

TWIN2EXPAND

INTENSIVE SUMMER WORKSHOPS REPORT

DELIVERABLE 3.3

twining towards
research excellence
in evidence-based planning
and urban design

Document Description: This deliverable describes the reasoning and structuring of the project's intensive summer workshops within the framework of TWIN2EXPAND's capacity-building and research activities. It reports on the organisation, methodology, delivery and impact of the two summer workshops.

This deliverable constitutes Deliverable 3.3 for Work Package 3 of the TWIN2EXPAND project.

October 2025

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Please refer to this publication as follows:

University of Cyprus, Department of Architecture (2025). Report on Intensive Summer Workshops. (Deliverable 3.3). Nicosia. TWIN2EXPAND project: 101078890 (Horizon Europe), 10052856 & 10050784 (UKRI).

This project has received funding from the European Union's Horizon Europe Research and Innovation Programme under Grant Agreement No. 101078890.

This project has received funding from the UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee under grant numbers 10052856 and 10050784.

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Space Syntax

Version Control Sheet

Deliverable number	D3.3
Deliverable name	Report on Intensive Summer Workshops
WP / WP number	WP3, Task 3.6
Delivery due date	31/10/2025 - Month 34
Type	R – Document, report
Dissemination level	PU - Public
Lead beneficiary	UCY - University of Cyprus
Contributors	All partners
Reviewer(s)	Nadia Charalambous
Changes with respect to the Grant Agreement	No changes
Dissemination and uptake	Internal use

Revision history

Version	Date	Summary of changes	Initials	Changes marked
1	12/10/2025	Draft Report	IGe	
2	28/10/2025	Added missing tutor in participants list. Spacing adjusted for all captions to be under related figure.	IGe	direct

1. Executive Summary

This document describes the planning, organisation, methodology, delivery and impact of TWIN2EXPAND's intensive summer workshops. It provides the rationale behind the design of the workshops' content, describing how they interlink with other training, capacity building and research activities, their content, delivery and outputs, as well as the outcomes of their evaluation.

The focus and content of the workshops was aligned with the project's other capacity building and research activities. There was substantial and meaningful participation in the workshops including UCY's staff, trainers from the partner institutions and external stakeholders, with 38 persons involved in the activities of the first Intensive Summer Workshop (ISW1) and 23 persons involved in the activities of the second Intensive Summer Workshop (ISW2), not counting speakers, trainers and presenters from the 14th Space Syntax Symposium, which was embedded within ISW1, and students of UCY's MSc in Design for Social Innovation, who attend a number of activities of the ISW2.

The workshops produced a significant number of models, data and research results, summarised in a total of 6 extensive presentations and one public 4-day exhibition, comprising 5 long panels, at the Strovolos Cultural Centre. The outcomes informed the project research activities and served as a means to engage with local stakeholders. Overall, the evaluation of both workshops by the participants, as well as by the trainers, was highly positive.

2. Acronyms

CSA = Coordination and Support Action
EBDP = Evidence-Based Urban Design and Planning
ESR = Early-Stage Researcher
EMME = Eastern Mediterranean and Middle East
HO = Host Organisation
ISW = Intensive Summer Workshop
RP_WPn = Research Project _ Work Package number
SURF = Society and Urban Form Research Lab
T2E = TWIN2EXPAND
UCY = University of Cyprus
VT = Virtual Training
WGS = Working Group Studio
WP = Work Package

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4. Introduction

The Intensive Summer Workshops (ISWs) are one of the project Coordination and Support Actions (CSAs) and were planned as part of a variety of training activities to contribute to the achievement of the project objective 1.1 “*enhance scientific competence and promote research capability of UCY staff and ESRs in the EBDP field*”. The ISWs were held at UCY from 19th June to 3rd July 2024 (ISW1) and from 2nd to 13th June 2025 (ISW2), the topics of the workshops were: “Enhancing the connectivity of neighbourhoods. The application of evidence-based design in master planning of linear parks” (ISW1) and “Advanced spatial network modelling for social-ecological urbanism.” (ISW2). They comprised a series of lectures, software training sessions on GIS, spatial analysis, space syntax methodology, ecological analysis and integrated urban modelling taught by senior staff from the partner institutions with contributions from external speakers providing presentations about the workshops case study: the Pedieos Linear Park in Nicosia. ISW1 was longer than the two weeks originally planned because it included the 14th International Space Syntax Symposium, hosted by UCY, as part of the training activities; summer workshop participants were provided with a fee waiver for the conference.

The ISWs were aimed at both staff and researchers from UCY, as well as other institutions and professionals in Cyprus and the EMME region. Open calls to participate in the workshops were published on 5th March 2024 and 15th April 2025 respectively. The application required the submission of a CV and a motivation letter of 500 words. Participants were also required to perform preparatory work by attending either live or asynchronously the TWIN2EXPAND virtual trainings held in March 2023 and 2024. We received 30 applications for the first ISW and 17 applications for the second one; in the latter case previous participants were offered a place without being required to apply.

5. Rationale and objectives of the workshops

The intensive summer workshops were planned as training activities embedded in a wider capacity building framework, which comprised preparatory virtual trainings and ESRs placements in the partner leading institutions. This combination of activities provided for concerted upskilling of UCY's researchers at various levels of depth: enhancing knowledge and skills for all researchers through the virtual trainings, with some researchers participating in the more in-depth training of the summer workshops through design application of the theory and tools learnt at the virtual trainings, and a smaller number of researchers completing a 'full programme' of training including placements or internships in the leading institutions expert in the analytical techniques covered by the project.

The workshops were also integrated with the project research activities, firstly by performing research-based trainings on the state of the art of EBDP applying analytical techniques to the case study in Cyprus as part of assessing the applicability of EBDP in different planning contexts. Secondly, by integrating the research efforts to move beyond the current state of the art and embed within the practice of EBDP the evaluation of the combined impacts of planning interventions on society, the economy and urban ecology. Therefore, the capacity building process gradually addressed upskilling from theory and basic practical applications to applying the state of the art and then to applying the latest developments in the field beyond the state of the art.

The implementation of ISWs also served as platform for stakeholder engagement and for informing the process of WP4 Research Project, specifically RP_WP1 led by UCY and RP_WP3 led by Chalmers. The outcomes of the work of ISW1 were used to initiate a discussion with stakeholders about priorities for the Pedieos Linear Park during the project CSA Stakeholder Interaction 2 (SI2), immediately after the end of the workshop and the presentation of its outcomes. In turn, the SI2 informed the definition of one of the testing questions to assess the applicability of EBDP in terms of relevance to practice at the project scale, this was testing question 2: *What is the accessibility of amenities and services from and within the Pedieos Linear Park in the current situation and following implementation of the masterplan?*

The outcomes of ISW1 were later combined with the results of the research on the state of the art of EBDP, led by UCL, and those addressing testing question 2 to produce an exhibition, displayed at the Strovolos Cultural Centre from 24 to 27 March (figure 1).

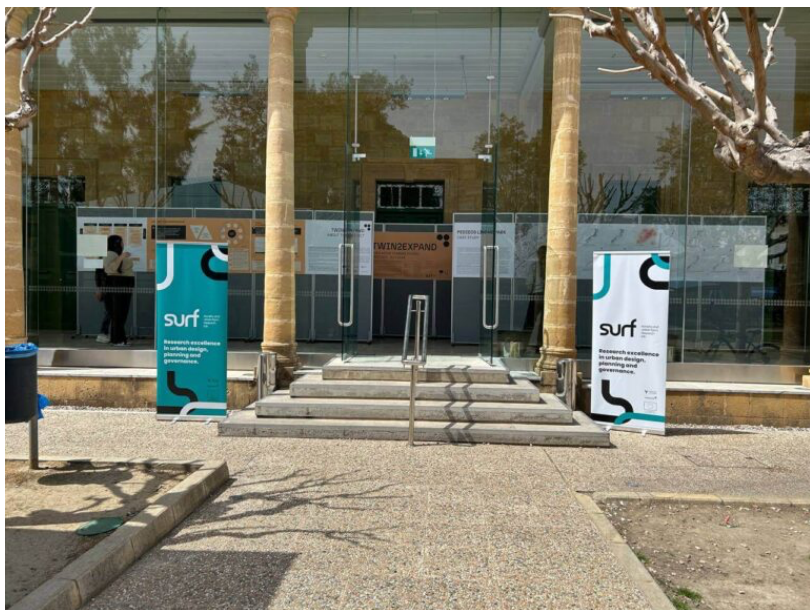


Figure 1. TWIN2EXPAND Exhibition at the Strovolos Cultural Centre.

Using the exhibition as a mean to communicate the results of the research, a final Stakeholder Interaction (SI3) was held in one of the cultural centre’s meeting rooms on 26 March 2025. Considering the research findings, workshop participants identified areas for intervention with the greatest impacts and those proposed interventions that may require reconsideration to confirm the spatial priorities to move forward with the masterplan.

Finally, through the implementation of ISW2, it was possible to carry out a small pilot project recording bird sounds along the linear park and in control areas, and to apply the social-ecological approach and related tools in Cyprus, to test the applicability and generalisability of RP_WP3 methods and researcher findings to other contexts. The outcomes of the application during the ISW2 were also presented to stakeholders on the final day of the workshop.

The structure and interactions of the project different CSAs and research activities is summarised in the figure 2.

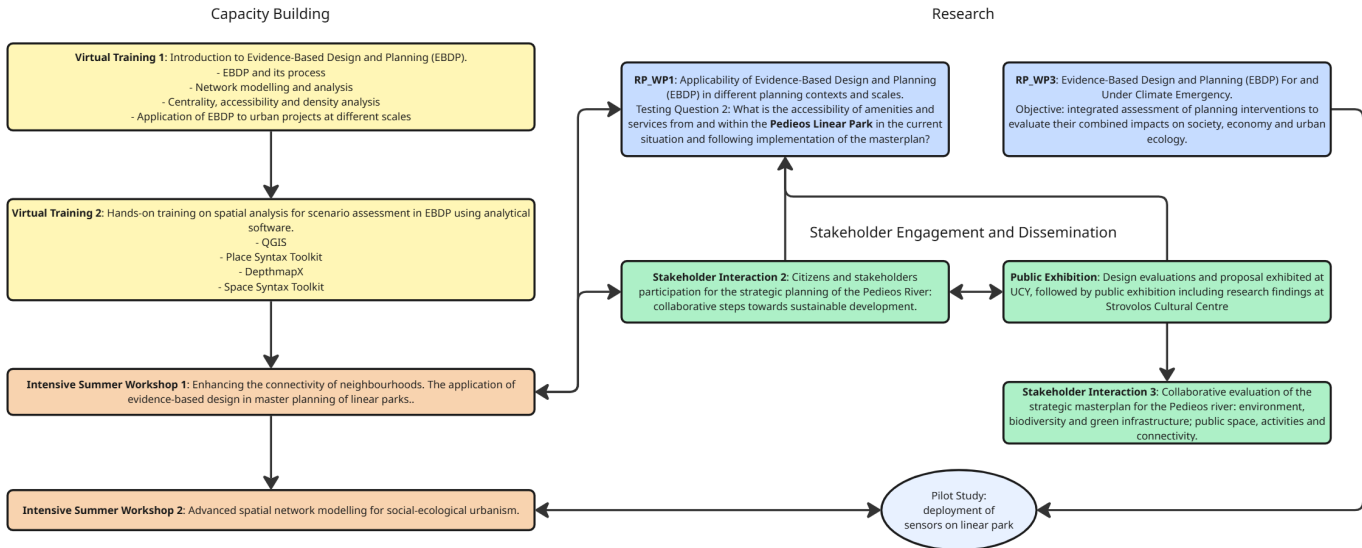


Figure 2. Relationships between training and capacity building CSAs, research activities, and stakeholder engagement and dissemination.

6. Content and participation

As mentioned in section 2, the workshops were interlinked in their objective to progress from baseline spatial analysis focusing on social-economic outcomes to more advanced skills for participants to develop their own workflows for analysis and a nuanced understanding of ecological outcomes that result from design and planning interventions.

The workshops shared the case study of the Pedieos Linear Park in Nicosia, linking these capacity building activities to the research carried out as part of WP4, informing the research by producing analyses within a learning context and being informed by the research carried out by the UCY team to assess the applicability of EBDP in different planning and practice contexts. Besides being a key project case study, linear parks in general have a long history and have grown in popularity in urban areas. They may offer many benefits, such as providing more access to green spaces, lengthy protected routes for cyclists and pedestrians, opportunities for businesses and continuous greenery for biodiversity. However, they may also carry negative trade-offs, such as acting as barriers between communities if difficult to cross, or reinforcing separation between different road users, thus diminishing efforts to make the urban environment more widely human-centered.

