

## LANDSCAPE ARCHITECTURE STUDIES BY USING SERVICE LEARNING METHOD

Natalija Ņitavska, Daiga Zigmunde, Madara Markova, Una Īle

Latvia University of Agriculture

natalija.nitavska@llu.lv; daiga.zigmunde@llu.lv; madara.markova@llu.lv; una.ile@llu.lv

### Abstract

This article deals with the use of the service learning method in the study courses of landscape architecture bachelor studies outcomes from a student's perspective. This kind of research is unique with combining service learning method research and involvement of student's perspective. The service learning method, which includes both theoretical studies and practical work in the planning of actual territories and communication with the customer, is important for the development of professional competences in the field of landscape architecture. The aim of the research was to state the benefits of students' professional growth from using this method in the study process. The article summarises the evaluation of the experience of Latvia University of Agriculture landscape architecture studies in cooperation with 3 non-governmental organisations, 8 municipalities and governmental organisations and 4 associations from 2013 to 2016. The research was based on the students' survey. The students had to answer close-ended questions about the knowledge they had acquired from the projects of different scales. As a result of the survey, it was concluded that the students' main benefits of professional knowledge are mainly associated with a better understanding of specific features of particular places, which is not always possible within the framework of theoretical studies. The possibility of presenting projects to a real customer, thus improving one's presentation skills was also positively evaluated.

**Key words:** service learning, work-based studies, landscape architecture, study projects.

### Introduction

An important stage in landscape architecture education is the territory planning of different types and scales, which, already in the study process, develops the future specialists' understanding of the scale of the territory in selecting an appropriate research and planning approach (McGarigal, s.a.; Benson, & Mackenzie, 1995; Saura & Martínez-Millán, 2001; Wu, Shen, & Sun, 2002; Wu, 2004). However, modern scientific publications are showing a trend that landscape architecture studies are becoming increasingly theoretical and comprehensive, focusing more on global issues such as climate change and urbanization. This approach does not allow a student to find a suitable solution in specific situations (Horrigan & Oles, 2015). Developing a project for an actual place with a real customer being interested in developing the territory, encourages the students to think systematically, sometimes even in inter-disciplinary perspective, including critical analysis of previously acquired theoretical knowledge and the use of this knowledge. Students take an active part in the project development process not only in communication with the customer, but also in affecting the progress of the course and project development on the whole (Grandin *et al.*, 2010). Thus, landscape architecture studies are becoming even more effective.

#### *Different types of teaching and learning aiming at practical use of theoretical knowledge*

Most often the practice-oriented studies are implemented within the framework of work-based and project-based learning (Marcia, 2008; Deming

& Swaffield, 2011; Genca, 2015) service learning (Nelsona *et al.*, 2010; Angotti, Doble, & Horrigan, 2012; Grabbatina & Fickeya, 2012) and practice work (Wenger-Trayner *et al.*, 2014). The advantage of these methods has been emphasized in several scientific articles.

The project-based study process involves an active participation of students in it. The lectures which are conducted in a traditional way make up the basis of students' theoretical knowledge, while the project-based study activities provide an opportunity to apply this basic knowledge to solving existing problem issues in the development of real territories. Thus, a linkage between theory and practice is created and understanding of how to use various types of basic knowledge in life is reached (Amstrong, 1999; Chinowsky *et al.*, 2006). Although the project-based studies are useful in improving the students' knowledge, this approach involves an active participation of lecturers in developing cooperation and selection of the territories to be developed in the course projects.

The students' work in their respective field during the study course is a kind of work-based studies (Freestone, Thompson, & Williams, 2006). This approach is important for the development of professional competences. An integral part of the study process which is based on the development of practical skills are discussions, exchange of opinions, as well as defending the chosen concepts, being aware of their pros and cons (Baum, 1997). The practical experience of the academic staff plays a great role here, not only in sharing the experience, but also in being able to most effectively organise the study

process and include theory and practice in a balanced way, so that these two parts could be linked. As a limiting factor of this approach, one should mention the professional competence of the academic staff required for work-based learning, to be able to ensure the quality monitoring of the study process.

