

Journal of Geography, Politics and Society

2024, 14(1), 56–65

<https://doi.org/10.26881/jpgs.2022.4.06>



THE ROLE OF FIELDWORK ACTIVITIES IN THE STUDENT EDUCATION OF SPATIAL MANAGEMENT ON THE EXAMPLE OF CLASSES AT THE UNIVERSITY OF GDAŃSK

Jarosław T. Czochański (1), Barbara Korwel-Lejkowska (2), Wojciech Staszek (3), Alicja K. Zawadzka (4)

(1) Department of Landscape Studies and Environmental Management, University of Gdańsk, Bażyńskiego 4, 80–309 Gdańsk, Poland, ORCID: 0000-0003-0695-3171
e-mail: jaroslaw.czochanski@ug.edu.pl

(2) Department of Landscape Studies and Environmental Management, University of Gdańsk, Bażyńskiego 4, 80–309 Gdańsk, Poland, ORCID: 0000-0002-2315-1579
e-mail: barbara.korwel-lejkowska@ug.edu.pl

(3) Department of Landscape Studies and Environmental Management, University of Gdańsk, Bażyńskiego 4, 80–309 Gdańsk, Poland, ORCID: 0000-0001-6444-5322
e-mail: geosw@ug.edu.pl

(4) Department of Landscape Studies and Environmental Management, University of Gdańsk, Bażyńskiego 4, 80–309 Gdańsk, Poland, ORCID: 0000-0002-1657-0767
e-mail: alicja.zawadzka@ug.edu.pl

Citation

Czochański J.T., Korwel-Lejkowska B., Staszek W., Zawadzka A.K., 2024, The role of student fieldwork activities in the education of Spatial Management on the example of classes at the University of Gdańsk, *Journal of Geography, Politics and Society*, 14(1), 56-65.

Abstract

In tertiary education, especially in vocational and Earth science-related fields of study, fieldwork activities are of great importance. They are a form of practical activities, complementing the students' work experience and the theoretical knowledge imparted in lectures. This is especially true for courses in which human interaction with the environment creates new spaces and new conditions for the functioning of the geographical environment – including geography, environmental protection, landscape architecture, urban planning, spatial management. Contact with real situations in geographical space, the possibility to see natural and anthropogenic phenomena, the possibility to observe the objects of research, phenomena and features of space and natural conditions for spatial management, and above all the confrontation of theoretical information with their direct and material physical dimension are all fundamental elements for students to build their knowledge and skills. This applies to spatial analysis and creative thinking, leading to the ability to combine facts, as well as to the levelling of knowledge between individuals. More than 40 years of experience with fieldwork activities conducted for students of geography and more than 15 years of experience working at the faculty of spatial management at the University of Gdansk, clearly indicate the very high importance of field classes in the didactics of these majors, and even the dominant role in the consolidation of acquired theoretical knowledge. The authors share their experiences of conducting such classes, present the core curriculum and subject matter of field classes, indicating their significant educational importance and positive reception by students.

Key words

Student education, field activities, geography, spatial management.

Received: 28 May 2023

Accepted: 11 June 2024

Published: 30 June 2024

1. Introduction

Experiences from students' field exercises, indicating the very important role of this type of activities in didactics – especially of practical majors, are nothing new. Both in Polish and world literature, one can find publications indicating the great importance of imparting practical knowledge and learning through experience. They are a component of shaping and acquiring broadly understood competences as a key element in the development of future careers (Dubois, Rothwell, 2008; Modrzejewska, 2024) responding to the challenges and need for educational efficiency in higher education (Jeruszka, 2011). In rich literature on didactics at the tertiary level and the role of student placements in the development of career-useful competencies, relatively few publications are devoted to field activities. There is a much wider literature on field classes in primary and secondary education, where they are indicated, in the core curriculum, as important and recommended methods and forms of education. Their importance at the tertiary level is no different.