As the Pedieos Linear Park is currently undergoing master planning efforts aimed at enhancing access to and across the park, as well as improving its infrastructure and facilities, it offered a particularly timely case study for participants to apply EBDP to test and evaluate design proposals, as well as to engage with stakeholders. This latter aspect was also a horizontal feature of the workshops: to establish a conversation and initiate a dialogue with stakeholders about the vision for the park and the city the methods through which intervention proposals are developed and assessed, consideration for alternative solutions and the understanding of the social, economic and environmental impacts of design.

Participants therefore applied EBDP methodologies to the case study and proposed masterplan to develop their own understanding of the park, how it performs as green infrastructure in relation to its surrounding neighbourhoods and the whole city, and to evaluate the potential impact of the masterplan, consider and test alternative solutions.

The tutors and participants of the workshops, the stakeholders who attended the final presentations of ISW1 and subsequent workshop, as well as the panel members of the final presentations of ISW2 are listed in table 1.

Table 1. Workshops' participants

ISW1: Enhancing the connectivity of neighbourhoods. The application of evidence-based design in master planning of linear parks.

Tutors	
Name	Organisation
Ahmed Hazem Eldesoky	Chalmers University of Technology
Ana Ricchiardi	University of Cyprus
Ed Parham	Space Syntax Ltd
Gareth Simons	University College London
Gianna Stavroulaki	Chalmers University of Technology
Iason Giraud	University of Cyprus
Ilaria Geddes	University of Cyprus
Kayvan Karimi	University College London
Nadia Charalambous	University of Cyprus
Sepehr Zhand	University College London
Walid Abdeldayam	University of Cyprus
Participants	
Name	Organisation
Alessandro Lovisolo	Polytechnic University of Turin
Beatrice Accad	Ras Al Khaimah Town Planning Administration
Caterina Juric	Polytechnic University of Turin
Chirag Sharma	National Institute of Technology Raipur
Federica Gardella	Polytechnic University of Turin
Iacovos Loizou	University of Cyprus
Mariam Shulqamy	University of Cyprus
Marina Pasia	University of Cyprus
Martina Crapolicchio	Polytechnic University of Turin
Michalis Psaras	University of Cyprus
Riccardo Biondi	Polytechnic University of Turin
Wiktoria Kolaszynska	Warsaw University of Technology
Yannis Paraskevopoulos	National Technical University of Athens / Commonsense
Yves Sfeir	Ras Al Khaimah Town Planning Administration
Final Presentations Panel Members and Stakeholders Workshop Participants	
Andriani Yiangou	Nicosia Intermunicipal Development Company
Maria Ktoridou	Nicosia Intermunicipal Development Company
Katerina Fragkallidou	Nicosia Intermunicipal Development Company
Maria Rousis Athina	Nicosia Intermunicipal Development Company
Athina Agrotis	Agoi Omologites Parents Association
Nasos Kolyvas	Strovolos Municipality
Christakis Nikolaidis	Cyprus Association of Persons with Disabilities
Georgios Sotiropoulos	Organisation for Positive Urbanism
Irene Evgeniou	Thiasos Architecture
Paisios Skitinis	Thiasos Architecture
Chrysovalanti Konstantinou	University of Cyprus
Panayiotis Koumouros	Amber & Joe Coffee Shop
Charalambos Spanos	The Cyprus Institute
ISW2: Advanced spatial network modelling for social-ecological urbanism.	
Tutors	
Name	Organisation
Ahmed Hazem Eldesoky	Chalmers University of Technology
Flavia Lopes	Chalmers University of Technology
Gareth Simons	University College London
Meta Berghauser Pont	Chalmers University of Technology
Oskar Kindvall	Chalmers University of Technology

Sepehr Zhand	University College London
Participants	
Name	Organisation
Barry Koloway	KIOS Centre of Excellence – University of Cyprus
Eduardo Gonzaga	Federal Government of Mexico
Gehad Mohamed	University of Alexandria
Iason Giraud	University of Cyprus
Ilaria Geddes	University of Cyprus
Marina Pasia	University of Cyprus
Regas Georgiou	KIOS Centre of Excellence – University of Cyprus
Walid Abdeldayem	University of Cyprus
Yannis Paraskevopoulos	National Technical University of Athens / Commonsense
Final Presentations Panel Members	
Andriani Yiangou	Nicosia Intermunicipal Development Company
Petros Mouzourides	University of Cyprus – Environmental Fluid Mechanics Lab
Giorgos Alexandrou	University of Cyprus – Environmental Fluid Mechanics Lab
Spyros Sfendourakis	University of Cyprus – Ecology and Biodiversity Lab
Irene Evgeniou	Thiasos Architecture
Paisios Skitinis	Thiasos Architecture
Teresa Tourvas	University of Cyprus / Frederick University / Urban Gorillas
Mary Georgiou	Cyprus Energy Agency
Evgenia Charilaou	ALA Planning Partnership

6.1 Content of Intensive Summer Workshop 1

The first summer school comprised a series of lectures and training sessions on GIS, spatial analysis, field work, space syntax methodology and integrated urban modelling. Lectures covered the context of the case study (Nicosia's development and socio-spatial characteristics), observation techniques to assess space use and practical sessions about spatial model manipulation and analysis, and scenario assessment. Additionally, participants were given access to research presentations and keynote lectures from the 14th Space Syntax Symposium, including:

- Can space syntax methodology contribute to improved analysis of land values? Lars Markus and Örjan Sjöberg.
- The spatial syntax of health: on the dynamic interplay between people, environment, and policy. Laura Vaughan and Rosie McEachan.
- Building bridges: the value of research-based practice. Tim Stonor and Yolanda Barnes.
- Architecture meets Sociology – re-imagining users from two disciplinary perspectives. Kerstin Sailer and Daryl Martin.
- Future Directions of Space Syntax. Alice Vialard, Jorge Gil and Miguel Serra.

A selection of workshops to choose from was provided through the Space Syntax Symposium, offering the following choices:

- Capturing and preparing models for ASA

- Urban Calculator
- PST workshop: basic introduction and new features of the Place Syntax Tool (PST)
- Isovist App workshop proposal
- Towards a consolidated approach for multimodal urban network modelling in space syntax
- Space syntax analysis in R
- Using VREVAL from pre-occupancy user studies

Participants were given a guided tour of their respective study areas and performed pedestrian movement and cyclist observations. The required assignment was structured around understanding the status quo, problem definition, developing a vision (hypothesis and potential solutions), elaboration of evidence-based design. Participants were provided with time to perform group work to deliver their assignment with a presentation to relevant stakeholders on the final day of the school, and the preparation of posters for an exhibition, which were later included in the larger, public exhibition. Each group focused on a specific area along the linear park to assess the current situation, the proposed masterplan and potential alternative solutions. The second last day of the workshop was held at the UCY main campus, enabling participants to visit the UCY library design by Jean Nouville (figure 3).



Figure 3. Participant and tutors at the UCY library visit

6.2 Content of Intensive Summer Workshop 2

This summer school offered an intensive two-week program focused on advanced and innovative approaches to urban spatial analysis. It brought together researchers and professionals to explore tools, methods and frameworks supporting evidence-based design and urban planning with a focus on ecology. The summer school was split into two themes:

1. Basic python for GIS, advanced spatial network modelling and scenario modelling.
2. Social-ecological urbanism, integrating ecological data into spatial planning, accessibility to green spaces and habitat connectivity.

As in the previous summer school, the case study was the Pedieos Linear Park in Nicosia and proposed interventions aimed at enhancing the park's biodiversity. Participants explored the social-ecological approach to planning and design, developing an understanding of the need for parks and urban spaces to be co-inhabited by diverse species of flora and fauna, and not only design for humans.

Participants first received hands-on training in using Python for GIS, with a focus on:

- Automatic street network retrieval and analysis
- Scenario modelling using python and space syntax methodology
- Working with open data and spatial datasets

During the first week, participants were introduced to the social-ecological approach, ecological data and biodiversity, and performed a field trip along the linear park and to the Athalassa National Forest Park. During the field trip they were explained and shown how to configure and place sensors for acoustic recording of birds (figure 4).



Figure 4. Demonstration of configuration and placement of sensors during site visit

During the second week lectures and practical exercises delved into the interdependencies between urban form, ecology (humans, animals and the natural environment), and society, including:

- Application of the social-ecological frameworks to urban case studies
- Exploration of habitat connectivity and accessibility to green spaces

- Integration of ecological data and spatial analysis in QGIS, using the social ecological approach

Participants were provided with time to perform group work to deliver their assignment with a presentation to relevant stakeholders on the final day of the school.

7. Outputs and outcomes

The outputs and outcomes of the ISWs comprise direct results – the research carried out by participants and the related outputs of their presentations and exhibition – and indirect results – the means of engagement with stakeholders.

7.1 Participants' research and presentations

For both ISWs, the participants' research was directed by an assignment brief. For ISW1, the brief was to evaluate the masterplan comparatively with the existing situation in terms of its socio-economic impacts (accessibility and service provision), and to propose and test alternative solutions to understand how the EBDP process would inform design and planning decisions. Participants focused on 4 specific areas out of the 13 defined by the masterplan; the areas comprised sections in a variety of locations along the linear park ranging from more central and denser areas in the northern section of the park to more suburban ones farther south, covering all three municipalities crossed by the linear park. For the purposes of this report, examples of the outputs are given for the area of Strovolos, where the exhibition was held.

The participants first developed an understanding of the current situation in terms of use and accessibility and compared the accessibility, which relates to movement levels, to that which will be produced by the masterplan (figure 5).



Figure 5. Example of ISW1 analysis of existing situation and masterplan – Strovolos area

Based on the analysis, participants developed a design idea and tested different options to achieve an optimal result and supported their proposal with evidence resulting from the analyses, which, among others, included the assessment of proximity to different facilities, amenities or services (figure 6).

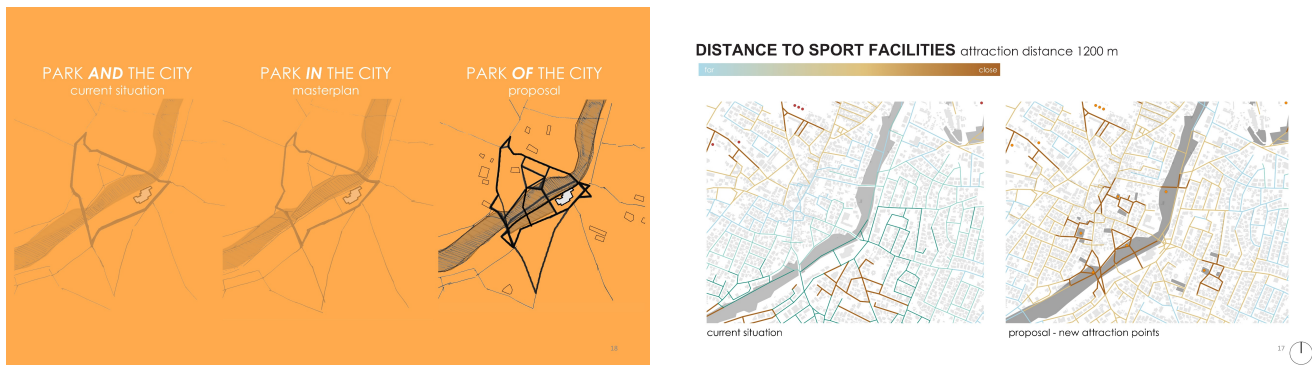


Figure 6. Example of ISW1 design proposal in relation to existing situation and masterplan (left) and analysis of proximity to sport facilities in the design proposal compared to the existing situation – Strovolos area

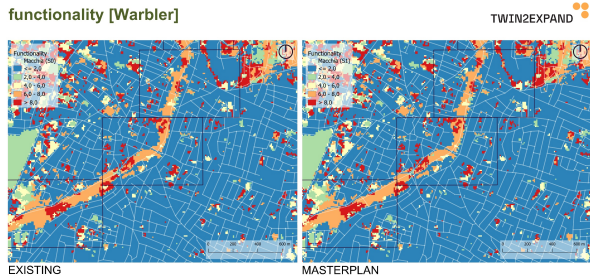
The work included design examples for the different spatial and physical components of the proposal, as well as a comprehensive comparative assessment of how the masterplan and the proposal would perform for different users, in terms of accessibility by different modes of transport and various scales – from the local, neighbourhood scale to city-wide (figure 7).



