

***Shaping space* programme as a tool for educating youth about architecture**

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Abstract. The Polish Architectural Policy's vision of a systematic promotion of spatial culture has made its way into the national curriculum for 2009 – 2016 designed for various stages of child and teenager education. The objective of this effort was to furnish a basis for a system of architectural education which allows teaching society to be more conscious in their decisions as to spatial order with the effect of improving the quality of our living space. Educating individuals to engage consciously in activities related to the protection of space and transformations taking place within that space requires an understanding of basic issues connected with space, the nature of space and the interrelations of various elements which form it. The “*Shaping space*” programme under the patronage of the Chamber of Polish Architects is one of the tools dedicated to students of lower and higher secondary schools, designed to assist teachers as architectural educators. The aim of this paper is to present the results of a survey related to the implementation of the programme in Lower Secondary School 3 in Malbork in the years 2013-2016. The programme involved observation of students (of grades 1 to 3) in architecture-oriented classes, assistance for the teacher in the class rooms well as an evaluation of the usefulness of educational materials. A number of problems became evident during the implementation of the “*Shaping space*” programme which is now available in book form. The size of the book is large enough to discourage any potential readers. The subject matter of the book is not suitable for the intended age group (age: 13-16). Another issue was the teacher's suitability to conduct this type of class. Class observation in grades 1-3 of the lower secondary school and discussions with teachers in charge of that programme served as a basis for developing our own tools and materials in the form of multimedia presentations, templates and lesson scenarios designed to convey and put in order the knowledge related to spatial planning. The conclusions drawn based on these observations have been used in classes at the Faculty of Architecture of the Gdansk University of Technology with a group of students in the 3rd semester of their MA studies, who have helped to prepare auxiliary materials for teachers conducting this type of programmes in primary schools. The joint effort has produced a dictionary entitled *Pomeranian ABC of Space*, which is designed as a tool for teachers in their own work related to architectural education.

1. Architectural education - in brief

Architectural education helps to understand the surrounding space, a continuous space which includes the past, the present and the future. Humans have conquered that space. However, in trying to adjust it to their needs, they must bear in mind what was in the past, what is now and what is yet to come. Architectural education should be viewed at three levels – historical, artistic and ecological – so as



to emphasise its interdisciplinarity, its existence in multiple interrelated dimensions which form the environment where people live and which mould the patterns (archetypes) of perception of the world [1].

- History shows how the appearance and functions of buildings, villages and cities have changed over time, how historical events and inventions have transformed the methods of construction, how people have shaped the cultural landscape over the centuries.
- Art shows that interacting with artwork at exhibitions and meetings with architects and artists helps to develop an aesthetic sense as well as stimulate creative thinking.
- Ecology shows how to skilfully exploit natural resources without harm to the environment, explains the idea of sustainable growth, and elucidates how the way in which terrain is used affects the natural surroundings.

Space, or everything that surrounds us, is common property. Educating people to become well-informed participants of the processes of protecting and transforming space requires an understanding of the issues related to it, for it is based on distinguishing and appreciating elements, which constitute space as well as observing the relations between these elements. This is necessary to ensure that actions intended to shape space for human needs are in line with the principles of sustainable growth.

Besides enhancing awareness of the quality of space, architectural education is also a special example of civic and regional education. It is important for the spatial policy of the state. There is no single definition of spatial policy. The Ministry of Development of the Republic of Poland defines it as: “*systematic action intended to effectively exploit space, reconciling the interests of its various users and serving social and economic purposes*”[2].

Spatial policy as purposeful activity which “*involves taking advantage of the knowledge of laws governing the transformation and use of space for maximum benefit*”[3] is a complex process happening over time. Its effectivity is ensured by creating the conditions for sustainable growth and activities promoting lasting improvements to the quality of the environment and attention to the closest surroundings. Conscious action for the quality of space is a decisive factor in raising architectural awareness, which is one of the aims of architectural education.