Service learning has become a widely used approach in higher education in different fields. It is considered to be an effective tool in increasing the importance of the studies not only for students, but also for people not related to the study process but who are participating in the project development (Eyler *et al.*, 2001). Consequently, by using the service learning approach in territory planning, the community is also involved and educated. Service learning has several potential limitations. One of them can be the problem for the faculty workloads and rewards that directly relate to the motivation mentioned before, the lack of which may be a limiting factor. Another limiting factor can be differing traditions of planning and design. The quality of the design solution is undoubtedly evaluated as a risk factor, since the students are not professional designers yet. In general, it is believed that service learning can offer very useful services to neighborhoods while offering students vital skills for working with multiple publics (Forsyth, Lu, & McGirr, 2000). Regarding the practice, it has been assessed that the major winners are the students. The most important benefit for the young professionals is that of working in a team, cooperating with customers; they have a chance to see how the project is being implemented, feel responsible, develop the culture of work (Burton, 2015).

The research of different scientists present the analysis of not only various teaching methods and approaches, but also the benefits the students have, the students' understanding of the usefulness of these methods as well as the emotional experience in the study process (Deming & Swaffield, 2011). An emotional load is created by the study process which includes working in groups, discussions, defending the ideas, working under the guidance of a mentor, communication with the third party (municipality, association and organisation), communication with lecturers, research of theoretical materials. Defence and discussion process during the project elaboration stage are issues to be dealt with separately, but it definitely involves gaining experience (Smith & Boyer, 2015). Quite often the research papers include the discussions about the landscape architecture students' different experiences in the study subjects and with regard to the problem issues to be solved, not only compared with the lecturers' or other professionals' experience, but also compared to that of other students when acquiring (in the process of acquiring) similar subjects or themes (Swaffield, 2002).

The similarity in the difference of viewpoints can be found also among the professionals of different fields. Consequently, different approaches and viewpoints of studies can be explained by the chosen profession and specifics of the sector. Landscape, due to its multidisciplinary and all-inclusive nature, puts a burden on landscape agriculture students already from their early studies to look at things and issues in a broader sense.

#### *Different ways of cooperation universities use in study process*

Nowadays, more often society's participation in territory planning is being emphasized (Bloemers, 2010). In several articles the importance of participation of local governments and communities in the planning process (Healey, 1997), associated with a direct interest in the development of a certain territory has been cooperation in territory planning at different levels is becoming more and more important and the cooperation in territorial planning at various levels, embracing both academic and scientific environment, businesses and municipalities.

Cooperation between university and municipalities can be organised according to different models. In Latvia, service learning is quite widely used by universities engaging in project development in various sectors of the economy. In the Latgale region, tourism development is very important, and the local regional university is actively engaged in it (Silinevica, 2015). Also, Dutch universities actively use the university knowledge in development planning, in this case the transfer of knowledge in the social sector (Postma, 2013).

Cooperation projects between universities and local governments have been described in several publications, where the main emphasis is on the study process and the benefits for the students from this cooperation. It mainly reflects the development of better understanding about the future profession and necessary knowledge and skills. Overall, the service learning approach is useful for the universities, since it provides the possibility for cooperation. Moreover, the academic staff involved bears responsibility for implementing cooperation and its quality, thus offering students the opportunity to be responsible as well (Forsyth, Lu, & McGirr, 1999).

The main aim of the research was to summarise and analyse the information about the benefits of students' professional knowledge in the study courses which have been implemented by using the service learning method as well as to summarise problem issues they have addressed within the territories of different scales within the framework of landscape architecture studies from the year 2013 to 2016. The focus is on landscape architecture studies that

are carried out by trilateral cooperation ‘university, student, municipality’.

**Materials and Methods**

The Landscape architecture 5-year professional bachelor’s programme of Latvia University of Agriculture is composed of study courses which help improve the basic knowledge required for the profession, e.g.: drawing skills, sense of space, analysis, planning, etc. To improve this basic knowledge in practice, the study courses in Landscape architecture and design are elaborated, within the framework of which, cooperating with a real customer, the development projects of real territories are carried out. Prior to developing the diploma thesis the students strengthen the acquired knowledge by having practice in landscape designing companies or municipalities.

*The service learning method* according to which the cooperation between the local governments, faculty/university and students takes place during the course project analysed in research is schematically shown in Figure 1. One party is the university – the academic staff and students but the other one - the local government – city or municipality council, unions and organisations. This is a horizontal cooperation, since it is formed between two autonomous organisations.