Field activities are an important supplement to theoretical knowledge, enabling the completion of the so-called concept formation process, in which W. Okoń (1996) distinguishes: (1) the stage of associating names – with corresponding objects and phenomena, (2) the stage of creating «pre-concepts» – on the basis of knowledge of external features, and (3) the stage of acquiring scientific concepts. Field classes should be treated as a component of a holistically conceived didactic process giving it features of integrity and connectivity of the knowledge system. This is an obvious statement, especially in Polish conditions, if we recall that as early as 1850, Wincenty Pol – considered the «Father of Modern Polish Geography» (Angiel et al., 2020), initiated field trips with students – as a then new form of didactic activity. In Polish literature, the topic of field activities in student education is not new, but few publications on this level of education can be found. These include, for example, publications by authors J. Mądry, T. Ziętara (1996), M. Borowiec (2005) – indicating the important role of field classes as an element supplementing the knowledge and experience of geography students – after theoretical classes and professional practice, J. Angiel (2010) and J. Wendt (Ed. 2016) extensively discussing the experience of the Gdańsk Institute of Geography. The publication by J. Angiel et al. (2020), which deals with geography education in the broadest sense – at all levels of education, but which provides an excellent overview of fieldwork experiences and a

basis for programming such activities, regardless of the level of schooling – should be considered an interesting and quite important work on the issue of fieldwork experiences and the importance of fieldwork in geography education. This publication also includes presented student experiences related to geographical field classes, which show that they are perceived by students as extremely important and useful – professionally, cognitively and socially. The authors attribute them values such as: «acquiring field skills, learning to observe carefully, inference, conducting interviews, collecting specimens, but also overcoming various difficulties or one's own weaknesses» and establishing social relationships – including collegial friendships and cordial relationships with academics (Angiel et al., 2020, p. 60).

The issue of field research and its role in the development of science has also been the subject of a separate conference in recent years (The role of field studies in landscape research of the XXI century¹) and several sessions at other scientific seminars (e.g. session: «Landscape Education» at the conference Landscape in Public Perception²). This shows awareness of the importance of fieldwork, despite the developing computer techniques and the availability of digital databases, and at the same time indicates the need to teach the methods of such research, analogous to teaching computer techniques.

In the foreign literature, one can also find publications on the importance and experience of field classes at natural science faculties or those related to spatial management and landscape architecture – but, interestingly, they draw attention not only to the didactic importance of such classes, but to their scarcity and the negative consequences of the lack of such classes in higher education (Fedesco et al., 2020). The conclusions drawn from the analyses of the importance of field classes are similar to those in Polish literature. The authors emphasise that classes conducted in the field increase the degree of their participants' bonding and relationship with lecturers, provide a greater degree of intrinsic motivation in learning, facilitate learning, teach problem solving and provide experience that cannot be replicated in the traditional form of classroom lectures (Healey, Jenkins, 2000; DeGiacomo, 2002; DiConti, 2004; Gunhan, 2014; Fedesco et al., 2020). Confirmation of the importance of field activities, as a form of enhancing learning

⁸ National Scientific Conference PAEK, Bukowina 8-11.04.2015

⁹ National Scientific Conference PAEK, Brok 5-8.10.2018 r.

and supplementing knowledge with an experiential component, can be found in many publications from different continents – not only Europe. Essentially, all authors emphasise the important role of so-called “experiential education” (Roberts, 2016), point to the unique value of field learning, especially the rapid feedback and unlimited opportunity for discussion between students and lecturers – enhancing teaching (Jones, Washko, 2022). The high profile and value of such a component in the higher education process is generally emphasised (Kolb, Kolb, 2005; Rennie, 2007; Nabors et al., 2009; Moore, 2010; Larsen et al., 2017). J.C. Jones and S. Washko (2022) also point to the important role of field classes in reducing the knowledge gap between individuals, and consequently reducing the achievement gap and learning outcomes. The fundamental and irreplaceable role of classes as a knowledge transfer mechanism is also indicated (Bouchrika, 2024). It should be emphasised that both Polish and international experiences of teaching with the use of field classes are unequivocally positive and indicate an important and irreplaceable role in the educational process. Importantly, in foreign publications (Rahman, Spafford, 2009; Arnold et al. 2022; Bouchrika, 2024), as in Poland (Angiel et al., 2020), the important and leading role of this type of education is confirmed by the students themselves in various types of evaluation studies. A similar opinion, in the studies conducted, is expressed by the teachers themselves – recognizing that field activities improve learning outcomes and complement the content of the curricula (Student & Youth Travel Association, 2016).

