Landscape Cognition

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Abstract. Apart from visual and sensory (audial, tactile and olifactory) aspects - it is cognitive aspects which play an important role in landscape research and planning. These cognitive aspects are characterised by knowledge acquired during the process of cognition. The knowledge then is actively used in further landscape observations and forming opinions about it. Consequently, cognitive aspects are associated with an individual's personal and professional interests formed by education, residence, mentality, gender, former experience, etc. These aspects are also associated with psychological mood during the observation process of a particular landscape. The influence of cognition processes has been previously analysed also within the framework of other sciences, basically related to the improvement of the environment of people's lives as well as social and economic background. In the field of landscape architecture the role of cognitive aspects is often associated with the understanding of the identity of the place, its aura and the feeling of belonging to a particular place, which are essential elements in the process of landscape architecture and planning. The aim of the research analysed in the article was to identify and characterise the role of cognitive aspects in different thematic fields of landscape architecture. The research was conducted within the framework of The Baltic Forestry, Veterinary and Agricultural University Network (BOVA) international doctoral study course Landscape Cognition (2015) organised by the Department of Landscape Architecture and Planning of Latvia University of Agriculture. The research analysed 8 scientific themes represented by the doctoral students and lecturers of landscape architecture of this course. The themes were divided into two thematic sections. The first section Rural Landscape Cognition included the following themes: Mainstreaming participatory development in rural Latvia and Estonia; Road landscapes, their values and development scenarios; Digital software in Landscape architecture; Seasons in landscape. The second section Urban Landscape Cognition covered the following themes: Post-industrial areas in cultural landscape of the Lielupe river; Urban forests; Public space of small towns on the Baltic Sea coast; Landscape spatial planning. Within the framework of the research through lectures and practical work the doctoral students under the guidance of the lecturers identified the keywords/criteria which most precisely characterised the role and influence of cognitive aspects in a particular doctoral student's research theme. As a result, within the framework of two thematic sections schematic models were developed where the keywords identified in the research were arranged hierarchically according to their influence and role in the cognition process of a particular field. Likewise, within each section the role of cognitive aspects was characterised in each scientific theme of landscape architecture represented by the doctoral students. The models developed within the framework of the research clearly delineate the interdisciplinary character of landscape architecture, since most of the identified criteria were referred to different scientific themes, but only a small proportion developed for a specific theme.

Keywords: landscape architecture education, Latvia, landscape Research methods.

Introduction

The peculiarities of human perception play an important role in the evaluation and planning of landscape. Perception is each person's individual impression of the surroundings [30; 29] and it is formed by visual, sensory and cognitive perception, which by interacting, interpret what we have seen and heard in our consciousness. Visual perception is one of the most important of people's senses, since visual information is the first which reaches our mind and constitutes 80 % of what is perceived [42; 35; 43]. Other senses make up sensory perception or perception of the surrounding things or phenomena through olfactory, palate and tactile senses [40; 42; 37]. Quite often the sensory perception unconsciously adds to the visual perception, for example the image of a flower together with its pleasant fragrance enhances positive emotions which we get from looking at the flower. Cognitive perception can be described as unconscious perception [39; 22] because it is connected with each individual's previous knowledge, experience and level of knowledge, and therefore, with the capability to analyse and understand the processes. An adult person knows what feelings are aroused when he/she comes into contact with something familiar and therefore this person tries to discover something new again just to have the feeling of a new discovery that the person had experienced in his/her childhood. A full interpretation of landscapes is possible only when all visual, sensory and cognitive perceptions are involved, because they supplement each other, creating a whole image of the perceived item [30; 40; 22] (Fig. 1).

