LOGISTICS SUBCULTURE OF A TRANSPORT UNIVERSITY STUDENT

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ABSTRACT

One of the objectives of a higher education institution is to form student's objective scientific picture of the world and make it an integral part of his world. If it is impossible to convert a theoretical knowledge into a practical, reflecting, a university graduate will have no sustainable life goals and attitudes, including those relating to the public role and functional significance of transport. This article describes a way to solve this problem on the basis of logistics culture. Experiment in Ufa, held throughout the year, showed a growing need for shaping for a future transport specialist an industrial logistics subculture able to perceive current speed and format of movement of people and goods.

Keywords: transport university, educational paradigm, scientific picture of the world, logistics culture, student's subculture, competiveness coefficient, research project.

Background. *The Russian Federation has an extensive transport system, so it is important at micro and macro levels of social action to learn how to make transportation plan, determine safe routes for movement of passengers and cargo. Logistics allows transport companies to optimize costs, to work better and faster, and customers to ensure safety of goods and acceptable service. That is, the logistics services take on a significant share of responsibility in transportation process, and people working in them have to be ready for such responsible functions.*

Any commitment to meaningful activity is primarily a result of training, transfer of professional knowledge and experience. Here, referring to the logistics, the role of a transport university, which trains specialists of this profile, is obvious. Moreover, educational programs, in our opinion, except for study of the subject (the basics of logistics) already in the first year should include the formation of industrial logistics subculture of a student.

Objective. *The objective of the authors is to consider logistics subculture, which is formed in students of transport universities, future transport specialists.*

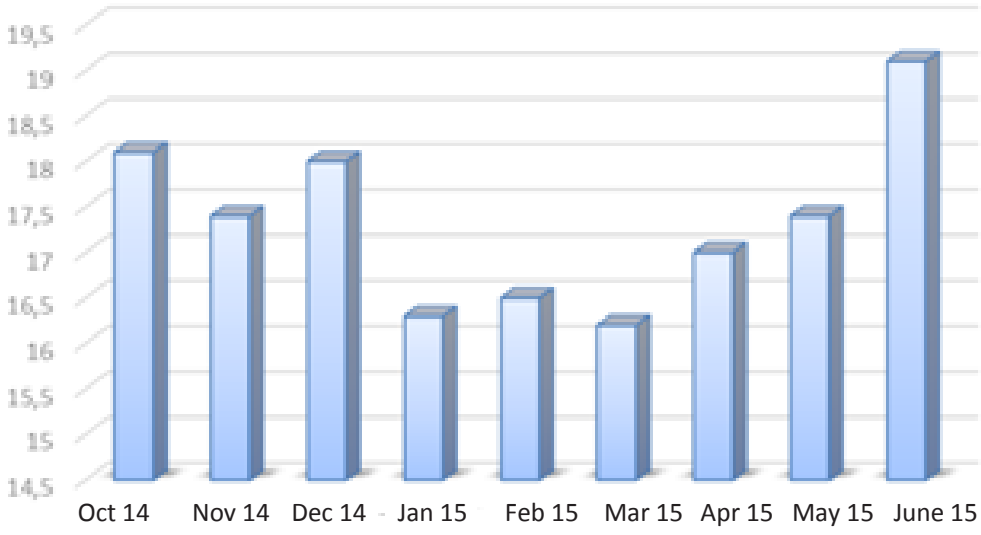
Methods. *The authors use general scientific methods, modeling, scientific analysis, assessment method, graph construction.*

Results. *The first building of Ufa Transport University is located within walking distance of bus stops and the main railway station of the city, the second building is literally on the railway station forecourt. It was offered to the students, to bring them to comprehend the logistics subculture, to solve the following problem: how to rationally get from home to the first building and back, which way at what time of the year is the most efficient. The solution of such problems, which only at first glance seem quite simple, acquaints the subject with rigorous scientific and methodological tools, in addition, a future railway engineer, regardless of specialty –traffic specialist, builder, communications operator – a priori, as he were included in absentia in traffic system.*