2. Methodological foundations

The article is not based on a research process, and its aim is to share the authors’ long experience of conducting fieldwork activities for geography and spatial management students and to point out their importance in the teaching process. The authors conducted several series of student surveys as part of the course evaluation process. Considering the scarcity of publications on the experience of students’ field classes in courses related to the shaping of space and conditions of the geographic environment and the significant importance of this type of classes in supporting the educational process, the authors wanted to highlight the important role and significance of field activities in professional education.

The article indicates the authors’ own conclusions – important for the process of education in majors

related to space planning and management. At the same time, the authors point to other similar experiences in literature. In preparation for the publication, an in-depth review of Polish and foreign literature was carried out, the curriculum set out in the core curriculum for geography and spatial management was examined, the results of student questionnaires for the evaluation of classes were analysed, and conclusions from the experience of fieldwork classes were presented. The authors of the article reviewed thematic issues raised during field activities in geography and spatial management studies in the last ten years. These issues were systematised, summarising the most important didactic issues and referring to the learning objectives and outcomes that can be achieved through them.

3. Aims and importance of fieldwork activities in geography and spatial economy at the University of Gdańsk

The various forms of field classes in geography, which have been conducted for several decades, have been of great importance in gaining experience by the academic staff in the preparation and implementation of field classes in spatial management. In the past, these included field trips to various regions of Poland and subject-specific classes. Also of great importance were field classes conducted at the Limnological Station of the Institute of Geography at the University of Gdańsk in Borucino, which has served as the primary field facility of the geography major since 1959 (Wendt (Ed.), 2016).

Nowadays, they are implemented to a greater extent in the spatial management major, complementing the full-time curriculum since its inception. In this study, two terms are used with regard to fieldwork activities: (1) field classes – these are stand-alone subjects, of an exercise nature, conducted in the first and second year of undergraduate studies, for the implementation of which 5 days each are allocated, and (2) field activities – as a form of supplementing several hours of lectures and stationary classes, conducted with students individually by lecturers within a specific subject. Fieldwork classes are connected with various subjects, at the interface of natural, zoological, urban planning, architectural, communicational and other issues.

The fieldwork activities currently carried out fulfil several essential purposes:

- complementing the curricular content

taught in lectures and classes – as a basis for understanding the actual scale and nature of natural and anthropogenic processes;

- teaching field orientation as well as the ability to map and document phenomena – to a much greater extent than any stationary classes;
- practical familiarisation with natural and landscape values and natural constraints for spatial management;
- observation and diagnosis of environmental transformations;
- teaching methods of field research – proper carrying out of surveys, taking photographs, making observations, presenting and drawing conclusions;
- developing social competence – teamwork, communication, interaction, presentation of research results.

These classes may be introduced independently from the formal nature of the full-time programme. They do not have to be separate fieldwork classes in the curriculum but may be one of the forms of classes conducted during the course of a given subject. They may be interdisciplinary and not related to only one subject, they may take place within the framework of various subjects and do not have to constitute a form of dominant teaching, but be complementary to it. They can vary in practical nature from a cognitive excursion to independent study, cartographic, documentary and project work. They find a very positive response from students, have very good feedback and are considered the most interesting form of knowledge transfer.

In order to ensure the highest quality of the conducted field exercises and to ensure their utilitarian character, for many years within the framework of the classes cooperation with external institutions specializing in environmental studies and spatial planning was established. The institutions with which the Institute of Social and Economic Geography and Spatial Management cooperated were the Gdańsk Development Office and the Pomeranian Regional Planning Office. This enabled students to participate in real activities, the results of which are not just theoretical credit work, but are actually used for planning purposes. Examples of the methods used in this type of work are included later in the article.

