

## Supporting study tours in the teaching of architectural heritage

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**ABSTRACT:** Study tours are a highly effective way to acquire knowledge. They improve students' understanding of issues that otherwise may seem partly abstract to them. Presented in this article is the unique way in Poland in which support is given to the teaching of architectural heritage. It has been carried out continuously for almost 50 years in the Faculty of Architecture at Gdańsk University of Technology (FA-GUT), Gdańsk, Poland, in co-operation with the staff and the Students' Tourist Association (TXA), which also organises scientific trips. Knowledge of historical architecture provides students with a link to contemporary architecture. Study tours enable students to benefit from direct contact with historic buildings; thus they become aware of the scale as well as the nature of them. This improves students' understanding of the theory. For the teacher, the study tour is an attractive teaching model. Demonstrated in this article are the advantages of the study tours, their impact on education and their potentialities.

### INTRODUCTION

Cognition involves a tremendous amount of information collected, compiled and accessible in various forms by almost anyone. Books, textbooks and scientific articles are valuable and proven sources of knowledge that anyone can draw from, to shape or improve skills. These media facilitate education at every stage of teaching. They may inspire and often are the basis for developments in technology, philosophy or culture. Digital technologies make it simple and fast to access these materials and other information. Innovative methods, such as virtual reality, can contribute to a better understanding of many issues. All this makes it possible to learn of the many phenomena, places, objects and others without leaving home.

Despite these enormous technological possibilities, it is impossible not to notice the high value that direct interaction with the elements of a problem contributes to the educational process. It allows the verification of theoretical knowledge and to better fix it in memory, as well as to acquire practical skills that can be learned only through hands-on experience. Various disciplines use project-based methods [1], case studies [2], student workshops or student internships, during which students solve real problems. Another hands-on way of supporting education is the study tour.

Many researchers have provided evidence of the benefits of study tours in education: in spatial design [3]; MBAs (business study tours) [4][5]; and in civil, electrical and mechanical engineering [6]. Pattacini [7], and Hains-Wesson and Ji wrote of the long-term educational benefits of study visits [8]. Study tours and visits play an essential role in understanding architecture [9-11]. Most of the studies in the referenced publications use some of the above-mentioned complementary methods during study tours; the focus is on soft skills.

Educational travel is not new. Van 't Klooster wrote of the history of educational travels in Europe in his dissertation [12]. The worth has long been known of educating young architects by tours to European cities - cultural centres - where students gain knowledge through direct contact with outstanding architectural works. The student then uses this knowledge in their home country, contributing to the spread of knowledge about architectural styles. Also, in modern times, there is a need for students to gain experience through contact with other cultures and architecture. Higher education institutions make this possible through the Erasmus programme (currently Erasmus+), which was established in June 1987. The Faculty of Architecture at Gdańsk University of Technology (FA-GUT), Gdańsk, Poland, has been a participant since 1999.

The authors of this article believe that student contact with historical buildings during studies on old architecture is of great importance to their education. It enables students to gain experience, which is essential in getting to know such buildings. Drawing, photographic or film documentation concerning a building does not allow a person to understand the scale of the object or how they were created. Also, the effectiveness of virtual reality technologies in teaching is not as high as its promise [13].

Historical objects often were erected using methods or building materials not applied today. There may be decorations no longer in use today. In direct contact, it is possible to get to know the details and elements which are only shown in a limited way in books and photographs. Direct contact allows seeing the elements from close up, as well as from many sides and angles. Apart from the visual aspect, it is also important to be able to touch an element - feeling its texture, giving an idea of how it was made. What is probably most important is that this type of experience also has a significant influence on improving the students' perception.

## STUDY TOURS FOR TEACHING THE HISTORY OF ARCHITECTURE

The subject, History of Polish Architecture, is taught in the FA-GUT, in the second and third years. Students are introduced to the history of national architecture, from its beginnings until the 18th Century. The photographs include monuments, their elevations, and interiors, as well as critical artistic fragments. Drawings include plans, cross-sections, and other details. These explain the construction principles of the structures. This is enriched with historical and technical data available in the literature. However, all this is cognition reduced to lecturers and the literature, which nowadays seems to be too little. There is a lack of active participation by students in the material. Most commonly, it is the first encounter by students with native architecture.

Objects in provincial cities are a novelty for students who consider the lectures as necessary to pass the subject and not as an opportunity to broaden their knowledge. This has been remedied by the TXA Scientific and Tourist Association. The Association was established in 1972/1973 and had been operating since then. The members of the Association are students and graduates of the FA-CUT. The focus is on broadening knowledge about the history and culture of the Gdańsk region. Moreover, it promotes tourism and sightseeing. The members of the Association organise educational meetings, next to a chosen object or historic complex. Additional lectures are held at the University, where selected problems from the history of architecture are discussed.