From the experience and knowledge roles of each participant are defined in trilateral cooperation. The aim of the local government is to develop a specific territory through project development in cooperation with the speciality of landscape architecture, while the aim of the study programme and study course is to provide students – the future specialists with the knowledge and skills required in the specific field. The knowledge and skills are different within each study course, so that the students are able to acquire and strengthen the professional competences required for each subsequent level or task.

The faculty/local government cooperation was implemented in certain course project within the framework of research. The local government is the contracting authority, which defines its needs, sets tasks and results to be achieved, providing the necessary cartographic, photographic, archive materials, thematic lectures and other related materials. Taking into account the customer’s interests as well as the theoretical knowledge to be strengthened and the competencies to be acquired during the course, the lecturers prepare the tasks to be completed by the students in a more detailed way. The tasks can be connected with the research of landscape spatial structure and value, heritage studies, design solutions, planning at different levels of detail and taking into account the specifics of the territory. In the course of 8 weeks (1 semester at LLU) the lecturers introduced theoretical material to the students. This material was related to the type of a specific area and the problem to be solved, such as forming the identity and image of a populated area.

The students have field trips to the territory once or twice. During these trips, based on the previously prepared cartographic material (topographic and other types of maps), they carry out deeper research of the site and make markings on maps; they also take photos and attend lectures prepared by municipalities. Then, alongside with the acquisition of the theoretical material, the work on the sketch of ideas and the development project of the territory takes place. During the designing period there are several interim reports in which the lecturers evaluate the progress of each student or each group if the work is done in groups. If necessary, the issues, which need to be addressed more thoroughly are pointed out. Students are also trained to use questionnaires, landscape analysis, the techniques of presenting their ideas and communication with the customer, organising

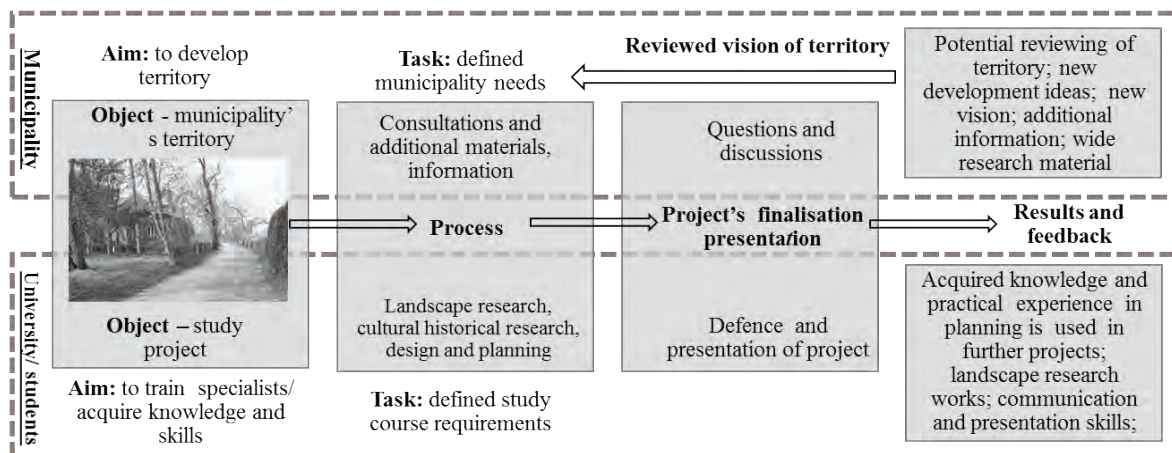


Figure 1. Trilateral cooperation through service learning (modified by authors).



discussions in interim reports and working on the design of visual material.

The project's final presentation to the customer is an integral part of service learning, because in this way the students have an opportunity to observe how the knowledge acquired during the study course, presentation skills and project execution skills work in practice. Customer's representatives attend the final presentation, participate in discussions, ask questions and comment on the students' results. After the final presentation the customer has an opportunity to review the development potential of the territory, find new ideas and obtain a wide range of research material.