4. Core curriculum

According to the core curriculum, implemented in the undergraduate studies in Spatial Management, students learn the legal, economic, social and environmental foundations of spatial management during the first two semesters. Particularly

noteworthy, in terms of field classes, is the subject: «Environmental foundations of spatial management» [1], comprising from the academic year 2022/23 – 110 hours of lectures and 30 hours of auditory classes. Learning the environmental foundations of spatial management includes recognition of the components of the natural environment and the relations between them as well as the processes occurring in the natural environment. At the same time, students should acquire the ability to obtain spatial information from various sources, both analogue and digital, work with topographic and thematic maps.

This subject is complemented – after the second semester of studies – by 30 hours of field classes of the same name [2]. The aim of these classes is to be able to assess regional and local natural conditions for socio-economic development, including spatial development, based on natural resources and constraints observed in the field. At the same stage of studies and with the same number of hours, field classes titled «Economic Basis of Spatial Management» [3] are also conducted. The aim of this class is to impart knowledge on the forms of spatial management in urbanised and non-urbanised areas, and the anthropogenic factors shaping these forms, as well as to impart skills of field observation, interpretation and evaluation of observed forms – in the context of the concept of spatial order and sustainable development. After the second year, students complete field classes called «Spatial Management» [4] that are also conducted for 30 hours. The aim of these classes is to learn the principles of shaping and using different types of space (metropolitan, small urban, suburban, rural and natural) and to acquire the skills to analyse and evaluate the state of spatial development and use.

The following section presents examples of field classes for the subjects mentioned above [1], [2] and [4].

5. Experiences and examples of implemented activities

5.1. Field activities [1]

Bearing in mind the complexity of the natural environment and the specificity of its management in the coastal zone, lake district or urban space, the lecturers teaching the course «Environmental foundations of spatial management» [1] propose the students to carry out part of the lecture hours in the field. There are currently 2 field trip routes within the city of Gdańsk – they include: a route

leading through different stages of development of residential buildings in Gdańsk, at the interface with the forested edge zone of the Tricity Landscape Park; and the second route – showing the structure and sensitivity of the dune landscape of the coastal zone and the problems of its protection and environmental conflicts caused by the expansion of port site functions.

The first route leads through the Gdansk districts of Wrzeszcz, Piecki-Migowo and Bretowo, showing the assumptions of housing development – detached and semi-detached houses, and the accompanying green areas. Students learn about the spatial conditions – from residential development from the 17th-19th century, through multi-family housing in socialist prefabricated housing estates (the second half of the 20th century), to the most recent estates of so-called «developer housing», built along the Pomeranian Metropolitan Railway. At each stage, students can assess the quality of life associated with the form of development, the proportion of greenery and the associated infrastructure,

including transport problems. Attention is also paid to the forms of nature protection occurring in the city (nature reserve, landscape park, nature and landscape complex, ecological utility) and the actual possibilities of reconciling its protection with the development of a large city.

The second route is conducted in the area of the Northern Port in Gdańsk on Stogi Island. The aim of this tour is to present the conditions of location and further development of port functions in Gdańsk against the background of collisions and environmental conflicts, resulting, inter alia, from the development of investments in areas of natural value and protected within the Natura 2000 network (PLB 220005 Zatoka Pucka). Students learn about the specific structure and sensitivity of the environment of the coastal zone. The aim of the excursion is, among other things, to observe changes connected with the transformation of the coastal strip and the expansion of the land area at the expense of the marine area of the waters of the Gulf of Gdańsk (Fig. 1.) over a large area (approx. 100 ha in total).



Fig. 1. Expansion of further quays of the Northern Port in Gdańsk on Stogi Island – by backfilling the surface of the sea area – May 2023.

Source: W. Staszek.