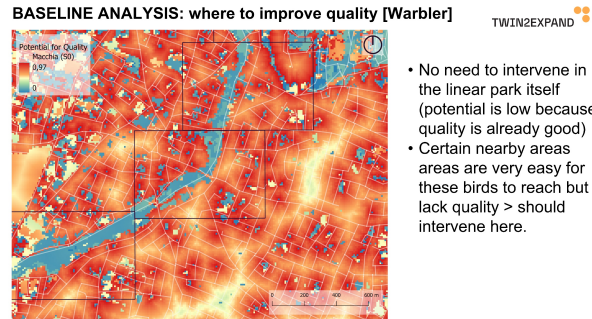
Figure 7. Design example provided for one of the proposal's elements (left) and comparative assessment of different design options (masterplan and group proposal vs existing situation) – Strovolos area

For ISW2, the brief was start from the previous year's proposals and reevaluate them from the social-ecological perspective to produce an enhanced proposal, which not only addressed human needs, but also environmental priorities. In this case, participants focused on 2 out of the previous 4 areas.

The analysis included the assessment of the functionality of the biotope (quality and ease of reach by defined bird species) in the area under study for both the existing situation and the masterplan in order to identify where biotope quality could be improved to support the bird species (figure 8).



High values (Red) have high quality and high dispersal > places where you expect to find this species



High likelihood that birds can travel there but quality of biotope is low > they are good places to increase quality

- No need to intervene in the linear park itself (potential is low because quality is already good)
- Certain nearby areas are very easy for these birds to reach but lack quality > should intervene here.

Figure 8. ISW2 analytical examples: analysis of the functionality of the biotope for the Cyprus Warbler (left) and identification of areas where quality of the biotope could be improved (right) – Strovolos area

Based on the analysis a new design vision, enhancing the previous one, was developed, along with a strategy to achieve that vision in a way that would benefit both humans and flora (figure 9).

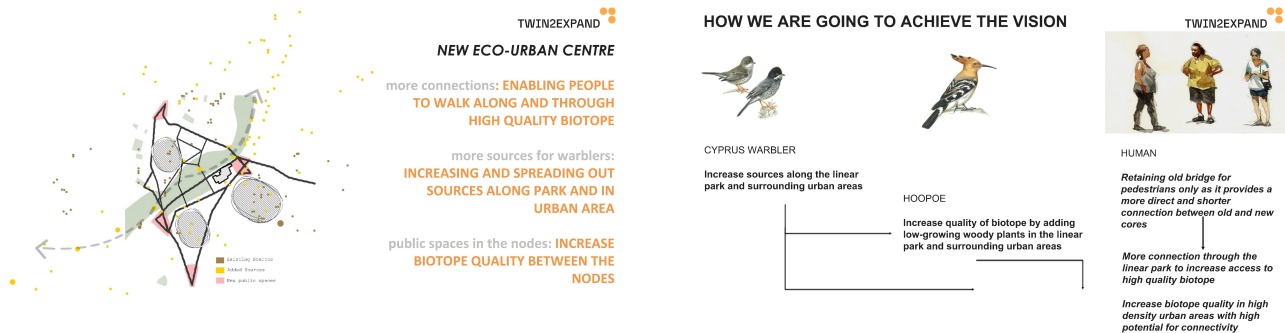


Figure 9. ISW2 enhancement of design proposal based on the social-ecological approach (left) and related design strategy (right) – Strovolos area

Finally, the design proposal was supported by evidence from the evaluation of proximity to high quality biotope and the likelihood for humans to be exposed to high biodiversity during any type of trip in the area (figure 10), along with the evidence on specific improvements for the environment of local fauna.

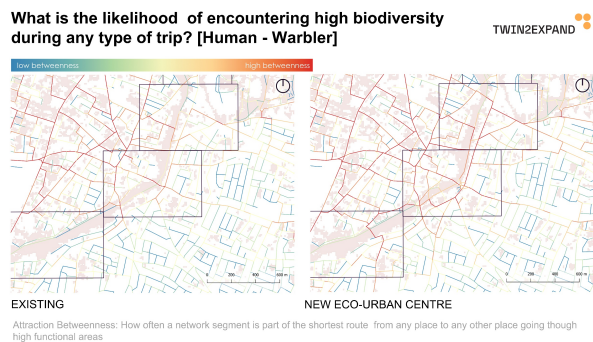
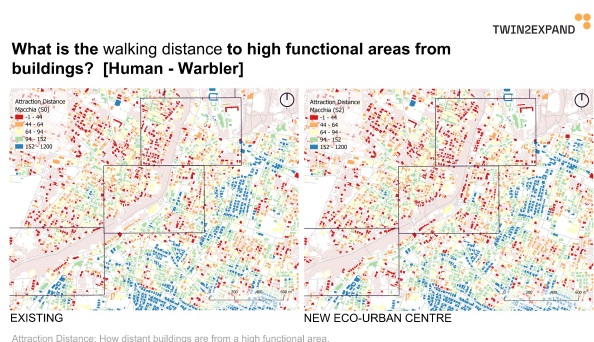


Figure 10. Analyses of human-biotope-fauna proximity and interaction – Strovolos area

In total, the two ISWs together produced 6 extensive presentations summarising the analysis and EBDP process carried out during the workshops and the design proposals produced, which built upon many spatial models, datasets and results of analysis created during these activities.

7.2 Exhibition

The exhibition comprised an extensive set of panels covering the background to the project and the intensive summer workshops, the theoretical background to EBDP summarising the work carried out for D3.2 State of the Art of EBDP, led by UCL, the results of the research on the Pedieos Linear Park, performed as part of the project WP4 and the posters summarising the analyses and group work performed during ISW1. The schematic layout of the exhibition is shown in figure 11.

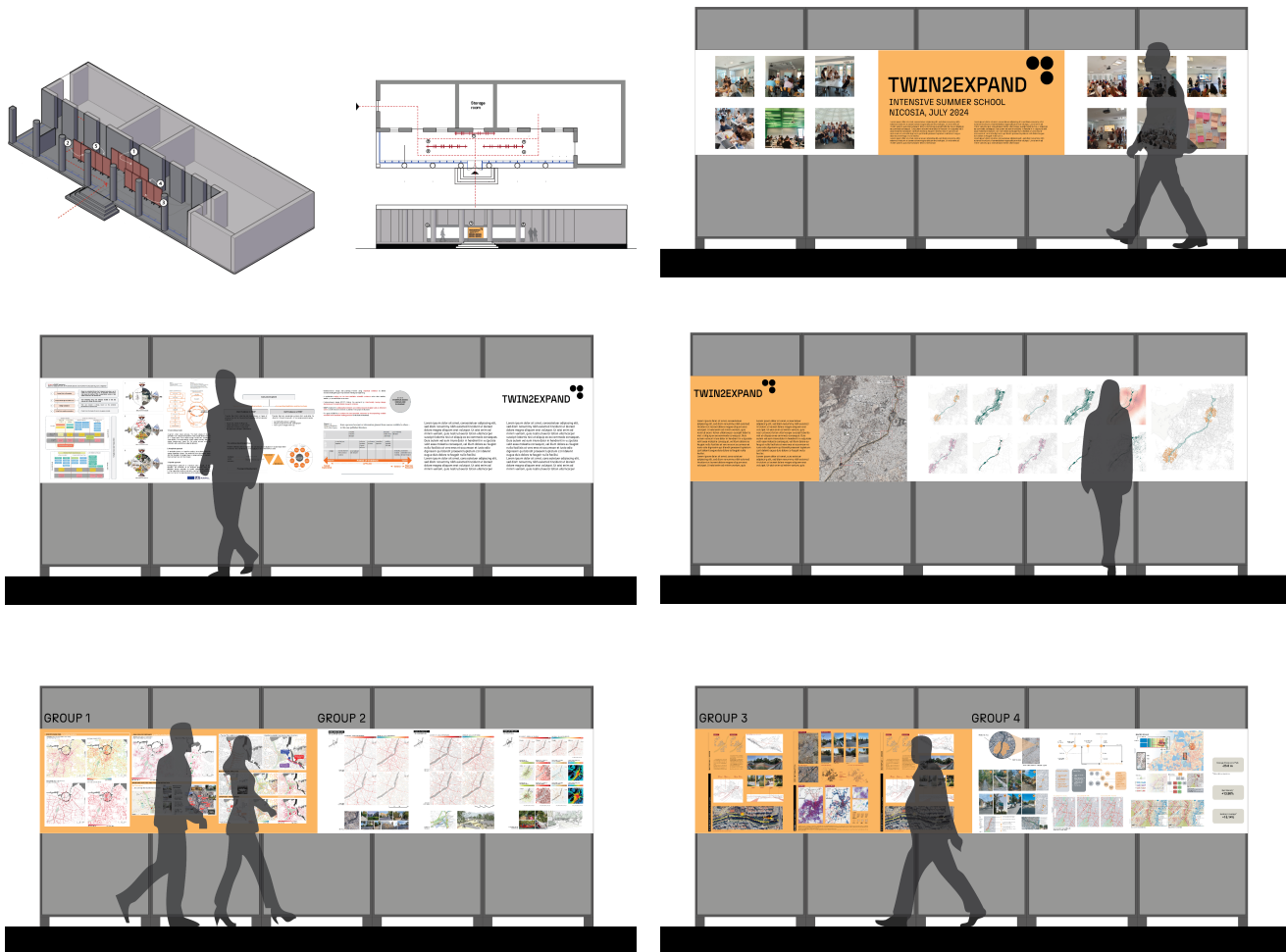


Figure 11. Schematic layout of TWIN2EXPAND exhibition

Specifically, the exhibition included:

- An introduction to the process and the summer school.
- The state-of-the art of EBDP: descriptions and explanations of the general EBDP data collection pipeline, the evidence-based design process in relation to different design approaches (conventional, analytical, spatial), and the nature of different types of evidence.
- Research results on the Pedieos Linear Park: descriptive analysis (length of green coverage, surrounding population density, topography), population reach, accessibility to bus stops, accessibility by public transport, changes in urban centrality and route hierarchy following implementation of the masterplan, population reaching amenities

within the linear park (categorized as ecological facilities, cultural facilities, animal facilities, and social facilities), accessibility from the linear park to surrounding amenities.

- Summary analysis of the four study areas from ISW1: centrality analyses, accessibility analyses, built density and functional density analyses, proximity to amenities, concepts and proposals, strategies' evaluation.

The exhibition panel for the Strovolos area is shown in figure 12.



Figure 12. Exhibition panel summarising the findings and outputs of the ISW1 – Strovolos area

7.3 Stakeholder Engagement

The Stakeholder Interaction 2 (SI2) took place after ISW1 participants' presentation of their work to the stakeholder (figure 13).

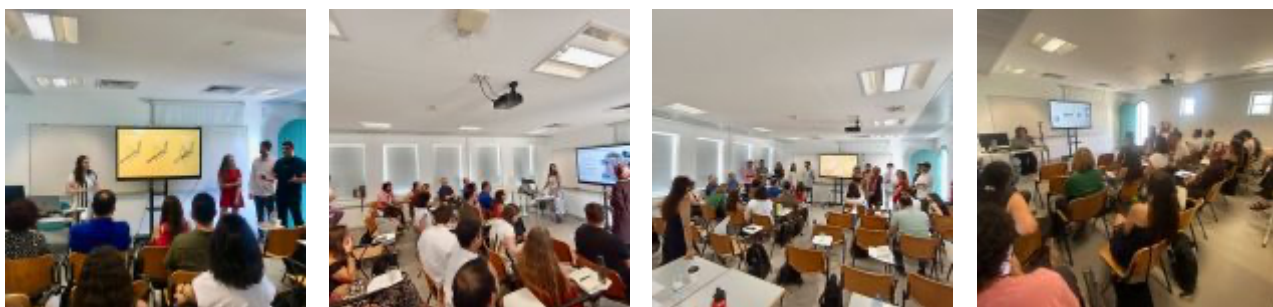


Figure 13. ISW1 final presentations to stakeholders

In SI2, residents and users of the area, architects, and representatives from various agencies and organizations participated in the focus group discussion, including the Cyprus

Confederation Organisation of the Disabled (CCOD), the Nicosia Inter-municipal Development Projects (DAEL), the Thiasos Architecture Studio, the café Amber and Joe, the Agioi Omologites Elementary School, the non-profit Organisation for Positive Urbanism (OPU collective), the Cyprus Institute, and the Strovolos Municipality. The participants formed three groups (the accessibility and connectivity group, the protection, biodiversity, and green infrastructure group, and the public space and activities group), who discussed and collaborated to develop a common framework of thought. A total of 43 ideas were gathered and evaluated from the three teams, demonstrating the high level of engagement and creativity of the participants. Regarding accessibility and connectivity, a key outcome was the need to enhance vertical access from the linear park to residential areas through shared routes, ensuring a continuous “path” from the neighborhood level to the city and park level. Another outcome is including people with disabilities, the elderly, and individuals with baby strollers by improving accessibility in pathways and parking areas, enhancing safety for pedestrians, and separating pedestrian and bicycle lanes.