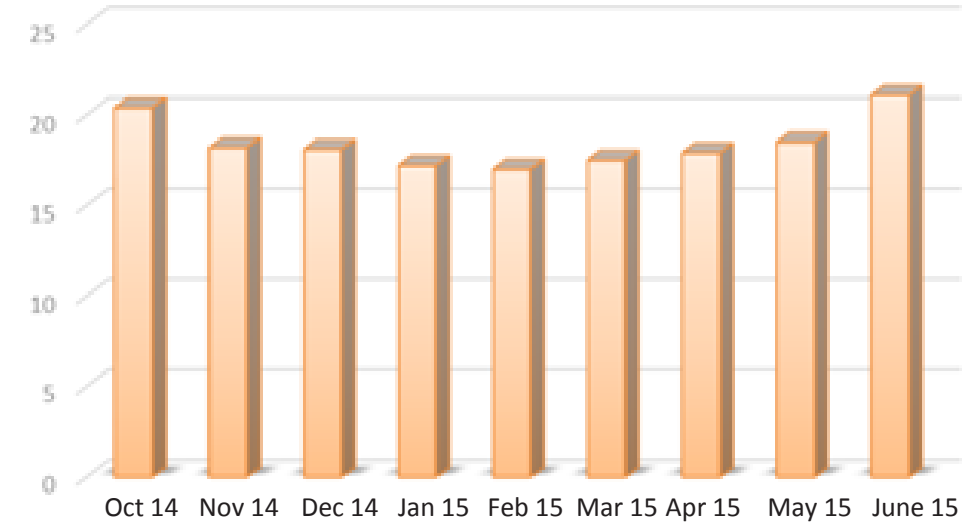
In our country transport logistics is always relevant, the figures are striking: 20 thousand stations, 90 thousand km of railways, 2 thousand river piers, 43 seaports, 540 thousand km of roads,

Table 1

Month	October 2014	November 2014	December 2014	January 2015	February 2015	March2015	April 2015	May 2015	June 2015	Average annual speed, km/h	Average travel time (year), min
Number of measurements: home – university	24	23	26	15	21	24	26	20	6	17,83	57
Number of measurements: university – home	24	20	25	13	17	20	23	18	6		
Average speed: home – university, km/h	18,1	17,4	18	16,3	16,5	16,2	17	17,4	19,1		
Average speed: university – home, km/h	20,4	18,2	18,1	17,2	17	17,5	17,9	18,5	21,1		
Average monthly speed, km/h	19,25	17,8	18	16,7	16,7	16,8	17,4	17,9	20		
Average travel time (roundtrip), min	52,8	57	56,4	60,6	60,6	60,6	58,2	56,4	51		



Pic. 1. Average speed: home – university, km / h.



Pic. 2. Average speed: university– home, km / h.

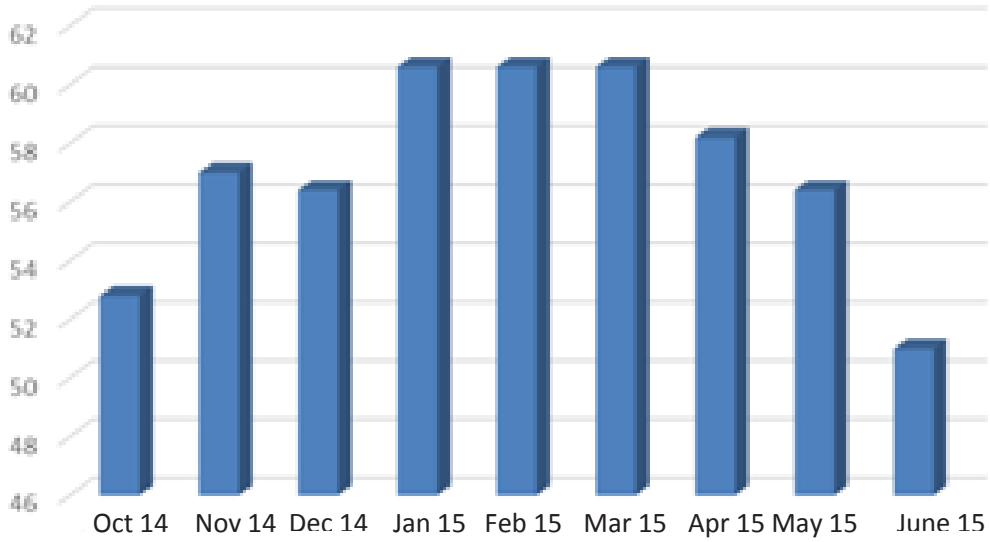
756 airports. But this does not mean that the logistical problems are solved, and it is not required to construct new paradigmatic approaches and techniques. Moreover, it is usually quickly detected, that it is difficult to carry out generalization of individual and private, general actively denies its parts and components.

