

THE ANALYSIS OF ECOLOGICAL CULTURE AND BEHAVIOUR OF STUDENTS AND EMPLOYEES IN RUSSIAN UNIVERSITY

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Abstract. Education should play an important role in sustainable development all over the world. However, at present, education often contributes to unsustainable living and the reason for it is low ecological culture of students and employees of institutions. The paper outlines problems in the area of ecological culture and behaviour of students and employees in Russian University. The survey was carried out using questionnaire. There were both open questions and multiple choice questions. The article presents the main results of the survey. Data analysis shows that the general level of ecologic culture of students and employees is not very high but the most of them are ready to support the ecological activities of the university. The students under 22 were the least conscious in issues of ecologic culture and ecologic behaviour. The majority of respondents point out that social advertising, visual aids and other means of educating in this field could enhance ecologic culture and motivate people to demonstrate better ecologic behaviour.

Key words: sustainable development, education in sustainable development, research of ecological culture, research of ecological behaviour

JEL code: M310, Q56, I310

Introduction

Issues of sustainable development in the Russian Federation are especially acute today. Subject to Strategy 2020, Russia sets the goal of attaining the trajectory of sustainable development and well-balanced growth to pass over to innovation stage of economic development and to build infrastructure adequate to post-industrial society (Strategy 2020: New..., 2011).

It is obvious that the attempt to catch up with developed countries and to enhance well-being of the population by intensive industrialization and ignoring ecological standards could cause sharp deterioration of ecological situation, especially in metropolises and industrial centres. Therefore, it is essential to find new ways, which could allow the country to develop its social and economic system on the basis of sustainable development principles. In early 2016, V.V. Putin, the President of the Russian Federation signed the edict concerning declaration of 2017 the Year of Ecology in the Russian Federation (Presidential Decree dated..., 2016), which would attract public attention to ecologic development in the Russian Federation and guarantees of ecologic security of the country. In view of these tasks, education institutions face the objective of supporting and fostering to the development of

strategy aiming at sustainable development of the country.

Apart from that, education institutions would be provided with an opportunity to improve their status and the status of education in general as a civilization institution, a chance to demonstrate their potential in the field of shaping ecological culture, which in its turn could ensure sustainable development and sustainable growth of society as a whole.

It should be mentioned that the initial point of ecologic education and the basis of university sustainable development was the concept formulated in 1987 in the report of the UN World Commission on the environment and development "Our Common Future", which is known as Bruntland Report (Our Common Future..., 1987). This concept identifies key ways of overcoming ecological and social problems accompanying economic growth. Later the World Conference on Environment and Development in Rio de Janeiro adopted strategy of sustainable development as a global strategy (1992) and education was assigned one of the principle parts within the frame of this strategy.

Thus, we can say that first research and investigations in the field of sustainable development and identifying the role of education and education institutions in this process came

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into being nearly three decades ago but this work is still far from its end.

In 1990, we got first findings on mechanisms, which can provide universities' transition to principles of sustainable development. It took place at the International Conference in Talloires, France, where a project group of 31 universities from 15 countries adopted the Declaration known as Talloires (Talloires Declaration, 1990).

University Rectors confirmed their adherence to principles of sustainable development in higher education and outlined an action plan. So far, more than 400 universities from different countries have signed the Declaration. The action plan consists of 10 items (Association of University..., 1990).

In 2009, Bonn hosted the UNESCO World Conference on Education Aimed at Sustainable Development, which secured the status of education as a decisive factor in shaping sustainable development in society (Bonn Declaration, 2009).

In 2016, the 8th Conference of Ministers "The Environment for Europe" took place in Batumi, Georgia, which worked out the Draft Batumi declaration of ministers on education aimed at sustainable development (Learning for the..., 2016). It pointed out that it was necessary to improve cooperation in the field of environment protection, transition to "green economy" and support of sustainable development. It was also underlined that by 2030 all students should get knowledge and skills needed to foster sustainable development. The Declaration puts forward the idea to include education aimed at sustainable development in pedagogical education and training of all teachers and lecturers. It focuses on network collaboration between education institutions and bodies of local government, civil society, academic and scientific quarters, non-government organizations, business structures and enterprises, which would provide an opportunity to efficiently implement education

aimed at sustainable development (Learning for the..., 2016).

However, today in contrast to the concept of sustainable development, which was officially recognized, the theoretically substantiated ideas, principles and mechanisms of sustainable development of university and strategies of its transition to "green" university have not been developed well enough.

We think that the concept of sustainable development should be adapted for education institutions, which could enhance efficiency of its interactions with economic, ecologic and social environmental factors in the process of its functioning. Understanding the role and contribution of university to sustainable development in the country, on the one hand, could allow the university work effectively, but on the other hand, could create competitive advantages to form the image of the "green" university to cut costs on key sources of environment pollution.