2. Assumptions of the Polish Architectural Policy

A document entitled “*Polish Architectural Policy*” [4] was drafted in 2009¹ on the initiative of the Polish Chamber of Architecture and the Association of Polish Architects and under the patronage of the Ministry of Culture and National Heritage to address landscape, public space and architecture. All EU members are obliged to create such a document. The document was drafted in cooperation with the members of the Association of Polish Architects, Chamber of Polish Urban Planners, Chamber of Polish Architects, Polish Council of Architecture and National Heritage Research and Documentation Centre. All of the mentioned trade associations and organizations make it their business to take action for the improvement of the quality of space, mainly through widespread efforts in architectural education.

The Polish Architectural Policy describes the existing conditions, sets guidelines and necessary actions to improve the quality of space, brings home the idea of spatial order, envisions protection for cultural heritage and landscape, indicates the role and scope of action for trade and non-governmental organisations as well as calls for promotion of architectural education and spatial culture.

The Polish Architectural Policy aiming to improve living in the surrounding space is an important area in which the elementary education of children and teenagers is key. The education of the young generation is precisely what can produce long-term results in the form of beautiful cities and villages, protection of cultural heritage and sensible spatial management respecting nature and landscape.

The systematic promotion of architectural education and spatial culture, as set out in the Polish Architectural Policy, has been transposed into the national curriculum since 2009 at various stages of education of children and teenagers. The purpose of introducing elements of spatial (architectural,

¹ A second, expanded edition appeared in 2011.

environmental) education into the national curriculum is to create the foundation for a common system of architectural education. Such a system would create opportunities for educating society to be aware of its decisions on spatial management and, as a result, for improving the quality of the space in which we live.

3. Assumptions of the Shaping Space programme - theory

The Chamber of Polish Architects made efforts to prepare the *Shaping Space* programme (Figure 1) for secondary schools [5]. The programme is based on its Irish counterpart with the same name², adjusted to the Polish realities and conditions. The main task of the programme is to instil social awareness in young people, increase their sense of space and encourage space-improving activities. The program envisions interdisciplinary interaction of many different areas of knowledge, mainly architecture and urban planning.

The aim of the programme is to teach students analytical and critical thinking, develop individual and group problem-solving skills as well as promote social awareness.

The programme consists of three parts, each dealing with a different set of issues. Part A: *My Home* includes issues related to the immediate surroundings – the house or flat. Part B: *District, Countryside, City* includes issues related to space further afield, i.e. public space. Part C: *The History of Architecture* features selected issues in the history of architecture based on the history of Polish towns and cities³.

Each of the parts consists of *Introduction*, ten lesson scenarios with the necessary teaching materials, student's worksheets, thematically related homework and proposals for interdisciplinary activities suitable for a number of different classes.



Figure 1. Shaping Space Programme.



Figure 2. The dictionary *Pomeranian ABC of Space*

The *Introduction* provides the teacher with all the necessary guidelines for implementing the programme, such as educational assumptions and aims, required tools and materials, as well as tips on workspace arrangements.

²The Irish programme was prepared by The Royal Institute of the Architects of Ireland. The Polish adaptation was prepared by: B. Czaraczew, K. Domagalska, M. Gruszka, J. Leonowicz, A. Nurek, Z. Remi (hand drawings), B. Sobolski (typesetting and graphic), U. Szablowska, L. Szczepanik (translation), D. Śmiechowski, M. Urbańska., Warsaw 2013.

³16 Polish towns (one from each province) were selected as representative examples and described in the appendix entitled "*Polish towns.*"



In the foreword to the programme, it is suggested that any teacher may conduct classes based on the scenarios included, regardless of his/her specialization. Classes prepared on the basis of the programme are supposed to provide students with the knowledge and skills necessary to prepare them for conscious participation in shaping and protecting the space available to them. Through a process of educated discovery, the students may realize that architecture is not only a set of theoretical rules of construction but that spatial management relies on people and the places that they inhabit, while any action in that space creates unique relations between people and their surroundings.

4. Implementation of Shaping Space programme in Malbork – practise

The implementation of *Shaping Space* programme [5] was verified in practice in a lower secondary school in the town of Malbork in the school year of 2013/2014, in a class following an extended curriculum in architecture. The class was placed under the patronage of the Faculty of Architecture of the Gdansk University of Technology. Patronage care of the class was given to an art and handicraft teacher who taught a course specially designed for the class – *Shaping Space*.

