

Participation of Environmental Science Students in an Open Discussion “Riga – European Green Capital”

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Abstract – Starting from the year 2010, each year one European city is selected as the European Green Capital of the year. The award is granted to a city that has a consistent record of achieving high environmental standards, and is committed to ongoing and ambitious goals for further environmental improvement and sustainable development, as well as can act as a role model to inspire other cities and promote best practices to other European cities. Riga participated in the competition once, but did not fulfill the conditions, therefore an open discussion “Riga – European Green Capital” was organized by a nongovernmental organization “Association of Environmental Science Students”. The aim of the discussion was to develop suggestions for the Riga city council on how to win the title “European Green Capital”. Students of technical and engineering sciences were involved in the discussion to give their vision on what is needed for the city to comply with all the criteria of the competition. Thus, another aim of the discussion was to promote collaboration between students and the Riga city council in terms of environmental thinking.

As a result of the discussion, a nine-page letter was prepared with recommendations to the Riga city mayor on how to develop the city in a sustainable manner and outlining benefits which could arise if the city of Riga got the title. However, the most important outcome of the discussion are the skills which students gained from the experience of presenting their ideas and discussing them with specialists of the specific field. This should help in further studies and work, as well as in individual professional development. The discussions were also a starting point for further collaboration between the Riga city council and students from the Association of Latvian Environmental Science Students.

Keywords – Environmental science, discussion, green capital, students.

I. INTRODUCTION

Students are the most progressive part of society, however frequently, due to a lack of experience, they have little opportunity to influence decisions made by national governments, municipalities and other authorities. Additionally, if such opportunities appear, they do not necessarily mean that the authorities will listen. Often, in order to achieve some goal, a group of people who think alike is formed.

The aim of the paper is to introduce a group of students who have established a nongovernmental organization, and to present one of the organization’s first undertakings – an open

discussion where the overall topic was the future development of the city of Riga.

The reason for choosing such a form for discussion was because this method is rarely applied in the everyday teaching process of students, and because it presented the opportunity to talk to municipal authorities on an equal level.

II. STUDENTS’ NONGOVERNMENTAL ORGANIZATION

In the beginning of the year 2010, a nongovernmental organization “Association of Latvian Environmental Science Students” was established. The idea of an environmental youth organization evolved already in 2008, when a meeting of environmental science students was organized. One of the meeting’s main goals was to consolidate environmental science students from all over Latvia to work on common goals. The meeting was attended by students from: Riga Technical University, Latvia University of Agriculture, Daugavpils University, Rezekne University, Liepaja University, and Olaine College of Mechanics and Technologies. After the meeting, discussions on the establishment of a united nongovernmental organization to consolidate all environmental science students from all universities in Latvia were initiated.

The main aims of the established students association are:

- 1) To represent the rights of environmental science students of Latvia;
- 2) To promote environmental science as a scientific field in Latvia;
- 3) To consider and to stand up for principles of sustainable development;
- 4) To improve the level of knowledge about environmental issues, paying special attention to youth education; and
- 5) To stand up for human rights in regard to global climate change.

Several projects have been implemented within the framework of these aims, one of which is an open discussion “Riga – European Green Capital”, where environmental science students were involved.

III. DISCUSSION METHOD

A discussion is a conversation between two or more people, which allows for people with different views on a topic to

learn from each other. Discussion is a teaching method as well.

The discussion method owes its origin to the Greek philosophers-educators, particularly Plato, who rebelled against the authoritarian type of lecturing system of the Sophists. This teaching device is basic to the democratic process and involves an entire class in an extended interchange of ideas between the lecturer and the learners and concurrently among the fellow-learners. Although the members in the class approach the discussion topic with many and varying points of view, the group leader, i.e. the lecturer or instructor, will attempt to focus the discussion in the direction most conducive to effective and purposeful learning [1].

Discussion is an effective method how to get students to think constructively while interacting with the rest of the group. Furthermore, it is proven, that students are more motivated, and internalize material more effectively when they participate actively as learners in the classroom [2].