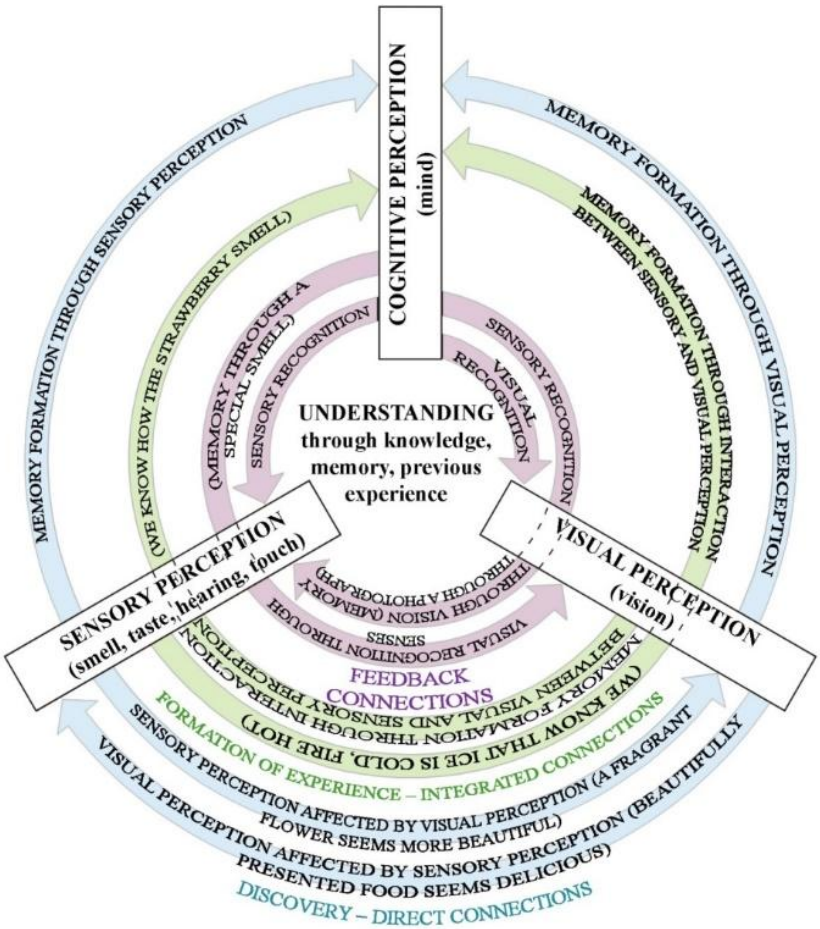

Fig. 1. Formation of Landscape COGNITION through senses [33]

Definitions of *cognitive* (from Latin *cognition* – connected with mental process of understanding) in different sources has been described as a mental action or process of acquiring knowledge and understanding through thoughts, experience, and the senses; a perception, sensation, idea, or intuition resulting from the process of cognition[36].

Thus Cognitive perception plays the leading role, particularly in the interpretation of landscape qualities, determined by human knowledge and understanding [37; 45; 18].

COGNITION is about knowledge and knowing and has been used not only in landscape architecture and planning discipline, but also in many other disciplines – tourism, marketing, communication, politics, etc. [13; 14; 15; 21], which are responsible for the life quality, social and economic benefits. Cognition involves such actions as sensation and perception, learning, memory, thinking, categorization, judgment, making decision, reasoning and problem-solving [4; 16]. Cognition also is connected with a person`s behaviour and other characteristics (mentality, gender, age, profession, previous positive or negative experience, social status, residence, a local inhabitant or a newcomer, as well as the person's emotional mood at the moment of perception) which affects the process of obtaining information and the development of definite knowledge [30; 11; 7].

Landscape cognition is the most complex level in the understanding of landscape after seeing and perception of landscape (Fig. 2). Thus landscape cognition is an important element in the establishment of the landscape identity and aura of the place, as well as in the development of the attachment to the place [3; 7; 10; 31; 48].

The aim of this research is /identify and discuss the role of cognitive aspects in the different research themes of landscape architecture which were represented by the involved lecturers and doctoral students in The Baltic Forestry, Veterinary and Agricultural University Network doctoral study course Landscape Cognition (2015).

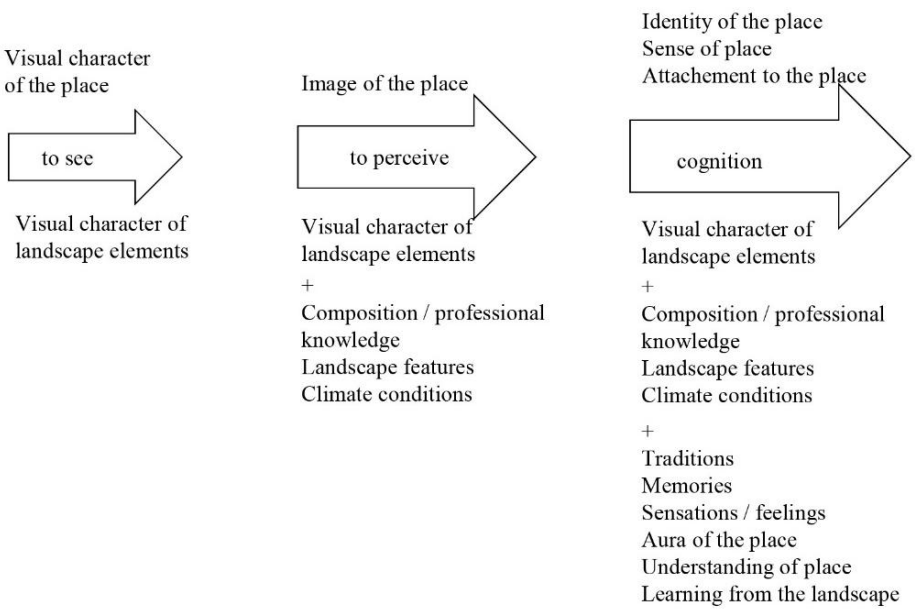

Fig. 2. Levels of landscape cognition [Source: created by D.Zigmunde]

Materials and Methods

The Baltic Forestry, Veterinary and Agricultural University Network BOVA was established in 1996 in collaboration with Latvia University of Agriculture, Estonian University of Life Sciences, Lithuanian University of Health Sciences and Aleksandras Stulginskis University. Within the framework of BOVA networking international intensive training courses are organised for bachelor, master and doctoral programme students.