Classes were held once a week before the regular schoolwork. The coursework delivered by that teacher was enriched with a series of activities conducted by the academic staff of the Faculty of Architecture of the Gdansk University of Technology, to help students understand the surrounding space and familiarize them with the realities of working as an architect⁴. The activities had the form of lectures accompanied by multimedia presentations, question and answer sessions and practical training in drawing, shop work and modelling (Figure 3).

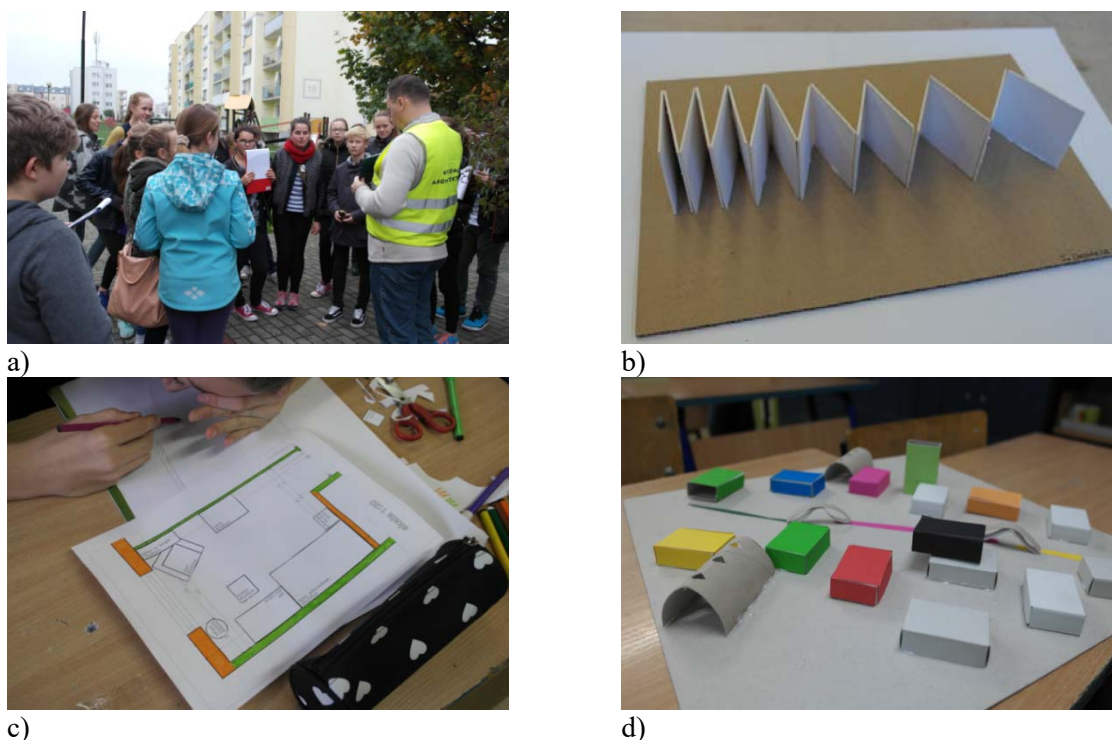


Figure 3.a), b), c), d). Activities and workshops in the lower secondary school with a class following an extended curriculum in architecture

⁴The activities were hosted by Elżbieta Marczak, Ph.D., Arch. and Piotr Marczak, Ph.D., Arch.

The classes conducted by the staff of the Faculty of Architecture took place once every month and the students received guidelines on how to complete the work they did not finish in class or instructions on how to work further on the topic in class with a teacher. Twice in a year, the classes were held at the Faculty of Architecture of the Gdansk University of Technology. In the following years, the lessons were conducted in a similar way except the number of classes with an extended curriculum in architecture had increased, the teacher had changed, but this did not affect the quality of the lessons.

In the school year of 2013/2014, two teams selected from grade 1 entered a contest hosted by the Chamber of Polish Architects, in which the objective was to make a short film entitled *Our Street and Us*.