The discussion method of teaching has been employed for many years and with considerable success in the humanities, business, educational, legal, medical and other fields. However, as stated further in the paper, despite all the merits of the discussion method as a teaching tool, it still has not been employed widely enough in such fields as engineering and technical sciences.

A. Advantages and disadvantages of the method

As with every teaching method, discussion also has its pros and cons. The advantages of the method are mostly related to students' skill and knowledge acquisition during the discussion process. Conversely, disadvantages are associated with the skills and professionalism of a teacher or instructor, which have been gained before and are applied during the discussion process.

If to talk about a student group discussing a topic, then several advantages can be pointed out:

- 1) It allows everyone to participate in an active learning process, stating students arguments on their previous experiences, thus exchanging opinions;
- 2) It sharpens the students' ideas and concepts which are expressed in their own words. This promotes intellectual comprehension by integration of learning and experience;
- 3) It stimulates students to think about the issues and problems discussed within a frame of their intellectual understanding;
- 4) It develops students' skills essential for effective group discussion and verbal communication, thus promoting their self confidence [1, 3].

At the same time discussion has to be professionally directed to the point, which is part of the lecturer or instructor. This leads to disadvantages of the method:

- 1) It requires lecturer's group handling skills, to reach the goal of the particular discussion;

- 2) Lecturer has to be able to involve everyone in the discussion and not allow domination of some students. It has to be done tactfully without losing trust of all students;

- 3) In some cases, the lecturer has to be able to become one of the group members, which might be hard for an authoritative person [1, 3].

B. Experience of using discussion method for students of technical and engineering sciences

It is not common to see, the discussion method applied in tuition of students of technical and engineering sciences, however, some reports can be found on such an approach. Thus, for instance, Challen and Brazdil [2] have reported on case study usage as a basis of discussion for chemistry students. These students were provided with case studies to be analyzed, which afterwards were discussed together with the lecturer and other students for better comprehension of causes and results of the cases. Students confirmed that such a method was helpful to increase their understanding of the material and was of use in helping to see how the material they learned can be used in realistic situations. Discussing case studies can work successfully, and additionally they can induce students to give more consideration to real world problems and thus encourage student to work with a deeper level of understanding [4].

Hutchinson [5] has also reported very good results in using interactive teaching methods in a chemistry course. He has found that the combination of interactive teaching and concept development studies has been both effective and well received by students.

As Blackwell [6] states "the implementation of such an interactive method as discussion in a technical course has shown good results - the average grades in two semesters are up by 52% in the group-discussion topics, and the remainder of the semester the grades did not change from previous semesters. This resulted in a 13% increase in overall course grades compared to the semesters in which the standard lecture techniques were used. The enthusiasm generated in the group portion of the course carries over into the rest of the course with increased classroom participation by the members of the class."

As Omatseye [7] concludes in her report on discussion as a teaching method "discussion is interactive, cooperative and participation by all. It is also a teaching strategy that could stimulate imaginative and conceptual thinking amongst students. Importantly, it is anticipated that a method of this nature is appreciated in tertiary institutions. It is quite exciting especially for students who are hitherto used to the traditional lecture method which is sometimes quite less interactive."

IV. THE OPEN DISCUSSION "RIGA – EUROPEAN GREEN CAPITAL"

One of the first projects implemented or events realized by the "Association of Latvian Environmental Science Students" is an open discussion "Riga – European Green Capital". It was

held in spring 2010 in the Riga City Hall. The aim of the discussion was to develop suggestions for the Riga city council on how to win the title “European Green Capital” and in general to promote the collaboration between the students and the Riga city council in terms of environmental thinking.

