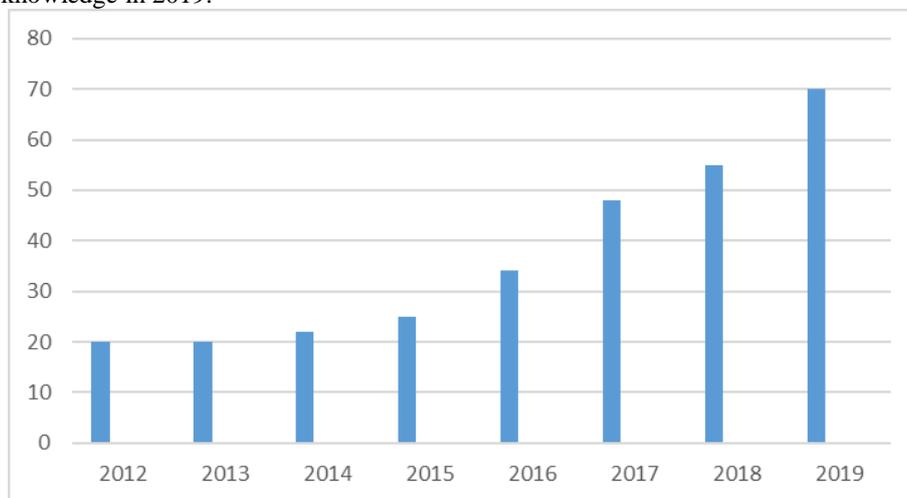
various industries is decreasing, cities are suffocating from overpopulation, people are under the pressure of rapidly changing information and geopolitical factors. In these conditions, tourism and recreation are becoming more interesting for people.

## 2 Dynamics, tasks, and features of open education in tourism

In April 2019, the analytic company NeoAnalytics in 2019 conducted a study of the distance learning market in Russia. Distance education in the business education market is 1.1%. In European countries, the share of distance learning is up to 30% in the structure of education. In the United States, up to 50%. In monetary terms, distance education in Russia amounted to approximately 28.9 billion rubles. In the period 2019-2021, the market growth rate will be 17-20% per annum. By 2021, the market volume is expected to reach 53.5 billion rubles. The share of online education in the structure of education in 2021 may reach about 2.6%. [2]

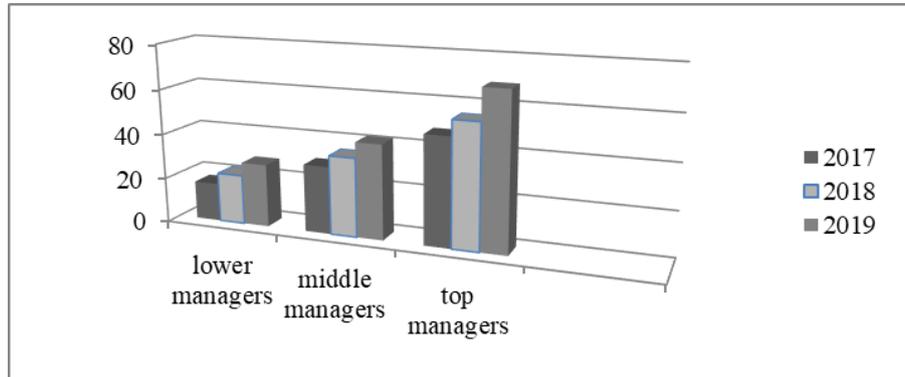
For comparison, the annual growth of distance education services in China is 55% and is the largest indicator in the world. [3]

An analysis of domestic tourism enterprises and a survey of top managers of these enterprises showed that about 70% believe that their staff needs to increase their knowledge in 2019.



**Fig. 1.** The willingness of the management of tourism enterprises to increase the level of knowledge of their employees (in %)

The enterprise to a sufficiently high degree requires the education and advanced training of employees. The higher the level of managers, the greater the degree of awareness of this problem (Figure 2).



**Fig. 2.** Expert assessments of the need to improve the qualifications of workers at tourism enterprises (% of respondents)

Thus, it can be noted that there is a need for managers at various levels of enterprise management to increase the level of knowledge of their employees. The higher the level of management, the higher the degree of awareness of the need to solve this problem.