During the academic year, the Association co-organises, with staff of the Department of History, Theory of Architecture and Monuments Conservation, a study tour to a selected region of Poland. The route enables students to access objects from different periods and to learn the characteristics of a given style. The choice often is of the most valuable works, e.g. the church of the Blessed Virgin Mary and St Alex in Tum near the city of Łęczycza. It was built in 1141-1145 and, despite later reconstruction, it is still unique.

Getting to know it often evokes many emotions. Students observe on the façades the proportions of the church, stone arrangements and sculptural decorations. Inside the church, students get to know individual parts of the architectural design. Sometimes, they can access the galleries or towers, where an impressive panorama can be seen. The lapidarium contains sculptural details enriching knowledge of the object, which is difficult to find in textbooks. The students' attention also is drawn to the interior, filled with works of art. They complement the object in terms of the richness of decoration. The introduction of art elements is highly important in teaching, because the University focus is on architecture. This example illustrates how students can get a holistic view of the building by analysing many different aspects of its creation and transformation.

An exciting experience during the featured study tours are the field meetings with the curators of monuments (Figure 1) who share their knowledge about the monuments. Apart from history, they know the maintenance problems, including the degree of wear and tear and the necessity to carry out repairs. This practical aspect broadens the perception of the monument as art that requires constant care. Thus, it introduces the issues of protection and conservation of human-made material works.

Students prepare for the tour by making mini guidebooks. They contain plans, sections of objects and the most crucial information (Figure 1). They help in recognising historical architecture and memorising its features. They are also a place to record comments and observations. Apart from domestic Polish tours, visits to selected European cities are also organised. These tours aim to expand knowledge about trends in architecture from neighbouring countries. They usually complement knowledge of Polish buildings, identifying similarities and differences.



Figure 1: Students participating in the study tour classes (left and middle); an extract from a typical student guidebook, prepared before the study tour (right).

Tours become immortalised by being documented in the several-volume chronicle of the Students' Tourist Association (TXA). The entries are by the students; these make the contributions less formal and refer to their observations and subjectively remembered facts. Students thus have the opportunity to learn from earlier years, to guide them in the scope of their own investigation. Below are two examples of such entries:

*As usual, Kraków did not disappoint. The Romanesque church of St Andrew presents art in the upper parts of the towers, particularly well. The Gothic interior of the Dominican church creates a different impression. Still appealing is the first university founded by Władysław Jagiełło's wife - Jadwiga.*

*The plan to see Kraków in detail, apart from the old town, also covers the closest surroundings, such as churches and monasteries: in Tyniec (Benedictine) and Bielany (Camaldolese). The second one is available to women only a few days a year, so only a few could see the church.*

Knowledge acquired during the tours is broad and results from the *au courant* tutors, as well as through students' observations. It is possible to get to know all the façades and the interesting parts of the interiors. A valuable experience is to review building materials and mortar; the texture can be revealed through the sense of touch. The data, obtained individually and documented in both written and photographic form, are more reliable as didactic material than is available at the University. It expands and complements lectures and exercises at the University and also contributes to examination preparation. The information remains in minds much longer when acquired *in situ*.

After graduation, the alumni have a better understanding of architecture with their own opinions formed from their own observations, which sometimes diverge from the viewpoints of their former lecturers. Hence, self-education has followed practical experience. As the founder of the Bauhaus and one of the most influential architects of the 20th Century, Gropius noted, this skill allows the replacing of knowledge with wisdom [14].

The group field training at Gdańsk is a novelty in the teaching of architecture at Polish universities. In past centuries, this way of learning had not been widely implemented because of the cost. These days, tours are relatively much more affordable, and so study tours should be more common.

#### STUDY TOUR ASSESSMENT

An evaluation aimed at determining the impact that study visits have on teaching was informed by those who had participated in the tours. The first analysis was based on student feedback. Two groups of students were surveyed: actual participants and future participants in such tours. This study comprised an anonymous questionnaire with 137 respondents who evaluated various aspects of the study tours and which included an open question. Two other studies concerned the students' assimilation of knowledge on the history of architecture.

The objective metric in this study were the marks from the subject (History of Polish Architecture) in two consecutive semesters, as well as the marks from the final examination. The results of a randomly selected 62 participants in tours from different years and 237 students completing this course in the academic years 2016/2017 and 2017/2018 were analysed. The study tour was organised at the end of the fourth semester of engineering studies. It can be assumed that the study tours do not significantly affect the final grades in the fourth semester. These served as reference values for the results in the fifth semester following the study tours. The results of both groups were compared.