A. The title “European Green Capital”

The idea of a European Green Capital was originally conceived at a meeting in Tallinn, Estonia. The meeting was held in May 2006 upon the initiative of the former City Mayor, Jüri Ratas. 15 European cities and the Association of Estonian cities signed a joint memorandum [8] proposing the establishment of the European Green Capital award scheme. Currently, more than 40 major European cities, including 21 EU capitals support the initiative, and major cities from all over the EU are getting ready to take part in this race for environmental recognition [9].

The general aim of the initiative is to improve the European urban living environment – and thus the environment as a whole. With 80 % of the European population living in an urban environment [8], it is natural that cities play a key role in making the environment greener and improving the quality of life of its citizens.

The award aims to provide an incentive for cities to inspire each other and share best practices, while at the same time engaging in friendly competition. Thus, the cities become role models for each other [9].

As stated on the official website of the title [9] “Starting in 2010, one European city is selected each year as the European Green Capital of the year. The award is given to a city that:

- Has a consistent record of achieving high environmental standards;
- Is committed to ongoing and ambitious goals for further environmental improvement and sustainable development;
- Can act as a role model to inspire other cities and promote best practices to all other European cities”.

Cities from European Union member states and candidate states, as well as from European Economic Area countries (Iceland, Norway, Lichtenstein) exceeding 200 thousand inhabitants are eligible to participate in the competition. In Latvia only one city complies with this criterion – Riga. According to data of the Central Statistical Bureau, the population of Riga in 2009 was 713 thousand people, and the second largest city – Daugavpils – had only approximately 105 thousand inhabitants [11].

In the applications, the cities are asked to outline:

- Present environmental status and results achieved
- Measures implemented to improve the urban environment
- Future commitments and initiatives
- Programme of activities and events to disseminate experience and best practice on environmental matters.

The main evaluation indicator areas are:

- Local contribution to global climate change,

- Local transport,
- Green urban areas,
- Sustainable land use,
- Nature and biodiversity,
- Quality of local ambient air,
- Noise pollution,
- Waste production and management,
- Water consumption,
- Waste water treatment, and
- Environmental management of the local authority.

The first competition was announced in year 2008 for the years 2010 and 2011. In total 35 cities applied for the title. Stockholm was announced to be the winner in the year 2010, whereas Hamburg - winner in the year 2011. Riga also participated in the first competition, placing in 29th position.

For Riga, the indicator showing the worst result was “local contribution to global climate change”, where it received only 1.00 out of maximum 15.00 points [12].

The second competition was announced at the beginning of 2010 and only 17 cities have applied. Riga was not one of the applicant cities.

B. Participants of the discussion and their task

Since discussion method has not been widely used in technical and engineering sciences, it was decided to involve students from the Riga Technical University in the discussion. Most of the students were representatives of the first-year master degree programme in environmental science, however also students from such programmes as heat, gas and water technologies and transport structures were involved.

Irreplaceable participants were representatives from the Riga city council, as well as scientists and academics. An honorable guest of the discussion was the Latvian Minister of the Environment.

Since the aim of the discussion was to develop suggestions for the Riga city council on how to win the title “European Green Capital” and in general to promote the collaboration between the students and the Riga city council in terms of environmental thinking, then students received a task already a few weeks before the discussion. The students were divided into five groups, each of which was assigned a topic:

- City environment (covered three of the European Green Capital competition’s indicators: green urban areas, sustainable land use, nature and biodiversity),
- Air quality and greenhouse gas emission reduction (covered two indicators: local contribution to global climate change and quality of local ambient air),
- Local transport (also included noise pollution from transport),
- Waste production and management (one indicator),
- Water consumption and waste water treatment (two indicators).

As it can be seen from the list of topics, almost all indicators of the European Green Capital competition were

covered, with the exception of the environmental management of the local authority.

When the groups were formed, they were provided with the basic information on the competition, evaluation criteria, environmental indicators, as well as on the existing situation in Riga. Each group was asked to analyze the available data and information on the topic regarding the city of Riga, to compare it with the best practice examples and experience in other cities of the world and to give suggestions and provide ideas for sustainable improvements in Riga. All groups were then asked to prepare a presentation, showing the ideas developed.