The main reasons for the lack of continuing education systems at tourism enterprises are such reasons as the lack of financial ability, the lack of the possibility of distance education, the lack of need for new knowledge. There are ways to increase the competitiveness of the country as a tourist destination, despite several obstacles, both internal and external. Open tourism education is one of these ways. It can be argued that with an increase in the income level of tourism and hotel industry enterprises, funding for educational programs for employees of these enterprises will increase. According to the Federal State Statistics Service, in hotels and similar accommodation facilities in the South of Russia since 2002. to 2015 revenue grew from 12.35 billion rubles. up to 60, 29 billion rubles. We get the following data table (table 1).

We will present these indicators in the form of a graph, where the x-axis indicates the number of the period by which we mean the year (from 2005 to 2030), and the y-axis shows the income levels corresponding to the indicated years.

The resulting linear trend model has a determination coefficient of  $R^2=0,913$ . The equation of the trend of the income indicator of collective accommodation facilities of the South of Russia is as follows:

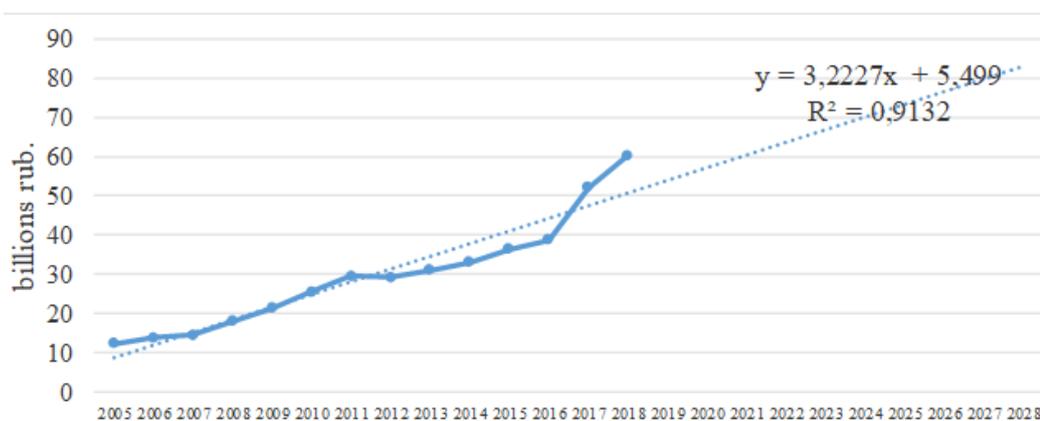
$$y= 3,222*x+5,498$$

To forecast income for the period 2019-2028, we calculate the linear trend values for each period for 2028.

The income level graph is presented in Figure 3.

**Table 1.** The income level of collective accommodation facilities in the South of Russia in the period 2005-2018 [17]

Year	The income of enterprises, billion rubles
2005	12,35
2006	13,78
2007	14,40
2008	18,01
2009	21,27
2010	25,48
2011	29,49
2012	29,18
2013	31,03
2014	32,96
2015	36,33
2016	38,77
2017	52,03
2018	60,29



**Fig. 3.** Graph of a linear trend in the income level of collective accommodation facilities in the South of Russia

As a result of building a linear trend, we obtain the following data table (table 2).

**Table 2.** The forecast of the level of income of collective accommodation facilities in the south of Russia in the period 2019-2028

Year	The income of enterprises, billion rubles
2019	50,61
2020	53,83
2021	57,05
2022	60,27
2023	63,49
2024	66,72
2025	69,94
2026	73,16
2027	76,38
2028	79,60

Thus, the forecasted volume of income expected from the activities of collective accommodation facilities in the South of Russia in 2025 will amount to 79.60 billion rubles or 63.5%. It can be concluded that by applying linear dependence, the leaders of tourism enterprises will increase funding for the training of their employees. This is influenced by external factors that require the transformation and modernization of the tourism sector, as well as an increase in the income of tourism enterprises. Thus, the distance education market tends to increase.

The formation and promotion of the model of open education is a necessary reaction to the modern state of the world.

### **3 The model of open education for the staff of tourism organizations**

The task of training in the system of open education is the formation of student information communication.

The problem of improvement of the quality of tourist education during the present period is key in the sphere of tourist services [13]. New "end-to-end" technologies, such as IoT devices, are actively being implemented in the information systems of the tourist industry. At the same time, training in such systems and technologies requires the modernization of both content and form of training. Accordingly, training of professional personnel for tourism should provide for the mastery of relevant competencies.

