Formation of breakthrough competencies for bachelors of tourism

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Abstract. The relevance of the study of breakthrough competencies is due to the growth of competitiveness in the international and Russian markets for services of young specialists. The rapidly changing economic conditions in which the modern tourism industry operates are associated with the development of digital technologies in tourism, the improvement of the transport system, hotel chains, the globalization of the tourism business, the massive exit of companies working in the tourism industry online, the transformation of consumer behavioral characteristics, new practices, and consumption patterns services. This article is aimed at identifying breakthrough competencies that representatives of the tourism industry and the institutions and communities interacting with it designate as significant for the formation and implementation of a development strategy aimed at anticipating and forming new markets and niches in the tourism industry that contribute to its sustainable development. The aim of the study is to study breakthrough competencies that form the general competence of a graduate of a tourism university. The main method in the study of this problem is the method of questioning, carried out among specialists in the tourism industry and students studying in this area. The sample also included teachers who work at the Department of Tourism. The experimental base of the study was the Petrozavodsk State University.

1 Introduction

The development of the tourism industry today is caused by the transformation of society and the development of digital technologies. At the International Congress "Global Future 2045", the American inventor and futurist, technical director of Google, Raymond Kurzweil, said: "In the coming century, we will move forward not by 100 years, but by 20 thousand years."... The distinction between virtual reality and what is still commonly called the "real world" will be completely erased" [16].

Today, knowledge and even skills become obsolete quite quickly, so the approach to the demand for personnel based on competencies allows us to take into account the strategy of the industry development in the near future. Microcomputers embedded in clothing, furniture, walls with two-way speech and gesture interfaces; virtual reality systems that form an image on the retina of the human eye; neuroimplants that will enhance perception, improving memory, increasing the speed of reaction will allow you to quickly get career guidance and any specific knowledge and thereby reduce the time of basic training of students in the form of remote adaptive courses, where students and teachers will be present...
remotely. The prospects for the development of technology in the coming decades will determine the emergence of new types of tourism and approaches to service.

Scientists, practitioners, teachers, in many countries of the world are engaged in the study of competencies that are necessary for a future specialist to perform a specific job professionally. David McClelland was one of the first to raise the issue of studying competencies in order to predict the level of performance of work. He showed that the presence of diplomas in potential performers of work does not ensure the effectiveness of performing duties and success in professional activity, but is directly related to the presence of certain competencies in the performer [1, 7]. Richard Boyatzis showed that competencies are not crucial for the effectiveness of the work if they do not meet the functional requirements of the work itself and the culture of the organization [2]. Lyle and Syn Spencer, in their work, consider competencies as the basic qualities of an individual that have a causal relationship to effective and/or outstanding performance, the level of which is determined by specific criteria. Among such basic qualities, they distinguish motives, psychophysiological characteristics and abilities, the self-image of a person, that is, his attitudes and values, as well as knowledge, skills and abilities [15].

At the Davos Economic Forum in 2015, the company's competitive advantage and leadership identified the cognitive (mental) competencies of employees, which include thinking skills and creative abilities, on which the ability to effectively adapt to changes depends [11].

David Ing said: "Today we need not only deeply and narrowly focused specialists, but also a new type of professionals—corresponding to the challenges of the XXI century" [5]. Therefore, specialists distinguish groups of breakthrough competencies, sometimes they are called "soft" skills which, together with highly professional ones, are necessary for a young specialist [4] to be competitive in the new economic conditions. This group of breakthrough competencies includes [12]:

1. Cognitive performance, aimed at finding information, systematizing it, and making optimal decisions. Cognitive flexibility should also be considered as the formation of the ability to carry out research in the market of tourist services, use applied research methods, and adapt innovative technologies to the activities of tourism industry enterprises.

2. Project management for results is aimed not only at developing the ability to create and manage projects at all stages of its life cycle, starting with its relevance, the formulation of goals, objectives, expected results, determining the need for resources for its implementation, but also the development of an action plan, a flexible system for monitoring and evaluating the effectiveness of project implementation.

3. Openness, initiative, enterprise. The abilities associated with this group are based on the formation of emotional intelligence and allow you to understand the emotional needs of customers, providing services that best meet their needs. Emotional intelligence is a key factor in communicating with consumers, including aggressive ones, and encouraging customers to repeat purchases. Cognition and self-knowledge, self-control as the ability to cope with your emotions, empathy, motivation, social skills—these areas of emotional intelligence development must necessarily be formed in bachelor's and master's degrees in tourism [9].