BOVA course Landscape Cognition for doctoral and master level students was organised in the autumn semester of 2015. The scope of the course is 6 ECTS which includes both a distance learning section of the course with preparing of home assignment and a full time section (meeting in person) with lectures and practical work. The leading section of the course was the Department of Landscape Architecture and Planning of Latvia University of Agriculture. The participants of the course included 7 teachers from Latvia, Estonia and Norway and 8 doctoral and master students from Latvia and Estonia. The aim of the research was to determine/identify the keywords/criteria which would most precisely characterise the role of cognitive aspects in various thematic fields of landscape architecture. Therefore two work groups were formed within the thematic blocks corresponding to the course participants' scientific themes:

1. Rural Landscape Cognition with the following scientific themes:
- Mainstreaming participatory development in rural Latvia and Estonia.
- Road landscapes, their values and development scenarios.
- Digital software in Landscape architecture.
- Seasons in landscape.

2. Urban Landscape Cognition with the following scientific themes:
- Post-industrial areas in cultural landscape of the Lielupe river;
- Urban forests;
- Public space of small towns on the Baltic Sea coast;
- Landscape spatial planning.

To achieve the aim, the following tasks were set:
- to strengthen the methodological base;
- to introduce participants of the course with landscape cognition research methods and approaches;
- to highlight the importance of cognitive aspects in landscape research;
- to discuss the role of cognitive aspects in different research fields represented by the teachers and doctoral students involved in the course; to determine/ key words to characterise cognition process in definite research theme;
- to develop shematic model of landscape cognition with the oranised key words.

The course included:

- the distance learning section, using the moodle e-studies environment (http://estudijas.llu.lv/) and the study materials it contains – the work task description, scientific articles and literature sources on Landscape cognition;
- developing Landscape cognition description within the context of each participant's scientific theme after having acquired the scientific literature included in the distance learning section;
- lectures and practical work on the concept of Landscape cognition and the methodology used in the research:

Introduction to Landscape Cognition (lecturers D. Zigmunde and N. Ņitavska from Latvia University of Agriculture). The theme deals with the definition of cognitive aspects of landscape and the characterisation of the formation of cognitive perception and its influencing factors [35; 44; 8; 45], connection with various fields of landscape architecture and modern research. Although the structure of people's eyes is similar,there are several aspects (mentality, gender, age, profession, previous experience, social status, residence – rural territory, city, as well as the emotional frame of mind at the moment of landscape perception), which influence the way this information reaches our consciousness [22; 30; 40; 11]. Unconsciously the visual information is influenced also by another kind of information which is obtained through sound, smell, touch and emotions, altogether forming a definite and individual perception about a particular landscape and its values. Having that as a theoretical base, the students carried out practical work where pictures of particular landscapes were given without additional information characterising the place. Basing on professional knowledge, previous experience and personal feelings, the students had to characterise the overall image of a definite landscape – its location (state and territory, for example, a coastal area of the sea, function, principal occupation of the inhabitants, aesthetic, ecological and social qualities. Afterwards the students received additional information about the definite place and they had an opportunity to change or improve the initially developed characterisation of the place making it more precise.

Research Methods (S.Bell from Estonian University of Life Sciences). Within the framework of the research an overview of contemporary landscape research methods has been presented using examples, particularly showing how qualitative and quantitative parameters are interrelated and how they can be interpreted. Each student presented his/her research theme which was later analysed, participating in a joint discussion.

Social Aspects in Residential Public Space (lecturer U.Īle from Latvia University of Agriculture). An important role in the process of landscape cognition is played by social aspects (inhabitants' primary and secondary needs in accordance with their understanding, experience, knowledge, social status, etc.) and their manifestation in the local scale of landscape. The landscape formed under the influence of the social aspects is the reflection of cognitive aspects affecting both - an individual and community or society in general. The influence of social aspects on landscape cognition most vividly appears in the case of courtyards of multi-storey residential buildings, which the residents use on a daily basis accepting these courtyards both as a public area available to everyone and as an individual area where one can feel safe and in harmony with the environment [19]. In the practical part of the course the students were offered a variety of courtyard situations of the courtyards of multi-storey building residential areas. In these situations, basing on the acquired theoretical basis, the role of various social aspects was determined in the development of landscape cognition.

Delphi Method (lecturer M.Veinberga from Latvia University of Agriculture). The Delphi technique is widely used when data are collected from a limited number of respondents representing specific fields of activities. This technique is organised as a group communication with an aim to reach a merging of views for a specific problem. The technique is used to reach uniformity in views, obtaining the data from a selected group of experts, using several surveys, which are adapted to a repeated questioning of the respondents [26; 17]. The experts answer surveys in two or more stages and the organiser of the Delphi survey provides a summary of the experts' answers from a previous stage [38]. Experts can revise their earlier answers compared with the replies of other experts and it is believed that during the Delphi process the number of the answers will decrease and the "correct" answers will be achieved [26; 38]. Basing on this method, the students did the practical task where each group interviewed the other group, understanding the process of the method and advantages in determining the keywords of landscape cognition.

Imageabilty Method (lecturer M.Markova from Latvia University of Agriculture). The word,

"imageability," was developed by Kevin Lynch in his book, "The Image of the City". Imageability comes from visual aspects of the landscape. While it is usually used on local scale and needs field observation, some aspects can be defined by aerial photographs. In research fields, landscape indicators have only been used recently. It is important to understand that an indicator alone provides only little information, and it is valuable when an indicator is used together with a wider system, as each indicator needs to have – representativeness, accessibility, reliability and effectiveness [27; 28]. To understand the principles of the operation of this method, the students did the practical task in the vicinity of the nearest landscape, analysing the views according to Kevin Lynch'es method.