5.2. Summary [1]

A separate subject, «Environmental Basis of Spatial Management», covers the range of environmental conditions for planning and spatial development, supplements the knowledge imparted in the summer semester by independently pursuing a separate research topic for learning fieldwork methods. This supplement concerns a one-day excursion on route: Gdańsk – Puck – Władysławowo – Jastrzębia Góra, during which students become familiar with the

management and protection of other types of sea shores – low floodplains and cliff shores (Fig. 2.). The route leads through three coastal nature reserves of different nature types (Cape Rozewski, Chłapowska Valley, Słone Łąki) and shows problems related with development, especially tourist development, and the pressure of development-related construction, but also forms of shore reinforcement and their effectiveness (Fig. 3.). Independently of this tour, every year students in teams of 2–3 carry out field research on environmental issues in the urban landscape. Examples of such research are presented in Table 1.



Fig. 2. Students during a field class on the sea coast - in the Chłapowski Gorge nature reserve, in May 2019.
Source: J.Czochański.



Fig. 3. Effect of groundwater on cliff bank reinforcement in Jastrzębia Góra - observation during field exercises in June 2022.

Source: B. Korwel-Lejkowska.

For each of the topics, the students were obliged to carry out, within the boundaries of the divided research areas, a cartographic study (they were marking the mapped issues and places where photographs were taken on the map – according to the adopted legend) and photographic documentation including

panoramic shots. Each team not only handed in a complete set of documentation, i.e. developed maps, completed questionnaires and forms (Fig. 4.) and original photographs, but also presented the research results and conclusions of their work.

Tab. 1. Examples of topics carried out by students in field classes, from the subject «Environmental foundations of spatial management»

Year	Topic	Methods
2013	Status of ecological sites and sites proposed for area protection	Field mapping using a form to assess the condition of the site and its risks
2014	Identification and evaluation of "glass houses" in the Tricity area	Mapping of objects with a glass façade as collision elements for birds in the city; filling in the form (Fig.1a) and locating the object on the map
2015	Mapping advertisements in public space in Gdańsk as a material for drafting a landscape resolution	Field mapping using a form specifying media type, size, subject of the advertisement (Fig.1b) and location in space;
2016	Verification of the number of parking spaces as a material for the development of the Study of Conditions and Directions of Spatial Development of the City of Gdańsk	Counting the number of parking spaces (arranged and unarranged), taking into account the occupancy of a car park, its type, foreign cars (from outside the city) in a given measurement hour, together with comments on the problems observed
2018	Buffer zone of the Tricity Landscape Park and the 100-metre zone of the Martwa Wisła waterfront – recognition of the state of the environment	Mapping with particular attention to illegal dumping sites, accessibility of the coastal zone and valuable natural sites
2022	Characteristics of green areas of small towns: Kartusy, Nowy Dwór Gd., Puck, Żukowo	Field mapping using a form to assess the condition of the site and its risks

Source: own elaboration.

SKŁAD ZESPÓLU:		MIASTO	DATA:	NUMER TERENU:
INWENTARYZACJ POTENCJALNIE KOLIZYJNEJ ARCHITEKTURY W AGLOMERACJI TRÓJMIEJSKIEJ				
ADRES	N KONDYGNACJI	% POWIERZCHNI PRZESZKLONEJ		RYŚ
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SZYBY LUSTRZANE		PRZEŚWIT		ZIELEŃ
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UWAGI:				
TYP/RODZ BYDYNKU:				NR FOTO:

a

Nr kolejny				
Adres				
Typ przestrzeni*:				
Piac publiczny	Ulica handlowa	Przestrzeń rekreacyjna	Przestrzeń półpubliczna w zabudowie wielorodzinnej	Przestrzeń publiczna w zabudowie jednorodzinnej
Typ nośnika**			Systemowy*	Niesystemowy*
Typ reklamy**				
ilość reklam na nośniku				
Podświetlenie*	tak	nie		
Format*:	Mały (<3m ²)	Średni (3-9m ²)	Standard (9-18m ²)	Wielki (>18m ²)
Powierzchnia łączna [m ²]				
przedmiot reklamy**				
uwagi				

* zakreślić odpowiednią opcję
** wg typologii z wytycznych do wykonania ćwiczenia

b

Fig. 4. Examples of used forms: a) documenting objects with glass façades, colliding with birds; b) documenting advertising media in public space.

Source: own elaboration.