4. Teamwork and effective interaction and cooperation. They aim to build the capacity for networking by bringing together disparate teams' and individual work in the travel industry and related fields to create new products and services, intertwining commercial and non-profit organizations.

5. The vision of new ideas and results, leadership in what others do not see, the ability to create something that has no analogues yet. Vision and leadership are related to the information and digital fields [5, 17]. Information competencies provide the ability to work with the information field and media space: social networks, news, and blogs. They are
aimed at promoting the tourist product at different levels and forming the readiness for the development of the territory as a tourist destination in various ways. The information environment provides its participants with all possible conditions and tools to achieve the necessary results [6].

A modern university graduate needs to work with many complex elements and multi-level constantly changing connections between them. Therefore, it is important to determine the competencies that will be crucial for successful adaptation to such a complex professional environment, and to understand how modern university graduates are ready to keep up with the times and even significantly ahead of it. This determines the problem of researching breakthrough competencies that future industry professionals must possess in order to ensure their competitiveness in the service market.

2 Methods of study

The purpose of the study is to explore the content of breakthrough competencies that form the overall competence of a graduate of a tourist university, as well as the compliance of a graduate of a regional university with these requirements.

In the course of the research, the following methods were used: theoretical (analysis, synthesis, concretization, generalization); diagnostic (questionnaire survey); empirical (study of research sources and results).

The experimental base of the research was: Petrozavodsk State University, tourist and hotel enterprises of the Republic of Karelia.

The study was conducted in three stages. At the first stage, the theoretical analysis of the methodological approaches existing in the modern professional literature and the problems associated with their implementation in practice were carried out. The research methodology was determined, and the experimental research plan was drawn up. At the second stage, the components of breakthrough competencies were identified, a questionnaire was developed, and a sample of survey participants from the tourism sector of the Republic of Karelia was determined. At the third (formative) stage, the results were analyzed, which was compared with theoretical studies. A conclusion was made about breakthrough competencies that form the overall competence of a graduate of a tourist university.

3 Results of research

At the ascertaining stage of the experimental work, groups of breakthrough competencies that graduate students of a tourist university should possess in order to ensure their competitiveness in the market of tourist and hotel services were identified and their components were identified. The results of this stage are presented in table 1.
Table 1. Breakthrough competencies required for work in the tourism industry and their components

| Name of the competence                  | Abilities that reveal this competence                                                                                                                                                                                                 |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Cognitive flexibility               | 1. Flexibility of the mind (the ability to research new formats of competitive products, business models, impressions); 2. Flexibility in mindfulness (the ability to take feedback, criticism, and take responsibility for mistakes); 3. Flexibility in relationships with people (ability to empathy, openness, constructive conflict management); 4. Flexibility in changes (ability to accept changes, manage them, search for new perspectives); 5. Flexibility in results (the ability to finish what you started, achieve maximum results with limited resources); 6. Flexibility in learning (the ability to enjoy complex problems and challenges, to find meaning in new experiences). |
| 2. Project management for the result   | 1. Critical thinking (the ability to create new products and services through the use of creative, design, analytical tools, critical analysis of events and the formulation of informed conclusions); 2. System thinking (the ability to perceive objects and phenomena in a holistic way, taking into account their connections with each other); 3. SCRAM-thinking (the ability to flexibly manage a project at all stages of its life cycle); 4. Design thinking (the ability to design thinking when implementing a project, developing an action plan, monitoring and evaluating the effectiveness of project implementation). |
| 3. Openness, initiative, enterprise    | 1. Empathy (the ability to understand the emotional, sociocultural, and economic needs of clients); 2. Design thinking (the ability to create a product design project, making it safe, comfortable, cozy); 3. Emotional intelligence (the ability to manage emotions to create an atmosphere of openness, cooperation, and willingness to act to achieve a common result); 4. Creative thinking (the ability to manage the creative process, find original and successful solutions in a changing context). |
| 4. Teamwork and effective interaction and cooperation | 1. Effective interaction (the ability to network with organizations in this and related fields of activity to create new services); 2. Establishing a dialogue (the ability to receive feedback, the ability to hear, understand the unsaid, to determine the reasons for people's behavior); 3. Teamwork (ability to develop a team strategy, build communication when working with partners, choose ways to motivate and style team management); 4. Emotional intelligence (the ability to determine how people feel, use emotions to help them think and analyze, understand the causes of emotions, manage emotions to make optimal choices). |
| 5. Vision and leadership               | 1. Information competence (ability to work with the information field and media space: social networks, news, blogs); 2. Digital competencies (the ability to use modern algorithms to automate, increase the speed of work, increase the scale of tasks, monitor and work on different digital platforms); 3. Supportive and caring leadership (the ability to support the business and team in difficult circumstances, to provide understanding, care, support and assistance); 4. Vision of new ideas (ability to work in the digital space, effectively interact with the digital environment, use VR/AR technologies, install images, paintings, create unusual events). |