Examples of Interdisciplinary Reaserch (lecturers D. Zigmunde and N. Ņitavska from Latvia University of Agriculture). At the end of theoretical lectures and practical work a summary was conducted on different themes of interdisciplinary landscape research where cognitive aspects are also included. Here the links are important between the physical and mental, social and spiritual, between the natural phenomena and the traditions as well as other links forming the versatile essence of landscape research and can be based on the multidisciplinary research approach.

Academic Writing (lecturer K. Jorgensen from Norwegian University of Life Sciences), where students acquired the methodological base for the publication of the results of scientific research in scientific journals.

workshops in two thematic work groups under the teachers' guidance for determining keywords and their hierarchial arrangement in the schematic landscape cognition model;

Improvement and clarification of Landscape cognition characterisation in the context of each participant's scientific theme upon the completion of the course.

Results and Discussion

Within the framework of the research the main landscape cognition keywords were identified in the context of 8 landscape architecture scientific themes, joining them into two thematic landscape cognition schematic models:

1. The scientific themes dealt with in section Urban landsscape cognition:

   1.1. Post-industrial areas - the cognitive evaulation of abandoned industrial landscape.

By analysing the sources of scientific literature it was determined that the growth of industrial society is one of the most distinctive ocurrences in modern history. Due to industrialisation society was able to change the continental scale of landscapes and influence the climate of planet Earth. Capitalist industrialisation initiated economic and social changes and it is still defining social and geopolitical changes [9]. In his work "Industrial Ruins: Spaces, Aesthetics and Materiality" Tim Edersor considers that abandoned industrial landscapes are mostly visually unattractive, but on the other hand – for separate groups such as homless people, searchers of non-ferrous metals, teenagers (who use the territory for graffiti tagging or role plays and "headquarters") this abandoned area turns into a place where people can manifest themselves. As well as according to the theory of environment aesthetics, the objects (landscapes or things) can be perceived in two different ways – by senses (non-cognitively) or using previous knowledge (cognitively) [12]. David Nye in his work "American Technological Sublime" (1994) described the American experience in the research of degraded territories. One of the most significant conclusions was the idea about the formation of the collective experience. A definite group of people who share common memories and experience concerning a definite question, for example - factory workers will form the collective memory, since they belong to one social group. It is quite probable that an abandoned industrial area will seem attractive or even noble to them due to the fact that they used to belong to that place in the past [34]. The Soviet period in Latvia has left a deep imprint in people's memories, therefore, in most present day cities everything that was built during the Soviet time is preceived as the stigma of that period.

1.2. un 1.3. Public space in small towns and urban landscape spatial planning. In scientific literature it has been emphasized that only the urban environment has a peculiar phenomenon. At the moment when we lock the door of our home or close the gate of our garden we find ourselves in the city's public outdoor space. This outdoor space is freely accessible to everyone. It is a place where people can be freely engaged in different kinds of activities which are mostly connected with life and life environment qualities – such as health, social interaction and economic value [32]. At the same time it is a space we share with all the inhabitants and visitors in the city. Thus the development of this space becomes complicated, since it is common to all of us but very often each of us wants to see it

different, better, cleaner or safer. Public outdoor space in a city starts from the pavement of the house we live in, driveway, the street leading to the squares and city parks, thereby the image of public outdoor spaces directly depends on the people's actions and landscape cognition, determined by different historical events, cultural, economic and nature processes. The way each of us shows the attitude to the public outdoor space directly depends on the person's cognitive aspects – cognition and reasoning abilities, perception and the acquired knowledge [24]. When people come to a place, they take with them the previous experience, something that had been acquired from the family or society – the collective memory, ethnic or religious prejudices and lastly - mutual feelings which stem from the interaction between the environment and people.

The place itself also carries with it history or memory. This memory is formed by its inhabitants both – by each individual and the society in general (collective memory). Collective memory is formed from what has been experienced in the place and from what has happened there, which mainly evokes feelings associated with these memories and makes an emotional connection with the place. Likewise, each of us and society in general, leave behind the witnesses of the time or direct reminders, such as architecture, monuments, names of the streets, the style of city planning, etc. Each of these direct reminders arouse interest in the next generations to discover the long gone past, which helps recognize the transformation processes of that place and discover the identity of today's place [23].

1.4. Urban forests. In the scientific literature urban foests in the context of people's perception have mainly been analysed within the context of the aesthetic and ecological interaction. Urban forests have been more intensively used for the recreation purposes and less for commercial purposes. Due to this reason people's attitude and perception are very important for the development of these territories. The major criterion in urban forests landscape cognition is considered to be an individual's knowledge about the ecological quality of the forests (biological diversity, nature protection, etc.) which also influences understanding about the aesthetic quality of such territories [35; 5].