The need to create infrastructure for activities or essential services, and connectivity with urban areas and neighborhoods surrounding the Pedieos River was also mentioned. This should be done through an official network of entrances that would make the linear park a high-accessibility axis for various neighborhoods within Nicosia. Regarding the environment, some significant outcomes concern the environmental footprint of new interventions and respecting the existing character and biodiversity of each area, fostering environmental awareness through an organized awareness strategy that includes empowering citizens and involving schools and children. Additionally, the need for crosswise expansion of the park within the city as a “green lung” was discussed, along with the proposal for an in-depth analysis of the existing ecosystem and conditions before any interventions are made. Issues of safety and pollution were proposed to be addressed through a strategic approach and systematic involvement of the relevant authorities.

Concerning activities, the main outcomes highlighted the need for planning a series of actions and events within the park regarding the children, culture, pets, and other daily events. The creation of “destination points,” places that invite users to spend their leisure time, was also deemed important. All three teams highlighted safety issues as significant, as well as the need for developing social activities along the river, utilizing and enhancing the greenery of the area.

The Stakeholder Interaction 3 (SI3) took place after the research results were complete. Participants were offered a presentation of the results and a guided tour of the exhibition, and then worked in two thematic groups: Environment, Biodiversity & Green Infrastructure and Public Space, Activities & Connectivity, participants engaged in ideation, prioritization, and participatory mapping. The discussions were guided by the urban challenges identified to date

and concluded with a collective decision on the most pressing spatial priorities for the Pedieos Master Plan.

The group for public space, activities, and connectivity identified several priority issues, including connectivity and continuity with surrounding neighborhoods, greening and shading of the routes leading to Pedieos, safety through acoustic and visual access along the entire length of the park, the use of digital media to highlight the benefits of using the linear park, the need to foster a sense of ownership through co-design, and the importance of ensuring quality and comfort of movement as a lived experience. These issues were mapped, and key areas requiring immediate reconsideration were identified.

The group working on environment, biodiversity, and green infrastructure acknowledged that while the SURF spatial analysis highlighted that the masterplan provides a well-distributed network of ecological facilities, it remains crucial to revisit broader environmental aspects across the entire linear park. These include the environmental footprint of interventions, waste management and protection from external threats, safety concerns such as lighting, physical barriers, and flood protection, the integration of environmental education, and the expansion and strengthening of green areas. The team also emphasized the importance of ensuring a continuous chain of accessibility for people with disabilities.

An important outcome to highlight is that specific stakeholders with important roles in the design and implementation of the masterplan, in particular the Nicosia Inter-Municipal Development Company which manages the masterplan and the Municipality of Strovolos, involved throughout the process: at the final presentation of both ISWs and at both SIs.

8. Evaluation

Evaluation of the summer schools was performed through anonymous online questionnaires to the participants. The questionnaire received 13 responses for ISW1 and 8 responses for ISW2; the questionnaire had exactly the same format and questions with the exception of one additional question for ISW1, asking for suggestions about the topics to be covered by the summer school in 2025; for ISW1 trainers were also requested to fill out a questionnaire. The additional information gathered from ISW1 was meant to inform, refine and improve the following workshop to ensure the highest quality experience for participant in the final year of the project. Overall, the assessment of ISW1 by trainers was fairly consistent, though slightly more positive in terms of achievement of learning outcomes than those of the participant, with one participant-respondent (not necessarily the same person) rating one point lower the achievement of learning outcomes for 5 out of the 8 learning outcomes assessed.

Combining the participants' evaluations, it is clear that the ISWs were extremely successful with all participants stating that they met or exceeded their expectations, that the activity was beneficial or highly beneficial and positive, and that it should be repeated in the future. With regards to the learning outcomes, again most responses show that they were achieved by the great majority of participants, in particular for ISW2. Suggestion for ISW2 from the ISW1 responses included a less intense programme, greater clarity earlier on in the workshop about the expected outcomes and the assignment, and more time to be dedicated to group work to produce high quality results and be less under pressure. Based on the results of the ISW2 evaluation, these issues seem to have been resolved in the second edition of the workshop.

Both workshops were highly productive, generating valuable insights and materials that enabled the research team to advance further stakeholder engagement in subsequent stages. Participants' direct interaction with local stakeholders during the workshops was informative and meaningful, and their contributions played a crucial role in shaping the content and direction of later exchanges. Going forward, enhancing feedback loops between participants and stakeholders could further strengthen the sense of shared impact and continuity within the project.

The full evaluation of both workshops by the participants is presented in Annex II.

9. Annex I: workshops programmes

9.1 Programme of Intensive Summer Workshop 1

Week 1	
Wednesday 19 June	
9.30am-9.45am	Introduction to Workshop
9.45am-10am	Personal Introductions
10am-11am	Lecture: Nicosia's Context
11.30am-12.30pm	Introduction to Case Study (External Speaker)
1.30pm-2.30pm	Lecture: Observation Techniques (gate counts)
3pm-5.30pm	Practical Session: Model manipulation – editing network, measuring centrality
6pm-8.30pm	Site visit
Thursday 20 June	
9.30am-11.30am	Practical Session: Model manipulation – analysis of existing situation
11.30am-12.30pm	Group Work: Focus on status quo
1.30pm-3pm	Group Work: Problem definition
3pm-4pm	Group Presentation: Vision - hypothesis + direction to solutions
4pm-6pm	Practical Session: Model manipulation – scenario assessment
6pm-9pm	Fieldwork
Friday 21 June	
9.30am-11am	Practical Session: Digitalisation of field work findings and correlation analysis
11am-11.30am	Tutoring Session: Feedback on initial findings and review of proposal
1.30pm-5.30pm	Group Work: Elaboration of evidence-based design
Week 2: 14th SPACE SYNTAX SYMPOSIUM and self-directed group work	
Monday 24 June: Selection of half-day or full-day workshops	
Tuesday 25 June: Keynote Lecture: Can space syntax methodology contribute to improved analysis of land values?	
Wednesday 26 June: Keynote Lecture: The spatial syntax of health: on the dynamic interplay between people, environment, and policy	
Thursday 27 June: Keynote Lecture: Building bridges: the value of research-based practice	
Friday 28 June: Keynote Lectures:	
1. Architecture meets Sociology – re-imagining users from two disciplinary perspectives	
2. Future Directions of Space Syntax	
Week 3	
Monday 01 July	
9am-12pm	Group work with tutorials
1pm-6pm	Group work with tutorials
Tuesday 02 July	
9am-12pm	Group work with tutorials: preparing presentations and exhibition
12pm-1pm	UCY Library Visit
2pm-6pm	Group work with tutorials: preparing presentations and exhibition
Wednesday 03 July	
9am-10.30am	Group Work: finalising exhibition and presentations
11am-12.30pm	Presentations to stakeholders

9.2 Programme of Intensive Summer Workshop 2

Week 1	
Monday 02 June	
10am-10.15am	Welcome by Project Coordinator
10.15 am-10.45am	Personal Introductions
10.45am-11.45am	Workshop Introduction and Assignment Brief
12pm-1pm	Introduction to Case Study: Linear Park Masterplan focusing on biodiversity aspect (External Speaker)
2pm-3.30pm	Introduction to Python: Notebooks + Python 101
3.45pm-5pm	Introduction to Python: Python 101 (continued)
Tuesday 03 June	
9am-10.30am	Introduction to Python: Shapely + GeoPandas
11am-12.30pm	Brief introduction and example of urban analytics in Python
1.30pm-3pm	Brief introduction and example of data science in Python
3.30pm-5pm	Automatic street network generation with Python
Wednesday 04 June	
9am-10.30am	Street network analysis with Python
11am-12.30pm	Land use accessibilities and statistics with Python
1.30pm-3pm	Presentation of 2024 projects and brief for 2025
1.30pm-5.30pm	Group Work: Review of 2024 outputs
Thursday 05 June	
9am-10.30am	Scenario modelling with Python
11am-12.30pm	Scenario modelling with Python (continued)
1.30pm-3pm	Scenario modelling with Python (continued)
Social Dinner	
Friday 06 June	
8.30am-9.30am	Lecture: The social-ecological approach
0.45am-2.45pm	Site visit and deployment of sensors
2.45pm-3.30pm	Group Work: formulation of project ideas
4pm-5pm	Lecture: Collecting and analysing urban biodiversity data
Week 2	
Monday 09 June	
9am-9.45am	Lecture: Application and use of Habitat Network Analysis Tool (HNAT)
10am-11.30am	Practical Session: HNAT Tutorial
11.30am-1pm	Group Work (Side Support and Discussion)
2pm-3pm	Practical Session: HNAT Tutorial – scenario modelling
3.15pm-5pm	Group Work (Side Support and Discussion)
Tuesday 10 June	
9am-9.45am	Accessibility to Green (Short Introduction)
10am-11.30am	Practical Session: PST Tutorial
11.30am-1pm	Group Work (Side Support and Discussion)
2pm-3pm	Group Work (Side Support and Discussion)
3.15pm-5pm	Group Work (Side Support and Discussion)
Wednesday 11 June	

9am-10.30am	Group Work
11am-12.30pm	Group Work and Tutorials
1.30pm-3pm	Group Presentations and Feedback
3.30pm-5pm	Group Work and Tutorials
Thursday 12 June	
9am-10.30am	Group Work
11am-12.30pm	Group Work and Tutorials
1.30pm-3pm	Group Work: finalising presentations
3.30pm-5pm	Group Work: finalising presentations
Friday 13 June	
10am-12pm	Final presentations to stakeholders

10. Annex II: full evaluation results

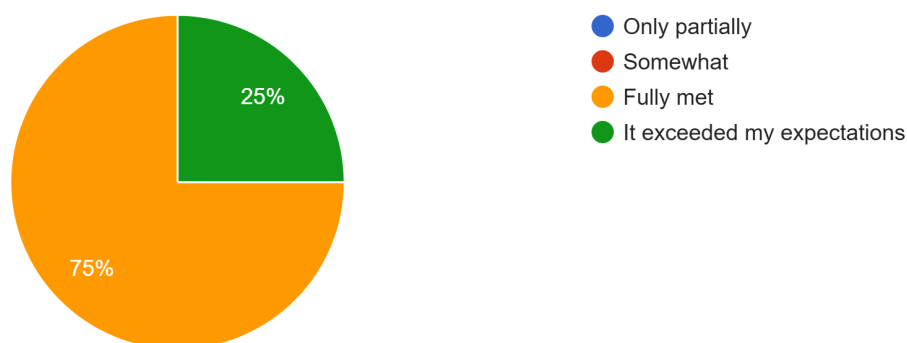
10.1 Evaluation of Intensive Summer Workshop 1

Table x. ISW1 Evaluation question 1 and responses

What were your expectations regarding this training?	
1	Twin2expand had the perfect dose of theory, and application on new software, which to me, fulfilled entirely my expectations of the program.
2	I expected to be a little lost due to overwhelming knowledge and amount of material.
3	Add depth to my space syntax skills + connect with other academics/ professionals
4	To put into practice what I learned from the virtual trainings, deepen my theoretical understanding on EBD and test the place/syntax tools on a real case study
5	To perform space syntax analyses on the park and learn to assess what it says about the park.
6	To apply the EBDP methodologies on a real case study and work with it
7	To be able to collaborate with people from different disciplinary and cultural background on evidence-based planning. To understand the difficulties for utilising evidence-based planning and spatial analysis in different socio-spatial contexts. To advance my knowledge on methods and tools
8	Learning new software. Learning new analysis strategies. Meeting people from the field.
9	Practice and use critically the tools introduced during the online trainings.
10	Get familiar with the methodologies and processes of EBDP through practice using spatial tools like QGIS and the Space Syntax Toolkit.
11	My expectations were to apply the skills learnt during the virtual training in a work perspective aimed at applying EBDP methods.

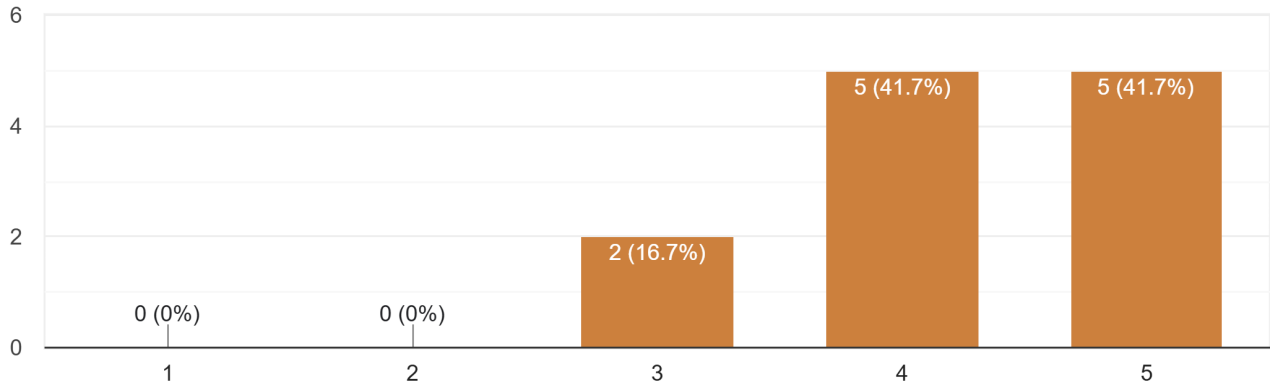
To what extent were these expectations met?