#### Study Tour Effectiveness: Student Feedback

Anonymous questionnaires were distributed to the two groups at the beginning of the summer semester, before the scheduled study tour. The first group (41 persons) comprised students and graduates of the FA-CUT, who had taken part in study tours. The second group of 96 students had not taken part in study tours. The questionnaires referred to five aspects of study tours to assess this method of teaching. They determined its usefulness: learning about the history of architecture, understanding theoretical issues in the history of architecture, the ability to perceive architecture and its attractiveness (Figure 3).

The high appreciation of study tours was apparent. The vast majority of students (96% on a scale of 1 to 10 where 1 means not useful and 10 means very useful) regarded highly the usefulness of study tours in learning about the history of architecture. The students who gave a high rating before the tour were not disappointed by the tour. Students particularly were affected by the stimuli of real objects.

The vast majority of the respondents (93%) believe that study tours also contribute to a better understanding of theoretical issues in architectural history. The results indicate that students, who are just beginning to learn about historical objects, intuitively know that direct contact with them can be constructive. The open question in the questionnaire related to the value of such tours, and most often referred to its positive impact on understanding and recollection. Students stressed that it made it easier to understand the drawings of cross-sections and planes of objects they learn during traditional classes. The following reflects the students' opinions of organised study tours: from students of the fourth semester (a); and a participant of the tour (b):

Nothing compares to seeing a building in real - then you can see the scale, dimensions, proportions, details, constructions... all the things that the pictures often do not show. I think such a lesson would be very useful in understanding the structure and construction of a building (a).

If it had not been for the opportunity to see some architectural solutions in person, I still would not know what I was drawing (b).

Students who participated in study tours believed they were developing skills in perceiving architecture. In the open question, the students stressed that study tours allow observing and feeling the scale of objects. Participants of the study tours drew attention to skills difficult to obtain based on traditional teaching methods:

*The tour (...) allows us to create sensitivity to the beauty of Polish historical architecture and understand it.*

*What I value most in the tours (...) is open-mindedness, learning to see valuable details and learning how to draw valuable information from the world around me.*

*(...) This subjective experience, together with historical knowledge and the possibility of discussion with peers, allows not only to better assimilate the history of architecture, but also to create their conclusions on how and to achieve what effect architectural space can have. That translates creatively into thinking about and creating later projects in the university, and I hope in my professional life.*

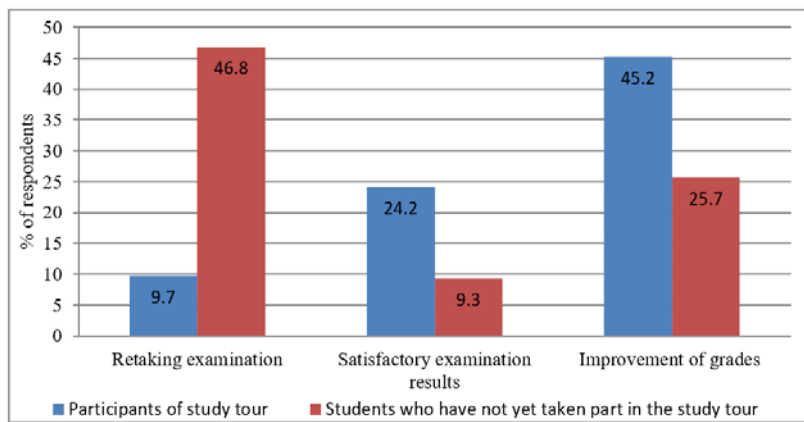


Figure 2: Final course examination results.

