

Fieldwork in the Warta valley: a new teaching concept

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Abstract

The aim of the paper is to present how to learn about geodiversity of the Warta valley and the isle of Ostrów Tumski (Cathedral Island) in Poznań connected with the recognition of the cultural heritage of the city. A particularly interesting methodological solution is fieldwork, including urban games. It was determined that the attractiveness of the valley landscape, in conjunction with a suitably chosen logic while engaging in the urban game, determines the formation an image of the environment in the student's minds, which affects the growth of teaching effectiveness and the degree of identification with a place of residence. It is therefore proposed that river valleys, due to their natural, landscape and historic resources, should be used in geographical, regional and historical education. The authors encourage the creation of urban games around geographical topics, including the management of floodplains.

Keywords: Warta valley, fieldwork, urban games, process of perception, education.

Introduction

River valleys are considered a very important landscape component, which plays an important role in its structure and function, as well as in preserving biotic natural resources. Natural river valleys show a linear structure, a great diversity of ecosystems and the exceptional nature of geomorphological and hydrological systems (Wróbel, 2009). At the same time, they are treated as the most valuable and versatile ecological corridors. Defining the valley-fluvial landscape, Andrejczuk (2007) describes it as “an elongated area along the river with clear spatial boundaries, within which a peculiar type of environment (natural and anthropogenic) has developed; its overall properties (geocomplex, geosystem, ecosystem, scenic etc.) are organised by the river interacting with its environment” (Piotrowska, 2011).

Most cities are situated in river valley (**Figure 1**). Riverside areas are most valuable sites from the point of view of the history of a city and the geographical environment developing through ages. River valleys and islands on rivers are a rich source of information about the environmental, socio-economic and political changes in a temporal approach. Research is conducted on the banks of rivers, and city authorities, local governments and cultural units use this heritage to provide education as well as promote tourism.

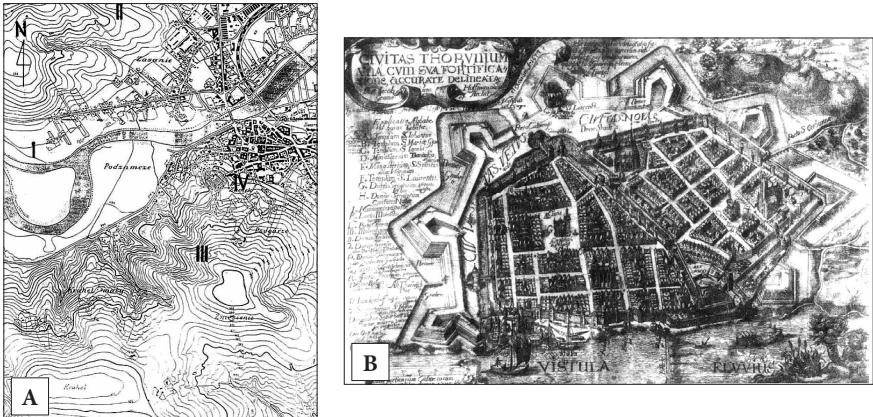


Figure 1. Old town plans: A) Przemyśl, B) Toruń.

Source: A) <http://w.kki.com.pl/piointf/przemysl/dzieje/zasanie/zasan.html>

B) <http://umocnieniatorunia.wordpress.com>

In Poznań especially intensive work has been carried out on the isle of Ostrów Tumski (Cathedral Island) between the rivers Warta and Cybina (**Figure 2**).



Figure 2. Poznań town plan, 1871. Source: http://archiwum.allegro.pl/hit_polska_stare_mapy_16331945_danzig_posen_2xdvd-1197782863.html

In 1999, as a result of the archaeological excavation conducted by Hanna Kóčka-Krenz from the University of Adam Mickiewicz, the residence of the first Piast Dynasty members of the second half of the 10th c. and the Palladium of Mieszko I were found on Ostrów Tumski. The building was the early-Piast duke palace, later a royal palace, and also the largest stone structure of the first Piasts (Kóčka-Krenz, 2005). This place is thus connected with the beginning of the Polish state (**Figure 2**).

Topography of the Warta valley

In Poznań the Warta flows in a unique way, using the geomorphological landform of the Poznań Warta Gorge (Piotrowska, 2011). A gorge is a narrow and steep-slope valley stretch, where the river overcomes an obstacle, e.g. a mountain range or some other land elevation (Klimaszewski, 1994; Migoń, 2004). There are several types of river gorges that develop depending on the geological and topographic features as well as the fluvial activity of the river. The Poznań Warta Gorge is an epigenetic gorge, which originates from the transformation of a postglacial channel into a classic river valley. The river takes advantage of such a channel, running however in the opposite direction to the direction of the glacial outflow. The Poznań Warta Gorge is interesting from the perspective of both relief development and river terraces existing in the valley landscape (Piotrowska, 2011).