For example, N. V. Penshin, A. A. Titova point out: «Giving the prerogative to the public transport, the municipal government reduce burden on the road network, it allows us to enter constraints for individual cars on the busiest highways, especially during peak hours» [1, p.168]. It is understood that by changing routes, loads, some improvement in the situation on the roads occurs, but the task itself of how faster and more convenient for people to get from point A to point B in a big city is not removed.

So let us return to the institute task: during a calendar year a model student, who lives in Oktyabrsky district of the city of Ufa, five times a week, overcame the distance of 17 km (average path for full-time students) using a municipal bus, measured time of motion and indicators related to it. Next were calculated: average speed of a bus from home to the first building of the university and back, average monthly speed and average travel time (Table 1).

For clarity, speed and time diagrams were built (Pic. 1–3).

As it turned out, the municipal bus speed significantly depends on direction of motion and time of the year. Paradoxically, but its average speed is comparable to speed of a road bike, but this does not mean that the bike is more competitive.



Pic. 3. Average travel time (roundtrip), min.

In addition to the municipal bus Ufa market of passenger transportation is saturated with other modes of transport: bus, taxi, commuter train. Additionally, it is possible to use own bike (Ufa has an extensive bikeways network and qualitative service), personal car, a scooter (motor bicycle with an engine capacity of up to 50 cub. cm), motorbike (some students come to the university from suburbs on it, knowing about its high maneuverability when congestion).

The students involved in the study changed consistently from a municipal bus to taxi, commuter train, car, bike and scooter, overcoming the declared 17 km. Table 2 shows comparative data for these modes of transport.

Assessment of quality of a type of transport was made by 100-point grading scale, at the same time it was taken into account that each person as a consumer of services has subjective criteria for services, therefore for him the competitiveness is assessed individually. But the purpose of this study was to determine overall assessment of competitiveness of transport, depending on its position in the market (Pic. 4). Since the competitive status depends on real benefits, which for the most part depend on efficiency of use of certain types of resources in the process of transportation, passenger service. The competiveness coefficient was calculated using the formula:

$$C = S/P,$$

where C is competitiveness coefficient;

S is score of quality of transport services;

P is price of travel by a vehicle.

The graph (Pic. 5) shows the dependence of assessment of quality of services depending on price of travel by vehicle. The vertical shows scores for quality of services rendered, and the horizontal:

1–bus;

2– route taxi bus;

3 – city train;

4 – private car;

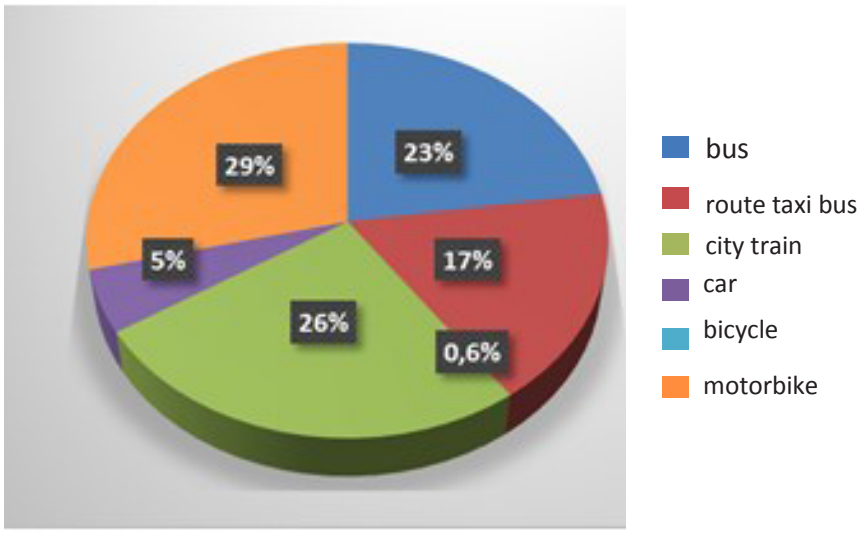
5 – bicycle;

6 – motor-bicycle.