The representatives from the departments of the Riga city council received a task as well. The task was to aggregate information and to prepare a presentation on the existing situation in the city and the future development plans regarding the topics discussed. The departments represented were: Housing and Environment Department, Traffic Department and City Development Department.

All the other participants (the minister, scientists, academics, representatives from nongovernmental organizations a.o.) were involved in the discussion segment of the meeting. They were asked to share their knowledge, experience and the overall point of view on each of the topics.

C. Structure of the discussion

The discussion was organized in collaboration with the Riga city council, and was held in the Riga city hall. As stated before, one of the most important roles during the discussion process is leading it. For this reason, the discussion "Riga – European Green Capital" was presided over by a professional moderator.

The discussion was started with a keynote speech of the Minister who emphasized importance of the discussion to stir the Riga municipality into sustainable environmental action. With regret, the Minister also concluded that priorities guided by Riga city council do not correspond to environmentally friendly direction.

Further on an introduction on the title of European Green Capital was given, stating its basic aims, evaluation criteria and indicators. Then the information on the preparation process and results of Riga's first application for the title was provided by a representative from the Housing and Environment Department. Afterwards, work on the topics started: all the topics were presented by at least two discussion participants – representatives from corresponding Riga city council departments and students. The idea was that department representative provide an overview on the existing situation and planned future developments regarding the topic, whereas student give their vision on how the development should move further for raising sustainability of the city, thus increasing chances to win the competition of European Green Capital. The year 2014 was stated as a reference year for application submission.

After presenting each of the topics, the discussions commenced, promoting the brainstorming on environmental

issues within the students and representatives of the Riga city council and other participants.

At the end of the event, an overall summary of the discussion was made by drawing the basic conclusions and making a decision to submit a letter of suggestions to the Riga city mayor for sustainable city development in the future.

D. Summary of the discussed topics

On the topic of local transport, presentations were given by a representative from Traffic Department, who related the development of cycling traffic in the city, and by a representative from the City Development Department, who informed participants of the discussion about the development of the Riga city street infrastructure and the environment. He also tried to answer a question, whether highway construction plans can be environmentally friendly. The environmental science student, in his turn, outlined the existing problems and gave suggestions for solving them, such as the construction of the North crossing in Riga in order to divert traffic away from the city center, increasing public transport routes and runs, introduction of time-tickets in public transport, implementation of a school-bus system to minimize traffic jams caused by taking children to schools by private transport and other suggestions.

Regarding the waste production and management topic, the main problem identified by the representative from the Housing and Environment Department was the lack of binding normative acts for the Riga municipality, which would solve the major waste management problems in the city. Also students had identified the problem of the need for legislative acts; therefore it was one of the main suggestions. Besides that, it was advised to create a compostable waste sorting, collection and treatment system, to develop extensive education programs on waste management, as well as to find solutions for heat utilization produced in the Riga municipality landfill Getlini, since now the heat produced there is merely emitted in the air.

The chief specialist on air quality from the Housing and Environment Department gave a presentation on air pollution sources and air quality monitoring system in the city. Students, in turn, emphasized the city's minimal or no efforts in solving issues related to global climate change, suggesting the implementation of a greenhouse gas emission monitoring system and the allocation of financial resources from the city budget for climate change mitigation.

A lot has already been done regarding the development of green areas in the city. However, for further improvement of the city's environment, students identified such an important aspect as the involvement of people living in the city in creating parks and public gardens with all amenities not only in the center of the city, but also in the suburb areas. Also, the need for further development of public beaches and swimming grounds was emphasized.

A representative from Riga Water Ltd., told about drinking water consumption and quality, as well as about waste water treatment in the city. Environmental science students accentuated obsolete water pipeline systems, which create

bigger or smaller failures almost every day. They also gave suggestion on how to reduce water consumption.