A river terrace is a landform on the slopes of the valley formed by the erosive activity of the river. The genesis of river terraces is alternate processes of deep and lateral erosion as well as accumulation. Each terrace testifies the changing river bed level, resulting from the lowering of the base level, i.e. the change in the elevation of the river mouth. When the river reaches the base level, it cannot further deepen its channel. Thus, river terraces are fragments of ancient valley bottoms (Pawłowski 1929, Bartkowski 1957, Krygowski 1958). The cross-section of the valley shows a unique pattern of terraces (**Figure 3**).

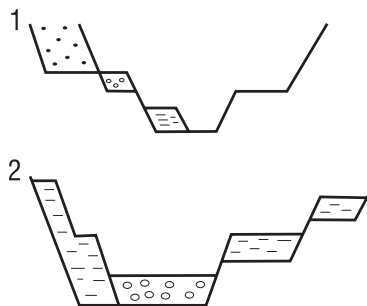


Figure 3. System of terraces found in river valleys

Fieldwork and field games in the Warta valley

1. Fieldwork

An interesting way to discover geo-diversity of river valleys and their historical changes is through fieldwork. Learning geographical environment through fieldwork is based on direct observations and measurements, connected with the cognitive processes performed by students, such as analysis, synthesis and inference. Fieldwork classes prepare students to apply theoretical knowledge in practical situations, so they are based on the student's own active work. What is important during fieldwork is intellectual as well as practical and emotional activity (Okoń, 1996), which aims to shape the skills.

The core competency during fieldwork is direct observation. The ability to think, feel or act is related to the process of perception which, according to Jałowicki (1988), involves noticing as well as recognition, comparison, classification, assessment and evaluation of reality. Perception of the geographical environment can be based on two independent spatial scales: a landscape scale (over 500 m from the observer) and an intimate scale (less than 20 m from the observer). Between them stretches a neutral area which is too far to see its details but too close to get its general picture. In the opinion of Krzymowska-Kostrowicka (1999), this tripartite division of the observed space follows from the physiological controls of the reception of stimuli. What can be a set of signals and stimuli generated for the observer in the field is the geographical environment and landscape. As the literature offers too precise but also too diversified an approach to landscape, for the purposes of this study the definition proposed by Richling (2001) will be employed. It describes landscape as an integrated system consisting of relief and rocks, atmosphere and water bodies, as well as vegetation and soils, unique in its structure and internal links. It embraces natural elements and man with the effects of human activity (Cichoń, 2007).

Due to their natural, landscape and historic resources, river valleys should be used more often in geographical, regional and historical education, including fieldwork. Fieldwork in the Warta valley can take place in different locations and on different routes or paths. Most of the sites and educational facilities are located on the isle of Ostrów Tumski. It is where the Royal-Imperial Route begins. On the island there is the museum Genius Loci, with an archaeological exhibition and new educational offer – the Gate of Poznań. A very interesting educational tool is the guide “Cultural heritage of Ostrów Tumski in Poznań”, written primarily by researchers from the Adam Mickiewicz University in Poznań (**Figure 4**).



Figure 4. Guidebook *Cultural heritage of Ostrów Tumski in Poznań*, Centrum Kultury TRAKT, 2012

The Warta valley can be explored by walking along the river terraces (Piotrowska, 2011) starting with the youngest floodplain at a height of approx. 53 m asl. It is where the oldest districts of Poznań are: Ostrów Tumski with Zagórze and Śródka on the right bank, as well as Chwaliszewo, Grobla and Piaski on the left (Kaniecki, 2004). Walking towards Plac Wolności (Freedom Square) we enter higher terraces, which were either destroyed or levelled during the initial stage of the city development. The oldest, seventh terrace is farthest from the river. Cut in boulder clay, it came into existence 18 400–17 200 years ago; its height is 71–73 m asl. In the City Centre it encompasses the area between Plac Wolności and the Main Railway Station. The following districts are situated on this terrace: Wilda, Starołęka, Naramowice and a part of the City Centre.



Figure 5. Route of the field trip “Across the Warta terraces in Poznań” (Piotrowska, 2010); white dots show the location of didactic sites – from the east: Most Jordana, Ostrów Tumski, Most Chrobrego, Chwaliszewo Street, Wielka Street, Stary Rynek, Paderewskiego Street, Plac Wolności. Source: authors’ proposal; background map: <http://mapa.zumi.pl/Poznań>

The Warta valley can also be studied while walking along the river, following the streets of Garbary, Mostowa or Grobla (Piotrowska, Cichoń, 2012). There we can observe the socio-economic activity in the Warta valley. The objects worth seeing

include the old river bed of the Warta, filled up in 1968, over 100-year-old buildings of the Old Gasworks and Old Slaughterhouse, former river port and the Museum of the Poznań Bambrzy. In order to explore the Warta and Ostrów Tumski, one can use the old tourist trails, historic tram routes, museums, as well as exhibitions and interactive models. The key is to stimulate activity using independent multisensory forms, involving sight, hearing, touch, smell and taste.