12 responses



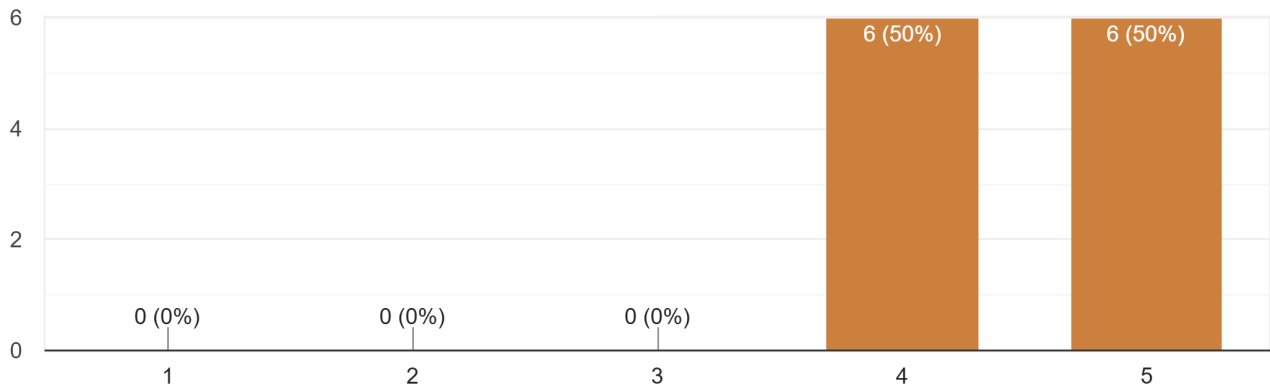
From the beginning I was clear about the competences or learning outcomes that I would gain from participating in this experience.

12 responses



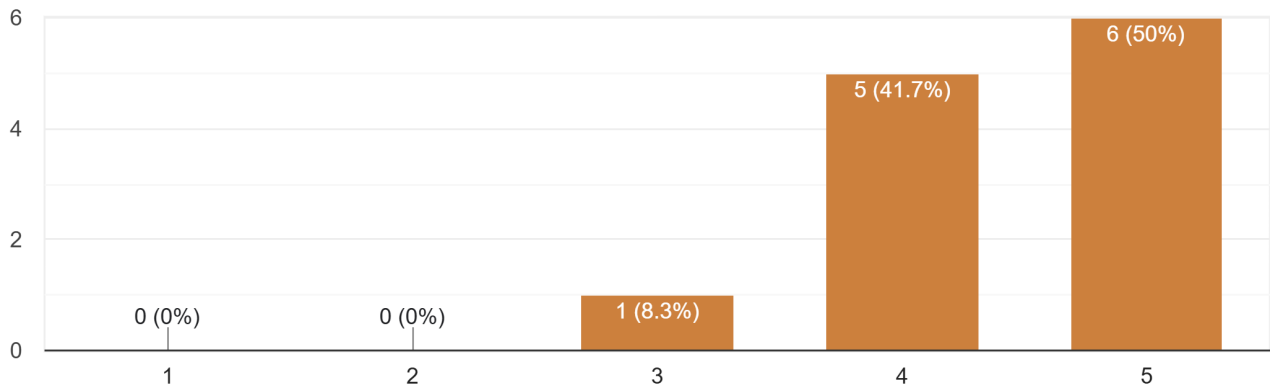
Confident using the basic interface and functionalities of QGIS.

12 responses



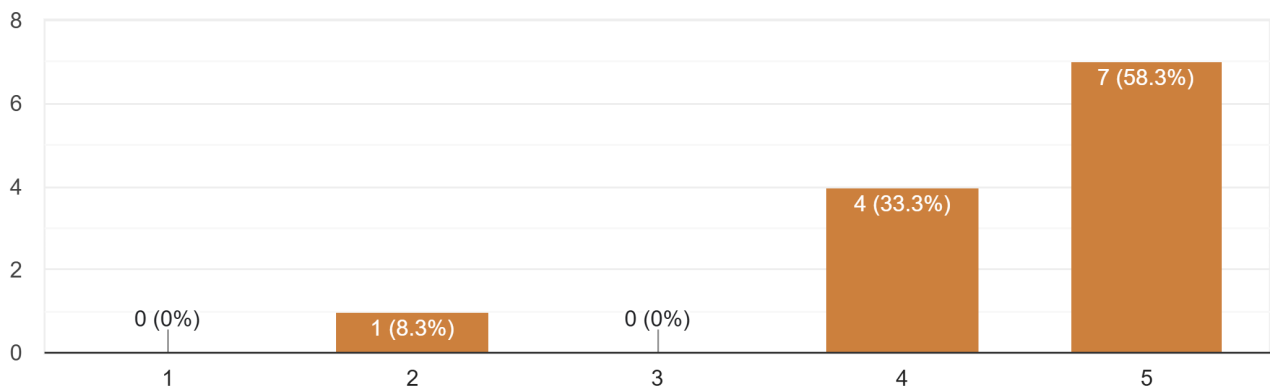
Confident using the Place Syntax Toolkit.

12 responses



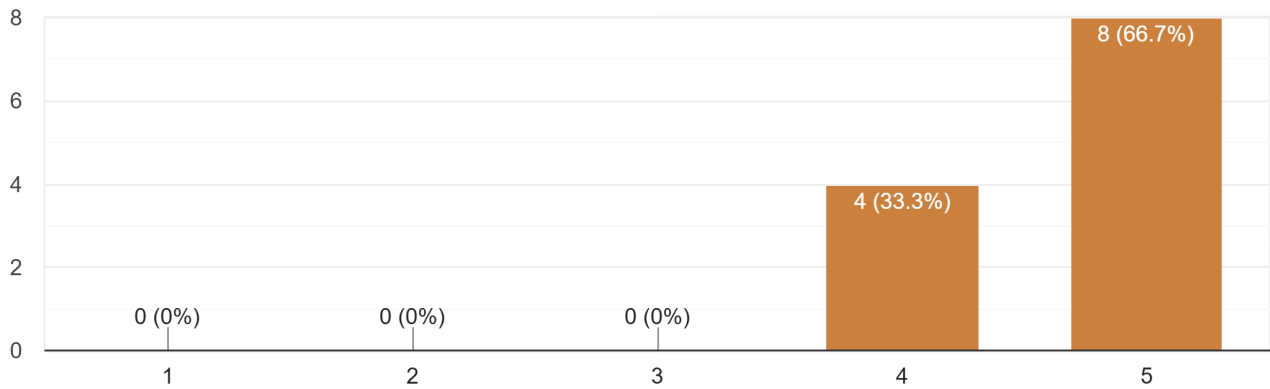
Able to manipulate a spatial network model to be used for spatial analysis.

12 responses



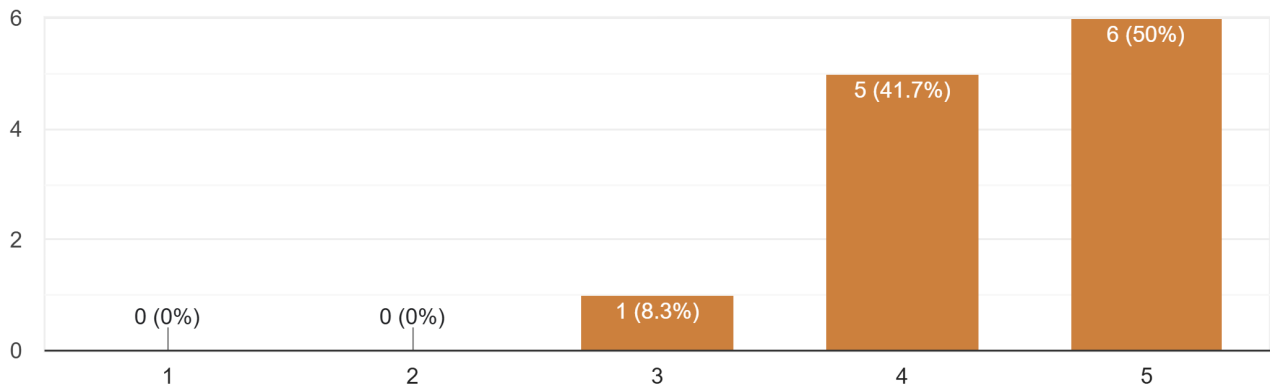
Confident in visualising the results of spatial analysis.

12 responses



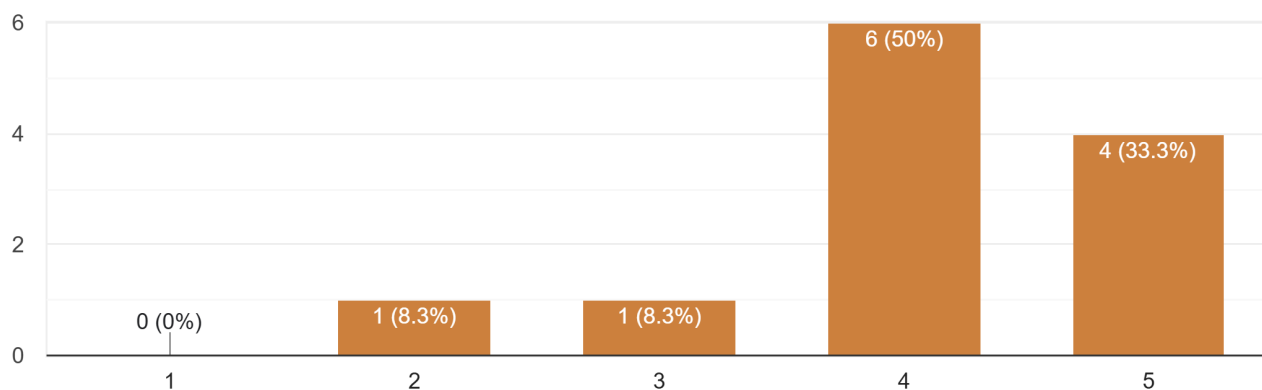
Able to interpret the results of spatial analysis including Angular Integration, Angular Betweenness, Attraction Distance, Attraction Reach.

12 responses



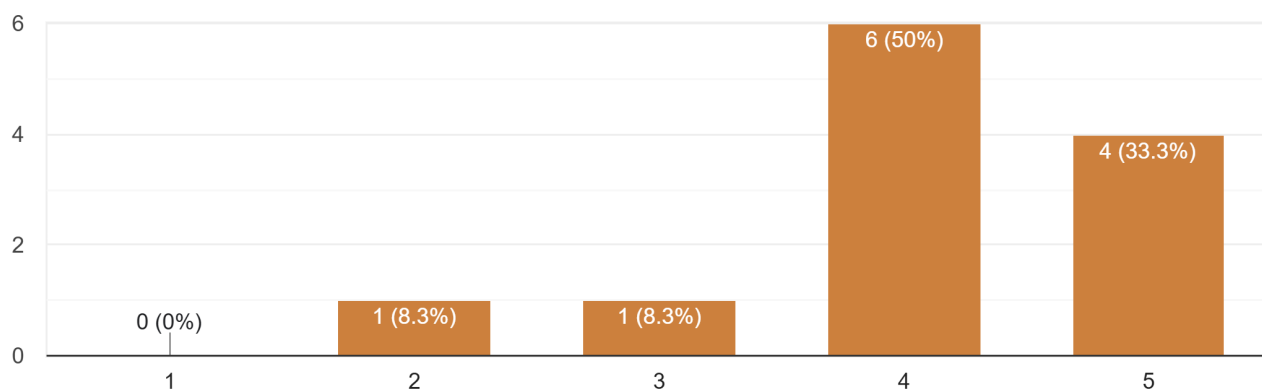
Able to collect and visualise empirical data about movement flows.