One of the teams received the first prize for their film *Snake, Zebra and Bird, or a New Skate Park*. The entire class contributed to the success by decorating a skate park located near the school. The materials were paid for by the City Council of Malbork. Thanks to the students' work, the neighbourhood received a renovated entertainment area. The work was photographed and the pictures were edited into a short film which was appreciated by the jury of the contest (Figure 4a, b)).

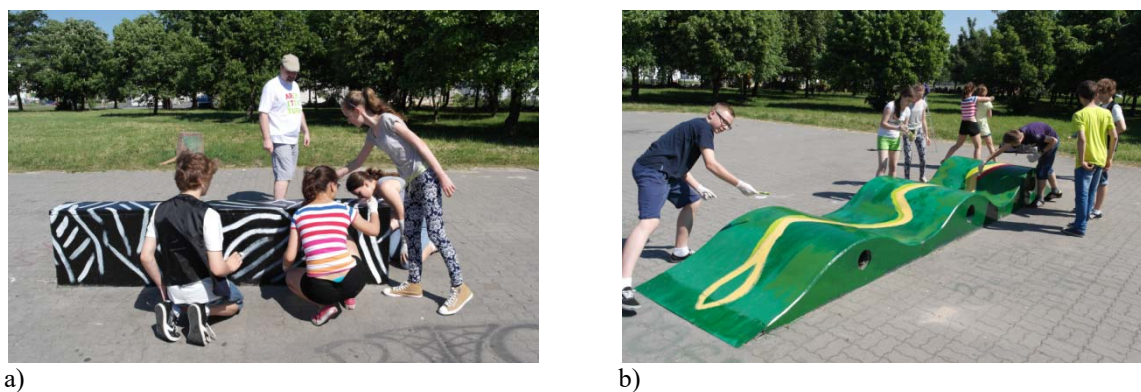


Figure 4.a), b). Preparation of the contest entry

In the school year of 2015/2016, the students – who had in the meantime passed to 3rd grade – once again took part in a contest hosted by the Chamber of Polish Architects and prepared a work entitled: *The school area as a friendly and safe public space bringing the local community together – who does it serve and how?* The team prepared a presentation which garnered an award for the lower secondary school category.

Students from classes with an extended curriculum in architecture often surprised us with their observations, conclusions and knowledge. On the other hand, they also followed clichés and stereotypes, confirming the observation that constant work with teenagers helps to permanently change their perception of space and raise awareness of every decision affects space and the way it is used.

5. Conclusions

Every curriculum states its own objectives, such as helping children grow intellectually, emotionally, socially, ethically, physically and aesthetically. A survey of the school curriculum at all levels of education suggests that detailed requirements on the substance of teaching for specific school subjects contain elements which may be used as starting points for architectural education. They are, however, not always formulated clearly enough for teachers to go beyond the standard teaching routines used in class. It is also difficult to persuade teachers that knowledge has useful value and should be combined with other school subjects. It should be kept in mind that the interdisciplinary character of architectural education combines knowledge drawn from different subjects.

In the lower secondary school in Malbork, no teacher agreed to join the programme despite suggestions to the contrary from the staff of the Faculty of Architecture at the Gdansk University of Technology.

The authors of the Polish version of *Shaping Space* say that the programme does not need to be implemented in full. Single lessons can be used following adjustment for a particular subject. This requires studying the programme and choosing a theme which then has to be adjusted to the requirements prescribed for that subject in the curriculum. Collecting the necessary information, developing and adapting the appropriate teaching methods, evaluating the possibility of hiring a teacher who could present the material in an engaging way or organizing field trips – all of this requires time and work.

The book describing the *Shaping Space* programme is 243 pages long, while the addendum *Polish Towns* has 109 pages. The combined length of 352 pages deters potential readers from studying information which at first glance seems to be unconnected with the relevant subject. Because of its large size, the book would make the programme more accessible to teacher when divided into smaller chunks, each of them assessed for suitability for a given subject and student age group.

In the Polish educational system, implementing the programme in full requires introducing a separate, extracurricular class. The additional class would have to start before or after regular school hours (for example, at 7 AM or in the eight period), discouraging both teachers and students from actively engaging in the activities.