Open education in tourism addresses the following challenges:

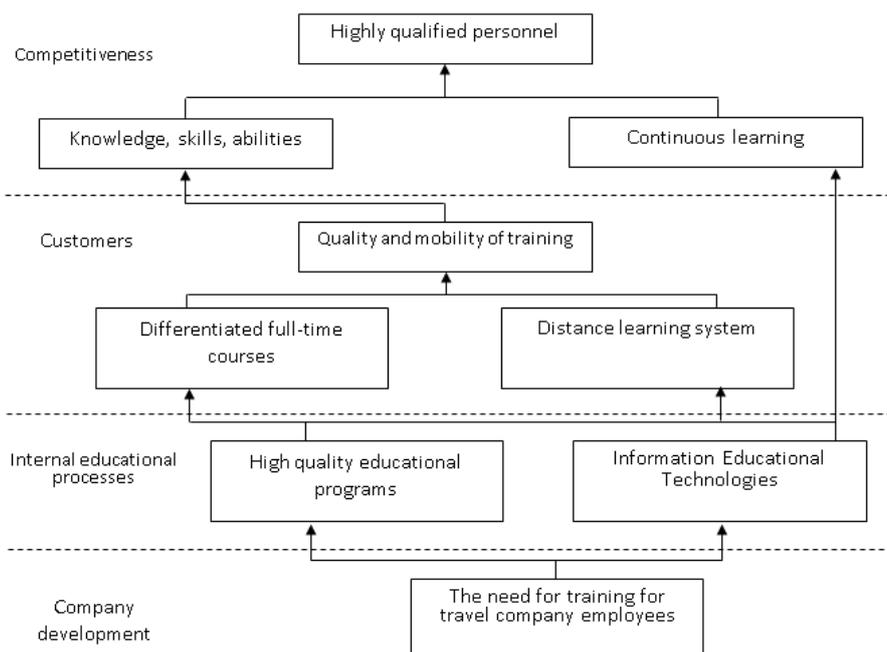
1. Helps students understand corporate and personal goals;
2. Helps create an effective learning system to meet your organization 's needs;
3. Lays the foundation for self-realization of students and their professional self-realization;
4. Forms a responsible student who knows what he needs to improve his training.

The creation of courses for distance learning systems is carried out by the standards of Sharable Content Object Reference Model (SCORM)/

SCORM helps ensure component compatibility and reusability: the training material is presented in separate small blocks that can be included in different training courses.

Moodle is a learning management system focused on organizing interaction between the teacher and students in organizing distance learning courses, as well as to support the full-time study. Moodle is a freely distributed open-source system (PHP+MySQL) compatible with SCORM.

In the system of open education, various e-learning systems can be used, as well as individual modules of full-time education. The whole system of open education in the field of tourism is aimed at improving staff skills and competitiveness of the company (Fig. 4)



**Fig. 4.** An open education model for tourism organizations

Such an approach to the formation of an open education model in tourism will provide an opportunity to receive a full-fledged education.

Students can get qualification skills, knowledge, practical experience when studying according to the model of open education. This model includes components such as classwork, distance learning, and practice. At the same time, practical exercises should make up from 40 to 50% of the time in the curriculum. Distance and classroom education can be distributed differently depending on the learning cycle and the number of students.

To prepare qualified specialists, tourist organizations include educational processes in various operational processes and use information and communication technologies [15]. Senior courses should have a large number of hours of distance learning, younger courses should be more involved in the learning process personally with teachers. Such an approach to the formation of an open education model in tourism will provide an opportunity to receive a full-fledged education that combines advanced and classical teaching methods.

#### **4 Requirements for the training of specialists for the design of tourist areas**

An analysis of the open education market shows that the need for distance learning is constantly increasing. Distance education uses modern design models. These features are necessary when designing tourist areas. Distance education provides good opportunities for designing territories that have good resources for the development of tourism.

There is high competition in the distance education market. Distance education uses many programs, including the development of tourist areas. The most interesting are distance programs, which are based on a methodological approach that includes interdisciplinary knowledge, game mechanics, and simulations of real processes. In the tourist-recreational sphere, this problem is more acute than in many other sectors of the economy.[1]

In developing tourist areas, we often think about innovative solutions for the formation of attractive objects for tourists. At the same time, all stages of the creation of tourist facilities should be governed by state documents and building codes and regulations.