12 responses



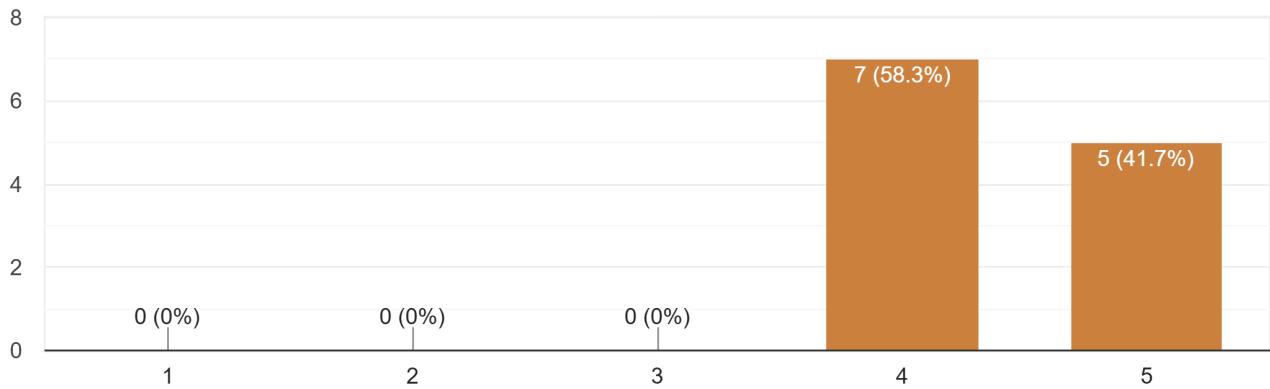
Able to understand the results and meaning of correlational analysis.

12 responses



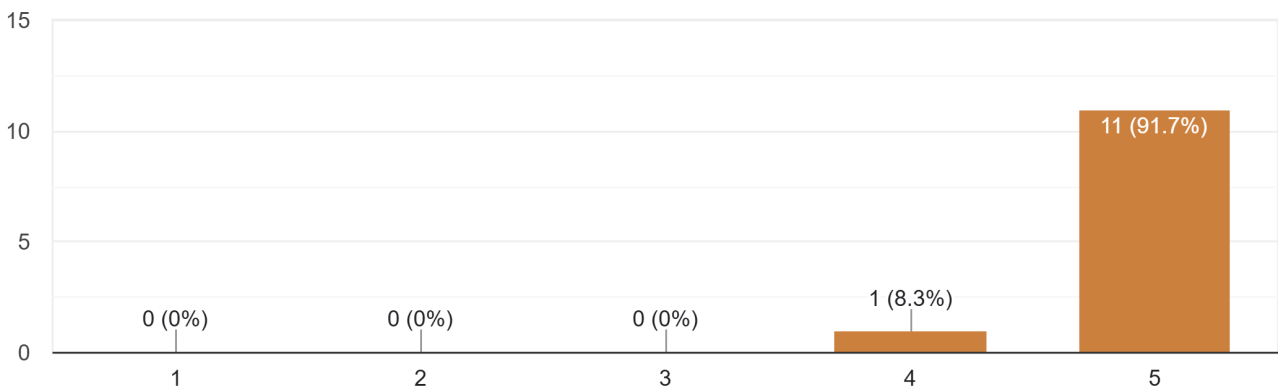
Appreciating the complexities of planning and designing linear parks within a specific context.

12 responses



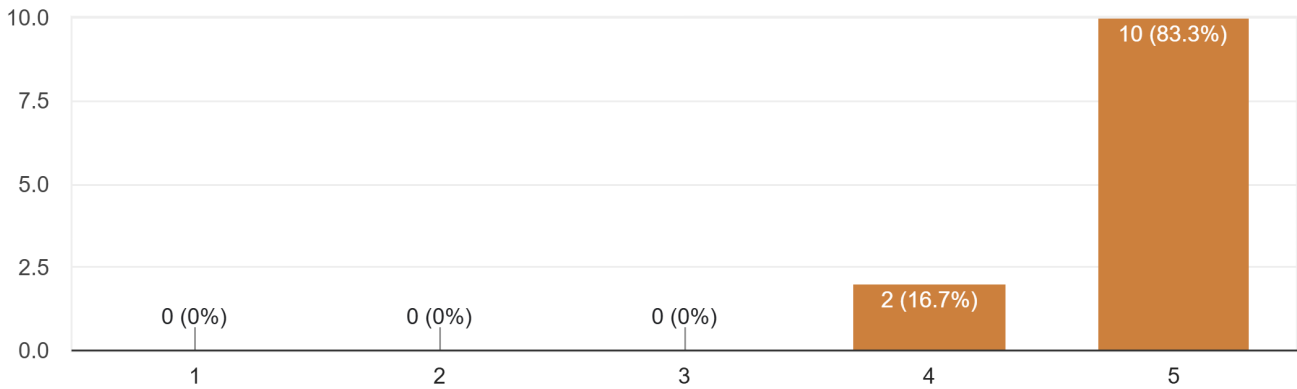
The training experience was positive/good.

12 responses



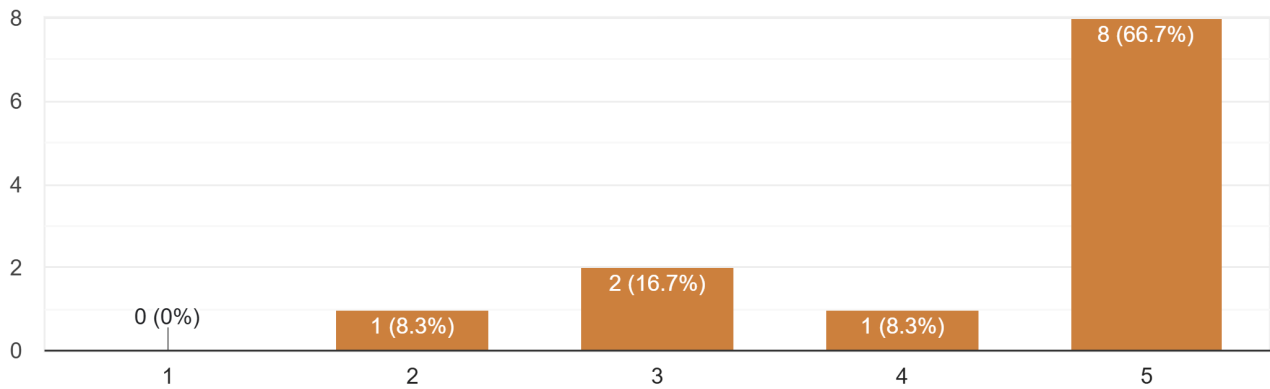
This activity benefited yourself, your team and/or your organization.

12 responses



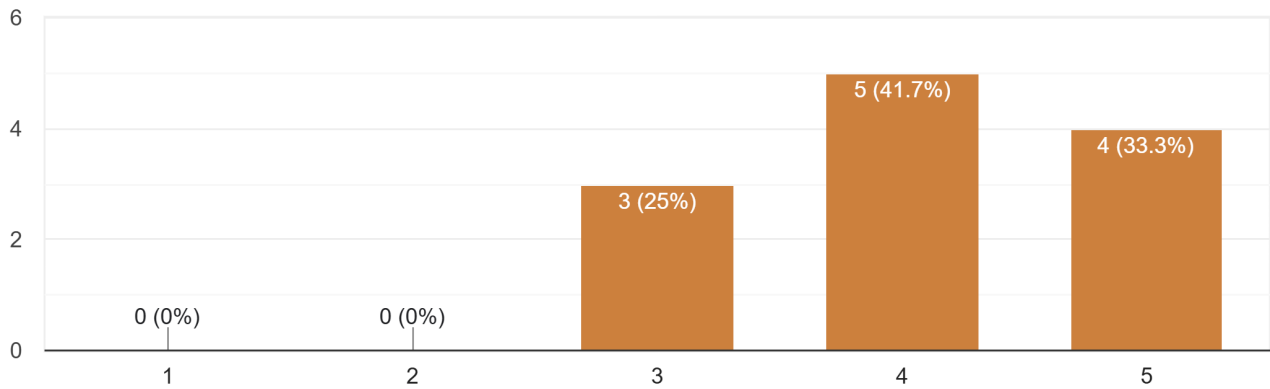
There was a good balance of different types of activities (lectures, site visits, practical exercises, training sessions, etc.)

12 responses



There was meaningful interaction with local stakeholders.

12 responses



I had enough free time.

12 responses

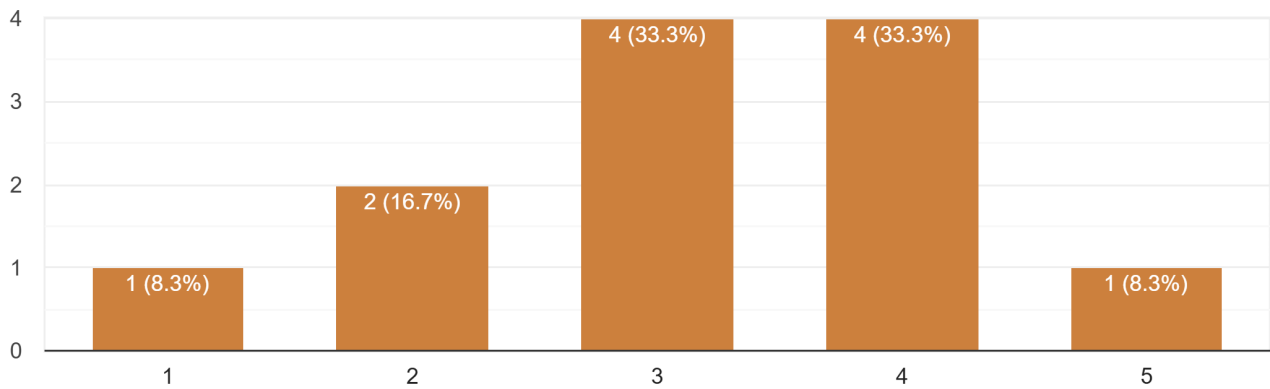


Table x. ISW1 Evaluation questions 16 and responses

What did you like? What was done well?	
1	It was very well organized, everything was well thought of. The team was very helpful and kind. Learned to think of planning with a new mindset!
2	I appreciated time and effort given by the tutors. Their expertise was extremely helpful.
3	Diversity of attendants and trainers, improved qgis skills, physical space was good.

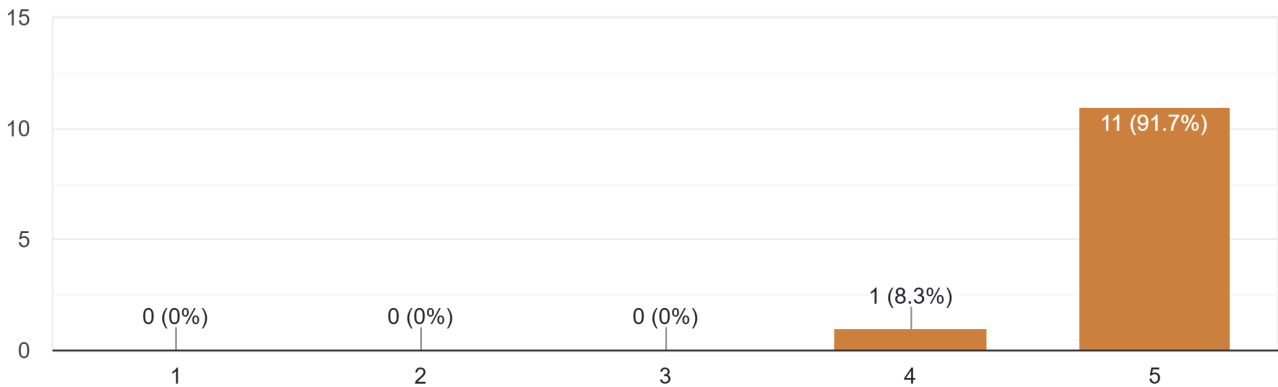
4	What I liked the most was the real-time guidance provided by the tutors when explaining the toolkits on QGIS, in a way that everyone could easily follow. The combination of lectures, on-site observations, tutoring and practising the tools taught was very constructive towards achieving the end results
5	The speed of the summer school was something very unique. It pushed me to learn and apply complex new skills in a duration of less than 2 weeks! Apart from teaching me extremely valuable topics, it has boosted my confidence in learning new complex skills and inspired me to dive deeper into space syntax and urban studies.
6	Lectures and training sessions especially the online training before the summer school.
7	It was really helpful that we had group work on a real-life project "forcing" us to explore the socio-cultural spatial context of Nicosia and its differences along the different urban areas of the city.
8	Schedule well planned. Lectures on point.
9	The continuous availability and willingness to transfer knowledge to participants in a clear way. The relevance given to discussion in class.
10	The group of professors and tutors was excellent. I really appreciate that I was able to follow the 14th Space Syntax Symposium and interact with experts in the field.
11	The variety of activities and the free attendance to the Space Syntax Symposium were a real plus of the Summer School.
12	The main structure was really well done.