As a result of the activities of the group of thematic section Urban Landscape cognition, a schematic urban landscape cognition model was developed. It is based on the following conclusions:

- the set of Landscape cognitive criteria depends on each individual's personal and perception qualities as well as knowledge acquired during the life time obtained in the cognitive processs of studying the surrounding environment in childhood and through professional experience in adulthood (Fig. 3);
- each individual's cognitive perception of landscape changes with the acquisition of new knowledge and the formation of experience in the course of time (Fig. 4);
- the landscape cognitive criteria is based on the balance between knowledge and experience, where memories, feelings, mentality, ideology, personality, ocurrences, social and cultural events play an important role;
- the criteria characterising specifically urban landscape cognition include mainly the aspects and keywords connected with people's activities (Fig. 5). They are grouped into categories related to pecularities of an individual's and society's perception and also to economic and cultural processes (Fig. 6).

1. In the thematic section Rural landscape cognition the following scientific themes have been addressed:

2.1. Mainstreaming Participatory development in rural landscape. The research indicated that Landscape Cognition is a term used to describe how the observers perceive landscapes. When observers view a landscape, they are not just seeing the elements that are within that landscape, but they are viewing it through the lens of their past experiences, their cultural background, their knowledge, their unique character. Even their perspective comes from the aspects particular to the moment, such as the season, the weather and the observers' mood. It is a shifting, changing perspective and yet vitally important for understanding how inhabitants and visitors view rural landscape. In mid-summer the swaying grasslands, rich in meadow flowers for many in Latvia are reminiscent of the time of Ligo and Jani, the important cultural markers of the year and a celebration of the summer solstice. Many people also remember the times spent on their grandparent's farms relishing the freedom of summer, whilst their parents continued to work in the cities. The "vienseta"- "the idyllic scene of an old farmstead with a pond, an orchard and storks nesting nearby is intricately entwined with the Latvian sense of identity, albeit a fast disappearing one" [41. It is a cultural symbol that marked times of independence as a nation state in its own right and a view of how a farmstead should be. Many Latvians, therefore, view scrubland, a rich ecosystem to an ecologist, as a mess and not as element of a well-cultivated landscape that they long for. Character also plays a part in the cognition process. A person with a timid character may view

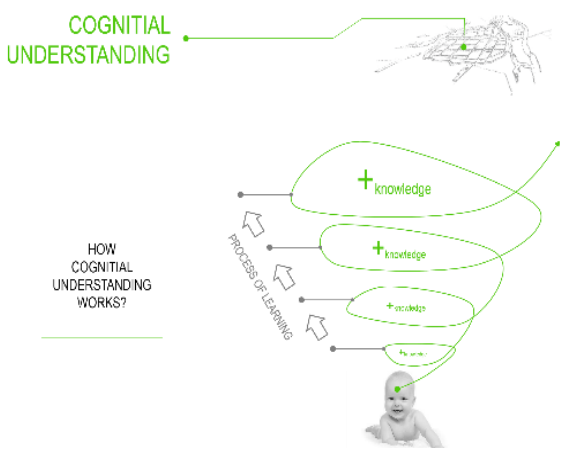

Fig. 3. Development of Landscape cognition through learning [Source: created by authors Anna Katlapa, Anna Kalniņa, Tamāra Patrina, Laura Šterna]

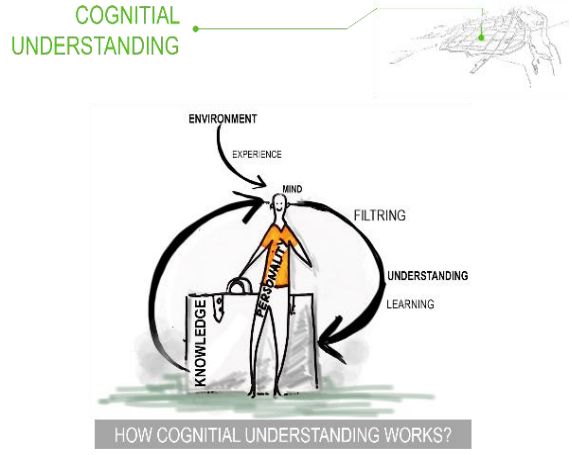

Fig. 4. Impact of surounding environment, knowledge in the process of understanding of landscape [Source: created by authors Anna Katlapa, Anna Kalniņa, Tamāra Patrina, Laura Šterna]

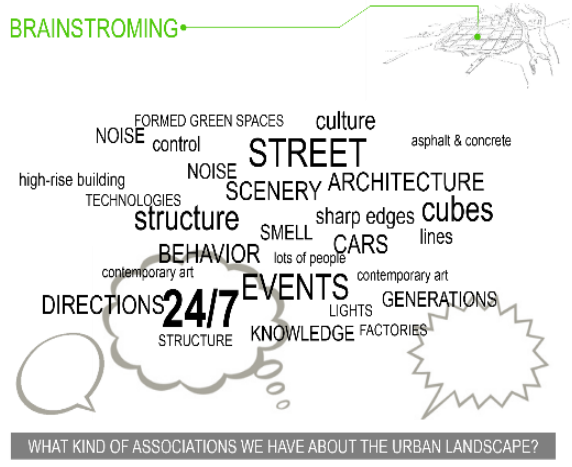

Fig. 5. Keywords of Urban landscape cognition [Source: created by authors Anna Katlapa, Anna Kalniņa, Tamāra Patrina, Laura Šterna]

a mountain scene as an awe inspiring sight, but the view from the mountain top as something to be feared. A mountain climber or someone with an adventurous spirit, however, may see the same view as a challenge and the mountaintop as an accomplishment. Likewise a typical rural view may be viewed as a peaceful place away from the buzz of the city by those who enjoy the peace and quiet of the countryside or the familiarity of home by those who live there, or it may be viewed as boring and lacking life by the those who enjoy the city rush or by the younger generation of the rural population who are eager to leave home.