The planning structure of urban and rural settlements should be formed by providing:

- compact placement and interconnection of territorial zones, taking into account their permissible compatibility;
- zoning and structural division of the territory in conjunction with the system of public centers, transport, and engineering infrastructure;
- effective use of territories depending on its town-planning value, permissible building density, size of land plots;
- complex accounting of architectural and town-planning traditions, climatic, historical, cultural, ethnographic and other local features;
- effective functioning and development of life support systems, saving energy, fuel and water resources;
- protection of the environment, historical and cultural monuments;
- conservation of mineral resources and rational use of natural resources;
- conditions for unhindered access of persons with disabilities to social, transport and engineering infrastructure by the requirements of regulatory documents, by SP 42.13330.2011

In projects of planning and development of urban and rural areas, architects should comply with the requirements of legislation on the protection of historical and cultural monuments. At the same time, it is necessary to establish zones of protection of monuments of history and culture, zones of regulation of buildings and zones of protected natural landscapes. Zones of protection of monuments of history and culture are provided for individual buildings and structures, their ensembles and complexes, and other valuable historical and cultural elements in the formation of the architecture of the city. Distances from historical and cultural monuments to transport and engineering communications should be taken, not less, m:

- to the carriageways of high-speed and continuous traffic lines, shallow metro lines:
- in difficult terrain 100m;
- on flat terrain 50m;
- to the water supply 15m;
- to other underground engineering networks 5m. [19]

Distances from buildings, structures, and engineering communications to trees and shrubs should be taken from table 3.

**Table 3.** Distances from buildings, structures, and engineering facilities to trees and shrubs

Building, facility, engineering improvement object	Distance, m, from the building, structure, object to the axis	
	trees	bushes
The outer wall of the building and facilities	5,0	1,5
Edge of the tramway	5,0	3,0
Edge of the sidewalk and garden path	0,7	0,5
The edge of the roadway, the edge of the fortified side of the road or the edge of the ditch	2,0	1,0
Support of the lighting line	4,0	-
Underground networks:		
- gas pipeline, sewage	1,5	-
- heat network	2,0	1,0
- water supply	2,0	-
Notes.		
1. The above standards apply to trees with a crown diameter of not more than 5 m and should be increased for trees with a larger crown diameter.		
2. Distances from overhead power lines to trees should be taken according to the rules for electrical installations.		
3. Trees planted outside buildings should not prevent insolation and illumination of residential and public buildings by the requirements of sanitary norms and rules.		

The design of the architectural environment in cities and rural areas is based on the Land Use and Development Rules. These rules precisely determine the possibility of using land for the construction of tourist facilities. To design architectural and construction solutions for tourist facilities in various territories, it is necessary to analyze the natural resources of the territories. Natural resources create opportunities for various

types of recreation. Ecological tourism has great importance for the promotion of recreation in rural areas and the development of accessible tourism. Effective advertising is required for their active promotion in the tourist market [6].

Ecotourism (eco-tourism, green tourism) is a new and fast-growing form of tourism. Eco-tourism is very popular in the world. The main task of ecotourism is the study of wildlife, the maintenance of ecological balance, being in the natural environment without compromising its integrity. There are two main goals of eco-tourism: The first, educational - the study of flora and fauna in their natural environment, participation in various environmental, scientific, and volunteer programs. The second is recreation, tourism [16]. The development of ecotourism is characterized by significant complexity and species diversity of the factors used. Ecotourism includes rural tourism, health tourism, ethnic, agricultural, culinary, wine, event tourism. A variety of types of tourism is a success factor for the Russian hospitality and tourism market.

For the development of such a variety of types of tourism in rural areas it is necessary to take a set of measures to create and improve the tourist infrastructure. One of the most important factors for the design of eco-tourism facilities in rural areas are transport accessibility and infrastructure of the region.

For rural areas, the direction of development of rural, ethnic, ecological and agrotourism can be important sources of income, an impetus for infrastructure development, improving roads and transportation, increasing employment, reviving old-time national methods of treatment, rehabilitation and recreation for tourists from nearby cities, and also for tourists from distant regions.

