

INVESTIGATION - LEARNING MODULE

Integration of Water Landscapes in the Urban Space



Gyor, the city of three rivers, Hungary

Introduction

Planners often depict a city as a human body. Transportation, communication, rivers and sewer systems become arteries and veins pulsing through the city; parks and open spaces become urban lungs detoxifying the air they breathe. But what about water itself? Surely it is vital for all of these things beyond anthropomorphic attributions. In nature we have access to the sea, a river, a stream, a lake or a wetland. Perhaps it's our attachment to nature, but in urban areas people of all ages prefer public spaces where water is present. Urban spaces near rivers, lakes or the seafront tend to concentrate a wide range of land uses like housing, commercial uses, restaurants and cafes, and leisure. The presence of water in the city is not only a decorative element. It performs other important functions and has benefits that go way beyond the social aspects. It can be an ideal meeting and relaxation point in the urban fabric. Look at any city and you'll find people gathered along a restored riverfront or a seafront pedestrian way. Humans are attracted to water.

However, we should not forget that these water elements (rivers, lakes, the sea) are natural elements to which we intervene when we include them in our urban space. We tend to build our city around them, decrease the area they occupy in their natural state, and especially in



the case of rivers often change their original route and water flow or even decide to bury them under the city infrastructure. Water management and the integration of water landscapes have become a major concern for urban planners in recent decades. Climate change, floods and rapid urbanization are driving the adoption and integration of all the elements that are a part of the complex system called a city: nature, infrastructure, utility networks, economy and society. The IWA Principles for Water Wise Cities have been developed towards that end. The pressures on urban water management and water landscapes mean that the protection, management and planning of water landscapes in the city need to be integrated at the earliest stages of spatial planning; it cannot be considered as optional any more. It also needs to consider the point of view of the citizens: the people who live in the urban environment, whose experiences matter, but who are often ignored by planners.

The general public also tends to connect the concept of landscape to nature; especially areas of outstanding natural beauty, like scenic views of mountains and lakes or rivers. However, landscapes are all around us. They are the surroundings in which we live, and for most of the population worldwide, living in cities, these are urban landscapes that should be planned, protected and managed.

The above raise a number of issues for the integration of water landscapes in the urban space. What kind of integration are we aiming for? Do we aim at preserving the natural state of the water elements in the city, the habitats and the biodiversity that is developing along the banks? At what cost? What uses do we want to promote around and on these water elements and why? In essence, what role do we want these water elements to play in our city and what does that mean for the urban water landscapes?

The answers to the questions above shape a strategy for the integration of the water landscapes in the city, which affects the lives of citizens in many ways. We should therefore also make sure that citizens of different profiles are aware and have an active role in the planning process.

The investigation can be implemented by following these steps:

1) **Planning**

In Planning, students and teachers design their investigation activities on landscape, for instance they decide what to do, how to do it, when to do it, where to do it.

According to the topic or issue chosen for investigation, the class will need to identify what kind of actions to undertake in terms of literature review, hands-on research activities, and it will identify the most suitable methods and list the needed materials to gather the necessary information.

Expert stakeholders from local research centres, universities and local authorities can be contacted as a valuable opportunity to access up-to-date knowledge and to make use of scientific equipment.

2) **Performing**

In Performing the investigation, the class implements the devised plan, and follows the steps of action along the project timeline. Data collection can regard environmental data during a field trip, a survey on the perceptions and views of the local community, or investigations on historical and artistic documents regarding the landscape of



interest. Specific materials, equipment and worksheets can be used, allowing students to approach methods and software of common use in research. Experiments can be performed to understand the reason for certain phenomena.

3) Data analysis and interpretation

In Data analysis and interpretation, the collected data are analysed and interpreted in order to understand the extent of the issue (generating new knowledge) and the relations between the factors and variables that are involved in the investigation.

Objectives of the Investigation

To learn about:

- ✓ Water landscapes (rivers, streams, canals, lakes, seafronts etc.) and their role in the life of a city,
- ✓ Urban planning ways of integrating water landscapes in the urban space in order to maximize environmental, economic and social benefits.
- ✓ Urban planning (how it works and its role in shaping the urban landscapes)
- ✓ Potential benefits from successfully integrating a water landscape (e.g. river, stream, canal) in the urban fabric.

To be able to:

- ✓ Work in groups
- ✓ Exercise online research skills and develop field research and interview skills
- ✓ Develop analytical skills and exercise in teamwork and collaborative techniques
- ✓ Develop skills in using AR and GIS software in order to visualize and communicate spatial information
- ✓ Enhance their awareness and attitudes regarding active citizenship and civic democracy.

HOW TO INVESTIGATE

When: After the Conceptualization Phase (Step 2)

Time estimated: Maximum 7 teaching sessions (at least 5 hours in total), depending on the investigation activities to be implemented

Where the activity takes place: in the classroom and outdoors

Method (how the students have to work): group-work

Art activity - in every step of investigation students are invited to produce an artistic product inspired by their investigations: texts, photos, drawing, videos, music or sound, meme (<https://en.wikipedia.org/wiki/Meme>), patchwork/collage, theatrical performances.