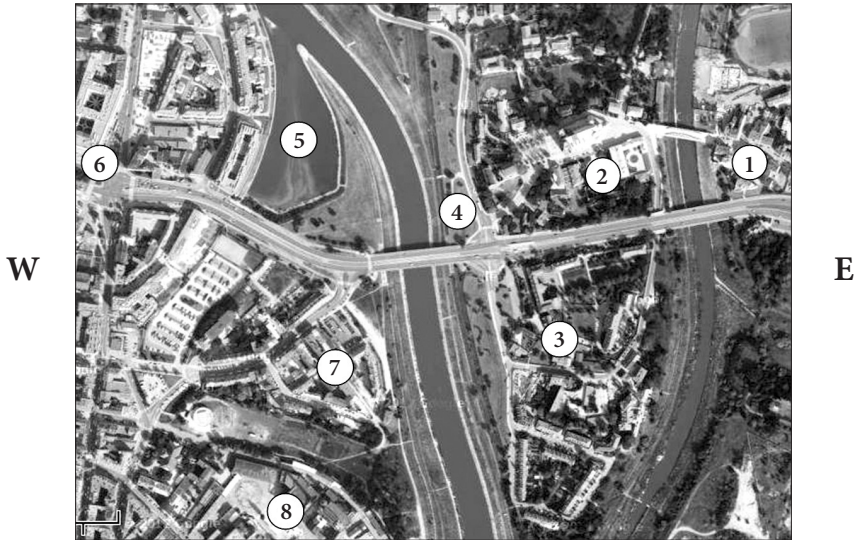


Figure 6. Route of the geographical trip “The Warta Valley and Ostrów Tumski” (Piotrowska, Cichoń, 2012). Photo by GEOPOZ. Didactic sites: 1. Śródka and the valley of the Cybina, 2. Ostrów Tumski, 3. Zagórze, 4. Warta Valley, 5. Old river port, 6. “Dęby czarne”, 7. Chwaliszewo, 8. Old Gasworks

Given the nature of activities carried out by the students, we can delimit fieldwork exercises and field studies. An example of field studies is to make a river cross-section and analyse the processes which have led to its development or conduct a survey on how respondents use the Warta valley for leisure. In contrast, a field exercise means repeatedly doing the tasks in accordance with the algorithm, worksheets or accompanying maps, tables, cross-sections or profiles as well as indicators. Examples of typical field exercises include determining the right and left bank of the river, establishing the elevation of river terraces from the map, determining the physical properties of water and determining anthropogenic landforms in the vicinity of the river valley.

2. Field games

Fieldwork may also take form of a field game. Four types of field games can be distinguished.

A. An urban game

An urban game in which urban space is used for fun. An urban game combines the features of street happenings, computer games and scout stalking. It consists in gaining information about objects, solving tasks and gathering points. An example of an urban game is “The Fellowship of Explorers” (<http://bramaPoznania.pl/oferta/gry-miejskie2/bractwo-odkrywcow>). The plot: There is a secret association called The Fellowship of Explorers working in Poznań. To become a member of the association you need to pass the Explorer’s Trial. Follow the instructions, solve the tasks and discover the city’s wealth and resources. How to play: Follow the instructions in “How to become an explorer”. Having identified the final password, submit it on the website www.bramaPoznania.pl. If your answer is correct, you will be able to download your personal certificate and take part in the prize drawing. You will be able to guess the password thanks to the hint on the right. Fill in the blanks with the words of the code and you will find out which part of the inscription, found at the end of your trip, needs to be submitted on the website.

B. Geocaching

Geocaching is a field game involving a treasure hunt, usually with the help of a GPS receiver. Finding the hiding place may require solving a riddle, quiz, crossword puzzle or some other charade in order to obtain the GPS coordinates of the place where the container is hidden.

C. Quest

A quest takes the participants along more or less well-known paths. *En route* they solve riddles and tasks, which ultimately lead to the place where the treasure box is hidden. Here is an example of instructions: “...*stand at the entrance, look at the plaque located at the place where the water was raging, destroying the whole city and covering the streets with waves. The water level was then determined and the word _____ was placed on it.*” To complete the whole quest, participants must also reconstruct a motto from the letters collected in the individual tasks. An example of a Quest is “The Royal Poznań”, prepared by the Voivodeship Public Library and the Centre for the Animation of Culture in Poznań (**Figure 7**).