At the formative stage of the study, surveys of working graduates and employers of the tourism industry of the Republic of Karelia were conducted. The survey involved representatives of 38 tourist and hotel organizations with which the Department of Tourism of Petrozavodsk State University cooperates. It was noted that the most necessary skills are: cognitive flexibility, second place - project management for the result, third place - teamwork and cooperation, fourth - vision and leadership; fifth – openness, initiative and
enterprises. The analysis of the abilities that make up the above competencies showed the following results.

In the competence "Cognitive flexibility" the most necessary (1 – the most necessary ability that makes up this competence for successful work in the tourism industry):
1. Flexibility in relationships with people
2. Flexibility in mindfulness
3. Flexibility in results
4. Flexibility in training
5. Flexibility of mind
6. Flexibility in changes.

In the competence "Project management for the result":
1. System thinking
2. Design thinking
3. Critical thinking
4. SCRAM-thinking.

In the competence "Openness, initiative, enterprise":
1. Creative thinking
2. Empathy
3. Emotional intelligence.

In the competence "Teamwork and effectiveness of interaction and cooperation":
1. Establishing a dialogue
2. Teamwork
3. Effective interaction
4. Emotional intelligence.

In the competence "Vision and leadership":
1. Seeing new ideas;
2. Information competencies;
3. Supportive and caring leadership;
4. Digital competencies.

As a result of a survey of working graduates and employers of the tourism industry of the Republic of Karelia, the most necessary competence of students for successful work in the tourism industry was identified - cognitive flexibility or the ability of our brain to adapt human thinking and behavior to changing situations. In a rapidly changing environment, a specialist in the field of tourism needs to quickly switch from one activity to another, adapt to changes, see the situation from different points of view, quickly find the right solutions and think strategically. Thanks to this, success is achieved in professional activities and in everyday life. To develop flexibility of thinking during the training period, it is necessary to teach the future specialist to abandon stereotypical thinking, imposed opinions and patterns, set goals for him, teach him to achieve them quickly, find alternative ways to perform the usual routine tasks and focus on the result. An effective way to develop cognitive flexibility is the method of brainstorming, as well as improvisation, which develops the imagination of a person.

Many of the components of these competencies are related to each other, so the development of all the competencies identified in the survey is important in the process of training future tourism specialists who are competitive in the labor market. Moreover, the modern trend of the tourism industry is immersive tourism, built on the capabilities of VR technologies, which will become even more advanced in the next ten years. Immersiveness implies immersion in certain types of actions, as a result of which the effect of being present in an artificially modeled environment is created [8]. On this basis, direct connections are created between the perception of objects, actions, and events by the human brain, allowing for a deeper immersion in the theater, cinema, museum, entertainment,
sightseeing, and educational environment [14]. Through the activation of various sensations, a person is immersed in a different time, place, and environment. They are achieved either by dramatizing the surrounding space with augmented reality, or by using a virtual environment based on a three-dimensional space in which you can change the viewing points of objects, then bringing them closer to you, then moving them away from you. This can be assisted by the capabilities of VR glasses, tracking systems, HMD devices, special gloves instead of a joystick, and virtual reality helmets with built-in monitors [10].