*Students' survey.* In this research the experience of using service learning method in 18 course projects was analysed. Those were: Aldaris park (Riga); vicinity of Anniņmuiža (Riga) Reņķis garden (Ventspils); Sarkanmuiža park (Ventspils); Swedish rampant (Ventspils); courtyards of Jelgava's multi-storey residential buildings; Oskars Kalpaks square and Strūve park (Jēkabpils); the state social care centre 'Allaži', Šlokenbeka manor ensemble; greenery territories (Bauska); 'Raganu park' (Krimulda municipality); Greenery territory in the vicinity of Turaida; Brukna manor house; central part of Ranka village; Central part of Slampe village; Coastal nature park in Saulkrasti; Courtyard of 2, Daugava Street, Salaspils and the territory next to Grīva boulevard in Ogre. These 18 projects were carried out in the framework of cooperation with 3 non-governmental organisations, 8 municipalities and governmental organisations and 4 associations.

The students' survey was carried out after the structuring and analysis of the objects in order to ensure a transparent comparison of the tasks set, the students' opinions about the experience gained in conjunction with the scale of the design areas. Course project territories were divided into 3 groups – territories of up to 5 ha (small-scale), 6 to 30 ha (medium-scale) and over 30 ha (large-scale). Survey results were converted in percents and rounded to full figures.

Evaluating the territory development course projects, the lecturers involved in them indicated that addressing the territories with an area of up to 5 hectares, the students were given tasks mainly aiming to obtain the skills and knowledge of the composition of the territory planning, functional zone, the road network and parking lot development, lighting, greenery and design elements planning, as well as a detailed 3D visualization development. This can be explained by the high degree of course project details elaboration for this planning scale (most often M/S1: 200). In some thematic projects the tasks about specific issues were given, such as the location of the territory in the overall structure of the populated area, cultural and historical research, relief and environmental

accessibility solutions. Tasks according to acquiring public interviewing skills have been only within the framework of one project, which is explained by the seclusion of the territory and limited public access to most of the designed territories.

Tasks aiming to obtain the most comprehensive knowledge and professional skills were in the design of the territories with an area of 6 to 30 ha, since the planning scale requires both conceptual and general solutions for M/S 1:500 or M/S 1:1000, as well as a separate place detailing M/S1: 200. Consequently, the given tasks in the planning of these territories are related to both conceptual solutions of territory development - spatial structure, the common infrastructure of the territory and links with the surrounding landscape, the blue-green networks, visual and physical access, as well as with detailed solutions - roads, lighting, greenery, terrain and water and design elements. In the design process students were working on landscape analysis and different methods of analyses. Public interviewing was also used in the designing of these territories, so that the students could develop the ability to analyse the needs of the population in the context of landscape architecture technologies.

In the territory group, having an area of over 30 hectares, the students were given tasks aiming to obtain knowledge and professional skills related to the design of large-scale territories (M/S 1:1000, M/S 1:10000). These territories are characterized by design tasks and issues more appropriate to a large scale. Consequently, the given tasks were related to the elaboration of the vision of territory development, planning of spatial structure and the blue-green networking, infrastructure solutions, in-depth analysis of the landscape, including the research of heritage, ecological, etc. landscapes. In dealing with these territories wider use of public interviewing is approved, since in the developing of such scale projects questionnaires play an important role, because the territory included in the project affects a large part of society. In the planning of these territories, fewer tasks were given relating to the project detail, such as environmental availability solutions, detailed elaboration of greenery, solutions of design elements, etc.

The students' survey was conducted in the winter of 2016, involving 41 respondents – students who had participated in the elaboration of course projects of different scales. The students had to explain what knowledge they had acquired in each of the project groups. The survey was based on four close-ended questions. Three questions of the survey were made based on the results obtained from the first part of the research that the course project territories have to be divided according to the scale of those areas. Those were: 'Was it possible to acquire the following skills and benefits from small-scale / medium-scale

/ large-scale projects?'. The students could choose several answer options from 15 given. Those were the following: 1.elaborating development vision; 2. developing the blue-green network; 3. developing spatial structure; 4. infrastructure solutions; 5. analysis of landscape and its elements; 6. heritage research; 7. developing and using surveys and interviews; 8. planning of road network and parking lots; 9. terrain solutions; 10. environment accessibility;11. planning of lighting; 12. planning of greenery; 13. planning of design elements; 14. developing visualisation; 15. elaborating project details of project parts. They were given a chance to add their own answer as well. The fourth question was adressed to the evaluation of cooperation with the local governments. The question was formulated as follows: 'Is cooperation with local governments important within the framework of the study course projects?'