2.2. Road landscape. In scientific literature it has been pointed out that roads play an important role in our days. With the increase of people's mobility the connection with road Landscape has become a part of everyday life. Many of the landscapes are seen from the road and views from the road generate the impression about the country [6; 1]. Some roads have gained special scenic road status due to their character (America's Byways). Perception of the road landscape depends on vision, physical barriers along the road, travelling speed. Interpretation of the perceived landscape is connected with cognitive aspects. For the road landscape design it is important to understand what is perceived by people as scenic. The methods used for road landscape evaluation are often based on the professional judgment of experts. Some researchers like L. Kent have used the cognitive approach working with the complex human/landscape interaction and scenic qualities of the road landscape [20].

2.3. Seasons in landscape. From very early days seasonality has influenced the formation of people's understanding.. It was through nature that primaeval man got acquainted with nature's determined influence of ecological processes in everyday's life and received the first positive feelings and aesthetic experience aroused by watching the various forms of nature's elements [22]. The cognition of aesthetics facilitated the introduction of compositional techniques, which, starting with building traditions of ancient cultures, are widely used till nowadays in different fields of art, architecture, design and other fields [42; 35;22].

2.4. Landscape cognition through digital design. For a hundred years, pencils, pens, markers, and watercolours have been the principal tools of representation for landscape architects and urban planners. Today those hand-powered aids have been replaced by computers and Computer-aided design (CAD). Digital Drawing for Landscape Architects

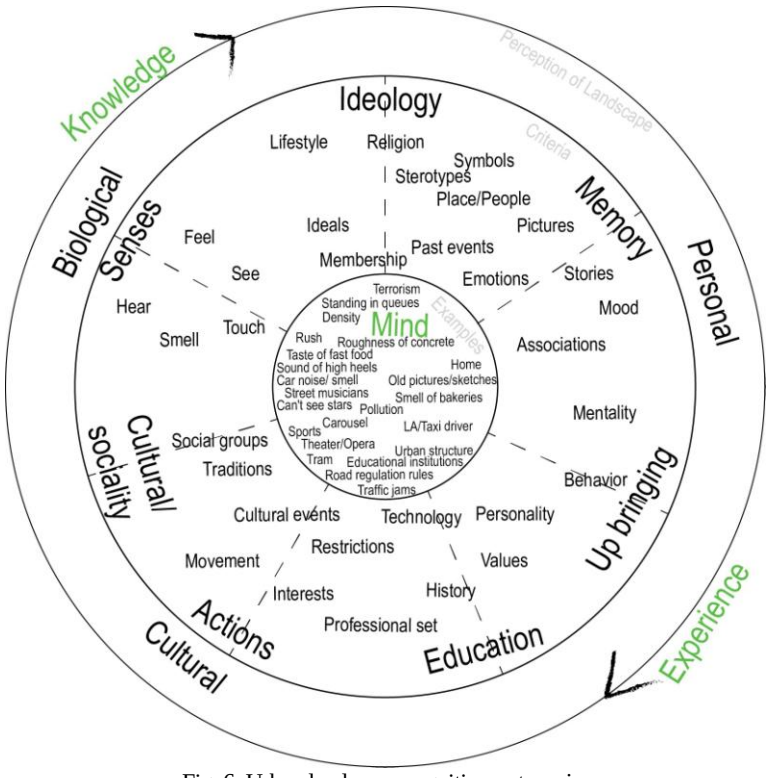

Fig. 6. Urban landscape cognition *categories*
[Source: created by authors Anna Katlapa, Anna Kalniņa, Tamāra Patrina, Laura Šterna]

bridges the gap between the traditional analog and the new digital tools and shows you how to apply timeless concepts of representation to enhance your design work in digital media [47]. Traditional two-dimensional communication methods using renderings, design plans, and maps have not been fully successful in their ability to engage and sufficiently inform clients and stakeholders. While professional planners are able to rely on their experience to help them visualize the proposed landscapes, the average client is often overwhelmed by the relatively complex and abstract information, and unable to translate this information into landscape visions. Developments in the field of 3D graphic design have dramatically extended the possibilities to overcome this barrier by providing a tool that produces designs that are easy to comprehend and helps clients better visualize the end product that the designer has put forth [25; 47]. Building a 3d virtual and interactive model is extremely bifacial in many aspects of the Landscape Architecture process. The digital world helps the landscape architect to communicate with society through Visual communication. Visual communication touches many subjects such as perception, communication, language, marketing, image making, image analysis, rhetoric, etc. How we perceive an image and what influences us is affected by many different things. Within the cognition context perception is a mental interpretation of feelings or sensations produced by stimuli from the surrounding world. It is a fundamental function to keep individuals informed about the world. Perceptions occur with an inner picture that is organised so that we can generate appropriate actions. The visual perception is a personal judgment that can transpire quickly and spontaneously. On one level, it is a superficial and preconceived judgement that usually leads to two actions within the viewer – rejection or response. This quick judgment is not always fair. It is impossible to predict the reactions. The beholders' different criteria of how they perceive the picture can be vast. It is about personal impressions, consistency, values, knowledge and the experience the beholder has [46]. Digital designs, especially 3D simulations, cover excellent ways of human perception through the senses, understanding of the place and Landscape architects' vision of the space.