The poster is titled "Wielkopolskie Questy" and "Królewski Poznań". It features a central map of Poznań and an image of a church. The text is organized into several columns and sections:

- Top Left:** "Ty zwróciłeś uwagę na strong galie Apollina patrycy, w ten sposób Ci udało się...". Below it is a 10-column grid.
- Middle Left:** "Musisz mieć trochę, muszę zobaczyć...". Below it is a 10-column grid.
- Bottom Left:** "Sędzią na ulicy...". Below it is a 10-column grid.
- Far Left:** "Zapomniałaś odkryć...". Below it is a 10-column grid.
- Top Middle:** "Istnieje na planie, spróbuj...". Below it is a 10-column grid.
- Middle Middle:** "Na kładce...". Below it is a 10-column grid.
- Bottom Middle:** "POZNAŃ -". Below it is a 10-column grid.
- Top Right:** "Tematyka...".
- Middle Right:** "Gdzie to jest?".
- Bottom Right:** "Na czym to polega?".
- Far Right:** "Czas przejścia: ok. 40 minut".
- Bottom Right:** "Autor i opiekun...".
- Bottom Center:** "Partnerzy:" with logos for "Region Wielkopolski" and "Medycyna i Opieka Zdrowotna".
- Bottom Left:** "www.regionwielkopolska.pl".

Figure 7. Quest of “The Royal Poznań”. Source: <http://regionwielkopolska.pl/turystyka/gry-terenowe/wielkopolskie-questykrólewski-poznan.html>

D. Individual tourist games

Tourist games to be played individually, where players collect the starting card from the Internet or a tourist information office and play it at a time and pace that suits them best. Tourist games are created in the co-operation with the Poznań Local Tourism Organisation, e.g. the game “The first step to Poznań”. It assumes an independent game according to the principle of “explore playing, play exploring”. The participants, moving around the isle of Ostrów Tumski and Śródka, discover the area through the prism of one citizen’s will.

During the field game the process of learning starts from an overview of the geographical space. For this purpose the neutral region, i.e. the space between 20 and 500 meters away from the observer, is used. In the next stage we observe objects and places of close proximity (less than 20 m). The perception involves primarily the senses: sight, hearing, smell and touch. Doing the tasks during urban games involves perception, recognition and comparison of the various elements of the environment, e.g. a river valley. In the third stage, we check to see where the next task to do is and automatically we need to define our geographical location.

The landscape scale is rarely used in urban games due to the lack of open spaces in the city that can be used to observe the overall landscape. Such places that meet the conditions of observation from a further perspective are vantage points in the city, including viewpoints on the edges of the river valleys. The opportunity to observe

the energy and dynamic landscape sphere, determined by the diverse terrain and flowing waters increases the attractiveness of outdoor activities as well as the effectiveness of the learning process (Cichoń, 2007). A major role is also played by anthropogenic elements. Linking biotic, abiotic and anthropogenic elements plays an important role as a set of factors affecting the human psyche, behaviour and perceptions, and in the case of field activities, including field games, the type of developed skills and the level of the results achieved. Therefore, while selecting an area for urban games one should consider a large geodiversity of the urban space. The combination of these two conditions is difficult to achieve in urban areas. However, the attractive elements of landscape which may facilitate the development of various skills through appropriate perception and reasoning are river valleys.

Summary

The concept of teaching river valleys through fieldwork, including urban games, during the integrated lessons of geography and history, has many advantages. First of all, the combination of geographical and historical content will help students understand the impact of topography and hydrology on the location of the Poznań castle, and then on the spatial and economic development of the city. Secondly, learning about the history of the city and its transformation in direct contact with the environment facilitates the recognition of multiple processes and phenomena; it also helps comparing and valuating of space. In addition, student independent activities during fieldwork increase the likelihood of remembering and using the acquired information and skills in practice.

Out of classroom learning in geographical and historical education is very important. However, there is a tendency to create field games relating to historical-architectural themes and nature trails in relation to biological issues. Educational publications lack geographical issues which take into account geodiversity of the city or countryside. A particularly interesting issue is the development of floodplain terraces that get inundated during high water levels. The awareness of this process is very important in planning of buildings and cities, and its absence or ignorance brings dire consequences. Given the enormous power of water in the river, destruction and economic losses associated with floods are the result of improper floodplain management. It is worth talking about such issues while creating new field games and disseminating them at different levels of education. This is why the selection of the site to learn and play is so important in the learning process. The attractiveness of the landscape in conjunction with a suitably selected reasoning rises in the student's the awareness of an environmental image that affects the complex process of decision-making and the degree of identification with the place of residence.

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