### Results and Discussion

The students' survey was conducted after the first part of research was completed, thus the questions were formulated according to the course project parts and the defined scales. Answering the first question – 'Was it possible to acquire the following skills and benefits from small-scale projects (the state social care centre 'Allaži', Šlokenbeka manor ensemble, Courtyard of 2, Daugava Street (Salaspils), greenery territories (in the centre of Bauska), Oskars Kalpaks square and Strūve park (Jekabpils), 'Raganu park' (Krimulda municipality), Greenery territory in the vicinity of Turaida)?' more than 75% of the respondents

consider that within the framework of the projects they have acquired knowledge in the following fields - elaborating development vision, planning of road network and parking lots, environment accessibility, planning of greenery, planning of design elements, developing visualisation. It should be mentioned that the lecturers never assign the task of elaborating development vision to small-scale territories, since the solutions for these territories do not affect a large part of public or development at a larger scale. More than a half of the respondents consider that they have acquired knowledge in such fields as developing spatial structure, infrastructure solutions, analysis of landscape and its elements, heritage research, terrain solutions, planning of lighting, elaborating project details of project parts. From the tasks mentioned above the lecturers have never given the tasks dealing with developing spatial structure in any of the projects. The respondents also mentioned that they had dealt with developing the blue-green network and planning of design elements. In addition, the students also mentioned that overall it could be considered that all the questions listed in the survey had been addressed. When dealing with small-scale territories, the students consider that they had also dealt with larger scale issues in both social and territorial context.

Responding to the second question – 'Was it possible for the students to gain the following skills and benefits from medium-scale projects (Brukna manor house, Aldaris park (Riga), vicinity of Anniņmuiža (Riga), Reņķis garden (Ventspils);

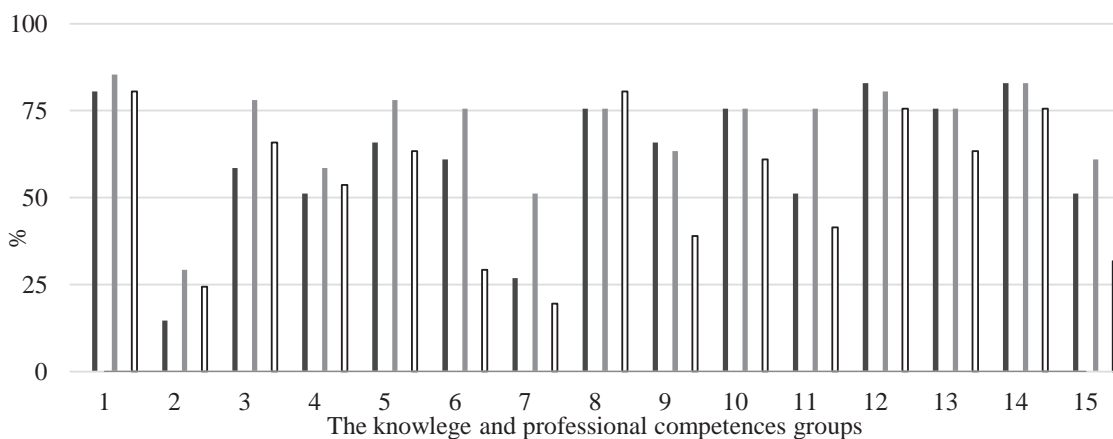


Figure 2. Summary of students` evaluation of acquired knowledge in:

- small-scale projects (first question);
  - medium-scale projects (second question);
  - large-scale projects (third question);
1. elaborating development vision, 2. developing the blue-green network; 3. developing spatial structure; 4. infrastructure solutions; 5. analysis of landscape and its elements; 6. heritage research; 7. developing and using surveys and interviews; 8. planning of road network and parking lots; 9 terrain solutions; 10. environment accessibility; 11. planning of lighting; 12. planning of greenery; 13. planning of design elements; 14. developing visualisation; 15. elaborating project details of project parts.