Projects for the development of ecotourism, the creation of national and ethnic villages, the construction of guest houses, recreation centers, resorts, and boarding houses, holiday camps have investment appeal due to the low cost of land in rural areas.

Ecological, national, and ethnic villages have a variety of architectural solutions. Such styles can be formed from the buildings of the old, national architecture, as well as the use of modern architecture with design elements that use the natural landscape. In recreational areas, the technologies of building cottages in the form of eco-friendly, ergonomic affordable housing are used [11].

For example, in France, Switzerland, old houses in rural areas undergo a thorough internal reconstruction and turn into comfortable expensive cottages, guest houses. In the Ticino region (Switzerland), eco-villages are organized, where tourists relax in clear air, beautiful landscapes, and use organic products. Eco-villages are very popular in Montenegro, Slovakia, Slovenia, and other countries.

The main factors for spatial architectural solutions in rural tourism are:

- accommodation in rural areas in private houses, estates or small hotels;
- accommodation of food objects stylized as a national characteristic of the area;
- placement of recreational areas near the location;
- availability of a network of roads and means of communication.

The role of hotels and the surrounding infrastructure in the segment of "green" tourist hotels is often underestimated. Despite this, a significant portion of domestic and foreign tourists often use the services of such hotels. This trend is characterized by an

increase in the income of each hotel or tourist destination and creates demand for quality service, which could mean the development of tourism infrastructure and the creation of new jobs in rural areas.

To improve the competitiveness of eco-hotels should constantly innovate. For eco-hotels, high-quality service is relevant to remain leading in its segment and be two steps ahead of the competition.

Together with the competition, it is necessary to encourage cooperation, share experience, and lobby for their interests in the formation of legislation in the field of tourism.

Many factors influence the diversity and development of new directions. Government support is necessary for the development of hotel business in rural areas in the promotion of tourism products and improving the quality of the overall tourism infrastructure. For example, we recommend making out on the border avenues with motels, hotels of all classes, and the services provided by the tourism industry in different regions. It is also necessary to improve the transport infrastructure, the arrangement of roads with all the necessary amenities, the introduction of modern service technologies. Road infrastructure is a very important issue, which experts in the field of road construction and tourism are working on.

An important role in the further development of the tourist services market in rural areas in the country is played by transportation services. They must comply with international requirements; provide fast, safe and comfortable conditions for the transportation of tourists. They are the first link of the chain in successfully attracting tourist flow to different regions of the country.

Designing new services for modern consumers, especially with limited capabilities, in hotels in rural areas is impossible without the active use of innovations. For a hotel in rural areas, the introduction of innovations in the service of guests will benefit in terms of staffing and improvement of services. Modeling the sustainable development of tourism and recreation is important to increase the investment attractiveness of tourism destinations. [9]

Resort areas are important in the development of tourism in rural areas. The main condition for their creation is the presence of natural and climatic factors.

When designing resort areas should include:

- placement of resort facilities for long-term recreation in areas with acceptable noise levels; children's sanatorium and health institutions in isolation from institutions for adults with the separation of a strip of greenery with a width of at least 100 m;
- a ban on the construction of infrastructure facilities within the recreation area;
- restriction of traffic and the complete exclusion of transit traffic flows.

The recreation and recreation area should be located in rural areas with natural healing factors. In such areas, there should be a healthy climate, beautiful landscapes, natural reservoirs, forests, meadows with medicinal plants, etc. Sanatoriums and health institutions, hotels, campgrounds should be located in such territories.

## 5 Conclusion

Thus, it should be noted that the design of the tourist and recreational environment in cities and especially in rural areas requires a detailed analysis of various factors. It is necessary to conduct a thorough study of the territory of the future location of recreation facilities, take into account the presence of nature reserves, historical places. Information technology is important in solving this problem. To make Russia a popular destination at the international level, it is necessary to improve almost all elements of the Russian tourism product using information technology. [24] This aspect must be taken into account when forming educational programs.

In today's turbulent world, the model of open education is becoming very popular. Training qualified specialists for tourism enterprises is an important task. It is profitable for tourism companies to send their employees to study the model of open education. Using this model, a student can study part of the curriculum at the institute, where there is the possibility of direct contact with teachers. Another part of the curriculum can be mastered remotely. Information and communication technologies are gaining importance. The model of open education can be effectively used in the training of specialists in the design of tourist zones, the design of theme parks, and the development of rural areas for tourism.

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