As a result of the work carried out by the working group of the thematic section Rural landscape cognition a schematic model of rural landscape cognition was developed (Fig. 7), based on the following concepts:

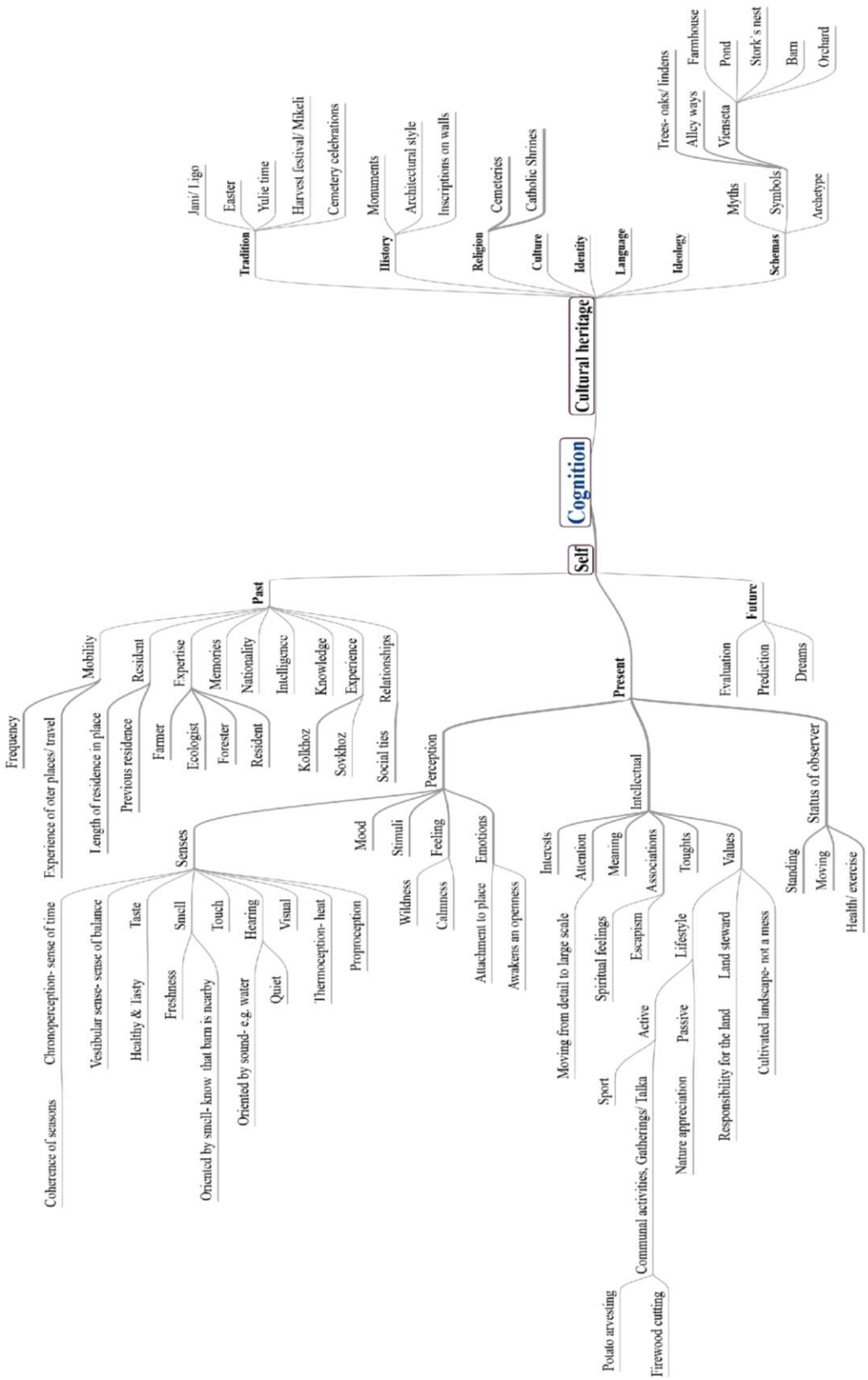

Fig. 7. Schematic model of rural landscape cognition
[Source: created by authors Kristīne Vugule, Joanna Storie, Indra Purs, Arturs Mengots]

- the whole set of cognitive criteria is divided into two groups: cultural historical and personality criteria;
- the cultural historical cognitive criteria set includes – identity, language, traditions, history of place, ideology, the symbolic and mystical meaning of landscape elements;
- the personality cognitive criteria set includes three big sections – past, present and future where the keywords are connected with the experience, emotions, dreams, knowledge, social status and activities.