However, to design strategy of "green" university, it is necessary, first of all, to assess the level of ecological culture of students and employees of the institution as it is university students and employees, who would transmit ecological initiatives of the university and would shape and support its "green" image. At the same time, it is essential to estimate their readiness to stick to ecological behaviour, which would allow university to decrease environment contamination through cutting water and electricity consumption (expenses on lightning) and passing over to separate collection of wastes etc.

In view of all these factors, the goal of the present sociological research was to survey students and employees and to collect empiric data concerning the level of their ecologic culture and ecologic behaviour.

The key target of the article is to describe findings of the research, which in line with other investigations of the authors have built the

foundation for designing the road card of university transition to principles of "green" institution.

The research was carried out in several stages. At the 1-st stage, the questionnaire was worked out, which consisted of three blocks: the introduction with greetings, the body and the classification part (passport block). The introduction consists of greetings and an appeal to the respondent, it explains the aim of the survey, motivates to giving honest answers to questions and explains rules of questionnaire filling in. Questions of the body aimed at disclosing information and estimating indicators necessary to resolve the set tasks. There were both open questions and multiple choice questions with one open variant of the answer (for example, "Other"_____). Apart from that in order to conduct statistical analysis and to develop ratings measuring technologies of sociological research, i.e. scales (interval, nominal, rating) were used. The passport block included questions, which later would help carry out the comparative analysis by social and demographic parameters of respondents.

The research questions included the following:

- assessment of the general impression and respondents' attitude to litter in classrooms (papers, food packing, water bottles left in classrooms);
- the degree of respondent's agreement with the statement "I can leave in the classroom litter (bottles, papers, packing)". By this question we could find out the respondent's ecological behaviour. On the basis of these answers, we could assess:
- the share of respondents demonstrating different ecologic behaviour and explanations given by respondents about their behaviour;
- social and demographic characteristics of respondents demonstrating different models of behaviour in respect of litter left in the classroom;

- comparison of behaviour model with social and demographic profile of respondent;
- correlation between the attitude to litter in classrooms and readiness not to allow others to dirty classrooms with litter, readiness to separate collection of waste;
- attitude of respondents to separate collection of waste, including social and demographic characteristics of respondents and their readiness to change their behaviour in respect of waste collection;
- models of ecologic behaviour and prospects for using ecologic navigation as a step aimed at decreasing the number of cases of leaving litter in classrooms and public places;
- respondents' attitude to non-switching off light in classrooms;
- ecologic behaviour of respondent in question concerning "switching off light in classrooms";
- explanation of respondents dealing with the phenomenon (the light being left switched on in classrooms) and explanations of the respondent's behaviour. As the question was connected with a delicate subject, it was reasonable to ask an indirect question in order to reduce the degree of refusal to answer and the degree of answer distortion. In the following analysis of respondents' answers, we could make a comparative assessment of the respondent's behaviour, his/her evaluation of causes of the problem of non-switched off light in classrooms, general perception by the respondent of the problem, estimation of prospects of the problem solution with the help of ecologic navigation and social advertising;
- respondents' attitude to the efficiency of posters and social advertising to solve the problems (litter in classrooms, non-switched off light in classrooms).

Respondents also could suggest their measures to reduce cases of leaving litter and switched on light in classrooms.

The questionnaire consists of 18 questions (taking into account the block of information about the respondent).

The information was collected by surveying target audiences. The questionnaire was placed at the principle page of the university official portal, informing was provided through university accounts in social networks, through students-activists and e-mailing to employees. The survey was conducted from 02.11.2016 to 21.11.2016. As a result we got 152 filled-in questionnaires.

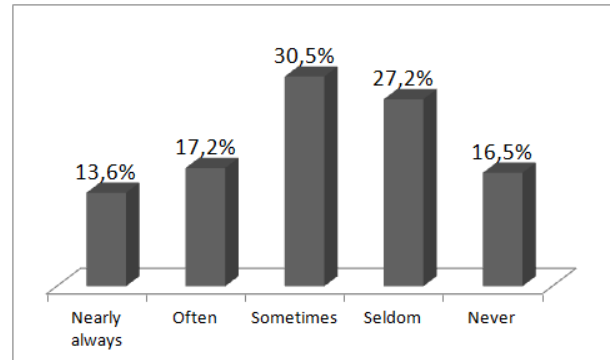
The 1st stage of the research also included certain procedures necessary to carry out the 2nd stage of the research. They include, for example shaping the structure, criteria of work and necessary material and technical resources for the team work centre (research headquarters); finding the quantity and structure of collaboration and roles in the project of collection and processing questionnaires.

The 2nd stage included: questioning, transforming the results of the survey in the e-form for further processing and analysis; processing of the information to get distribution of answers to questions; comparative analysis of answers to questions grouped by social and demographic criteria and other sections; preparation of conclusions and recommendations, based on analysis results.