Architectural education does not go particularly well with standard teaching methods used in Polish schools for compulsory instruction. Architectural education works best with integrated interdisciplinary teaching which focuses on encouraging children to think and apply the knowledge they have to solve specific problems or use that knowledge in other classes. Architectural education thrives on student projects which involve groups of students from different grades and teachers of various subjects [6].

The Chamber of Polish Architects declares its support for each school and teacher who has joined or wishes to join the programme. The support is desirable, because teachers who have no training in the programme usually identify architectural education with visual arts.

Space teaching must be based on a DNA-like model⁵ with relations between:

C – children who are curious to know and who see non-standard teaching methods as attractive and encouraging creativity.

T – teacher who is aware of children's intellectual and learning ability and helps organize the workspace in a way that is relevant to the subject taught and particular class scenario, and

A – architect who conveys the knowledge of the constructed environment, raises awareness of human needs and brings home the social role of the architect,

Each member of that group brings a different input, contributing to a potentially innovative solution.

6. Final remarks

The difficulties in teaching classes in a lower secondary school spring from the fact that no such teaching is available at the elementary level. Developing such a programme for this student age group would create an opportunity to prepare teenagers for *Shaping Space*. A great number of manual skills in using specific tools are not properly developed at the elementary school level.

As a response to these concerns, the Faculty of Architecture of the Gdansk University of Technology has introduced seminars entitled “*Why and how to talk to children about architecture*” for seminar students in the 3rd year of MA studies. The joint efforts of students and the didactic staff have

⁵ C- child (in polish: D - dziecko)

T – teacher (in polish: N – nauczyciel)

A – architect (in polish: A – architekt)

produced a dictionary explaining space-related terms. The dictionary *Pomeranian ABC of Space*⁶ [7] is dedicated to elementary school students (grades 4 – 6) but it can be used by anyone interested in improving their knowledge in that field (Figure 2). The dictionary comes with a CD containing class scenarios for architectural education. The scenarios were developed by students and contain complete teaching materials allowing teachers to conduct classes without the need to spend a long time searching for resources. Another advantage of the scenarios is that they have been developed to be acted out in specifically listed school subjects, while also including interdisciplinary issues. The contents as well as general and detailed requirements are consistent with the national curriculum.

Experience in teaching architectural education at various levels (elementary, lower secondary, secondary and tertiary) [8] suggests that children who from the earliest years have been engaged through work and play in learning about space will be able to better understand and use as adults. They will have become conscious users of that space.

References

- [1] E. Marczak: “Lifelong Learning Idea in architectural education”, General and Professional Education, 1/2016
- [2] “What is spatial planning?”; (<https://www.mr.gov.pl/strony/zadania/polityka-rozwoju-kraju/planowanie-przestrzenne/>) (accessed on 30 March 2017)
- [3] M. Bors: “Economy and Spatial Policy. Coursebook for the students of Higher School of Social Studies and Economics in Warsaw”, Warsaw 2004
- [4] Polish Architectural Policy (Polska Polityka Architektoniczna), wyd. II poszerzone, Warszawa 2011
- [5] „Shaping Space”, Educational Programme edited by Chamber of Polish Architects 2013. <http://scholaris.pl/zasob/106650?bid=0> (accessed 03.03.2017)
- [6] J. Borucka, B. Macikowski: How to teach architecture? –Remarks on the edge of Polish transformation processes after 1989. WMCAUS 2016, Procedia Engineering, V. 161, P.1289-1294, Oxford 2016 (accessed 30.03.2017)
- [7] „Pomeranian ABC of Space. Illustrated dictionary for children” (Pomorskie ABC Przestrzeni. Ilustrowany słownik dla dzieci), ed. E. Marczak, P. Marczak, Gdansk 2016
- [8] P. Marczak: Theory versus practice. Searching for a path of practical education, General and Professional Education, 1/2016

⁶ Publication edited by E. Marczak, P. Marczak. The first version of the dictionary came into being as part of the *Space Around Us* programme in 2010-2016 and is available at www.przestrzen.eu. An extended paper version was published by the Pomeranian District Chamber of Architects in 2016 (ISBN 97883-943924-0-9). In 2017, the dictionary was listed in the new national curriculum as obligatory reading for the teaching of the Kashubian language.