Table x. ISW1 Evaluation questions 17 and responses

What could be done differently?	
1	Time management.
2	The time devoted to the group work was limited given the expected results required by the organisers, especially due to the symposium that was running in parallel.
3	If a little more time was provided either before or after the symposium, then the outcome could have been a little better. The situation was of information overload during the symposium. There were too many too good presentations during the symposium, and I had a desire to attend most of them but had to make some hard choices and work on the assignment.
4	Maybe the time frame, it was intense with long working hours during the day, could use more free time.
5	Maybe shorten it a bit; 2 weeks is a pretty big commitment. Perhaps one full week (including some group work at the weekend) or 10 days would be perfect. Also maybe to incorporate the student's own research into the project - however, I cannot imagine how this can be done :)
6	The workshops of the second week could use a bit more work in terms of delivery (tutor not advised to be remote, tutor to be more engaged)
7	I needed more time to understand statistical analysis processes.
8	The clarification of the outcomes in the very beginning of the work.

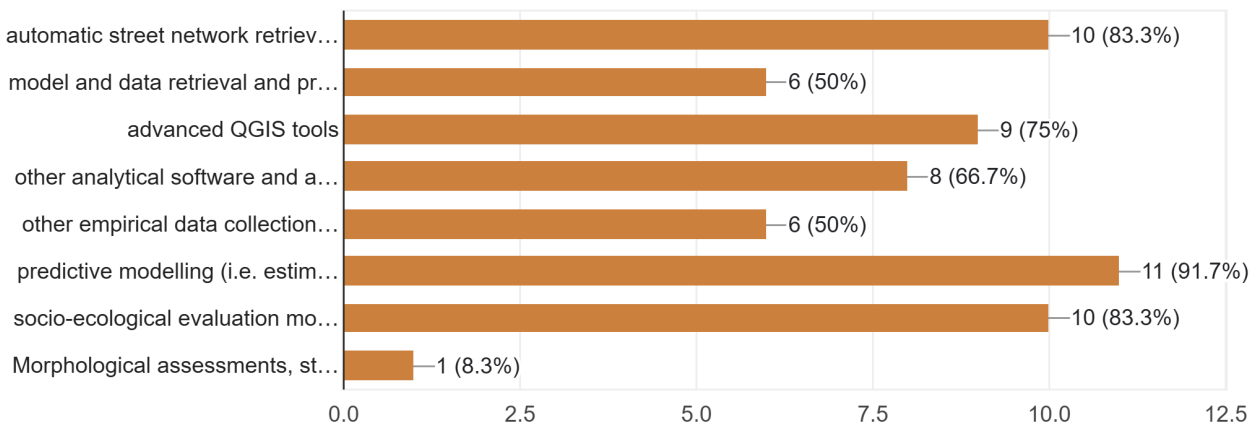
This training experience is worth being repeated in the future.

12 responses



If you could attend the school again next year, what topics would like the school to cover? Tick as many as you like.

12 responses



10.2 Evaluation of Intensive Summer Workshop 2

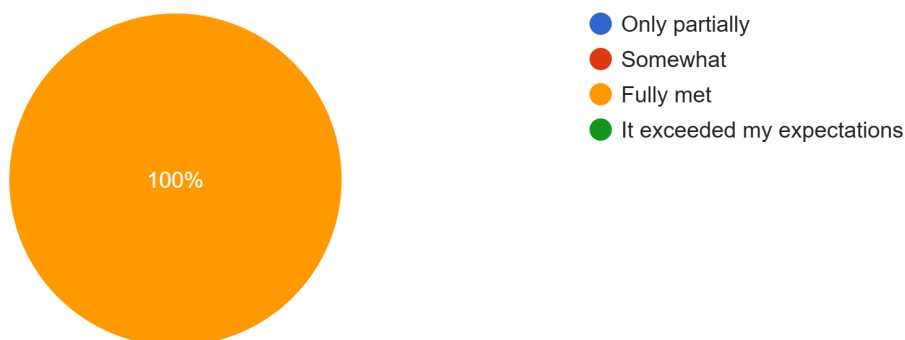
Table x. ISW2 Evaluation question 1 and responses

What were your expectations regarding this training?	
1	To become a familiar with Python, learn predictive modelling and understanding the social-ecological approach

2	Get up to speed with modern and advanced spatial computation techniques.
3	My expectations were to deepen my understanding of spatial network modelling and to learn how to better integrate ecological aspects into planning, with the goal of applying this knowledge in both work-related applications and my own personal research.
4	To learn and explore new methods to handle spatial data
5	To have hands-on practice on urban analysis and network analysis in Python, as well as on socio-ecological approaches in planning
6	I expected to learn the basics of Space Syntax Theory and practical applications of it in order to be able to perform urban spatial analysis, in Python and QGIS environments.
7	To understand basic python logic and processes for spatial analysis and get familiar with social ecological approach

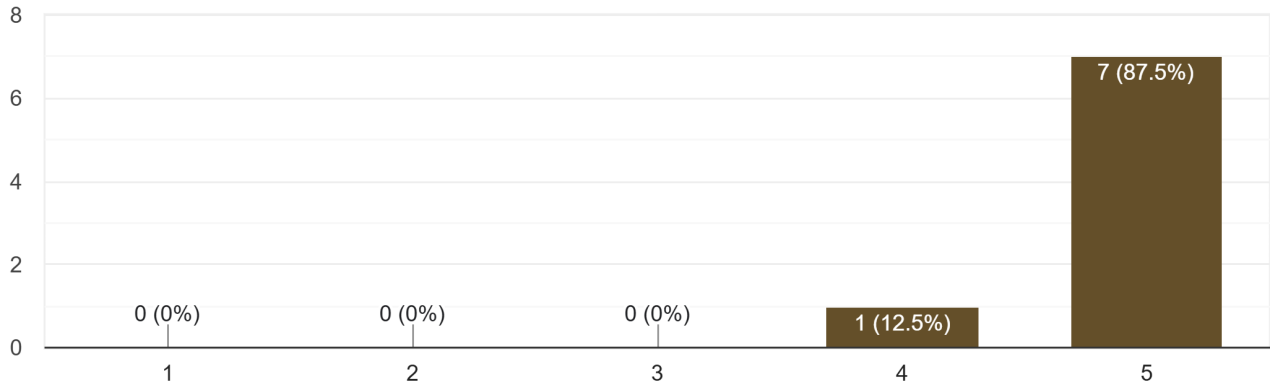
To what extent were these expectations met?

8 responses



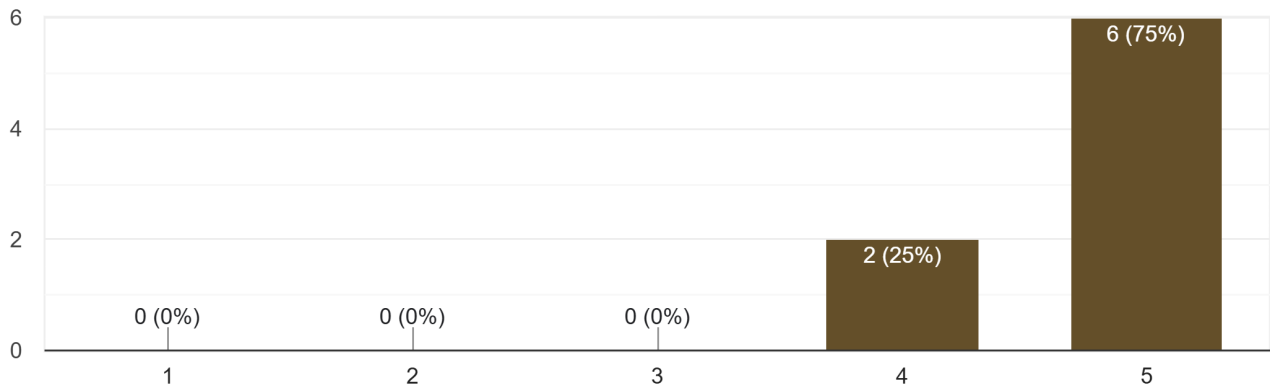
From the beginning I was clear about the competences or learning outcomes that I would gain from participating in this experience.

8 responses



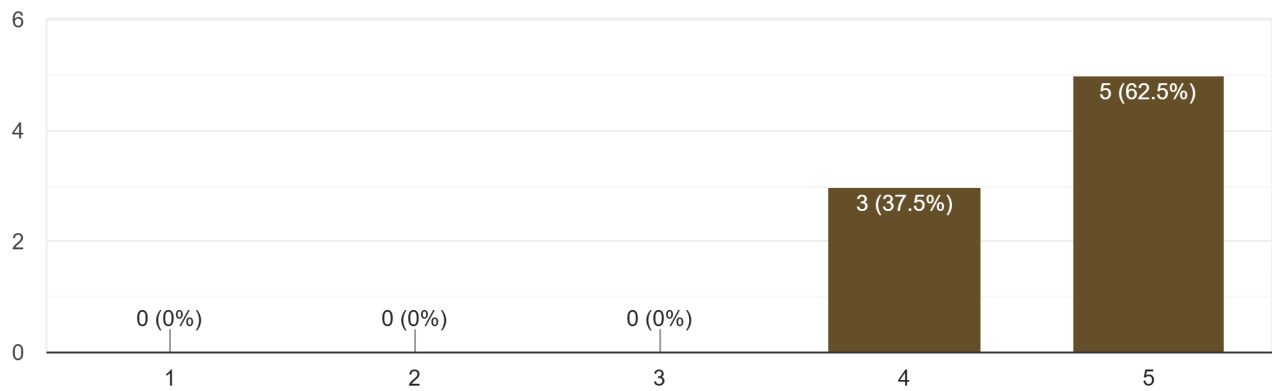
Basic understanding of Python for GIS.

8 responses



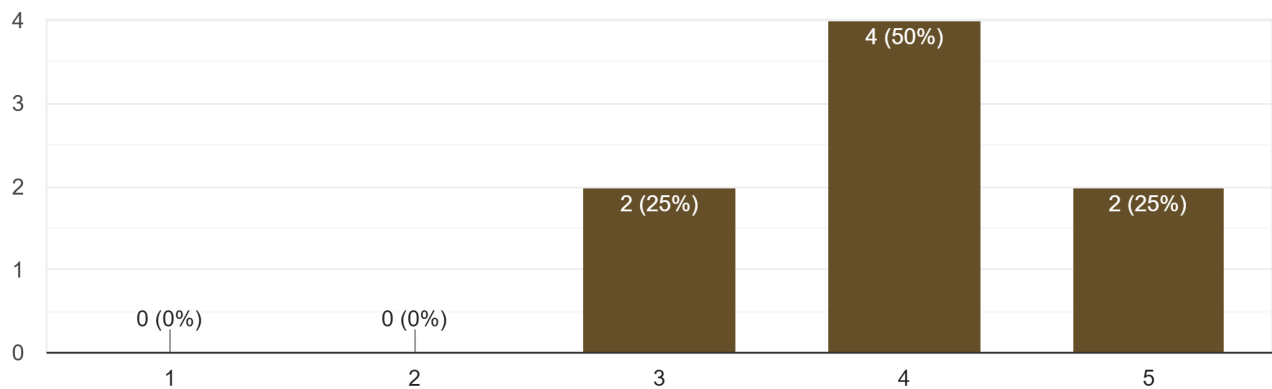
Performing spatial network modelling and analysis using Python (CitySeer Workflows)

8 responses



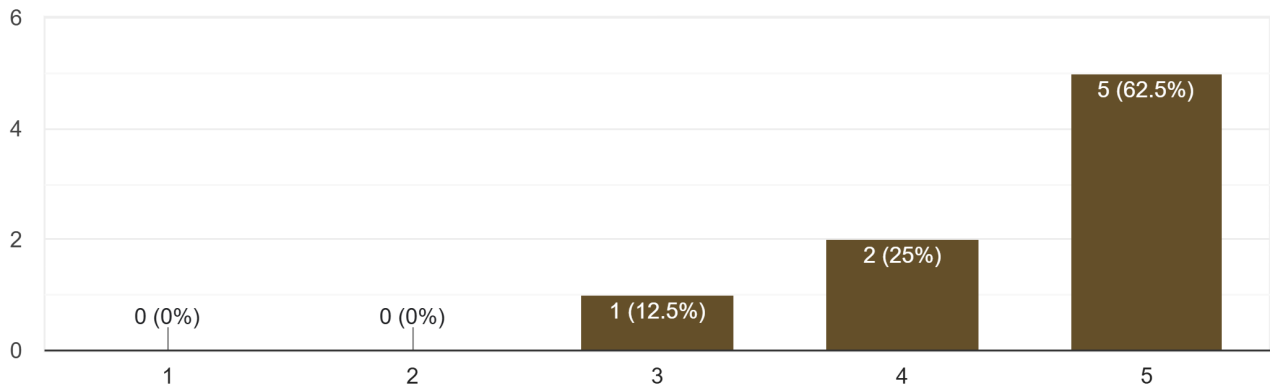
Performing scenario modelling using python

8 responses



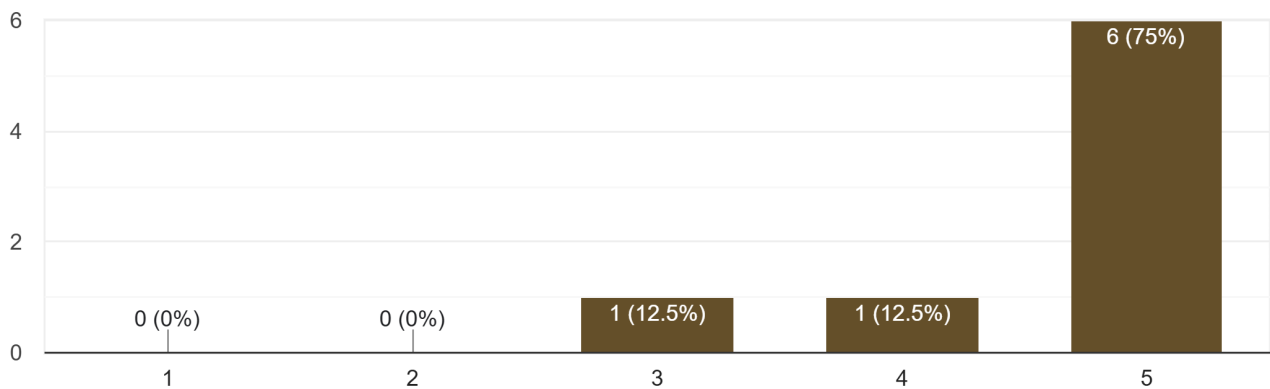
Understanding the social-ecological urbanism approach.