The present research was done among students and employees of one institution and this does not allow us to extrapolate its results to other universities of the Russian Federation without additional research and preliminary adaptation and cannot be used to assess ecologic culture of Russian society in general. However, these findings can act as a starting point for similar research and can be used for comparative analysis in other investigations on this subject. At the same time, research conclusions can be helpful for universities designing strategies of sustainable development.

Research results and discussion

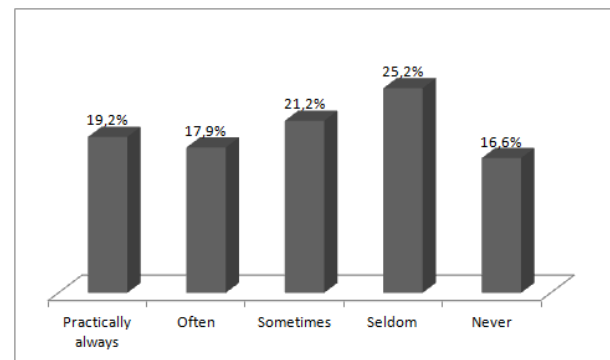
According to results of the survey, about 30 % of students and employees mention that they can often see litter (plastic bottles, papers, food packing) in classrooms (Fig. 1).



Source: author's calculations based on the results of survey

Fig. 1. Opinion of respondents about litter in classrooms

At the same time, 37 % of respondents pointed out that they often see switched on light in empty classrooms. The results are shown in Fig. 2.

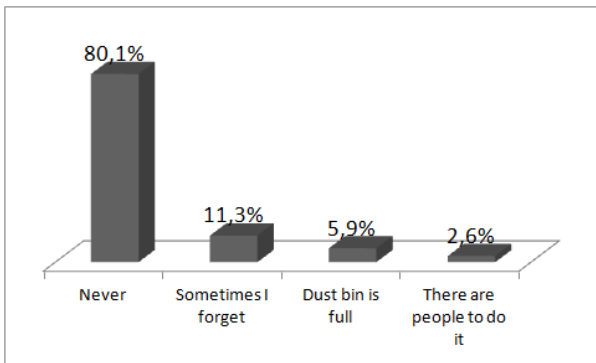


Source: author's calculations based on the results of survey

Fig. 2. Distribution of respondents' answers to the question "I see switched on light in classrooms every day"

According to the survey, 80 % of respondents say that they never leave litter (Fig. 3), 11.3 % say that sometimes they forget to take away litter, 5.9 % explain that they do not remove litter as the dust bin is full and 2.6 % think that there are people who are supposed to do cleaning as it is their job.

However, 10 % of respondents who said that "they did not like litter in the classroom as they never do it" acknowledged that "sometimes they forget to take litter away".



Source: author's calculations based on the results of survey

Fig. 3. Respondents' answers to the statement "I can leave litter (plastic bottles, papers, food packing) in the classroom"

As for separate collection of waste, respondents' answers distributed in the following ways: 74.8 % of people are ready and support the idea; 11.9 % understand the importance of separate collection of waste but are not ready for such behaviour; 13.2 % think there is no reason to start separate collection of waste.

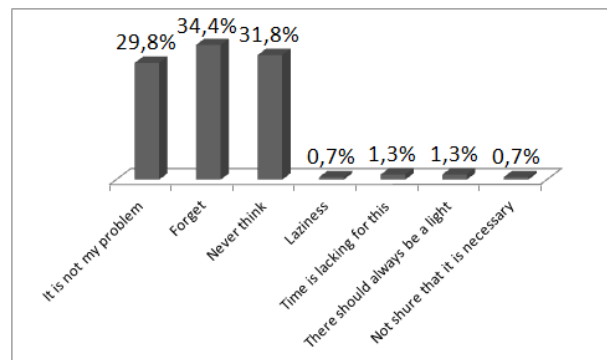
A half of respondents pointed out that they actually always switched off the light in case they were the last to get out of the classroom and never left litter there. More than a third of respondents said that they actually always switched off the light, if they were the last to get off the classroom and they never left litter there and at the same time they supported the idea of separate collection of waste.

Respondents under 22 were the most infantile: 13 % of them answered that "they did not take away litter as there were people who are supposed to do cleaning and it is their job"; other 13 % said that they did not remove litter as "the dust bin is full or it is not available" (for comparison we can mention that the frequency of such answers in general for respondents of all age groups was 2.6 % and 5.9 %, respectively).