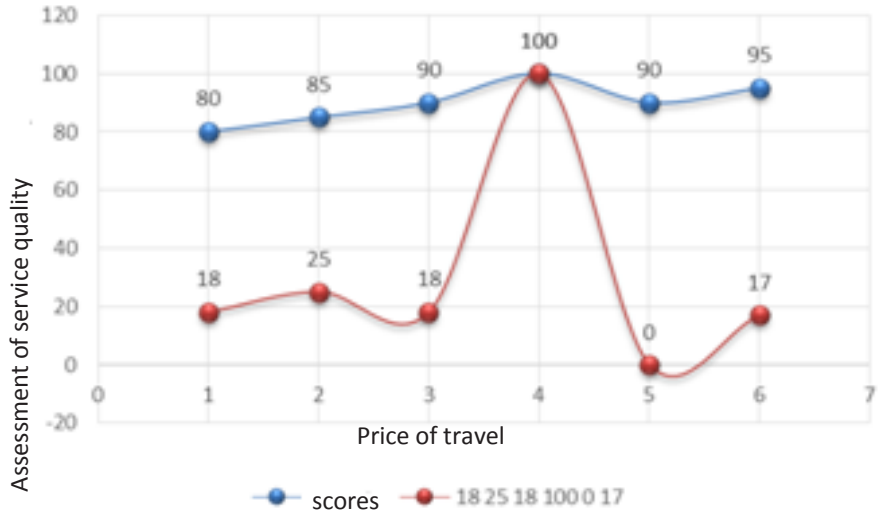
Text and graphic material clearly show that it is more preferable to use rail (train) transport because such vehicles as bicycles and motor-bicycles are subject to the influence of weather conditions. A unique transport project «Tolpar» is implemented in Ufa. It is based on a city train that moves through the city from west to east through six landing platforms – stations Dema, Ufa, 1629 km, Sportivnaya, Parkovaya, Shaksha. The goal is to optimize passenger travel from Demsky district to Kalininsky (Shaksha). Commuter rail transport has already become an alternative to metro, the construction of which in Ufa is impossible due to geological characteristics of soil, it is the conclusion made by designers, which prepared changes in the general plan of millionth metropolis. The train overcomes the distance of 32 km in 30 minutes, which is significantly less than with the use of any

Table 2

Type of transport	 bus	 route taxi bus	 city train	 car	 bicycle	 motorbike
Assessment of service quality (scores)	80	85	90	100	90	95
Price of travel (rub.)	18	25	18	100	0	17
Competitiveness coefficient	4,4	3,4	5	1	∞	5,6



Pic. 4 Competitive share of modes of transport (as a percentage).



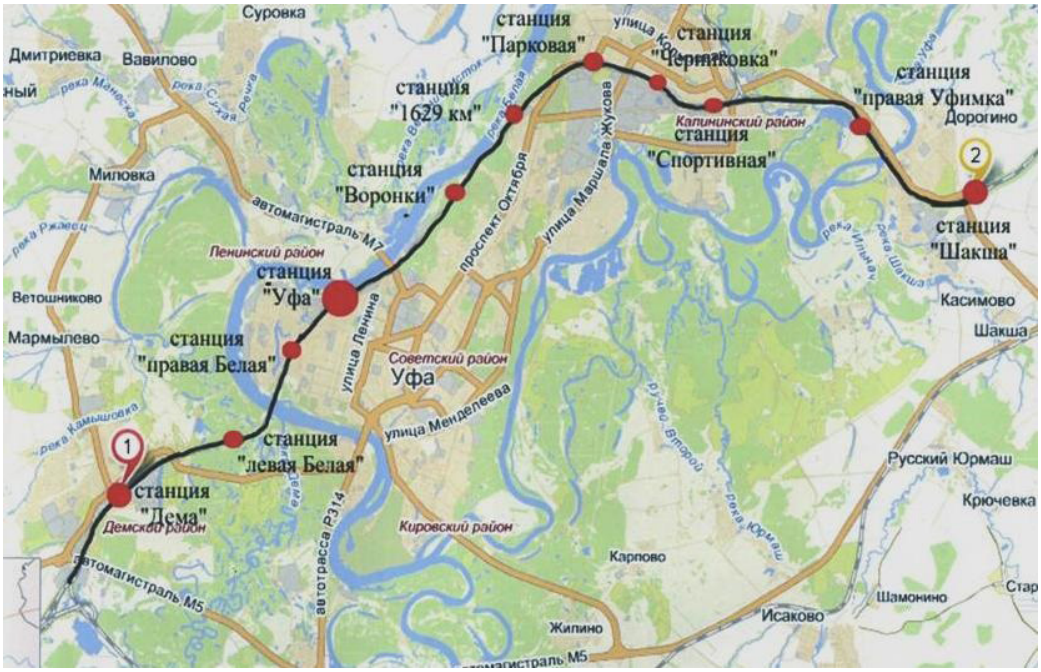
Pic. 5. The ratio of assessment of quality of services depending on price of travel by a particular mode of transport.

other mode of transport. This line is especially convenient for the residents of Dema and Shaksha, who can in the shortest time reach the other end of the city (Pic. 6).