In the works of both thematic sections working groups the tendency to closely relate landscape cognitive aspects with an individual's personal experience, mentality, knowledge and emotional state has been observed. It confirms the close ties of landscape with people and a consistent interaction not only at the physical but also at the mental and spiritual levels. In landscape research the role of cognitive aspects increases with the involvement and interference of people in the natural processes of landscape. At the same time the influence of rural landscape on people's cognitive perception level is no less important and it forms the individual' s personality on the whole. Both working groups have acknowledged the close mutual influence of landscape and people on the formation of the individual's and society's cognitive perception.

Conclusions

The human's perception is determined by visual, sensory and cognitive perception, which through the process of interaction interprets the observed and is sensed in our consciousness. Thus, alongside with the development and transformations of landscape which take place under the influence of nature, socioeconomic and political factors, cognitive experience is formed in humans. This experience determines the way and form in how humans change the landscape around them.

Cognitive perception is of particular importance. It plays an important role in the interpretation of the landscape qualities, because it is determined by human's knowledge and understanding of landscape values, for example, ecology and an environmentally friendly lifestyle.

In the research of both urban and rural landscape cognition it was established that in both thematic sections the common criteria are those which characterise personal and professional qualities of an individual which are involved in the formation of cognitive perception. The criteria related to the specific features of urban or rural landscape – such as the use of the territory, traditions, characteristic visual elements of landscape (streets, buildings, nature elements, etc) are different.

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Kopsavilkums. Bez vizuālajiem un sensorajiem (dzirdes, taustes, smaržas) aspektiem ainavu izpētē un plānošanā būtiska loma ir tieši kognitīvajiem aspektiem. Tos raksturo izziņas procesā iegūtās zināšanas, kas aktīvi tiek izmantotas turpmākos ainavu vērojumos un spriedumos. Līdz ar to kognitīvie aspekti saistīti gan ar personīgajām, gan profesionālajām indivīda īpašībām, kuras veido izglītība, dzīves vieta, mentalitāte, dzimums, vecums, iepriekšējā pieredze u.c., kā arī psiholoģisko noskaņojumu konkrētās ainavas vērošanas laikā. Kognitīvās izziņas procesu ietekme iepriekš analizēta arī citu zinātņu virzienu ietvaros, kas galvenokārt saistīti ar cilvēka dzīves vides, sociālā un ekonomiskā fona uzlabošanu. Ainavu arhitektūras jomā kognitīvo aspektu loma bieži vien tiek saistīta ar vietas identitātes izpratni, vietas auru un piederības sajūtu konkrētai vietai, kas ir būtiski elementi ainavu arhitektūras un plānošanas procesā.

Rakstā analizētā pētījuma mērķis ir noteikt un raksturot kognitīvo aspektu lomu ainavu arhitektūras dažādās tematiskajās jomās. Pētījums veikts Baltijas mežsaimniecības, veterinārijas un lauksaimniecības universitāšu tīklojuma (BOVA) starptautisko doktorantūras kursu „Landscape Cognition" (2015) ietvaros, kurus organizēja Latvijas Lauksaimniecības universitātes Ainavu arhitektūras un plānošanas katedra. Pētījumā analizētas šajā kursā pārstāvēto ainavu arhitektūras doktorantu un lektoru 8 zinātniskās tēmas, kas sadalītas divos tematiskajos blokos. Pirmajā blokā "Lauku ainavas kognitīvie aspekti" ietvertas sekojošas tēmas: sabiedrības līdzdalība lauku ainavas attīstībā Latvijā un Igaunijā; Ceļu ainava, tās vērtības un attīstības scenāriji; Informācijas tehnoloģijas (IT) ainavu arhitektūrā; ainavu sezonalitāte. Otrajā blokā "Urbānās ainavas kognitīvie aspekti" aptvertas tādas tēmas kā Post-industriālās teritorijas Lielupes kultūrainavā; Pilsētas meži; Piekrastes mazpilsētu publiskā ārtelpa; Pilsētvides telpiskā plānošana.

Pētījuma ietvaros studiju kursa doktoranti lektoru virsvadībā caur lekcijām un praktiskajiem darbiem noteica galvenos atslēgvārdus / kritērijus, kas visprecīzāk raksturoja kognitīvo aspektu lomu un ietekmi konkrētajā doktoranta zinātniskajā tēmā. Rezultātā divu tematisko bloku ietvaros izstrādāti shematiski modeļi, kuros hierarhiski sakārtoti pētījuma ietvaros noteiktie atslēgvārdi / kritēriji pēc to ietekmes un lomas konkrētās jomas kognitīvās izziņas procesā. Tāpat arī katrā blokā īsi raksturota kognitīvo aspektu loma katrā no doktorantu pārstāvētajām ainavu arhitektūras zinātniskajām tēmām. Pētījuma ietvaros izstrādātie modeļi skaidri iezīmē ainavu arhitektūras starpdisciplināro raksturu, jo lielākā daļa noteikto kritēriju tika attiecināti uz dažādām zinātniskajām tēmām.