V. RESULTS OF THE DISCUSSION

As a result of the discussion a nine-page letter of suggestions to the Riga city mayor was prepared on how to develop the city in a sustainable manner and what benefits would evolve if Riga got the title. However, the most important outcome of the discussion was the skills which students gained from the experience of presenting their ideas and discussing them with specialists of the specific field. It should definitely help in further studies and work, as well as in the students' personal development. The discussions were also as a starting point for further collaboration between the Riga city council and students from the Association of Latvian Environmental Science Students.

A. Letter of suggestions

Each group of students developed suggestions for their specific topic. Regarding the transport sector the main suggestion was that the priority should be construction of the Riga bypass and the Riga Northern Transport Corridor. Therefore the traffic flow would be reduced in the center of Riga, thus improving the air quality and giving space for non-motorized transport. At the same time, measures to encourage collective use of private vehicles should be introduced. This could be, for example, by the establishment of a priority lane for cars carrying at least three passengers. Currently, a large proportion of the people using private transport drive alone in their cars, thereby, significantly increasing the total road traffic in the streets. The development of a school bus system was also identified as necessary. Each year, at the end of the school year, there has been a significant reduction in car traffic in the city center streets. Unfortunately, the school children's parents have no safe alternatives for how to bring their children to school. The introduction of school bus system would reduce the traffic flow.

Another suggestion was building a one-way street network in the city center, constructing the remaining part of the streets into pedestrian and bicycle zones. At present, Riga is very unfriendly for non-motorized transport such as bicycles. There is no space on the city center roads, as traffic flow is very intense.

Regarding public transport, the establishment of new and strengthening existing routes connecting the periphery of Riga "not through the center" would help in traffic minimization in the city center. There are no radial public transport routes developed in order to get from one neighborhood to another in Riga, almost always people need to go through the center which is twice as expensive and twice as long and an unnecessary strain on the center of Riga. Likewise, the introduction of time tickets would reduce public transport costs for getting from one place to another in the city, thus raising its popularity among city inhabitants.

Also, the promotion of water transport in the city of Riga was suggested. It is necessary to create a ship stations on both

sides of Daugava River, which could provide a convenient and rapid movement of ships or other water transport across the Daugava River. Crossing the River Daugava is not possible yet without the use of bridges, which are currently concentrated in the center of Riga.

The need for new cycling development programs and the maintenance of existing cycling infrastructure was identified. On many streets the bicycle paint is worn, the surface is damaged. This is not an incentive to choose a bicycle as a main method of transport when the roads are in such poor condition. The implementation of a "Bike and Ride" system could also help in promoting cycling popularity. Similarly to how bikes can be placed on trains, the public transport in the city should also be able to ensure a place to secure bikes. The proposal is based on the Hamburg and Chicago urban experience, where each bus is equipped with a double stand for bicycles on the front or back of the bus. Bicycle transportation would be free of charge. Such an option would encourage the city center workers to go to work by bicycle from the suburbs. There is a necessity for secure parking places for bicycles. It is recommended to encourage entrepreneurs or investors to develop closed, guarded parking places for bicycles. Also part of the existing parking areas could be used for locked boxes/containers to store bicycles. Also such a rather cheap activity is the promotion of a website specializing in local cycling routes and parking places has been suggested. At present only active cyclists know about the site. The portal is well designed and contains large amounts of useful information for cyclists. Also the competition "rider friendly!" should be promoted. If there are more parking places for bicycles, there is a greater incentive to travel by bicycle, especially in the city center. Not all companies are aware of the existence of such a competition.