5.3. Field classes «Spatial Development» [4]

Another subject that builds on the knowledge imparted in the classrooms are field classes on various aspects of spatial development, carried out at the end of the summer semester. The aim of the study trips is to present the condition and functioning of the space of selected cities (large and small) and rural areas, as well as spaces with special tourist and recreational development values. For reasons of location, Śródmieście or the Old Town of

Gdańsk is chosen as an example of a large city and the route of the study tour leads through areas where significant spatial changes have taken place in recent years, e.g. Hevelianum (a multifunctional place of education, history, culture and recreation); vantage point on Góra Gradowa (from which one can see new cubature investments significantly altering the panorama of the city centre); transformed shipyard areas and Długie Pobrzeże; new developments on Ołowianka Island and Granary Island; revitalised areas of the Gdańsk-Lower City and recreationally developed areas of the Motława river fortifications (Fig. 5.).

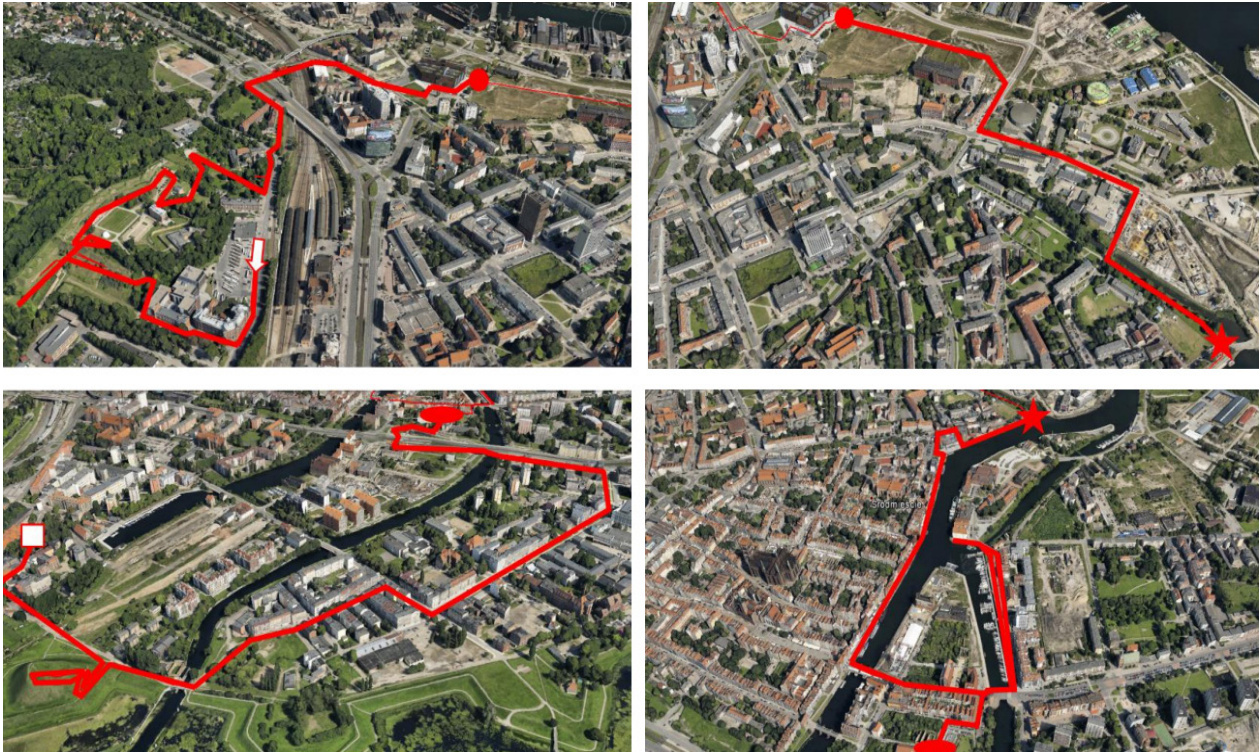


Fig. 5. Route of the sightseeing tour in downtown Gdańsk.
Source: study by K. Kopeć and A.K. Zawadzka.