8 responses



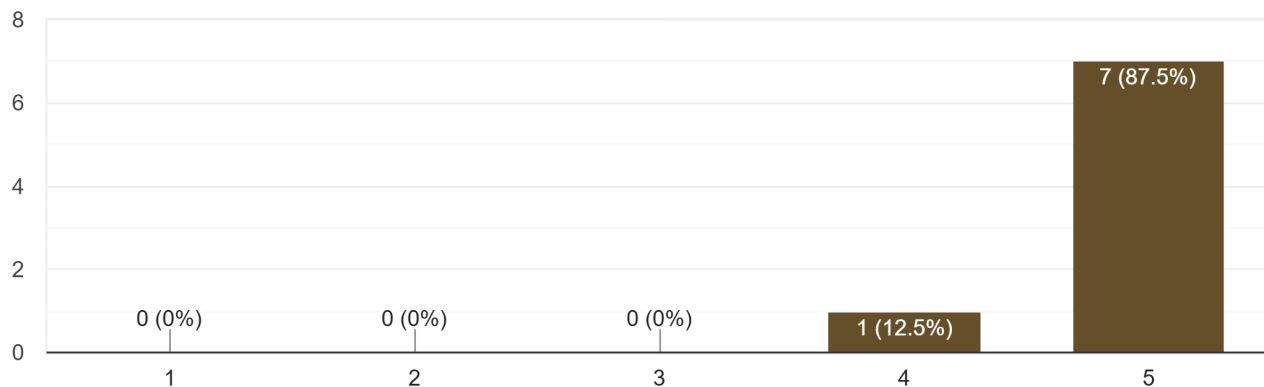
Integrating ecological data into spatial planning.

8 responses



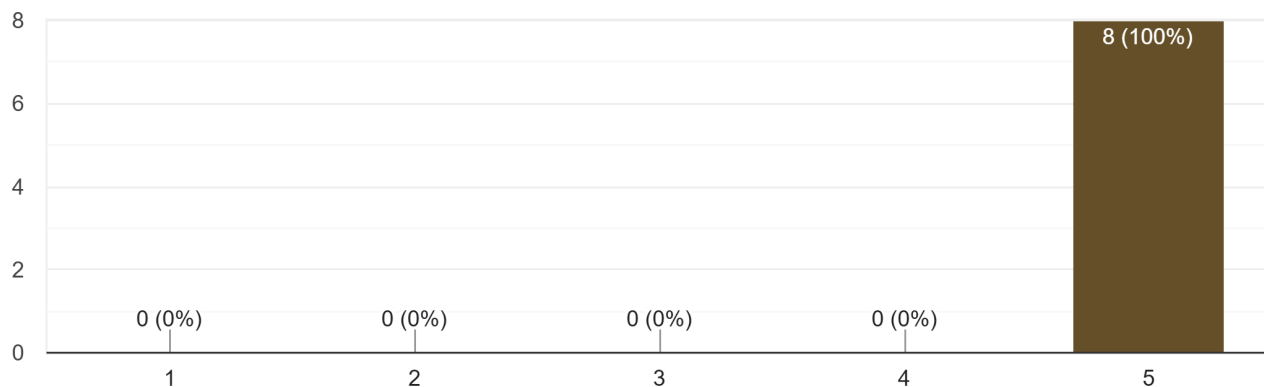
Performing accessibility to green spaces analysis (PST).

8 responses



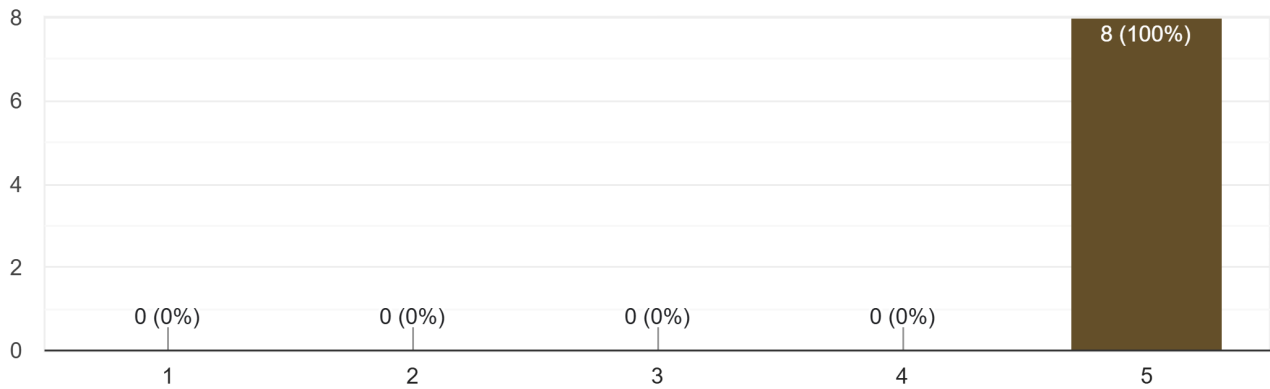
The training experience was positive/good.

8 responses



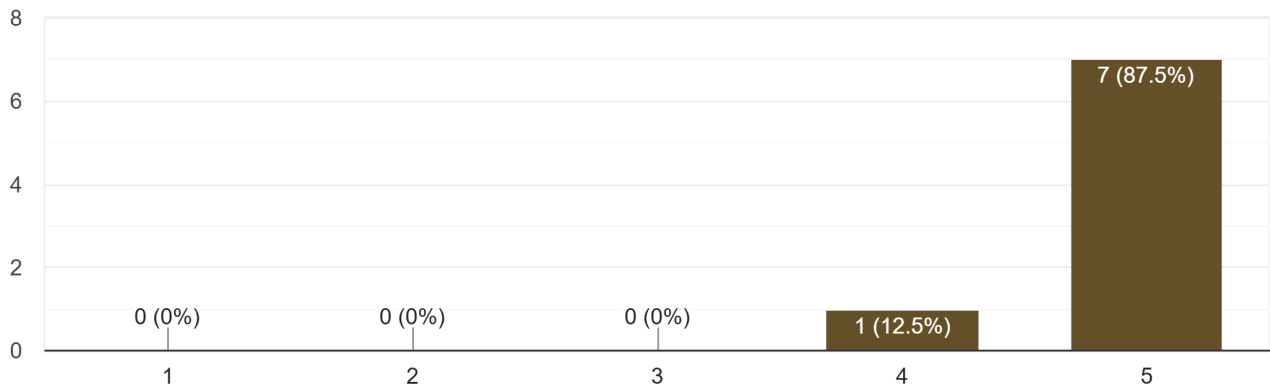
This activity benefited yourself, your team and/or your organization.

8 responses



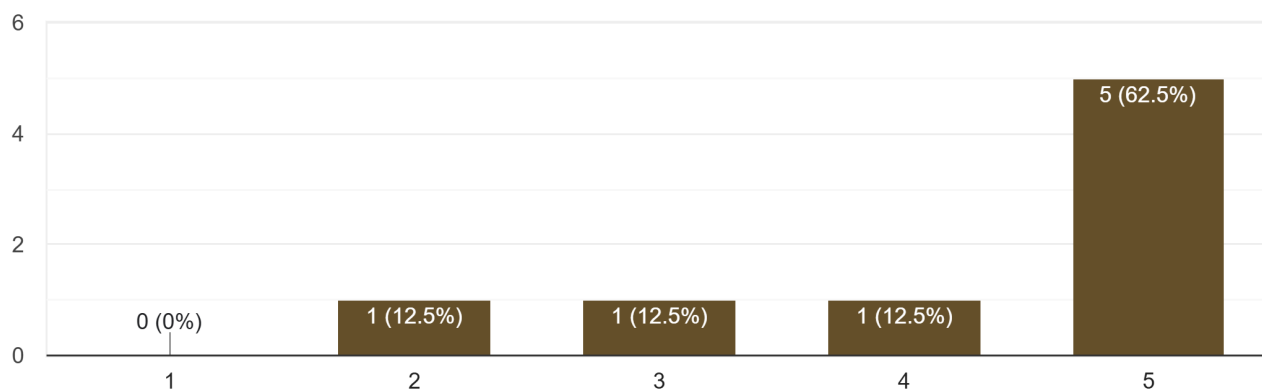
There was a good balance of different types of activities (lectures, site visits, practical exercises, training sessions, etc.)

8 responses



There was meaningful interaction with local stakeholders.

8 responses



I had enough free time.

8 responses

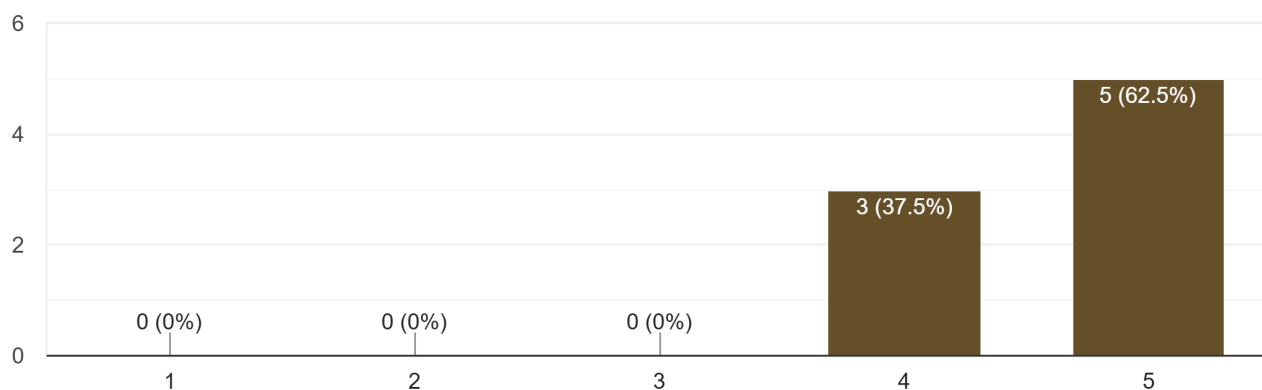


Table x. ISW2 Evaluation questions 16 and responses

What did you like? What was done well?	
1	The training materials were more than perfect. The application of the socio-ecological on a case study and then present it to a stakeholders was a good application of the design process.
2	Generally the lectures were really well planned and clear, along with supporting materials.
3	Methodology, techniques.
4	The content was excellent, and it was well organized.

5	The chance to work on your own ideas/projects with the tools that we were trained supported by the tutors. Group work on socio-ecological approaches.
6	The summer school contained a nice mixture of lectures, training sessions and site visits. I had the opportunity to learn a lot about urban spatial planning and incorporating ecological aspects in it. We worked with very useful QGIS plugins and we learned how to perform analyses using Python. In addition, all the tutors were excellent and collaborating with the other participants was very pleasant and useful.
7	The focused subject, small group dynamic and tutors willingness, enable us to have meaningful interactions with both peers and tutors and advance my understanding on the topic.

Table x. ISW2 Evaluation questions 17 and responses

What could be done differently?	
1	The first week training (the python part) could have a greater impact on the case study and the application of the ecological approach.
2	More weight on the HNAT approach.
3	Maybe some recorded videos about the tools and concepts (small lectures) before the start of the summer school would make discussions more advanced.
4	Everything was great really!
5	Have more time or different time allocation, to integrate python process with the social ecological approach developed in groups for the proposal - final presentation.

This training experience is worth being repeated in the future.

8 responses