A lot of suggestions were given on waste management. Some of them were as follows:

1. To introduce or amend appropriate legislation that defines that waste managers must ensure 100% waste sorting facilities for inhabitants of Riga,
2. To create a compostable waste sorting, collection and treatment system,
3. To develop extensive education programs on waste management, starting from local kindergarten level to further education and lifelong learning programs,
4. To ensure local public authorities, as well as public places (such as public transport stops, parks, etc.) with waste sorting containers and information on the importance of waste sorting,
5. To introduce penalties for apartment house residents, if in the sorted waste containers the unsorted waste also is found (fine home for all citizens, regardless of whom was the guilty party),
6. To develop special receiving-points for little-used household items, appliances, furniture, clothing, shoes, etc., which can be reused,
7. To find ways of using the generated heat in "Getlini" to ensure the nearby villages or greenhouses with

heat, or use it otherwise, instead of simply "releasing into the air",

The suggestions regarding climate change were to increase the proportion of renewable energy sources in the city energy supply and to promote fuel diversification. At the same time, monitoring of greenhouse gases emitted in the city by different pollution sectors should be implemented. There should also be subsidies given to inhabitants of the city for establishment of the connection to the district heating system. It was suggested to insulate municipal and residential buildings and install energy efficient lighting. The replacement of old inefficient to more energy-efficient street lighting and tighter controls of lighting duration would help in the reduction of green house gas emissions. Also, ensuring the inhabitants of the city with information and knowledge on energy saving measures and climate change would be very valuable. One of the most important actions was suggested to be allocation of financial resources in the city budget for climate change measures and mitigation.

For the topic of air quality, the suggestions were made regarding the existing static monitoring system (maintenance to put it in a good working condition) and the development of a new mobile air quality monitoring system. It was also suggested to clean and moisten the city streets more often during the spring time to prevent excessive amount of particulate concentrations.

The main suggestions regarding water and wastewater topics were as follows:

1. The reconstruction of existing drinking water piping system and registration and disposal of un-used artesian wells,
2. The inhabitants' education and information on saving measures of water resources,
3. Promotion of individual wastewater treatment systems in buildings that do not have city sewer services, but which have their own sewage pit,
4. Promotion of different applications of wastewaters (e.g., the use of sewage heat for city heating),
5. Finding rain water utilization opportunities.

Also suggestions on the development of green city environment were given. The suggestions were based on the existing situation in Riga, where the green areas in the center are in order, but in the suburbs they are neglected without a specific management plan. These suggestions included the involvement of city inhabitants in the process of territory greening and maintenance; creation of exercise areas for animals, picnic areas, wireless connectivity internet sites in parks and gardens, as well as stands with information about the park or garden and its ecosystems components; organizing and implementing competitions and clean-up bees for inhabitants to promote the awareness on green city.

B. Student experience

The discussion teaching method allows everyone to participate in a discussion about the subject. It is especially useful after a presentation that can be analyzed. In the case of the open discussion, students could feel as equals with other

participants of the discussion. That allowed students to express their ideas and experience more freely than in the standard lecture. At the same time, students acquired new knowledge related to the discussed topics, which was accomplished by talking to specialists from the specific fields.

The preparation of the letter for Riga's further sustainable development helped in finalizing suggestions and formulating ideas. It also showed an example of communication with municipality representatives.

Both, personal and professional experiences acquired in the discussion and post-procedures will help moving forward in developing skills needed in daily life, studies and business relationships.

C. Future development

One of the main conclusions after the discussion was that in the near future Riga most probably will not get the title of European Green Capital. The basic reason for that could be the municipality's lack of commitment and financial resources. Since Riga is the only city in Latvia which may apply for the title due to the number of inhabitants, then it was decided to promote a local competition for raising the sustainability of cities by creating a title of Future city of Latvia. The main advantage of the local title would be the application possibility for all of Latvia's cities, regardless of population size. At the same time, sustainable development would be promoted.

Now the members of the "Association of Latvian Environmental Science Students" work on development of indicators and evaluation criteria of the local title. The idea of the competition has already been supported by the Ministry of Environment and the Latvian Association of Local and Regional Governments.