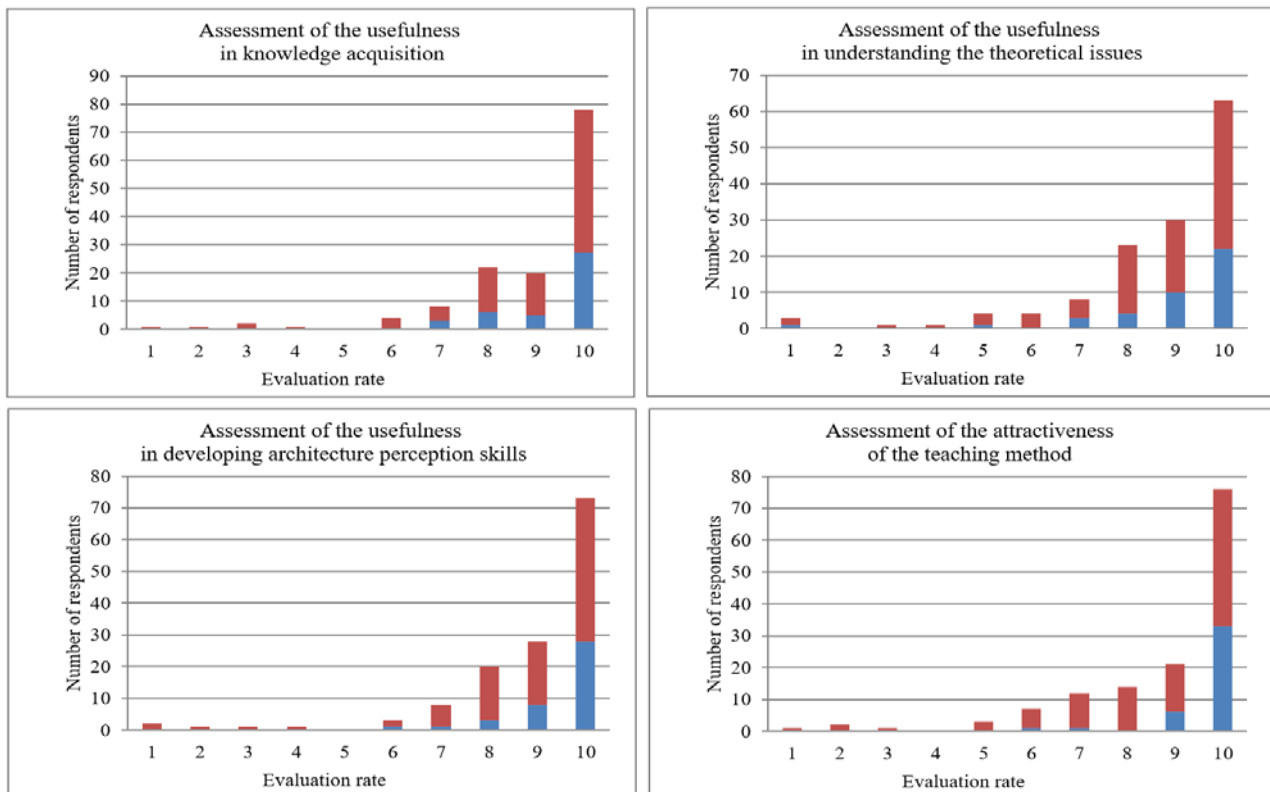


Figure 3: Suitability survey. Students who have not participated in the study tour - red; students who have participated in the study tour - blue.

Study tours are valued because of the attractiveness of this form of instruction. Participants gain subjective experiences, quite often in places and objects to which individual access is limited or even impossible. They find out things that are not mentioned in books. It allows for the acquiring of knowledge in a direct, less formal way than through tutors. Several participants of these tours share, in their open answers, recollections, impressions and experiences. When asked what they value most in the tours, participants (c); and students of the fourth semester (d) opined:

*A shared opportunity to explore Poland and the world unconventionally - we learn curiosities that are not written about in any guidebook (c).*

*The possibility to see unique places that are not available for ordinary tourists (c).*

*There are not many ... meetings with architecture during architectural studies. Learning history is very interesting for some people and others, so I think it would be worth making this aspect more attractive (without compromising on values) in this way as much as possible (d).*

The vast majority of the students saw the study tours as a valuable complement to the traditional form of instruction; 97% of students said it was beneficial.

#### Effectiveness of Study Tours: Course Results

The students' results from both groups indicate the effectiveness of study tours in teaching the history of architecture. Grades following the study tour were compared. About 45% of the study tour participants improved their grades compared to 26% of the non-study tour participants.

In the final course examination (Figure 2), 10% of the study tour participants failed the examination compared to 42% of non-study tour participants; failed students had to retake the examination. About 24% of study tour participants received a good mark or better in the examinations compared with 9% of non-study tour participants. The better results of tour participants may be related to students gaining greater awareness of the location of the objects they are learning about; a lack of awareness is regarded as detrimental at this stage of learning [15].

The advantages of study tours in teaching the history of architecture include:

- understanding national architecture;
- hands-on knowledge of historical objects covered in theory classes;
- knowledge through contact with the architecture of an area;
- notes, photographic and film documentation of an area;
- assimilation of specialised terminology and issues in the history of architecture;
- valuating the design decisions of historical architecture;
- knowing correct and incorrect designs for historical objects.

#### CONCLUSIONS

Surveys indicate that study tours complementing traditional classes are an effective tool for teaching the history of architecture; theory is better understood and assimilated after such tours. This enriches the architecture curriculum, and improves classes. It increases students' awareness and sensitivity to historic buildings. It also informs the adaptive work carried out these days on historic buildings, which will be part of students' future professional practice.

There is a high acceptance by students of the value of study tours, even by those who have not participated. Students emphasise the importance of study tours in architectural perception, which impacts on all aspects of engineer-architects' work.

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