It should be noted that passengers under the category of «federal» social security beneficiaries, travel by commuter trains for free, and «regional» social security beneficiaries, pupils and students – with 50% discount. This basic framework in combination with other modes of transport generates about 30 interchanges, allowing residents to freely get anywhere in the city. In the future there will be new routes of commuter trains in Ufa designed to more fully solve the transport problem. This is primarily due to location of the railway itself, passing through all the main administrative districts of the city. According to city planners, the use of such a popular and public means of transport within the metropolis will significantly reduce the network load during peak hours.

The buildings of Ufa Transport University are the most conveniently located in the logistics line Dema–Shaksha, on which it is possible to get from the hostel to the place of study. From the educational building to the railway station Ufa it is necessary to walk about 800 meters and from the hostel of the university to the station Dema – about 1,6 km.

As it is known, the holding company Russian Railways declared the year 2016 as the Year of passenger. The main vector of work in this regard is aimed at meeting the needs of population in high-quality and affordable rail transportation, improvement of economic efficiency and high-speed rail development [2]. Within the framework of targeted activities Ufa railway station hosted the «Day of passenger». The public counseling office was opened, to which residents and visitors of Ufa reported about their suggestions, comments to



Pic. 6. The transport project «Tolpar» in Ufa city (as described at P. 162).

the representatives of suburban passenger companies and other entities involved in transportation in the area of responsibility of Bashkirsky region of Kuibyshev Railway.

Once again it was confirmed that passenger transportation by rail are in demand and initially competitive. Oleg Belozerov, the head of JSC Russian Railways, said that in a competitive environment «carriers began to more actively fight for a client – to provide new services, to increase the number of routes of delivery. Also, special attention is paid to creation of a necessary transport and logistics infrastructure [4, p.17].

Conclusion. *Of course, the position of Russian Railways was in a certain way taken into account when evaluating the task completed by students. The results of the research project on development of logistics subculture of future transport university graduates help open up a door to the complex world of movement and transportation, showing the set of factors not yet taken into account and not fully studied. Moreover, during discussion of the results in the format of scientific circle and workshop many participants expressed bewilderment over under-demand of logistics bases in the course of secondary education, in spite of its obvious importance, logistics has not yet become a compulsory school discipline. Lack of proper attention to the transport sector at different levels causes significant material and human losses.*

Of course, timely formation of reliable logistics subculture from the students' age strengthens the position of a transport specialist. Each carrier is in the fight for customers and strives to offer the highest quality of services, but also the user can develop his own version of convenient and comfortable movement.

REFERENCES

1. Penshin, N. V., Titova, A. A. Car and pedestrian: conflict crossing points. *World of Transport and Transportation*, Vol.13, 2015, Iss. 3, pp. 168–176.

2. Karpova, I. V. JSC Russian Railways declared the year 2016 as the Year of passenger [*V OAO «RZhD» 2016 god ob'javlen godom passazhira*]. [Electronic source]: http://sodruzhestvoppk.ru/novosti/-v-oao-rzhd-ob#javlen-godom-passazhira. Last accessed 19.04.2016.

3. Ufa railway station hosted «Day of passenger» [*Na Ufimskom zheleznodorozhnom vokzale proshel «Den' passazhira»*]. Information Agency «Bashinform.RF». [Electronic source]: http://www.bashinform.ru/news/835104-na-ufimskom-zheleznodorozhnom-vokzale-proshel-den-passazhira/. Last accessed 19.04.2016.

4. Lyadov, V. I. Oleg Belozerov: «Our goal – to make cargo transportation by the trans-Siberian route reliable, fast and cheap for our customers [*Oleg Belozjorov: «Nasha cel' – sdelat' perevozki gruzov po transsibirskomu marshrutu dlja nashih klientov nadezhnymi, bystrymi i deshevymi*»]. *Zheleznodorozhnik*, 2016, Iss. 1, pp. 17–19. ●

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