VI. CONCLUSIONS

The aim of the discussion has not been fully reached, because of the fact that most probably in the near future Riga will not win the title of European Green Capital, because the implementation of all the suggested actions takes time and financial resources. At the same time, it can be said that the aim of the discussion has been reached because of the following reasons:

- 1) Student ideas have been heard by the authorities of the Riga city council – judging by the reply letters on the prepared suggestion letter, some ideas are going to be used in developing the city's future development plans,
- 2) The discussion has developed students' personal and professional skills, as well as raised interest in deepening their knowledge and understanding of the topics discussed.
- 3) Furthermore, several representatives from the Riga city council have expressed their interest in further cooperation with students in the evaluation of planned future decisions and developments in the city.

REFERENCES

1. **Kam-Fai, H.** Preferred teaching method: lecture, discussion or tutorial? *Studium*, 1973, No.4, p. 153. – 165.
2. **Challen, P.R., Brazdil, L.C.** Case studies as a basis for discussion method teaching in introductory chemistry courses. *The Chemical Educator*, 1999, Vol.4, No.4, p. 1. – 13.
3. **Cooper, P.J., Simonds, C.** *Communication for the Classroom Teacher*. Pearson Education Canada, 2010. 336 p.
4. **Doyle, F. J., Gatzke, E. P. and Parker, R. S.** Practical Case Studies for Undergraduate Process Dynamics and Control Using Process Control Modules. *Computer Applications in Engineering Education*, 1998, Vol.6, Issue 3, p. 181. – 191.
5. **Hutchinson, J.S.** Teaching introductory chemistry using concept development case studies: Interactive and inductive learning. *University Chemistry Education*, 2000, Vol. 4, No.1, p. 1. – 9.
6. **Blackwell, G.R.** Group discussion techniques in a technical course. *In: The 21st Annual Frontiers in Education Conference*, West Lafayette, IN, USA, September 21 – 24, 1991. Proceedings 'Engineering Education in a New World Order', USA, 1991, p. 430. – 432.
7. **Omatseve, B.O.J.** The discussion teaching method: an interactive strategy in tertiary learning. *Education*, 2007 [Online]. [Accessed 13.10.2010.]. Available: http://findarticles.com/p/articles/mi_qa3673/is_1_128/ai_n29381542/?tag=content;coll
8. Memorandum of the European Green Capital title, Tallinn, 2006 [Accessed 15.10.2010.]. Available: <http://ec.europa.eu/environment/europeangreencapital/docs/about/egc-mou-2006.pdf>
9. About the title European Green Capital [Accessed 15.10.2010.]. Available: http://ec.europa.eu/environment/europeangreencapital/about_submenu/background.html
10. Declaration establishing the European Green Capital Award, Brussels, 2008 [Accessed 15.10.2010.]. Available: http://ec.europa.eu/environment/europeangreencapital/docs/about/declaration/egc-declaration_en.pdf
11. Resident population by statistical region, city and district at the beginning of the year, 1990 – 2009. Central Statistical Bureau of Republic of Latvia. [Accessed 15.10.2010.]. Available: <http://data.csb.gov.lv/DATABASEEN/Iedzoc/Annual%20statistical%20data/04.%20Population/04.%20Population.asp>
12. The Expert Panel's Evaluation Work & Final Recommendations for the European Green Capital Award of 2010 and 2011, 23rd January 2009 [Accessed 15.10.2010.]. Available: http://ec.europa.eu/environment/europeangreencapital/docs/apply/eval-report_2010_2011.pdf