A certain difference in ecologic consciousness can be observed in respect of gender: for example, 30 % of males wrote in questionnaires that the idea of separate collection of waste was not useful (while females gave the similar answer only in 7.3 % of cases). Higher ecologic

responsibility and activity of women was also confirmed in various international research. For example, research done in 15 different countries of the world by the research company "TGI Global" (Global TGI Barometer, 2005) showed that in Great Britain women were more interested in ecological problems than men and took more active position in issues of ecology and realizing ecology behaviour. In our early research (Lukina A., 2010), (Lukina A., Meshkov A., 2012), (Lukina A., Pohvoshev V., 2012) we also observed more active position of Russian women in issues of ecology and their readiness to demonstrate ecological behaviour.

As for possibilities of social advertising and ecologic prospects, 55 % of respondents agreed that they could help resolve the problem of ecologic behaviour (24 % answered "no" and 21 % of respondents found it difficult to answer).



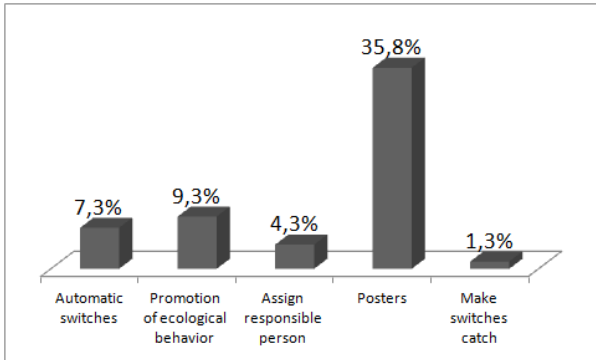
Source: author's calculations based on the results of survey

Fig. 4. Opinion of respondents about causes of non-switched off light in empty classrooms

At the same time, respondents say that they often leave the light switched on as "they do not know whether it is necessary to switch it off" (2 %), "never thought about it" (32 %), think that "it is not their problem" (30 %), or just forget about it (34.5 % - the most popular answer). The results are shown in Fig. 4. In this case, ecologic navigation and social advertising can change behaviour and attitude of students and employees and enhance their ecologic culture.

In case of the issue of non-switched off light in classrooms, respondents very often suggested

placing reminding posters (35.8 %), different ways of informing and educating (through monitors, lecturers, at meetings - 9.3 %) and fixing automatic switches and movement pickups (7.3 %). The results are given in Fig. 5.



Source: author's calculations based on the results of survey

Fig. 5. Respondents' opinion about measures which can resolve the problem of non-switched off light in empty classrooms

To resolve the problem of leaving litter in classrooms, respondents offer social advertising and various reminding posters (15.8 %), education talks (10.6 %), administrative impact, including fines (10 %), increasing the number and capacity of dust bins (13 %). Apart from that, there are suggestions concerning more evident dust bins or more creative dust bins to attract people's attention.

Conclusions, proposals, recommendations

- 1) Issues of sustainable development and transition of universities to strategy of "green" institution are extremely acute today. By analysing documents of the UN, the UNESCO, the UNEP adopted from 1972 to 2016 we can see that education was assigned a principle part in shaping "society of sustainable development" (Bonn Declaration, 2009).
- 2) In early 2016 V.V., Putin, the President of the Russian Federation signed the edict about declaring 2017 the Year of Ecology (Presidential Decree dated..., 2016), which would attract public attention to issues of ecological development of the Russian Federation and ensuring ecologic security of our country. In view of these tasks, Russian

education institutions, especially higher education institutions face a serious objective of adapting their strategies of development to new social-ecologic and economic conditions.

- 3) To implement strategy of sustainable development, universities should provide their students and employees with ecologic knowledge and to shape ecologic culture and it could give them an opportunity to act in the interests of sustainable development of the university itself and of Russian society in general.

- 4) The present research showed that:

- the general level of ecologic culture of students and employees is not high; many respondents do not think that it is necessary to switch off light in the classroom, they do not consider the idea of separate collection of waste and can leave litter in classrooms;
- about 75 % of respondents support the introduction of separate collection of waste in the university;
- among students' respondents under 22 are the least conscious in issues of ecologic culture and ecologic behaviour, which shows the important role of upbringing and educating functions of university in ecologic education;
- the majority of respondents point out that social advertising, visual aids and other means of educating in this field could enhance ecologic culture and motivate people to demonstrate better ecologic behaviour;
- gender differences in the level of ecologic culture and ecologic behaviour can be observed, so women are more active and more ecologically oriented;
- an unexpected fact was recorded that irresponsible ecologic behaviour, for instance non-switching off the light after getting out of the classroom, took place because respondents did not know whether they should switch the light off or it should be on in classrooms constantly; it points to the

necessity of educational and explanation work among students and employees;

- As measures, which could enhance ecologic culture and stimulate ecologic behaviour, respondents suggested: reminding posters,

explanation work, fixing pick-ups of automation light switching off, administrative impact through fines; creative decisions for dust bins, increasing their number.

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