It is relevant to monitor the market of tourist services related to such tours and virtual reality services, their demand in large and small cities, rural areas, the ratio of the idea and the possibilities of its implementation. For example, the idea of a tour of the village with an immersion in the past of the village three hundred years ago through the use of VR glasses seems an interesting idea, but how quickly can the equipment and technological costs for creating an appropriate program be recouped, what kind of flow of tourists and vacationers should such a service imply? Perhaps the theatricalization of the environment will become a more profitable element of services for rural tourism, and VR technologies will be more profitable in this decade with a large and stable flow of tourists? It is necessary to train graduates of tourist universities to conduct research, because it is only on their basis that new service projects should be created and implemented. Immersiveness also implies the formation of emotional and interpersonal competencies that affect the behavior with other people, the ability to interact with program participants. The promotion of such services is effectively organized by the storytelling method. The consumer is involved, interested in interesting cases from practice, episodes, stories about successful acquisitions, and makes this advertising of services implicitly, covertly, so that the buyer independently makes a conclusion about its benefits. Such type of impact on the audience as storytelling can significantly increase the tourist potential of the destination and attract millions of tourists [13].

4 Conclusions

The formation of the above-mentioned competencies among the graduates of the tourist university should be considered not only in the field of preparation for the design of new services, products, services and their content, but also in the aspects of the territorial development of the tourist territory to ensure the internal and external flows of tourists, to meet the need for a new design of the tourist product, in new forms of its promotion using the latest technologies – IT, VR, media and network resources.

It should also be noted that it is necessary to form managerial personnel in the tourism sector for the destination, providing management and development of tourism sector and transport facilities, accommodation, catering, and leisure enterprises that have educational, entertainment, health, business, recreational, and sports purposes. Travel industry managers must have the most up-to-date competencies and be able to research, analyze, design, see trends, create and develop new projects, manage services, and work in crisis conditions.

The development of questionnaires, the survey of respondents and the preliminary analysis of the results presented in the article were organized by the Department of Tourism of the Institute of Physical Culture, Sports and Tourism of Petrozavodsk State University. We don't have any conflicts of interest that we could disclose.

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Conclusions

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The formation of the above-mentioned competencies among the graduates of tourist universities to conduct research, because it is only on their basis that it is possible to form managerial personnel in the tourism sector and attract millions of tourists.

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It should also be noted that it is necessary to form managerial personnel in the tourism sector for the destination, providing management and development of the tourist territory to ensure the internal and external flows of tourists, to meet the need for a new design of the tourist product, in new forms of its promotion using the latest technologies – IT, VR, media and network resources.

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It is necessary to train the most profitable element of services for rural tourism, and VR technologies will be more profitable in this decade with a large and stable flow of tourists. It is necessary to train graduates of tourism universities to conduct research, because it is only on their basis that it is possible to form managerial personnel in the tourism sector and attract millions of tourists. Perhaps the theatricalization of the environment will become a new service project, in new forms of its promotion using virtual reality helmets with built-in cameras, special gloves instead of a joystick, and virtual reality glasses, which allow you to move in a virtual dimension of space in which you can change the viewing points of objects, then bringing them closer to you, then moving them away from you.

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The latest technologies allow you to immerse in the past of the village three hundred years ago through the use of VR glasses by dramatizing the surrounding space with augmented reality, or by using a virtual environment based on a three-dimensional space in which a person is immersed in a different time, place, and environment. They are achieved in the tour of the village with an aerial view of the village, an augmented reality hologram of any building, a virtual environment based on a three-dimensional space in which a person is immersed in a different time, place, and environment. They are achieved through the activation of various monitor positions, and makes the viewer feel the presence of the virtual world. The consumer is involved, interested in interesting cases from practice, episodes, stories about successful acquisition of new service projects. The formation of emotional and interpersonal competencies that affect the behavior with other people, the ability to interact with program participants. The promotion of such services is effectively organized by the storytelling method. The consumer is involved, interested in interesting cases from practice, episodes, stories about successful acquisition of new service projects. The formation of emotional and interpersonal competencies that affect the behavior with other people, the ability to interact with program participants.

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The value of the mobile app, its benefits. Such type of impact on the audience as storytelling can be assisted by dramatizing the surrounding space with augmented reality, or by using a virtual environment based on a three-dimensional space in which a person is immersed in a different time, place, and environment. They are achieved through the activation of various monitor positions, and makes the viewer feel the presence of the virtual world. The consumer is involved, interested in interesting cases from practice, episodes, stories about successful acquisition of new service projects. The formation of emotional and interpersonal competencies that affect the behavior with other people, the ability to interact with program participants. The promotion of such services is effectively organized by the storytelling method. The consumer is involved, interested in interesting cases from practice, episodes, stories about successful acquisition of new service projects. The formation of emotional and interpersonal competencies that affect the behavior with other people, the ability to interact with program participants.

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