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Elīna Dāce, Alise Bērziņa, Līga Ozoliņa, Ieva Lorence. Vides zinātnes studentu piedalīšanās atklātajā diskusijā "Rīga – Eiropas Zaļā galvaspilsēta".
Katrā gadu, kopš 2010. gada, viena Eiropas pilsēta tiek izvēlēta nominācijai "Eiropas Zaļā galvaspilsēta". Šī nominācija tiek piešķirta pilsētai, kas iepriekšējos gados pastāvīgi centusies sasniegt augstus vides standartus un ir izvirzījusi tālredzīgus un ambiciozus mērķus turpmākai vides uzlabošanai un ilgtspējīgas attīstības veicināšanai, kā arī ar savu rīcību iedvesmo citas Eiropas pilsētas un motivē tās pārņemt labas prakses piemērus.
Reiz Rīga šajā konkursā jau ir piedalījusies, taču nespēja izpildīt nepieciešamos nosacījumus, tādēļ jānīešu nevalstiskā organizācija „Latvijas Vides zinātnes studentu apvienība” nolēma organizēt atklāto diskusiju „Rīga - Eiropas Zaļā galvaspilsēta”. Šīs diskusijas mērķis bija izstrādāt un piedāvāt Rīgas pilsētas domei ieteikumus par to, kā iegūt titulu Eiropas Zaļā galvaspilsēta. Diskusijā savu vīziju par nepieciešamajiem uzlabojumiem, lai Rīga atbilstu konkursa nosacījumiem un kritērijiem, izteica gan tehnisko specialitāšu, gan inženierzinātņu studenti. Kā papildus mērķis diskusijas rīkošanai bija Rīgas domes un studentu sadarbības veicināšana vides un ilgtspējīgas attīstības jautājumu risināšanai.
Diskusijas rezultātā tika izveidota deviņu lapaspusē gara priekšlikumu vēstule Rīgas mēram par to, kā nodrošināt pilsētas ilgtspējīgu attīstību un kādi būtu pilsētas ieguvumi no šī titula saņemšanas. Taču visnozīmīgākais ieguvums pēc šīs diskusijas ir studentu gūtā pieredze un prasmes, prezentējot savas idejas un diskutējot par tām ar konkrēto nozaru speciālistiem. Šāda pieredze studentiem būs noderīga gan turpmākajās studijās, gan darbā, gan arī privātajā dzīvē. Diskusija bija arī kā atskaites punkts turpmākajai sadarbībai starp Rīgas pilsētas domi un „Latvijas Vides zinātnes studentu apvienības” pārstāvjiem.

Элина Даче, Алисе Берзиня, Лига Озолина, Иева Лоренце. Участие студентов науки об окружающей среде в открытой дискуссии «Рига – Европейская зелёная столица».

Начиная с 2010 года каждый год выбирается Европейский город в номинации «Европейская зелёная столица». Эта номинация присваивается городу, который в прошлом году самостоятельно старался достичь стандарты окружающей среды и выдвинул дальновидные и амбициозные цели для дальнейшего улучшения окружающей среды, долгосрочного развития, а также своими действиями вдохновляет и мотивирует другие Европейские города воспользоваться примером хорошей практики.

Один раз Рига уже участвовала в этом конкурсе, однако не смогла выполнить необходимые условия, поэтому молодёжь из негосударственной организации «Объединение Латвийских студентов науки об окружающей среде» решила организовать открытую дискуссию «Рига – Европейская зелёная столица». Цель данной дискуссии была разработать и предложить Рижской думе, как получить титул Европейской зелёной столицы. В дискуссии своё мнение о необходимых улучшениях для достижения цели (чтобы Рига соответствовала условиям и критериям конкурса), высказывали студенты разных специальностей: технические специалисты и инженеры. Дополнительной целью для организации дискуссии было улучшение взаимного сотрудничества между Рижской думой и студентами в вопросах окружающей среды и долгосрочного развития.

В результате дискуссии было подготовлено письмо на 9 листах Рижскому мэру с предложениями, как обеспечить долгосрочное развитие города, а также были представлены преимущества, если Рига получит титул Европейской зелёной столицы. Однако самое главное достижение после данной дискуссии был полученный студентами опыт и знания во время презентации своих идей и дискутируя о них с отраслевыми специалистами. Данный опыт студентов был важен в учебном процессе, на работе и в личной жизни. Дискуссия также послужила точкой отсчёта для дальнейшего сотрудничества между Рижской думой и представителями «Объединения Латвийских студентов науки об окружающей среде».