In the classroom, the students are divided in groups. The teacher/facilitator could follow the steps suggested in the table below:

<p>Planning</p>	<p>Ask students “How would you go about investigating your hypothesis?” (or the questions you have broken it down to in the previous session)</p> <p>Set the framework by introducing different investigation techniques, i.e. literature review, field visit, interview with an expert (a planner, landscape architect or local authority official), interview or survey with locals (i.e. their parents, local businesses, etc.).</p> <p>Give the student groups 20 minutes to generate an investigation plan each. The objective is assessing the role of the local water landscape in focus (rivers, streams, canals, seafront etc.) in the life of the city, exploring ways of integrating it in the urban space in order to maximize environmental, economic and social benefits. By generating their investigation plan, students need to:</p> <ul style="list-style-type: none"> - Select on the map the area where they want to focus the investigation - Decide how to perform the investigation (techniques, equipment needed, materials). - Create a timetable where they set the order of the investigation activities. <p>The groups present their investigation plans and reach an agreement for the most reliable and feasible. It could be a combination of the plans presented.</p> <p>The teacher may then offer feedback, proposing alternatives or adjustments to the investigation plan proposed by the students. The feedback should aim at making the plan feasible and concrete in terms of time management, access to proposed resources and availability of the persons to be interviewed/consulted.</p> <p>The outcome should be an investigation plan complete with the activities to be implemented, the timetable for implementing them, the groups/persons responsible for implementing them, the necessary equipment and software, and the communication and info sharing arrangements. The investigation plan should allow for preparation time, i.e. preparing certain equipment (e.g. survey questionnaire design) or software (Siftr, Google My Maps) to be used.</p>
<p>Performing</p>	<p>The investigation plan can be implemented on the basis of the following activities:</p>

	<ul style="list-style-type: none"> ✓ Literature review / online research: The students may perform an online research regarding good practices regarding the integration of water landscapes in the city fabric and innovative initiatives, both on a national and international level. Students may also gather images and photos or videos through the internet or their family archives, that document the change of the water landscape selected through time and level of integration in the city. ✓ Field visit: The students can walk along the river/stream/seafront area selected and document the main landscape elements, current land uses and problems/conflicts using printed maps or through certain software introduced for that purpose (especially Siftr and Google My Maps are recommended for this activity). Students will collect documentation material, i.e. photos and/or videos, to support their findings. Duration: 45 minutes. ✓ Survey: The students may perform a survey regarding the views of locals (citizens, businesses, visitors) on the water landscape selected and the problems and opportunities regarding its better integration to the city. The survey should follow a short questionnaire and may also include a focus group meeting inviting locals to participate and share their views. The Worksheet proposes an indicative structure of the survey questionnaire that can be further processed. This activity can be combined with the Field visit activity. Duration: 60 minutes. ✓ Expert interview: The students may, through their teacher, make an appointment with an expert in landscape architecture or urban planning (i.e. a landscape architect, an urban planner, a planning officer of the local government, etc.) for an interview. The interview questions should be prepared and communicated to the expert prior to the interview. It is recommended to combine the interview with the field visit, i.e. make the interview while on the water landscape. Duration: 60 minutes.
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<p>Data analysis and interpretation</p>	<p>In the school computer lab or at home, students proceed to the analysis of the data collected and report the main findings. The analysis may vary depending on different research techniques employed:</p> <ul style="list-style-type: none"> ✓ Literature review / online research: Outline the main findings from the online research. Make sure to include good practice case studies or innovative interventions that have a potential for implementation in your case. The documentary material gathered by all students regarding the local landscape studied should be organized in a timeline collage. ✓ Field visit: Analysis may include an interpretation of the Siftr or Google Map created, or the input from the printed maps. ✓ Survey: Analysis of the questionnaire results through Excel tables and generation of selected diagrams.
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	<p>✓ Expert interview: Outline the main findings from the interview regarding the students' hypothesis.</p>
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Worksheet – Survey questionnaire on the role of the water landscape in the city

1. Profile

1A Age

- 12-18
- 19-25
- 26-35
- 36-45
- 46-55
- 56-65
- 66+

1B Gender

- Male
- Female

1C How far have you been with education?

- Still at secondary education (age 12-18) - school student
- Completed compulsory education (at age 12 or 15)
- Completed Lyceum (at age 18), but have not undertaken any further education
- Completed post-secondary training (e.g. technical)
- Completed University/tertiary education (student or graduate)
- Student (university or tertiary education)
- If Other, please specify:.....

2. Do you consider this landscape as important for the city?

- Very important – representative of the city
- To an extent
- A little
- Not at all

3. What do you think should be its main function?

- Leisure – Recreation – Open space
- Sports
- Commercial
- Housing



- Cultural
- Transport
- Other, please specify:.....

4. To what level do you think it should be urbanised?

- None – it should be kept/restored to its natural condition
- A little – small interventions are needed
- To some extent – stronger interventions are needed to integrate it into the city
- To a great extent – it should be fully integrated into the urban fabric

5. What do you think are the main problems this landscape faces?

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6. Should this landscape be protected?

- Yes
- No

7. Why?

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8. Would you be willing to participate in the process to protect/manage/plan it?

- Yes
- No