Łódź is the second large city which is the target of in-depth spatial analyses.

The students became acquainted there with e.g. the Łódź Fabryczna railway station building; the wównerf spaces on 6th of August st., Traugutta and Piramowicza st.; revitalised housing estates: Księży Młyn (a post-factory area adapted into lofts) and Polesie; Manufaktura Shopping Centre - on the site of Izrael Poznański factory complex. The guide to Łódź is the president of the Foundation Normalne Miasto - Fenomen – a non-governmental organisation which aims to contribute to the social, economic and cultural development of Łódź and its region) which presents, among others, backstage of creation of the first woonerfs in Poland and issues related to city bikes.

The development of the space of smaller cities and towns of different features is shown to the students using the examples of Słupsk and Lębork – characterised by different development of their central parts; Władysławowo – a town facing huge tourist and developer pressure; Puck - a small tourist and harbour town (Fig. 6); Tczew – a town with a waterfront and a multifunctional Vistula Boulevard in Tczew; and Pelplin – a town which landscape features large renewable energy investments, i.e. wind farms, visible from John Paul II Hill.

The development of rural spaces is approached during a visit to two agricultural municipalities: the Kociewian municipality of Morzeszczyn and

the Kashubian municipality of Sierakowice. In both cases, the perception of rural landscapes is preceded by meetings with the village mayors of these communes, who present students with current local challenges related to spatial planning. Examples of spaces of particular value for tourism and recreational development include the village of Swołowo (Redzikowo, rural commune); Mechowskie Grottoes (Puck, rural commune); Wdzydze Kiszewskie (Kashubia) and Cypel Rewski (Kosakowo commune) (Fig. 6).

At each site of the field classes, in addition to a visual perception, which focuses on particularly relevant spatial issues, students present speeches prepared in advance on selected aspects of the visited sites. An added value of the field classes programme is meetings with the municipal authorities (or people working in positions related to spatial planning in the municipalities) in the premises of the offices or other sites of regional importance. Such meetings take place in the municipalities: Morzeszczyn and Sierakowice, in the cities of Słupsk, Władysławowo, and Starogard Gdański, as well as in the Municipal Urban Planning Studio in Łódź – with its employees and in the Museum of Pomeranian Folk Culture in Swołów – with its management. Such a diversification of knowledge sources (from practitioners, students and municipal authorities and local leaders) allows for a better understanding of the processes taking place in the area.

6. Conclusions

In the opinion of lecturers conducting fieldwork activities, it has for years been recognized as one of the most important and necessary stages of teaching – especially in Earth Sciences and broader Spatial Management Studies. Field classes are also held in high regard by students, as evidenced by the results of the course evaluation. The possibility to observe forms and processes occurring in space in the field is an excellent didactic tool and allows to understand issues presented ‘theoretically’ in classrooms. In curriculum, the importance of field classes should be increased and more hours should be allocated – correlated with teaching subjects and lecture topics.

Field classes allow students to develop their research and professional skills, fitting into the cycle of teaching and building a system of professional knowledge and skills. By learning methods of mapping phenomena in space, these classes also prepare students to carry out documentation work for their diploma dissertations – bachelor’s, engineering and master’s. The interdisciplinary nature of the field sessions provides a synthetic view

of the environmental aspects of spatial development: the possibilities of using space for different functions, but also the limitations and exclusions for investment. The placement of field activities in the curriculum after the first year – facilitates the later selection of thesis topics. The subject matter of field classes also enables direct observation of dynamic processes and phenomena, especially related to the development processes which concern new trends and human activities in space and which have not yet been covered in a sufficiently broad approach in publications. In this case, from a didactic point of view, their theoretical approximation would be difficult and inefficient.

Interviews conducted with graduates show that experiences gained in all forms of field activities are far better remembered and graduates often refer to examples shown to them in the field. It should be emphasised that this type of activity should be introduced more widely in all vocational courses and majors which topics relate to space, its protection, management and human activities. This subject matter should also be promoted more often in the form of publications of experiences and conclusions from taught classes.

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