Sarkanmuiža park (Ventspils); Swedish rampant (Ventspils); central part of Ranka village, Central part of Slampe village)?' - more than 75% of the respondents consider that within the framework of the projects they have acquired knowledge in the following fields - elaborating development vision, developing spatial structure, analysis of landscape and its elements, heritage research, planning of road network and parking lots, environment accessibility, planning of lighting, planning of greenery, planning of design elements, developing visualisation. More than half of the respondents consider that they have acquired knowledge in such fields as - infrastructure solutions, developing and using surveys and interviews, terrain solutions and in elaborating details of project parts. The respondents have also mentioned that they had been dealing with such tasks as developing the blue-green network as well as mentioning (in the open section) that the acquired knowledge and competencies depend on each student's abilities and desires. The tasks for the medium-scale territories differ from the aim set in the project, but in total, all the 15 tasks defined were dealt with. The differences occur based on the public accessibility of the territory, or, on the contrary – on its seclusion. Likewise, when doing their project, work, the students have also tried to find the balance, dealing with the territory in different perspectives.

Responding to the third question – 'Was it possible to obtain the following skills and benefits from the large-scale projects (the coastal nature park in Saulkrasti, the territory next to Grīva boulevard in Ogre, courtyards of Jelgava's multi-storey residential buildings)?' - more than 75% of the respondents consider that within the framework of the projects they have acquired knowledge in the following fields: elaborating development vision, planning of road network and parking lots, planning of greenery, developing visualisation. More than half of the respondents consider that they have acquired knowledge in the fields of developing spatial structure, infrastructure solutions, analysis of landscape and its elements, environment accessibility, planning of design elements. The respondents have also stated that they have dealt with such tasks as developing the blue-green network, heritage research, developing and using surveys and interviews, terrain solutions, planning of lighting, elaborating details of project parts. From the tasks mentioned here, the lecturers have not asked the students to deal with the following tasks: planning of road network and parking lots, planning of greenery, developing visualisation, planning of design elements, planning of lighting, elaborating details of project parts. These differences could be explained by the fact that quite often the large-size territories are dealt with in later years of studies after different kinds of detailed plans are solved. Although it was not required

to submit a detailed plan for the territory, the students had thought about it and they had presented their ideas on that. In the open part of the questionnaire the students had mentioned that they had improved their presentation skills, acquired knowledge about the influence of the limited resources on the scope of the project design in Latvia.

In addition, in the fourth question the students were asked how they evaluated the cooperation with the local governments. Most respondents acknowledged that this cooperation was important. This positive evaluation indicates the attractiveness of the service learning method and its effectiveness not only from the lecturers' but also from the students' point of view.

Overall, it should be noted that the results of the survey reflect the different issues dealt with in the course projects of different scales, reflecting the tendency that the issues pertaining to large-scale territories are more general, whereas in medium-scale and small-scale territories the issues to be addressed are more detailed. It was quite surprising to learn that at all the levels the respondents consider that they acquire knowledge in a wide range of issues. The students consider that they have managed to deal with a wider range of tasks and acquired more than the lecturers had asked them to do. It is explained by a holistic nature of landscape. This holism (a complex whole) of landscape does not allow to unequivocally approve of any of landscape research or modeling theories, unless multidisciplinary approach is used. Therefore, understanding starts with the concept of landscape, the connections and interactions present in landscape and only then the analysis of separate constituent parts of landscape follows (European Council, 2002; Stewart, Liebert, & Larkin, 2004; Stephenson, 2010). The students have perceived this characteristic feature of landscape as something commonly known, that is reflected in their work within the context of their course projects. The results obtained from the research on the use of the service learning should be evaluated in the context of the particular field – landscape architecture, where it has been applied.

## Conclusions

Service learning has a positive influence on the study process, since both lecturers and students are thus able to solve topical problem issues for real territories. For lecturers this trilateral cooperation has provided the opportunity to build a very broad theoretical basis, pertaining to territories of different scales with examples dealt with in the form of cooperation. For students, the course projects implemented with the service learning method provide an opportunity to improve their knowledge with a wide range of issues to be addressed. In developing the course projects, students become more convinced about the

comprehensive nature of landscape, as evidenced by their desire to solve not only the required tasks, but also to reflect on different aspects of the project solutions and scales. The results of the research

should be researched and explained in more detail, by conducting a wider students' survey focusing more on the emotional experience in the development of course projects by applying the service learning method.

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